

# BUSINESS SYSTEMS REVIEW

First Business Systems Laboratory International Symposium  
Valencia (Spain) January 24-25, 2013



ISSN 2280-3866  
SPECIAL ISSUE - SELECTED PAPERS

THE ECONOMIC CRISIS:  
TIME FOR A PARADIGM SHIFT ~ .  
TOWARDS A SYSTEMS APPROACH



## **JOURNAL SCOPE**

Business Systems Review is an on-line, open access, peer reviewed, half-yearly journal, published by the non-profit association Business Systems Laboratory (Italy).

BSR publishes high level and innovative theoretic, qualitative, quantitative and empirical contributions of researchers and practitioners in the business systems field. The journal aims to endorse a multi-field approach with a special emphasis on the systemic approach for business. We welcome submissions based upon both primary research and reviews including papers in areas that may not directly be systemic but concern a topic that is of interest to researchers in the field of business systems. All papers are subject to strict double blind peer review by the international research community.

## **PUBLICATION FREQUENCY**

Six-monthly, published in June and December. Articles are published online shortly after acceptance.

## **COVERAGE**

The main topics covered in the journal may include, but not are limited to, the following topic areas:

*Systemic Approach for Business; Complex Systems Theory; Management Cybernetics; Economic and Social Systems; Business Communication Systems; Innovation Systems; Financial Systems; Service Science; Sustainability; Knowledge Management; Supply Chain Management; Strategic Management; Environmental Business; Environmental Management; Marketing; Consumer Behavior; Customer Satisfaction; Corporate Finance; Banking; Finance for SME; e-Business; e-Learning; Business Process Management, Fuzzy Logic, Heterodox Economics.*

## **KEY JOURNAL AUDIENCES**

Academics, researchers, business consultants, business engineers, computer scientists, management systemists. Online libraries supplying students, academics and researchers.

## **OPEN ACCESS POLICY**

BSR provides immediate open access to its content on the principle that making research freely available to the public supports a greater global exchange of knowledge.

## **KEY BENEFITS**

BSR is an important forum for the exchange of knowledge, addressing major areas of concern and debate whilst highlighting future developments. The challenging and comprehensive nature of systems science in business is reflected in the published articles which involve not only theoretical and methodological-oriented studies but also in-depth discussions of their related appliances and implementations.

## **PEER REVIEW**

The journal adopts a double-blind system for peer-review; both reviewers and authors' identities remain anonymous. The paper will be peer-reviewed by three experts: two reviewers from outside and one associate editor from the journal. Our commitment is to complete the entire review process within a maximum of three months since the submission.

## **INDEXING AND ABSTRACTING**

Clocks perpetual archives, Google Scholar, Cabell's Directories, Index Copernicus, Ulrichs web, Open J-Gate, Journal Seek, GIF-Global Impact Factor, SSRN, Sherpa Romeo.





## **ETHICAL CODE**

The Business Systems Review (BSR) aims to choose and publish, through a double blind peer review process, the highest quality research in business systems. In order to achieve this goal, the whole peer review and publication process must be scrupulous and fair.

Journal standing depends greatly on the trust of all people involved in the process coming from their acknowledgment of the fairness of the double blind peer review and publication process. This trust can be enhanced by the implementation of a formal ethical code, with clear guidelines for fair behavior. For these reasons, the BSR Ethical Code is intended to be a complete policy for peer review and publication ethics in the Business Systems Review.

The Code depicts BSR's policies to guarantee the ethical conduct of all participants in the peer review and publication process. BSR Authors, Editors and Reviewers are encouraged to read these guidelines and address any questions or concerns to one of the BSR co-Editor in Chief.

For further details about BSR ethical code: [http://www.business-systems-review.org/BSR\\_ethical\\_code.htm](http://www.business-systems-review.org/BSR_ethical_code.htm)

## **AUTHOR'S GUIDELINES**

Submission of an article implies that the work described has not been published previously (except in the form of an abstract or a conference proceeding), that it is not under consideration for publication elsewhere, that its publication is approved by all authors and that, if accepted, will not be published elsewhere in the same form, in English or in any other language, without the consent of the Publisher.

The Editors reserve the right to edit or otherwise alter all contributions, but authors will receive proofs for approval before publication.

Authors must check their manuscripts for possible violations of copyright law and obtain the required permissions before submission.

Authors should be punctual with their manuscript revisions. If an Author cannot meet the deadline given, he should contact the Editor to determine whether a longer time period or withdrawal from the review process should be chosen.

Authors authorize the publisher to archive the article into databases and indexes, and permit the publisher to apply DOI to the article.

After paper acceptance the corresponding author will pay a handling fee by PayPal or Bank Transfer.

All manuscripts should be prepared in MS-Word format, and submitted by e-mail to the editor in chief.

For further details please go to: [http://www.business-systems-review.org/BSR\\_authors\\_guidelines.htm](http://www.business-systems-review.org/BSR_authors_guidelines.htm)





**EDITOR IN CHIEF**

**GANDOLFO DOMINICI**

e-mail: [editor@business-systems-review.org](mailto:editor@business-systems-review.org)

**GUEST EDITOR**

**JOSÉ RODOLFO HERNANDEZ CARRIÓN**

**EDITORIAL ASSISTANT**

**FEDERICA PALUMBO**

***BUSINESS SYSTEMS REVIEW ASSOCIATE EDITORS***

**Dimitris Antoniadis.** Lecturer in Project Management, Univeristy of West London (UK)

**Gianpaolo Basile.** Adjunct Professor of Marketing, Univ. of Salerno (ITA)

**Nikhilesh Dholakia.** Professor of Marketing, University of Rhode Island (USA)

**Primiano Di Nauta.** Ass. Professor of Business Management, Univ. of Foggia (Italy)

**Valerio Eletti.** Scientific Director LABeL Cattid., University "Sapienza" of Rome (ITA)

**Nezihe Figen Ersoy.** Associate Professor of Marketing. Anadolu University, (Turkey)

**Lucio Fuentelsaz.** Professor of Strategy & Management, University of Zaragoza, (ESP)

**Marco Galvagno.** Ass. Professor of Marketing, University of Catania (ITA)

**Giuseppe Giordano.** Associate Professor of Statistics. University of Salerno (ITA)

**José Rodolfo Hernandez Carrion.** Associate Professor of Applied Economics, Univ. of Valencia (ESP)

**Giulio Maggiore.** Ass. Professor of Business Management, Univ. "Unitelma Sapienza" (ITA)

**Ignacio Martinez de Lejarza.** Associate Professor of Applied Economics, University of Valencia (ESP)

**Mahito Okura.** Associate Professor of Risk Manang.& Insurance, Nagasaki University (JP)

**Nacima Ourahmoune.** Assistant Professor of Marketing, Reims Manag. School (France)

**Luca Pazzi.** Ass. Professor of Information Systems, Univ. Modena & R. E. (ITA)

**Vincenzo Pisano.** Ass. Professor of Business Management. Univ. of Catania (ITA)

**John Schouten.** Professor of Marketing Aalto University School of Economics (Finland)

**Mauro Sciarelli.** Professor of Business Management University "Federico II" Naples (ITA)

**Giancarlo Scozzese.** Ass. Prof. of Business Management "Univ. Stranieri" Perugia (ITA)

**Josip Stepanić.** Ass. Professor of Social Thermodynamics, University of Zagreb (Croatia)

**Eleuterio Vallelado.** Professor of Finance, University of Valladolid (ESP)

**Ivona Vrdoljak Raguž.** Ass. Professor of Management, University of Dubrovnik (Croatia)

**Zhenghu Yang.** Scientific Director, Guangdong Center of Contemporary Economy Research (China)

**Maurice Yolles.** Head Centre for Creating Coherent Change and Knowledge (UK)





## **SYMPOSIUM BOARD**

**CONFERENCE PROGRAM CHAIR (CPC):** José Rodolfo Hernández-Carrión, Universitat de València, Spain

**ASSISTANTS TO THE CPC:**, Federica Palumbo, Rafael Soler Muñoz.

**SCIENTIFIC DIRECTOR:** Gandolfo Dominici, University of Palermo, Italy

### **SCIENTIFIC BOARD MEMBERS:**

- Dimitris Antoniadis, University of West London (UK)
- Arturo Capasso, University of Sannio (Italy)
- Raul Espejo, World Organization for Systems and Cybernetics (UK)
- José Rodolfo Hernández-Carrión, University of Valencia (Spain)
- Rafael Lostado Bojo, University of Valencia (Spain)
- Ignacio Martinez de Lejarza, University of Valencia (Spain)
- Matjaz Mulej, University of Maribor (Slovenia)
- Nacima Ourahmoune, Reims Management School (France)
- Luca Pazzi, University of Modena and Reggio Emilia (Italy)
- Enzo Scannella, University of Palermo (Italy)
- John Schouten, Aalto University (Finland)
- Mauro Sciarelli, University “Federico II” of Naples (Italy)
- Giancarlo Scozzese, University for Foreigners of Perugia (Italy)
- Maurice Yolles, Centre for the Creation of Coherent Change & Knowledge (UK)



## SYMPOSIUM GENERAL PROGRAM

### THURSDAY, JANUARY 24

REGISTRATION OF PARTICIPANTS: 14,30-15,30

PLENARY SECTION: 15,30 PM - 20,30 PM

- 15,30 – 16,15: Salutations:

Vicent Soler i Marco, Dean Faculty of Economics, Univ. of Valencia; Rafael Lostado Bojo, SESGE & UES-EUS; Gianpaolo Basile, B.S.Lab.

- 16,15 – 16,30: Introduction to Symposium: Rodolfo Hernandez

- 16,30 – 17,20: **Keynote speech:**

“Organisational Cybernetics as a Systemic Paradigm: Lessons from the Past - Progress for the Future.” By Raul Espejo (WOSC)

- 17,20- 18,10: **Keynote Speech:**

“Solving the economic crisis with (requisitely) holistic approach and (ethics of) interdependence.” By Matjaz Mulej (IASCYS)

- 18,10- 18,40: Awards for the advancements in "Systems Thinking applied to management" to:  
Raul Espejo, WOSC; Matjaz Mulej, IASCYS; Gaetano Maria Golinelli, CUEIM.

- 18,40- 19,10: **Keynote Speech:**

“Complexity and Action. Reflections on decision making and cybernetics.” By Gandolfo Dominici (B.S.Lab)

- 19,10 - 19,30 - Coffee Break

- 19,30- 20,30: B.S.Lab General Assembly and planning of next events

DINNER: 22:00

### FRIDAY, JANUARY 25

INTRODUCTION TO THE PANELS: 9,00 AM – 9,30 AM

PANEL SECTIONS : 9,30 AM – 13,30 PM - Sections: 1, 2A, 3A, 4

LUNCH BREAK: 13,30 PM – 15,30 PM

PANEL SECTIONS : 15,30 PM – 19,30 PM - Sections: 5, 2B, 3B

CONCLUDING REMARKS AND BEST PAPER AWARDS: 19,30 PM – 20,30 PM





## **SECTIONS PROGRAM**

### **SECTION 1: SYSTEMS THINKING IN BUSINESS SCIENCE. A NEED FOR A PARADIGM SHIFT -**

#### **CHAIRMAN: RAUL ESPEJO**

- "Paradigm Change in the Systemic view" by Janos Korn, Independent Researcher (UK).
- "New Paradigm of Innovation Management based on Synergetic and Multifractal Approaches" by Rashid Zaynetdinov, Moscow State University of Railway Engineering (Russia).
- "Supercausality and complexity. Changing the rules in the study of causality" by Antonella Vannini & Ulisse Di Corpo, Syntropy (Italy).
- "Systems Thinking in Managing Technological Innovation in Organizations" by Timothy Oyedepo Oyeibisi, African Institute for Science Policy and Innovation (Nigeria).
- "Viable Systems Perspective and Consumer Culture Theory. A Conceptual Framework" by Gianpaolo Basile & Federica Palumbo, B.S. Lab (Italy).
- "Facing Critical Situations by Improved Holon-Based Event Flow" by Luca Pazzi, University of Modena and Reggio Emilia (Italy).
- "Leadership style and socio-organo complexity. Managing its effects" by Dimitris Antoniadis, University of West London (UK).
- "Paradigm-information, mimetism, the meme and the diffusion in the economic markets: a systemic-geometric model" by Massimo Magno, Gno.Sys (Italy).
- "Bureaucracy as an Agent of Innovation Development in Latvia" by Andris Ozols, Janis Eglitis and Elena Ozola, Daugavpils University and Ventspils University College (Latvia).
- "Systems Science and Biomedical Cybernetics for Healthcare Safety Management" by Giulia F. Santacroce & Rodolfo A. Fiorini, Politecnico di Milano (Italy).
- "The City as a Complex Dynamic System" by Fernando Buendía, Panamericana University (Mexico).

### **SECTION 2A: STRATEGY, MARKETING AND MANAGEMENT AT THE TIME OF CRISIS.**

#### **CHALLENGES AND NEW APPROACHES - CHAIRMAN: MAURO SCIARELLI**

- "It's all about bucks, kid. The rest is conversation. A critique of risk in modern investment management" by Harry Hummels, Maastricht University (The Netherlands).
- "Economic crisis and communication: the role of the HR Manager" by Lourdes Susaeta Erburu, Esperanza Suárez Ruz and José Ramón Pin Arboledas, IESE Business School (Spain).
- "Customer intimacy and customization of products: optimization of profits and gain of new customers" by Roberta Gomes Brandao, University of Lyon (France).
- "The productive consumer. A real-life economics approach" by Michael-Burkhard Piorkowsky, University of Bonn (Germany).
- "A business model for the development of a territory: the case of Reggio Calabria" by Lucia Aiello & Maria Antonella Ferri, University Mercatorum (Italy).
- "Forming an Innovation Culture in Corporation: Tools and Tasks" by Tatiana Sobolieva, Kyiv National Economic University "Vadym Hetman" (Ukraine).
- "Systemic value and corporate governance. The case of top football teams" by Arturo Capasso & Matteo Rossi, University of Sannio (Italy).
- "How low cost companies delivery values to customer, and do business in the crisis. Marketing communication strategies in low cost companies" by Annamaria Esposito, IULM University (Italy).
- "Inter-Organizational Network and Innovation. A Bibliometric Review of Past Studies and a Research Agenda" by Giovanni Battista Dagnino, Gabriella Levanti, Anna Minà and Pasquale Massimo Picone, University of Catania and University of Palermo (Italy).
- "Management Control System in Company Crisis as a Means of the Recovery Process" by Elisa Giacosa & Alberto Mazzoleni, University of Turin and University of Brescia (Italy).
- "The impact of the economic crisis on passenger air traffic: opportunities for companies" by Guido Giovando & Elisa Giacosa, University of Turin (Italy).



## **SECTION 3A: THE ECONOMIC PERSPECTIVES OF THE CRISIS. SYSTEMS APPROACHES TO OVERCOME THE NEW CHALLENGES - CHAIRMAN: MAURICE YOLLES**

- “Exploring the Common Roots of Culture, Politics and Economics” by Maurice Yolles & Gerhard Fink, Centre for the Creation of Coherent Change and Knowledge (UK) and Vienna University of Economics and Business (Austria).
- “Introducing behavioural economics: a paradigm shift” by Elior Kinarthy, Rio Hondo College, California (USA).
- “Four Mistakes Of The Political Economy In Spain: The Strange Case Of Unused Resources” by Francisco Parra Luna, Univ. Complutense de Madrid (Spain).
- “Reconstructing Economics: Agent Based Models and Complexity” by Mauro Gallegati & Alan Kirman, Univ. Politecnica delle Marche (Italy) and Université, Ecole des Hautes Etudes en Sciences Sociales (France).
- “Air Transport Economics in the Context of World’s Crisis” by Katarzyna Wąsowska, Siedlce University of Natural Sciences and Humanities (Poland).
- “Need of Innovative Approaches in Economic Cooperation in Post Crisis Period” by Ia Natsvlishvili, Tbilisi State University (Georgia).
- “Three Bridges. First Bridge: Structure of the Economy” by Harley Dean Meyer, Independent Scholar (USA).
- “Specific of Functioning of the World Market for Corporate Control After the Global Financial Crisis” by Moskvina Borys, Kyiv National Economic University “Vadym Hetman” (Ukraine).
- “The Euro Financial Crisis: Getting Out of the Mess” by James B. Rieley, Independent consultant and writer (UK).
- “Ending Over-Lending: Overcoming the Failings of the Debt/GDP Metric by Applying the Debt to Cash Flow Ratio in Complex Systems Modeling” by Bruce A. Ramsay, Cascadia Monetary Research (Canada).
- “Adaptability and growth of socioeconomic systems” by Flavio Pinto Siabatto, Anselmo García Cantu Ros, Juergen Kropp, Linda Krummenauer, Katja Voigt, Camila Flórez Bossio, Potsdam Institute for Climate Impact Research (Germany).

## **SECTION 4: FINANCIAL SYSTEMS AND THE ECONOMIC CRISIS. CHALLENGES AND SOLUTIONS PROPOSALS - CHAIRMAN: ENZO SCANNELLA**

- “Financial Crisis and the Changing Structure of Banking Firms and Industry” by Sebastiano Mazzù & Enzo Scannella, University of Catania and University of Palermo (Italy).
- “Exploring systemic solutions to the financial crisis: Mobilising knowledge through participatory systems mapping” by Michal Sedlacko, Chris Hewett and André Martinuzzi, Research Institute for Managing Sustainability, Vienna Univ. of Economics and Business (Austria) and The Finance Innovation Lab (UK).
- “Economic recession and preservation of firms’ value” by Pavel Marinič, ŠKODA AUTO (Czech Republic).
- “Debt Sustainability, Financial Instability and the Global Economic Meltdown: The Nigerian Experience” by Godwin Chigozie Okpara, G.M. Enwere and Ikechukwu D. Nwaka, Abia State University (Nigeria) and Eastern Mediterranean University (Turkey).
- “Probability of default and probability of excellence, an inverse model of rating. One more tool to overcome the crisis: an empirical analysis” by Marco Muscettola & Francesco Naccarato, Banca Popolare di Milano and Univ. of Padua (Italy).
- “New Challenges Beyond the Private Investment and Risk Evaluation” by Petr Pavlik, University of Economics (Czech Republic).
- “A comparative statistical analysis between the Italian local banks, the effects of the financial crisis on funding and credit policies” by Massimo Arnone & Antonio Fabio Forgione, University of Messina (Italy).
- “The Paradigm of Regulation of Financial Markets and Its Criticism” by Arnošt Böhm & Karina Mužáková, Technical University of Liberec (Czech Republic).
- “Current developments in risk culture in financial organizations in Germany” by Christin Richter, University of Riga (Germany).
- “Insurance activities governance through the global economic crisis” by Kuznetsova Natalia P. & Pisarenko Zhanna V., St. Petersburg State University (Russia).
- “The Analysis of Individual Customer Decisions on the Motor Insurance Market in Poland” by Marta Borda & Anna Jędrzychowska, Wrocław University of Economics (Poland).
- “From regional democracy and representation to multinational banks in the global world. Financial effects of political regulation in the evolution of the Spanish banking sector” by José Rodolfo Hernandez-Carrion & David B. Ruiz Hall, University of Valencia (Spain).





## **SECTION 5: [CORPORATE] SOCIAL RESPONSIBILITY. AN APPROACH TO OVERCOME THE CRISIS**

### **- CHAIRMAN: MATJAZ MULEJ**

- “Addressing the critical need for a “New Way of Thinking” in dealing with Complex Issues” by Ockie Bosch, Nam Nguyen and Daowei Sun, University of Adelaide Business School (Australia).
- “The Ultimate Actor Network: Consuming the Biosphere” by John Schouten, Aalto University (Finland).
- “Shifting the Paradigm of Return on Investment: Towards a Composite Index to Measure Overall Corporate Performance” by Roland Bardy & Maurizio Massaro, Florida Gulf Coast University (USA) and Udine University (Italy).
- “Systemic views on responsible competitiveness. Potential explanations why ‘it depends’” by André Martinuzzi, Samanthi Silva and Robert Kudlak, Research Institute for Managing Sustainability, Vienna University of Economics and Business (Austria).
- “Motivation of corporations to implement the better CSR-practices: factors of influence and methods of measurement” by Antonina Cherpak, Kyiv National Economic University “Vadym Hetman” (Ukraine).
- “Teaching Sustainability Leaders in Systems Thinking. Experiences in applying constellation work in management education” by Ursula Kopp & André Martinuzzi, Research Institute for Managing Sustainability, Vienna University of Economics and Business (Austria).
- “Belarusian Practice of Corporate Social Responsibility under a Modern Economic Crisis” by Valentina Simkhovich, Belarus State Economic University (Republic of Belarus).
- “Sustainable Development and the Economic Crisis as Challenge for a Paradigm Shift in Latvia” by Edgars Kasalis & Maiga Kasale, University of Latvia (Latvia).
- “Corporate Social Responsibility in the South African Mining Industry: Convenience, Conformity or Necessity?” by Abel J. Diale, Tshwane University of Technology (Republic of South Africa).
- “Social Responsibility, Tourism and Quality of Life in the Time of Economic Crisis” by Branka Jajić & Jelena Jajić, Technical Faculty Mihajlo Pupin Zrenjanin (Serbia).
- “The revival of rural tourism - viable solution to the economic crisis in Romania” by Mirela Stoican, Bioterra University of Bucharest (Romania).

## **SECTION 2B: STRATEGY, MARKETING AND MANAGEMENT AT THE TIME OF CRISIS.**

### **CHALLENGES AND NEW APPROACHES - CHAIRMAN: ARTURO CAPASSO**

- “Macro-Ergonomics in Process Management Improvement” by Henrijs Kalkis, Zenija Roja and Valdis Kalkis, University of Latvia (Latvia).
- “Creativity and innovation as strategic resources in international business markets” by Maria Rosaria Marcone, University Politecnica delle Marche (Italy).
- “From management of complexity to have better performances, towards management of complexity to survive: firms relations and strategies” by Giancarlo Scozzese & Roberto Bruni, University per Stranieri di Perugia and University of Cassino (Italy).
- “The Role of Leadership in Complex Strategic Networks. Enabling Effect Versus Emergence” by Gabriella Levanti and Pasquale Massimo Picone, University of Palermo and University of Catania (Italy).
- “Conglomerate Diversification Strategy: a Bibliometric Investigation, Systematic Review and Research Agenda” by Pasquale M. Picone and Giovanni Battista Dagnino, University of Catania (Italy).
- “Systems of Corporate Layout and Company Performance: Towards a Possible Paradigm of Governance” by Giuseppe Russo, Rosa Lombardi and Tiziana Buttarò, University of Cassino and Southern Lazio (Italy).
- “Regarding Invisible Effect of Education and Science Cluster in Transitional Countries” by Ineza Gagnidze, Ivane Javakhishvili Tbilisi State University (Georgia).
- “Network approach and Stakeholder Management” by Mauro Sciarelli & Mario Tani, University “Federico II” of Naples (Italy).
- “The Conceptual Framework of Corporate Identity in Health Care Industry” by Didzis Rutitis & Anda Batraga, University of Latvia (Latvia).
- “Formal and Informal Mechanisms of Accountability in Local Governance. Towards a New Authoritarian Governance Model” by Thanh Thuy Vu & Bruno Deffains, Paris X University and Paris II University and the ERMES (France).
- “Roadmap as an instrument of company strategic planning during the economic crisis” by Nataliya Veselitskaya, Institute for Statistical Studies and Economics of Knowledge, Higher School of Economics (Russia).



### **SECTION 3B: THE ECONOMIC PERSPECTIVES OF THE CRISIS. SYSTEMS APPROACHES TO OVERCOME THE NEW CHALLENGES- CHAIRMAN: JOSÈ RODOLFO HERNANDEZ-CARRIÒN**

- “Fiscal Incentives Crisis Control and Prevention” by Edgars Brēķis, Ismena Revina and Arild Sæther, University of Latvia (Latvia) and University of Agder-Kristiansand (Norway).
- “The present crisis, a pattern” by Wim Grommen, Independent researcher (The Netherlands).
- “Business Competition as Complex System” by Fernando Buendía, Panamericana University (Mexico).
- “The decoupling of products from economic science” by Eva Waginger, Vienna University of Economics (Austria).
- “Economic Competitiveness in Healthcare Safety Management by Biomedical Cybernetics ALS” by Giulia F. Santacroce, Ana Virginia Collini, Clelia Cesario, Rodolfo A. Fiorini, Politecnico di Milano (Italy).
- “Knowledge Management Asset Initiatives and Government Innovation: Theoretical Analysis of the Case of Kingdom of Bahrain” by Mohamed Buheji & Haitham Jahrami, Ministry of Health and Bahrain Centre of Excellence (Kingdom of Bahrain).
- “Policy Response of Brazilian Government to the 2008 Crisis. The Northeast Region Case” by Inez Silvia Batista Castro & João Bosco Monte, Universidade Federal do Ceará (UFC) and University of Fortaleza (UNIFOR) (Brazil).
- “The Increase of Competitiveness of Agriculture - Serbian Chance Under Conditions of Emerging From The Crisis” by Radovan Tomić, Dragica Tomić, Gordana Tomić, Denis Bugar and Aleksandra Tomić, Higher School of Professional Business Studies, Belgrade Business School and Faculty of Economics and Engineering Management (Serbia).
- “Evidence of Change in the Long Memory Property in Eastern European Countries: Time-Varying Hurst Exponents” by Seong-Min Yoon & Sang Hoon Kang Pusan National University (Korea).
- “Do Women Entrepreneurs Play A Role In Reducing Poverty? A Case in Kenya” by Sedina B. Misango & Orpha K. Ongiti, Africa Nazarene University and Business Development Consultant (Kenya).

### **SELECTION CRITERIA FOR THIS SPECIAL ISSUE**

The papers published in this issue have been selected according to the suggestion of the chairmen of each panel. Each selected author has been invited to submit an extended and/or revised version of the symposium paper that has been reviewed by the editorial board according to the editing guideline of the journal.





## TABLE OF CONTENTS

### Keynote Speeches

pp. 1-9	<i>Organisational Cybernetics as a Systemic Paradigm: Lessons from the Past - Progress for the Future</i> , BY RAUL ESPEJO
pp. 10-35	<i>Solving the economic crisis with (requisitely) holistic approach and (ethics of) interdependence</i> , BY ZDENKA ZENKO, MATJAZ MULEJ, NASTJA MULEJ, ANITA HRAST
pp. 36-37	<i>The Value of Systemic Approach to Interpret Complex Phenomena</i> , BY GAETANO MARIA GOLINELLI
pp. 38-47	<i>Complexity and Action: Reflections on Decision Making and Cybernetics</i> , BY GANDOLFO DOMINICI

### Selected Symposium Papers

pp. 48-70	<i>Addressing the Critical Need for “New Ways of Thinking” in Managing Complex Issues in a Socially Responsible Way</i> , BY OCKIE BOSCH, NAM NGUYEN, DAOWEI SUN
pp. 71-93	<i>Probability of default and probability of excellence, an inverse model of rating. One more tool to overcome the crisis: an empirical analysis</i> , BY MARCO MUSCETTOLA, FRANCESCO
pp. 94-150	<i>Exploring the Common Roots of Culture, Politics and Economics</i> , BY MAURICE YOLLES, GERHARD FINK
pp. 151-174	<i>‘It’s all about bucks, kid. The rest is conversation’. A critique of risk in modern investment management</i> , BY HARRY HUMMELS
pp. 175-190	<i>Network Approach and Stakeholder Management</i> , BY MAURO SCIARELLI, MARIO TANI
pp. 191-215	<i>Teaching Sustainability Leaders in Systems Thinking</i> , BY URSULA KOPP, ANDRÈ MARTINUZZI
pp. 216-236	<i>Systemic value and corporate governance. Exploring the case of professional football teams</i> , BY ARTURO CAPASSO, MATTEO ROSSI
pp. 237-258	<i>New Challenges Beyond Private Investment and Risk Evaluation</i> , BY PETR PAVLÍK
pp. 259-277	<i>Leadership Style and Socio-Organic Complexity. Managing its Effects</i> , BY DIMITRIS ANTONIADIS
pp. 278-296	<i>Economic crisis and communication: The role of the HR manager</i> , BY LOURDES SUSAETA ERBURU, ESPERANZA SUÁREZ RUZ, JOSÉ RAMÓN PIN ARBOLEDAS
pp. 297-309	<i>From management of complexity for better performances towards management of complexity for survival: relations and strategies of firms</i> , BY GIANCARLO SCOZZESE, ROBERTO BRUNI
pp. 310-329	<i>A Business Model for the Development of a Territory: The Case of Reggio Calabria</i> , BY MARIA ANTONELLA FERRI, LUCIA AIELLO
pp. 330-367	<i>Formal and Informal Mechanisms of Accountability in Local Governance. Towards a New Authoritarian Governance Model</i> , BY THANH THUY VU, BRUNO DEFFAINS
pp. 368-389	<i>Policy Response of Brazilian Government to the 2008 Crisis: The Northeast Region Case</i> , BY INEZ SILVIA BATISTA CASTRO, JOÃO BOSCO MONTE



# Organisational Cybernetics as a Systemic Paradigm: Lessons from the Past - Progress for the Future

**Raúl Espejo**

*Director-General World Organisation of Systems and Cybernetics.*

*Director Syncho Research, United Kingdom.*

*e-mail: r.espejo@syncho.org*

*Published online: March 31, 2013*

*DOI: 10.7350/BSR.V01.2013 – URL: <http://dx.medra.org/10.7350/BSR.V01.2013>*

## ABSTRACT

*This paper is focused on the financial crisis of 2008. It discusses the consequences of not weaving financial and economic activities into one organisational system constituted by cohesive and inclusive autonomous systems. Financial activities should be services enabling and regulating economic activities and not autonomous activities pursuing their own purposes. The 2008 crisis exposed financial services as wealth extracting activities detached from the economies they were supposed to serve. The cybernetic paradigm of complexity management is used to reflect upon this dysfunctional behaviour.*

**Keywords:** Organisational cybernetics, Systemic paradigm, Global economy, Complexity unfolding.

## 1. INTRODUCTION

Organisational cybernetics offers a systemic paradigm to appreciate and develop our collective efforts towards a better future. It helps appreciating the self-organising processes that relate multiple resources towards producing a common good and it also helps constructing the necessary relations for this production. In many respects it is a new paradigm that offers new lenses to make meaningful the data that buffets us every day.

In this talk I offer indications of this new paradigm, however, there is much more that needs to happen before this viewpoint gains the hearts and minds of people, but I see its articulation as my challenge today to set a platform for conversations and clarifications.

Under my attention are, quite ambitiously, the global economy and the economies of the multiple nation-states that constitute this global economy. In particular I want to say something about the financial system and the 2008 crisis that by no means has been tamed after 5 years. I'll not say much about the technical aspects of this crisis, but, I want to reflect upon it from the perspective of organisational systems (Espejo & Reyes, 2011). Useful lessons can be learned by discussing recent financial events with a cybernetic lens.



From the perspective of complexity the cybernetic argument is simple; connectivity between the components of a situation produces wholes with emergent properties that are different to those of these components. These emergent properties may be positive, as is the case with innovations which allow societies to respond successfully to huge challenges (Homer-Dixon, 2001), or negative, as is the case with corruption and human made catastrophes. Connectivity among multiple components is the trigger for non-linear dynamic systems and their hallmark is complexity.

The challenge is managing this complexity; it is necessary to find strategies to steer it in desirable directions. Most commonly we break situation into parts; this has been the reductionist strategy. Within the parts there is dense connectivity but in between them connectivity is extremely weak or non-existent. If the complexity of the parts is still too high for steering purposes, in the reductionist approach, we proceed with the same strategy of breaking them into sub-parts and so forth. It is not difficult to visualise the traditional hierarchies following this strategy. In social contexts people fight this restricting fragmentation through self-organising processes, in which they develop ‘lateral’ connections to make possible otherwise impossible collective goals. No doubt breaking a situational complexity into parts reduces its complexity in orders of magnitude and the informal, self-organising behaviour, restores in part this lost complexity, without which it would be impossible to achieve anything.

Though self-organisation is a powerful learning heuristic, it is fraught with risks of dysfunctional connectivity. Failing to appreciate structural aspects of the non-linearity of complex situations can have disastrous consequences. It can lead to costly and painfully long processes of trial and error as the parts fail to relate to relevant parts and relate to irrelevant ones eventually producing undesirable unexpected consequences. I discuss these processes with reference to the 2008 financial crisis, an instance of blind connectivity that eventually kicked back in the form of costly unexpected events.

## 2. CYBERNETIC EXPLANATION AND CONSTRAINT

From an epistemological perspective, cybernetic explanations are negative:

*«Causal explanation is usually positive. We say that billiard ball B moved in such and such direction because billiard ball A hit it at such and such angle. In contrast to this, cybernetic explanation is always negative. We consider what alternative possibilities could conceivably have occurred and then ask why many of the alternatives were not followed, so that the particular event was one of those few which could, in fact, occur.»* (Bateson, 1973: 375)

Cybernetic explanation is focused on the constraints that help discarding possibilities, focusing our attention on the few possibilities that are likely to happen. The Law of Requisite Variety offers a powerful heuristic to visualize these constraints. However hard we work, the outcomes of any situation that lacks requisite variety to achieve a desirable target set will not be within that target set. Indeed, an observer can anticipate that the situation, if it remains unchanged, will hit difficulties and in the end will be unsuccessful. Comparing the response capacity of those managing the situation with the disturbances challenging the situation, allows a trained observer say *“there is no way that that desirable outcome will happen.”*

Capacity to visualize impossible outcomes has profound implications for social systems, including, in particular the global and national economies.

At a first glance a system with components with high connectivity should have a larger capacity to absorb unexpected disturbances than one with low connectivity. Distributing response capacity is indeed a good strategy to make a situation more resilient. Together these components can damp oscillations beyond the capacity of a few. However, too much complexity may imply situational instability. A large complexity is an asset but only if underpinned by functional constraints.

In terms of risk management, we are aware of the uncertainty stemming from the non-linearity of situations dominated by ‘the butterfly effect’. Social situations are dynamic non-linear systems in which small changes in some of its components have unexpected and large effects in the totality. The behaviour of these systems is better represented by power laws than by normal behaviour (Boisot & McKelvey, 2007). These systems are dominated by uncertainty and not by measurable, centrality driven, risk; they experience unexpected black swans (Taleb, 2008). Since it is not possible to forecast black swans, the alternative is increasing the system’s capacity to deal with the unexpected as and when it happens.

From an organisational systems perspective, considering that the proliferation of social complexity is a fact, the challenge is constraining this proliferation in ways that enhance the response capacity of the affected systems, making them less vulnerable. Unfortunately, today, this constraining is little understood and in practice it is badly handled by our societies; I want to illustrate this problem with reference to the financial crisis.

But before making a more direct reference to this crisis, I want to distinguish between fragmentation and complexity unfolding. Because the Law of Requisite Variety (Ashby, 1964), if a collective wants to keep a situation under control, it needs strategies to manage the proliferating complexity. One way or the other, in social situations, we favour particular strategies to manage this complexity. Without a cybernetic lens, ideological positions influence the selection and design of these strategies. Simplifying, over the past hundred years, soviet style socialism and capitalism have dominated the tacit design of these strategies. The first ideology thought that an illuminated leadership, supported by a powerful bureaucracy, could achieve a fair and just society even if that strategy implied restricting the freedom of the large majority of people. The second ideology thought, and still thinks, that a free, weakly regulated market, offers a better chance not only of a fair allocation and distribution of resources but also of enabling the development of people’s capabilities through self-organisation and self-regulation. The tacit complexity management strategy of the first ideology was assuming that enlighten minorities, supported by powerful macro-economic models, and passive hopeful majorities were able to achieve high standards of living, comparable to those of market oriented societies, with the added bonus of a fairer society. On the other hand, in recent times, the complexity management strategy of the second ideology has assumed, among other things, that economies can optimise resource allocation using increasingly sophisticated mathematical models, supported by computer and communication technologies, with less government and institutions, and more rational majorities. In few words we can say that the first strategy aimed at attenuating social complexity through a hierarchical structure, while the second (still) aims at a proliferating social complexity by reducing controls and fostering free markets. Unfortunately for society, both strategies have produced social fragmentation, the first mostly by design and the second mostly by a weakly constrained self-organisation.

Complex systems are constituted by interacting components; the issue of great social significance is the processes underpinning this constitution. Are they the outcome, as historically has often been the case, of arbitrary decisions that have led to incompetent

fragmentation, or are they the outcome of weakly constrained components fostering dangerous connectivity, which increase the chances of self-organised criticality and the explosion of uncontrolled chaos? Both strategies break-down society in fragments; one incapable of producing enough complexity, the other producing too much uncontrolled complexity.

### **3. THE CYBERNETIC PARADIGM**

The cybernetic paradigm offers a third strategy to manage complexity; it is the strategy of aligned autonomous components constituting a desirable viable social system. Autonomous components distribute the absorption of disturbances throughout the social system, adding resilience and therefore increasing its chances of long-term success (i.e. viability).

Good cybernetics of an organisational system (Beer, 1979, Espejo & Reyes, 2011) suggests a desirable cohesive and inclusive social system; it requires clarifying collective values, purposes and policies as well as aligning and coordinating actions. This is a politically and socially sensitive circular approach of clarifying policies and constituting necessary components to produce these policies. In this case we talk about the unfolding of complexity of the social system rather than its fragmentation. This ‘breaking’, or unfolding of complexity, aims at strengthening components’ autonomy, supporting conflict-resolution, developing systemic capabilities and fostering cohesion and inclusion. This is a powerful way of reducing situational complexity and increasing response capacity. The strategy is focused on strengthening and, if possible, anticipating spaces of high and low connectivity to achieve desirable policies. Spaces of high inner connectivity are dense chunks of complexity aligned with the interests of the whole system; I call them primary activities. Spaces more concerned with external connectivity and relatively low inner connectivity are necessary to enable the chunks’ cohesion in the larger system; I call them support/regulatory functions. Primary activities add capacity to contain and respond within themselves black swans. Support/regulatory functions add capacity for the larger system to contain and respond to black swans. This is a recursive structuring that contains risk and enhances the capacity of society to operate at the edge of chaos.

From this we can conclude that clarifying policies is deeply entwined with the social body that makes a social system and its policies viable. There is a circularity that constantly is striving to bootstrap social dreams (such as policies, purposes and values) with resilient bodyhoods.

Resilient systems organise themselves at the edge of chaos; this makes them adaptive and helps them absorb black swans at the least cost. For instance over time trees in a forest organise themselves so that small, rather than large destructive fires happen. This self-organisation is achieved by breaks that isolate patches of trees from each other reducing the chances of a small fire producing a large catastrophic one.

### **4. THE 2008 FINANCIAL CRISIS**

In a forest a forester response to the trade-off between high yield and possible fire is to build ‘fire breaks’ restricting connectivity between the trees; these are the breaks - structural constraints- that the regulators of the economic and financial systems failed to visualise before the 2008 financial crisis.

From local accounts economists failed to see the non-linearity of the financial system. They thought that each banking institution could contain its potential failure, without considering

rippling effects in the wider system. Policy-makers and senior managers failed to see that the financial services were strongly interconnected, in particular by derivatives leveraging several times their capital across the globe; it was a financial ecosystem (Haldane & May, 2011). Big banks were effectively global banks that affected the global economy; these were banks that *‘were too big to fail’*.

From a systemic perspective, in particular applying the idea of complexity unfolding, I argue that this domino effect was more than a systemic failure of the financial system; it was also a failure of the economic organisational system. The big, global, banks were operating, and still are, largely ‘decoupled’ of the global, national, regional and local economic systems. Finance should be a service to the economy and not an autonomous system, detached from it. The fact that before 2008 they leveraged their assets several times over their capital makes one think that their purpose was making money and not making viable the economies they were supposed to serve. In fact, in the UK, the growth of financial instruments before the crisis outpaced three times the growth of the economy (Haldane & May, 2011). The country was experiencing a dangerous fragmentation between financial services and economic activities.

Complexity unfolding implies autonomous systems within autonomous systems. At the national, regional and local levels it implies successful, viable, countries, regions and localities with economies underpinning quality of life and full employment. These systemic levels are structural constraints to manage the huge complexity emerging from the connectedness of millions of people. By containing this complexity through autonomous and cohesive systems the strategy is adding resilience to the economic systems. The financial crisis could have been ameliorated had banking activities been contained by smaller autonomous economic systems focused on local economies and people’s wellbeing rather than on extracting resources for the wellbeing of a few bankers. Evidence supporting this argument is the performances of the German economy, country where smaller local banks are common. On the other hand in the UK, where small banks are less common, decoupling retailing and investment financial activities has proved far more difficult, even if recognised as necessary:

*«In the wake of the global financial crisis that began in 2007, there is increasing recognition of the need to address risk at the systemic level, as distinct from focusing on individual banks.»* (Haldane & May, 2011).

For Haldane and May addressing risk at the systemic level implies tinkering with retail and ‘casino’ (investment) banking. The UK government wants shaping financial structures, especially among institutions deemed ‘too big to fail’. Though breaking banks this way may help reducing risk, it does not address the issue of financial services as services to distributed economic systems. Still there is the view of banks as businesses pursuing their own purposes rather than those of their related economic systems. At the national level the organisation of the economy (as an organisational system) continues to be driven by blind fragmentation and not by the wellbeing of the people at the global, national, regional and local economic levels. Making the financial system an autonomous primary activity is fragmenting the economy dangerously. It is acceptable working for the viability of financial institutions rather than the viability of the economies they are supposed to serve. It is in the intersection of financial services with social interests that constraint has to be placed, to regulate their unrestricted, wealth extracting, interests. To limit risks, and restrict the diffusion of failure, large and small banks need to work out their embedding in the several levels of the economic system; the German system with small



banks gives more stability to the economy and decouples risks for smaller banks from larger ones.

My argument is for distributed regulation of the economic activities. Cybernetically, a good regulator of a system is a model of that system (Conant & Ashby, 1970). Financial services are regulators of the economy, and following Conant and Ashby, good regulation should map the economy's unfolding of complexity from the global to the local; economic aspects have to intertwine with financial aspect at all structural levels. Furthermore, the strategy of structurally large financial services, that is, financial services dominated by large international banks, located in financial centres like New York, London or Frankfurt and in their turn regulated by centralised regulators like the Federal Reserve, the Bank of England or the European Central Bank, is dangerous. We can expect that this structural arrangement lacks requisite variety for the very same reasons that led to the 2008 financial crises; the large interconnectivity of financial services and their structural fragmentation from the economy. Accepting that it is a tall order, considering the decentralisation of financial services and financial regulation should be beneficial to the global economy in the longer run.

To summarise, if a group of components structuring a support/regulatory function become self-contained and therefore dysfunctional to the policies of the system they are part of, their evolution as an autonomous, dynamic non-linear system, makes them sensitivity to small changes and to self-organised criticality, which in this case may threaten not only their viability but the viability of the larger system that they are supposed to support/regulate. In other words, a small addition of risk may produce a big unexpected change as the system reaches its self-organised criticality: *"a single sub-prime grain produced the self-organised criticality of the financial sector"* (Haldane & Nelson, 2012), and challenge the stability of the whole economy. Without building appropriate 'walls' within the system crises may spread rapidly throughout.

## 5. INSTITUTIONAL ECONOMICS

The above arguments and conclusions suggest that in the longer run developing appropriate global, national, regional and local institutions need to receive a deep consideration. It would appear that current social, economic and financial institutions are out of their depth; they are proving unable to support a stable and successful development of, at least, the European countries. Creating new institutions consistent with effective organisational systems is an important challenge for us today.

Institutional economics has much to offer for this purpose (e.g. Searle, 2005, Hodgson, 2006). Institutions are being studied as durable systems of established and embedded social rules that structure social interactions (Hodgson, 2006). Hodgson talks about social rule-systems and not simply rules, which both constrain and enable behaviour. Hodgson's broader conception of institutions accommodates the informal basis of all structured and durable behaviour. In short, institutions are social rule-systems, not simply rules. The term 'rule' is used for a statement by which a regularity of the conduct of individuals can be described, irrespective of whether such a rule is *known* to the individuals in any other sense than they normally act in accordance with it.

A country's success (Acemoglu & Robinson, 2012) requires institutions that provide it with cohesion and inclusiveness; this is necessary to align purposes and make full use of its human capital. Extractive institutions, in the sense of extracting political and economic value of the

activities of the most to the benefit of the few are divisive, wasteful and in the long term unstable.

In institutional terms, the strategy of autonomy developed above supports societal evolution towards cohesion and inclusion rather than towards fragmentation and extraction.

Acemoglu and Robinson (2012) argue forcefully that a country's failure is less dependent on factors such as geography, culture or the ignorance of its people, than on weak institutions. People's behaviour is influenced by the incentives created by its institutions and if these incentives are dysfunctional the consequences for that country are decline as these authors show in case after case. To a significant degree the success of a country in the longer-term depends upon the rule systems that its politicians and people in general set for structuring their endogenous and exogenous social interactions. Rules that restrict autonomy and fail to give incentives for learning are a recipe for failure.

Different countries, quite naturally, create and have a wide range of institutions, some are dominated by institutions that enable inclusion and cohesion, and others are dominated by institutions that support fragmentation and extraction. The UK financial system is strongly coupled to the global economy, far beyond its national boundaries. This in itself does not need be a problem. The problem is when its coupling with the economy is not well thought through and its regulation remains fragmented and weak. For as long as this remains the case this financial system may find loopholes to extract wealth from the rest of the world, but at its peril; sooner or later regulation will improve and this will reduce the scope for its economic development. Large weakly regulated *autonomous* financial institutions constrain the development of people's capabilities, as a consequence of constraining the economy's unfolding of complexity. The 2008 financial crisis may now appear as a critical juncture for the creative disruption of the existing financial institutions.

## **6. CONCLUSION**

Success requires cohesive and inclusive institutions; these institutions are rule based mechanisms for, among others, distributing power, dissolving conflicts and aligning purposes to make full use of a society's human capital. On the other hand, extractive institutions, in the sense of extracting political and economic value of the activities of the most to the benefit of the few are divisive, wasteful and in the long term unstable.

The focus of this contribution has been on economies threatened by the aftermath of the financial crises of 2008. The most obvious purpose of the financial system is to support the effective performance of the real economy; that which supports our daily lives with those products and services that we desire and need. Before 2008 this supporting role was lost and finance became a system with a purpose of its own; extracting money for enriching a minority without reference to societal needs. The implication of this development was unconstrained highly interconnected financial services that eventually produced a 'black swan' catastrophe; the 2008 crisis. Unfortunately, financial services, particularly for some of the Anglo-Saxon economies, still remain businesses in their own right, weakly unrelated to the real economy. They are organisational systems in their own right. Around financial success before 2008 emerged relations of all kinds, which increasingly produced, by self-organisation, a weakly constrained system. This fact continues blurring the development of necessary constraints to make them effective enablers of economic activities. There are no signs that politicians and economists have

understood the cybernetics of the situation and the consequences of unleashing myriad interactions in a non-linear dynamic system. Though after the event economist did recognise this systemic underpinning of the financial crises (Haldane & May, 2011) and furthermore have recognised the need to introduce ‘firewalls’ to contain, for instance, the spread of casino banking mismanagement into retail banking, it is still difficult to see proposals of structural constraints to increase the viability of ‘economic’ systems with the support of healthy financial systems.

In this contribution I have used Beer’s Viable System Model as an enabling heuristic to increase the viability of economic systems with the support of systemically constructed constraints. As for the economists, they appear to agree about the limitations of computer based mathematical models and accept the need to go beyond equilibrium and rationality and to give more room to behavioural, institutional economics and the paradigm of complexity. Hopefully, they will also value the ideas of organisational systems. Together I see all these developments as powerful engines for change; they offer the initial steps for a paradigmatic change, that is, for a change in worldview (Kuhn, 2012). The world does not change with a change in paradigm, it is us the scientist that work in a different world afterwards.

But beyond science and technology, the political system and democracy should play an important role in constructing this new economy.

## REFERENCES

- Acemoglu, D. & Robinson, J. A. (2012). *Why Nations Fail; the Origins of Power, Prosperity and Poverty*. London: Profile Books Ltd.
- Ashby, R. (1964). *An Introduction to Cybernetics*. London: Methuen & Co Ltd.
- Bateson, G. (1973). *Steps to an ecology of mind: collected essays in anthropology, psychiatry, evolution, and epistemology*. UK: Paladin
- Beer, S. (1979). *The Heart of Enterprise*. Chichester: Wiley.
- Boisot, M. A. X. & McKelvey, B. (2007). Extreme Events, Power Laws, and Adaptation: Towards an Econophysics of Organization. Best paper proceedings, Academy of Management Conference.
- Conant, R. & Ashby, R. (1970). Every good regulator of a system must be a model of that system. *International Journal of Systems Science*, 1(2): 89-97.
- Espejo, R. & Reyes, A. (2011). *Organizational systems: Managing Complexity with the Viable System Model*. Heidelberg: Springer.
- Haldane, A. G. & May, R. M. (2011). Systemic risk in banking ecosystems. *Nature*, 469: 351–355.
- Haldane, A.G. & B. Nelson, B. (2012). Tails of the unexpected. Conference *The Credit Crisis Five Years On: Unpacking the Crisis*. University of Edinburgh Business School.
- Hodgson, G. M. (2006). What Are Institutions?. *Journal of Economic Issues*, 40(1): 1-25.
- Homer-Dixon, T. (2001). *The Ingenuity Gap: how can we solve the problem of the future*. London (UK): Vintage.

- Kuhn, T. S. (2012). *The Structure of Scientific Revolutions: 50th Anniversary Edition*. University of Chicago.
- Searle, J. (2005). What is an Institution? *Journal of Institutional Economics*, 1(1): 1-22.
- Taleb, N. N. (2008). *The Black Swan: the impact of the highly improbable*. London: Penguin Books.





# Solving the economic crisis with (requisitely) holistic approach and (ethics of) interdependence<sup>i</sup>

**Zdenka Zenko, Ph.D.**

*Assistant Professor, University of Maribor, Faculty of Economics and Business (EPF),  
IRDO Institute for Development of Social Responsibility, Maribor, Slovenia.*

**Matjaz Mulej, Ph.D.**

*Emeritus Professor, University of Maribor, Faculty of Economics and Business (EPF),  
IRDO, Institute for Development of Social Responsibility, Maribor, Slovenia.  
e-mail: mulej@uni-mb.si. Corresponding author*

**Nastja Mulej**

*Independent Researcher, Ljubljana, Slovenia*

**Anita Hrast**

*Lecturer, manager, IRDO, Institute for Development of Social Responsibility, Maribor, Slovenia*

*Published online on March, 31, 2013.*

*DOI: 10.7350/BSR.V02.2013 – URL: <http://dx.medra.org/10.7350/BSR.V02.2013>*

## ABSTRACT

*The usual enterprises tend to be governed by specialists of single professions, whose education for interdisciplinary creative cooperation is very rare, rather than by persons with knowledge of systems theory. Ludwig von Bertalanffy (1978: VII) explicitly stated that he had created his General Systems Theory against over-specialization, i.e. to support interdisciplinary creative cooperation as the best way toward the necessary holism of approach and wholeness of outcomes of human activity. But he did not support his intention methodologically a lot. Mulej did it with his Dialectical Systems Theory (DST). Narrow specialization is still necessary, but equally so is the other specialists' capacity: cooperation helps humans prevent oversights and resulting failures, because it enables more holistic thinking/behavior. The role of the narrow specializations is so strong that people hardly see that holistic thinking/behavior – enabled by interdisciplinary creative cooperation, backed by (ethics of) interdependence – makes specialization of any profession much more beneficial than any operation inside a specialization alone. Nobody, whatever their profession, can live well without co-operation with people of other professions. De Bono's '6 Thinking Hats' support it, so does DST from the same period of time. Both of them have been fruitfully applied all four decades since. A new support was recently offered: social responsibility (SR) with its all-linking concepts of (1) interdependence and (2) holistic approach is close to DST and (liberal rather than neo-liberal) economics, as authors understand the essence of the recently published ISO 26000 on social responsibility and*

*European Union's (2011) support to it. Here, the authors aim to address use of DST (via SR) in solving the current crisis; owners, managers and staff are supposed to be interested in social responsibility as a source of their benefit, but need knowledge and values to work on implementation of SR, perhaps with a specialized professional team support. Government and other influential entities should support them with the model suggested here. The suggested findings should help humans find their way out from the current crisis, but in synergy; this crisis results from obsolete management and governance style, in which the (dialectical) systemic behavior/thinking is neglected.*

**Keywords:** Crisis, Dialectical system theory, Enterprises, Ethic of interdependence, ISO 26000, Organization and management, Requisite holism, Social responsibility.

## **1. THE SELECTED PROBLEM AND VIEWPOINT OF DEALING WITH IT HERE**

The neo-liberal economic model of the entire period after the Second World War does not cover governance of enterprises only, but all organizations. But this model is now finally found obsolete by many around the world; it causes prevailing of one-sidedness over holistic decision-making and action, including the international, national and local politics with very dangerous consequences, such as the current global social, economic, and environmental crisis. The model's consequences cannot be solved by itself, because it has caused them. The old-mainstream economists offer no new solutions, but theorists of systems and cybernetic theories, United Nations, European Union, and the International Standard Organization (ISO) do, although on the level of basic principles, so far. Market alone has not proved to be able to rebalance crucial consequences of human one-sidedness, neither have governments alone. Systems theory and cybernetics have offered holism of approach for wholeness of outcomes for close to seven decades, now United Nations, European Union and ISO do it with their new concept of social responsibility (SR) (ISO 2010; EU 2011). We will discuss the links between systemic behavior that offers most of holism, and SR, to offer a suggestion toward the transition from the current fictitious holism in running enterprises to a more real one. We think that the essence of good contemporary management is the highest possible level of holism in decision making and taking rather than one-way commanding. We are afraid that the hierarchical organizing of enterprises cannot be overcome yet (Grün, Zeitz, 2012). But the management process can be made more holistic in its approach and lead to more wholeness in its outcomes. We will show the basis for it in this contribution.

## **2. CONDITIONS REQUIRING REQUISITE HOLISM, ETHICS OF INTER-DEPENDENCE AND SOCIAL RESPONSIBILITY IN THE CONTEMPORARY SOCIETY AND ECONOMY**

In the 20th century the world, and especially Europe, went through a triple terrible crisis: two World Wars and Big depression between them, in 1914-1945. Details have no room here, but a few facts do.

(1) The crisis resulted from one-sidedness of the influential persons and their organizations, both governments/countries and enterprises.

- (2) The one-sided demand in the peace treaty after the First World War demanded Germany to repay huge war reparations with no export.
- (3) The one-sided decision of Hitler's 3rd Reich to open several war fronts helped the more holistic Allies to win the WWII.
- (4) The Keynesian model of finishing the crisis looked quite holistic, but Hitler's usage of similar methods of public works etc. finished unemployment by war, which was a very one-sided and terrible decision.
- (5) Democracy in politics did not prevent troubles. etc.

Now, again, around the world many countries face severe economic and social difficulties; important economic sectors are in crises, leading to high unemployment and budget deficits, e.g. in Greece, Ireland, Portugal, Slovenia, Croatia, Spain, etc. (Mašanovič, 2011; Kosec, 2011; Stojan, 2012; Štefančič, 2012). So does USA (Kopušar, 2011). Even China might soon face troubles (Barboza, 2011). With tight financial funds severe restrictions were made in many companies, institutes, and public organizations in the most vital parts: investments, education, research, development, and health care; such short-term thinking will result in stall of innovativeness, loss of markets and in uneconomic behavior (e.g. Fidermuc, 2011; Stepišnik & Stojan 2011; Teršek, 2011; Hribernik, 2012). The short-term and narrow-minded behavior is typical of the neo-liberal economics that can no longer work (e.g. Senge et al., 2008; Toth, 2008; Bošković, 2011). It caused a crisis that differs from all crises of so far – crisis of affluence (James, 2007; Mulej, Hrast, 2010). In affluence the real human needs and ambitions are covered, greed and shopping-addiction no longer create enough demand for suppliers to find consumers, and human ambitions address well-being and SR beyond ownership of goods (Gerzema, 2010; Šarotar Žižek et al., 2010; Zgonik, 2011).

The crises require solutions, including the ones to be realized locally, e.g. in small and medium-sized cities. In previous periods and economic orders, e.g. the humans' natural environment was only a resource, for which the price was not fully charged to the businesses and other users, not an asset as now (clean water, air, soil). Humankind's over-production changed the environment so drastically, that the same practice of nature's over-exploitation is no longer possible. E.g., the Nobel-laureate Kajfez-Bogataj (2009) states, that regarding e.g. the climate changes at least three aspects should be considered: direct impact of changed climate on economy, adaptation of economy to changed climate, and remediation of the climate changes. This time, in human responses to crises, the natural and social environment and sustainability should be included<sup>ii</sup>. All of them depend on human behavior, hence on human thinking, values and knowledge. One-sidedness causes also these troubles. Only respect for systemic/holistic thinking and resulting synergies could create good results. Social responsibility (SR) supports it, although informally (ISO, 2010).

Innovation of human behavior by SR thinking – from independence to interdependence and from one-sidedness toward holism – will require drastic changes in both human perception of the objective reality and acting. Changes have already started. The Kyoto protocol of 1990 e.g. has not brought the desired results, but it induced global changes; Rio +20 conference may reinforce them. The awareness of the impact of human activities (agriculture, industry, energy production, traffic, consumption) has increased and environmental changes have become better studied and discussed (Božičnik et al., 2008; Čosić, 2012; Đukić, 2012). Many countries also invest into new technologies, new sources of energy, and more sustainable agriculture (ecological farming). The

most important, though, is the innovation in human perception of natural environment, fragility of global community, thinking, and values, because on this basis decisions are made and taken. Decision-making practices and policies should include more than ever before the SR thinking and acting, in order to abolish/diminish one-sidedness and resulting oversights and failures. We suggest SR should be more explicitly based on dialectical systemic thinking/behavior, with which we have had four decades of good experiences in many organizations (Mulej et al., 2012). In DST, we stress the importance of the ethics of interdependence and requisite holism in systemic thinking and acting (Mulej, Kajzer, 1998); both of them appear in ISO 26000 on SR (ISO, 2010). With ethics of interdependence cooperation of many specialists and participants becomes possible and leads to requisite holism, thus making systemic SR acting achievable. So does mutual reliability, honesty, hence longer-term and more holistic criteria and practice of behavior, and similar human attributes making life and business better and cheaper via SR.

The (corporate) SR behavior is also required to improve the employees' satisfaction and the influence of the corporation on community and on global environment. Based on analysis of current economic and environmental climate a crucially innovated acting on corporate level is needed (Esposito, 2009). Before the 2008- crises the 85% majority of humankind had to manage to survive on less than 6 (six) USD per day (Nixon, 2004). The global population cannot enjoy the standard of the most developed countries (that are also in big debts), under the global neo-liberalism. It is neither possible due to the achieved level of innovativeness of the majority, nor due to the limited resources, especially natural resources on our planet, nor due to the monopolized and abused rather than free market. In (Božičnik et al., 2008), Dr. Gary Metcalf posed two crucial questions:

(1) If the American standard of living is not acceptable, which one is? And:

(2) If the Planet Earth is capable of supporting one billion humans, who and what will do with the other billions?

So far, these questions are still open and crucial. They are even more so in the light of high debts of the most economically and technologically advanced democratic countries, not only the others. Data on their debts explain why the ISO 26000 has finally been passed: to offer a new chance for a new management that activates more creativity by more well-being in order for SR managers, owners, and governors to develop more non-technological innovations to solve the given problems resulting from neo-liberalistic economics, related monopolistic management, and political parties' one-sidedness instead of democracy leading toward holism and wholeness. The non-technological innovations are at least equally crucial than the technological ones; they make room for creation of the technological ones (Mulej et al., 2012) as described in Table 1.

SR must become a non-technological innovation for humankind's current civilization to survive. The development of the society that humankind has experienced in recent decades is neither sustainable, neither achievable, neither desirable for majority of beings on this planet (Ečimovič et al., 2007; Božičnik et al., 2008; Senge et al., 2008; Toth, 2008). Before the industrialization, growth on our planet was small and steady; it was measured in three percent per millennium (Mulej, Hrast, 2010). This may also mean that the contemporary ambition for growth has not been as natural in the entire human history as it is found today, after the renaissance times. Since 1820 there are 6 times more humans on our planet. Each person is using +5 times more energy, is much more mobile, and travels 40 km per day, on average. Humans cut down every hour 1.500 hectares of forest, emit in our air 4 million tons of CO<sub>2</sub>, and add 1.7 million tons of nitrogen by

fertilizing agricultural land (Kajfez-Bogataj, 2009). She learned from her research to warn humans: «History is full of belated learning from early warnings.» One-sidedness belongs to causes of troubles here, too.

Similar studies also led to conclusions, that the crises of 2008- cannot be solved with the same neo-liberal economic concepts, which have caused them. At the same time, for too many decades, the influential individuals' human rights were separated from their responsibilities in the form of shareholding and limited liability companies, despite Adam Smith's disagreement (Toth, 2008). Companies mostly end up in bankruptcy, or leave, before they fully repay to the society for the damages they have caused. The neo-liberal economic theory and practice included non-transparent and non-local economy; it included neither the holistic approach nor SR. Under the label of the free market, neo-liberalism even refused both of them, thus allowing monopolies to be formed and abuse others with their ethics of independence rather than interdependence. Hence, the management model of so far must be innovated - by application of SR.

Table 1. 40 basic types of inventions, suggestions, potential innovation and innovations.

Innovation is every (!) novelty, once its users (!) find it beneficial (!) in practice (!)'.  <b>Three networked criteria of inventions, suggestions, potential innovations, and innovations</b>				
(1) Content of inventions, suggestions, potential innovations, and innovations	(2) Consequences of innovations		(3) On-job-duty to create inventions, suggestions, potential innovations, and innovations	
	1. Radical	2. Incremental	1. Duty exists	2. No duty
1. Business program items	1.1.	1.2.	1.3.	1.4.
2. Technology (products, work processes)	2.1.	2.2.	2.3.	2.4.
3. Organization (process-based rather than subordination-based)	3.1.	3.2.	3.3.	3.4.
4. Managerial style (co-operative rather than one-way commanding)	4.1.	4.2.	4.3.	4.4.
5. Methods of leading, working and co-working (supportive of co-operation)	5.1.	5.2.	5.3.	5.4.
6. Business style (co-operation with business partners)	6.1	6.2	6.3	6.4
7. Governance & management process (supportive of co-operation)	7.1	7.2	7.3	7.4
8. VCEN (supportive of co-operation and reflecting interdependence)	8.1	8.2	8.3	8.4
9. Our habits (realizing contemporary VCEN in our practice)	9.1	9.2	9.3	9.4
10. Habits of others (realizing contemporary VCEN in their practice)	10.1	10.2	10.3	10.4

### 3. SOME SELECTED VIEWPOINTS OF SOCIAL RESPONSIBILITY

SR became increasingly important in recent years, especially after a very long economic growth cycle had ended with 2008- crises. During our research on SR in 2009 we found on e-browser Google 25 million hits (Mulej et al., 2009). On May 7th 2010 we found 116 million hits, and on June 27th 2011 137 million hits, in June 2012 beyond 400 million. Then we gave up our hope to read them. The authors writing about SR from the viewpoint considered here include (Hrast,

Mulej, Knez-Riedl, 2006; Knez-Riedl, Mulej, Dyck 2006; Božičnik et al., 2008; Prosenak, Mulej, 2008; Ženko et al., 2008; Esposito, 2009; Hrast, Mulej, 2009; Hrast, Mulej, 2010; Mulej, Ženko, 2010; Šarotar Žižek et al., 2010; Ženko, Mulej, Božičnik, 2010; Mulej, Knez-Riedl 2011; Ženko, 2011)<sup>iii</sup>.

Contributions on SR are too many to read. Our selection shows the following situation:

- The simplest (and oldest) version of SR is charity, which is still important, but a small part of SR; it might only be a mask for real one-sidedness rather than RH of behavior of influential persons and their organizations, concerning many other aspects/topics in Figure 1.
- European Union (EU, 2001) mentions officially four contents of SR (of enterprises): the point is in a free-will-based acceptance of the end of abuse of employees, other business partners, broader society, and natural preconditions of humankind's survival, beyond law. The new EU's (2011) definition is shorter: organizational responsibility for one's impacts on society and nature.
- In literature on business excellence one requires more – upgrading of its measures with SR (For overview see: Gorenak, Mulej, 2010). A bridge is also offered, identifying SR as the acceptable modern values/culture/ethics/norms (VCEN) of human behavior (Potočan, Mulej, 2007), and business excellence as a method leading to it in practice (SFPO, 2010).
- In further literature one sees connection between systemic thinking and SR (Cordoba, Campbell, 2008), but it differs in the authors' selected viewpoint from the one under discussion here.
- A fourth group of references links SR with world peace (Crowther, & Caliyurt, 2004).
- ISO 26000 (ISO, 2010) requires a holistic approach (based on interdependence) and includes seven content areas: (1) organization, management and governance, (2) human rights, (3) labor practices, (4) environment, (5) fair operating practices, (6) consumer issues, and (7) community involvement and development.

The ISO 26000 on social responsibility was prepared by International Organization for Standards, connecting 169 countries; professionals, trade-unionists, and politicians from +90 countries and +40 other organizations worked on ISO 26000 for a decade (ISO, 2010) in a quite holistic way. Previous initiatives were limited mostly to the corporate SR (Hrast et al., 2006). ISO 26000 Standard on social responsibility (ISO, 2010) was prepared to provide for harmonized, globally relevant guidance (but no certification). It helps all organizations including the public sector to understand and voluntarily include SR into their operations. ISO standard 26000 contributes to understanding and accepting relevant terms what is SR, definitions, and principles of SR. It also suggests how SR should be included in policy, strategy, integration and communication as well as the possible best practices how to apply SR. The major stakeholders are grouped as: government, industry, services, labor, non-governmental organizations, and customers.

To further develop the understanding and practicing of SR the most important in ISO 26000 are three groups of points with the number seven:

- 7 principles: 1. accountability, 2. transparency, 3. ethical behavior, 4. respect for stakeholder interests, 5. respect for the rule of law, 6. respect for international norms of behavior, and 7. respect for human rights (ISO, 2010: 10-14).



- 7 core subjects (ibid: 19-68), cited above. They are interrelated and bonded with organizational governance of the organization in the center. Due to objective circumstances the organization decides when it puts more emphasis on some core subjects and in different circumstances on the others. We find the two concepts linking them at least equally important: 1. interdependence, and 2. holistic approach (ISO, 2010: lines 896-900).
- Chapter seven that suggests seven steps of the procedure of introduction of social responsibility into the organization: 1. The relationship of an organization's characteristics to social responsibility, 2. Understanding the social responsibility of an organization, 3. Practices for integrating social responsibility throughout an organization, 4. Communication on social responsibility, 5. Enhancing credibility regarding social responsibility, 6. Reviewing and improving an organization's actions and practices related to social responsibility, and 7. Voluntary initiatives for social responsibility.

Holistic approach and interdependence are defined (lines 896 – 900 in ISO 26000) as follows:

*«An organization should look at the core subjects holistically, that is, it should consider all core subjects and issues, in their interdependence, rather than concentrating on a single issue. Organizations should be aware that efforts to address one issue may involve a trade-off with other issues. Particular improvements targeted at a specific issue should not affect other issues adversely or create adverse impacts on the life cycle of its products or services, on its stakeholders or on the value chain.»*

Holistic approach and interdependence between process participants are addressed indirectly in ISO 26000 by usage of terms such as: stakeholders, accountability, transparency, ethical behavior, respect for rule of law and other rules, honesty, human rights, dialogue, wider impact, no abuse, no discrimination, healthy environment, no exploitation. This means that interdependence is considered and leads to (requisite) holism attainable by their interaction like in an informal systems/cybernetics thinking/behavior. This is namely very close to the pioneers of systems theory and cybernetics: Bertalanffy (1968: VII) wrote explicitly that he had created his General Systems Theory 'against overspecialization', Wiener practiced interdisciplinary creative cooperation, Mulej and other authors supported further development with several methodologies (François, 2004).

Thus, the law of requisite holism and ethics of interdependence (Mulej, Kajzer, 1998) are reinforced on the global level.

The human need to formulate documents of United Nations and European Union on social responsibility a decade ago and ISO 26000 in 2010 reflects the blind alley of the socio-economic model of neo-liberalism. Hence, SR could and should be perceived as a complex invention-innovation-diffusion process, which should include dialectical systems thinking and acting (Ženko, Mulej, 2011). Complex process can be managed only with interdisciplinary cooperation of many specialists (specialized scientific disciplines), who feel and practice ethics of interdependence because they are complementary with their mutual differences, which enables them to attain requisite holism. The total holism that is addressed in ISO 26000, see Figure 1, reaches beyond human capabilities; holism with limitation inside a single viewpoint and discipline is only very exceptionally sufficient – requisite (Mulej et al., 2012).

International Standard ISO 26000 is a great guidance to SR, actually to systemic behavior. We expect that as Kyoto protocol since 1990 has introduces many global changes, so will the ISO 26000. At the same time ISO 26000 is guidance, not an international law, even less a supra-

national law. It is more about the terms in SR and cases of best practices than about the requisitely holistic SR behavior. We believe that including the theory and methods of the Dialectical Systems Theory (Mulej, 1974; Mulej et al., 1992; Mulej et al., 2000; Mulej et al., 2008; Mulej et al., 2012) helps the stakeholders' SR acting to be easier to accept, practice and demand globally. This can be attained on an informal basis, too, which we will suggest later. The point is not in SR as something self-sufficient, but in its role of the systemic/DST alternative to the neo-liberalistic blind alley.

Figure 1. The seven core subjects and two crucial linking concepts: Interdependence and holistic approach, of social responsibility in ISO 26000.



#### 4. SYSTEMS THEORY: A SEMI-HIDDEN BACKGROUND OF SR

Some sixty years ago the authors of *Systems Theory and Cybernetics* succeeded in making their theories known; politicians of the world succeeded in using it (informally) by making the United Nations Organization the most holistic political organization of humankind. Much later, the European Union (EU) found it necessary to explicitly link 'systemic' views with innovation. The EU, after reminding readers of its previous documents enhancing innovation, states on page 6 (EU, 2000):

*«The Action Plan [First Action Plan for Innovation in Europe, 1996, based on Green Paper on Innovation, 1995] was firmly based on the 'systemic' view, in which innovation is seen as arising from complex interactions between many individuals, organizations and*

*environmental factors, rather than as a linear trajectory from new knowledge to new product. Support for this view has deepened in recent years.»*

Such a move to support and even require systemic thinking is taking place currently again under the label of social responsibility, and European Union advises its member states and big enterprises to use ISO 26000 as a way out from the current socio-economic crisis (EU, 2011), etc.

Thus, the concepts of ‘interdependence’ and ‘holistic approach’, i.e. systemic behavior, are found crucial on the world-top level by politicians, professionals, and business persons.

If this has to be stated explicitly in such documents, the questions arise:

- Are we humans capable of the interdisciplinary co-operation that we need almost every moment?
- What is the theoretical basis for those, who are not capable of it, to learn?

The empirical experience- and reference-based answers are:

- Very few humans are by their nature and education capable of interdisciplinary co-operation, because specialists teach specialists to be specialists, including being proud of their specialization (alone).
- This teaching is reasonable, but it is not enough: it may cause one to hide from reality behind the walls of one’s specialization and lack respect for other specializations and their need for each other - as well as restricting their capacity to solve real problems by interdisciplinary creative co-operation much better than by separation (Mulej, 1974, 1979; Mulej et al., 1992; Mulej et al., 2000; Ackoff, Rovin, 2003; Gigch, 2003; Mulej et al., 2012).
- Very few universities offer courses on methods of holistic approach.
- The good novelty says that about 50 countries teach De Bono’s methods to teachers in primary schools, in China in 600.000 schools (Mulej N., oral message from De Bono’s team, 2011).

#### **4.1. The General Systems Theory – insufficient basis for holism and wholeness**

The theoretical basis to learn the skills of the interdisciplinary co-operation, as the basis for holism of approach to human work and wholeness of its outcome, stems from the original authors of the *Systems Theory and Cybernetics*: Bertalanffy and Wiener. But many humans, even theorists of systems theory and cybernetics (e.g.: François, 2004; Mulej et al., 2006; Hofkirchner et al., 2012; Valim Ribeiro & Martinelli, 2012) now often use them inside traditional disciplines and forget that the fathers of the Systems Theory and Cybernetics have created their answers to the burning problems of their and our time through their interdisciplinary approach. This is where Dialectical Systems Theory (DST) (Mulej, 1974; 1979; 1992; 2000; 2012) of nearly 4 decades ago, allows us to fill the gap. François (2004) calls DST peculiar, for this reason, obviously.

The well-intended and well-applied versions of systems theory, which describe a part of reality inside a viewpoint of one single traditional, specialized, scientific discipline, are beneficial, but they do not match the well stated EU’s and others’ definition of ‘systems view’ (François, 2004). They help people solve other problems, but not that of the holism of thinking, decision-making,

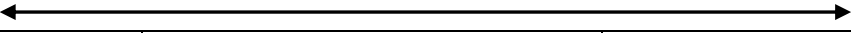
and action, as a precondition of survival of humankind and the planet on which we live, and/or of success in any human action (Geyer et al., 2003). Interdependence of different professions is left aside; unity in diversity is not attained. The current crisis is an obvious consequence.

Beyond 40 years ago Mulej learned about the General Systems Theory (GST) and started using it. Soon, he became disappointed because many GST users reduced GST to their basis for a *formal description inside their own selected viewpoint and profession*: he did not see *holism* that he expected. Holism means *consideration of everything* rather than another reductionism to e.g. a single viewpoint, literally. In our experience one can come requisitely close to holism best in interdisciplinary creative co-operation, making a synergy of insights (based on viewpoints different from each other) emerge from their differences from each other and networking with each other in networks. Hence Mulej invented the notion 'Dialectical System' (DS) (Table 2).

Table 2. Definition of a system and a dialectical system in DST

<p>A system is <i>at the same time</i>:</p> <ol style="list-style-type: none"> <li>1) From the viewpoint of the <i>mathematical formalism</i>: a round-off whole, i.e. a network of any/no content; and</li> <li>2) From the viewpoint of its <i>content</i>: a partial (one-sided) picture / representation (mental and/or emotional) of an object, which is considered / dealt with from either a selected viewpoint or a number or even a system of viewpoints.</li> </ol> <p>Thus, a system is holistic, formally, and one-sided, in content, at the same time.</p> <p><i>A dialectical system (DS) is a system (formally) of all essential systems (in content) presenting the same topic / object from different viewpoints, which are therefore interdependent and interactive; they make a synergy. DS includes all essential and only essential viewpoints, relations and synergies.</i></p>
---

Table 3. The selected level of holism and realism of consideration of the selected topic between the fictitious, requisite, and total holism and realism.

		
<b>Fictitious holism/realism</b> (inside a single viewpoint)	<b>Requisite holism/realism</b> (a dialectical system /DS/ of all essential viewpoints)	<b>Total = real holism/realism</b> (a system, i.e. network, of all viewpoints)

What viewpoints and networks are *essential*? This remains authors' decision and responsibility. This fact requires impact over humans' attributes (knowledge and values – K&V). But K&V, taken literally, is not necessarily requisitely holistic (= a DS), neither is so motivation alone or creation of preconditions for life and work alone. K&V and outer conditions are all *inter-dependent* rather than independent, and make the starting points of every human activity. The mentioned one-sided practices of many GST users deviated and deviate from Bertalanffy's (1979: VII) basic intention and definition: he 'created GST against over-specialization of the current times'. This means that Mulej's work has been in line with Bertalanffy's intentions to make holism a worldview with methodological support leading to wholeness of outcomes. The practice of N. Wiener, the author of cybernetics can be seen as practice of what Mulej calls 'requisite holism' (Mulej, Kajzer, 1998), a part of DST. See subchapters 4.2 to 4.4 for a summary of DST.

#### 4.2. Essence of the Dialectical Systems Theory

DST is a peculiar version of systems theory (François, 2004: 169). It does not provide tools for humans to use on whatever basis, but tries to *impact human thinking and feeling*, too. Namely, the level of holism to be attained in their observation, perception, thinking, communication, decision-making, and action depends on the humans' subjective starting points (KV). DST *fight*s the *fictitious holism*, which some other versions of systems theory may support (see Tables 2 and 3). DST has enabled several thousand successful applications both in research and “*the real world*” practice, especially in (non-technological) innovation, management, and organization.

DST's point is the *inter-disciplinary approach as a precondition of (the requisite) holism* of humans at work etc.; the lack of inter-disciplinary approach may namely make the presupposed holism – a central concern of cybernetics and systems theory – rather fictitious. This lack is found in practice (Mulej et al., 1974; 1979; 2006; 2012) and it opposes the Bertalanffy's and Wiener's groups/teams. The original authors of both systems theory and cybernetics were interdisciplinary and aiming at synthesis (Hammond, 2003).

This means that to make the concept of DS workable, Mulej created the DST as a methodology of behavior, especially thinking (in observing, reflecting, communicating, decision-making, and impacting) based on the following findings about reality:

- Humans observe, think, decide, communicate, act, and impact, on the basis of their *subjective starting points* (K&V), which are in turn subject to *influence of other humans, experiences, insights and feelings*.
- The starting points, especially the subjective ones – K&V (which select, by observation and decision, the attributes of the objective, i.e. outer reality to be taken in account), *influence further processes* of definition of objectives and their attainment, in which many features and attributes are interdependent, rather than simply linearly dependent.
- The starting points can be influenced, especially ones' K&V, by education and other information processes. But the receivers of those influences tend to *react* to them *differently*, if their role is to define objectives, or to attain (imposed?) objectives with the partial tasks to be accomplished by receivers.
- In acting according to their roles, humans try to be holistic, in order to avoid failures and resulting difficulties. But people tend to define *holism* rather *differently*.
- It is impossible for people to be *totally holistic*, at the level of Bertalanffy's requirements (Bertalanffy, 1979: VII). But if one defines one's own holism *very narrowly*, e.g. inside one single specialization, a *fictitious* holism is produced rather than a *realistic* one. Even worse, one can *imagine* that a realistic holism has been attained, despite its unreality.

#### 4.3. The Six Components and Relationsmaking the Dialectical Systems Theory, in Summary

DST reflects these findings (Mulej, Zenko, 2004; Mulej et al., 2012):

1. *The law of entropy*. One must take in account that there is a permanent natural tendency of everything to change into something else, i.e. to be destroyed, and to help create something else, simultaneously. Entropy requires people to be requisitely holistic and creative in order to succeed, rather than one-sided and routine-loving/addicted. Hence:

2. *The law of requisite holism.* There is a continuing need for a DS when a one-sided system is not a holistic enough picture of reality and a total ('Bertalanffian') one cannot be attained (Table 3). Decision makers must take responsibility for their selection of what enters the DS, and what is omitted, but their decision does not prevent the omissions from influencing outcomes anyway (Mulej, Kajzer, 1998). Hence:
3. *The law of hierarchy of succession and interdependence.* It is not the structure of subordination, but processes that cause results. It is cooperation that makes processes happen. Therefore, one must start with the definition of salient objectives. This process depends on subjective (K&V) and objective starting points (outer needs and possibilities). These are interdependent; so are the phases following later on in the process and their content, including perceived needs and possibilities, preferential needs and related possibilities, objectives, tasks to meet them, and processes to execute tasks. Consequently:
4. *The ten guidelines on how to form the subjective starting points of persons defining the objectives.* These guidelines must be used before the definition of objectives, in order to support requisite holism and creativity in this phase of the work process. We will brief them soon ('Ad 4'). The decision makers must be rather broad and synthesis-oriented. But they are not alone in the entire work process. Hence:
5. *The ten guidelines on how to form the subjective starting points of persons realizing the objectives.* These guidelines must be used after the definition of objectives, in order to support requisite holism and creativity in this phase of the work process. We will brief them soon, too ('Ad 5'). These decision makers / co-workers must be narrowly specialized and analysis-oriented, with responsibility for single details, while understanding and supporting a broader definition of requisite holism, with creative co-operation with specialists of other skills.
6. Both groups (in points 4 and 5) need tools to behave in a systemic way implicitly. Therefore: *USOMID* (DTS-based applied methodology of interdisciplinary creative cooperation) is used to enable participants of the work process to consider and use the three laws and both dialectical systems of guidelines, even without knowledge of their theoretical background. Our experience with employment of DST in non-academic settings soon demonstrated the need for DST's rather philosophical concepts to be expressed in an organizational technology, i.e. methodology. This is why *USOMID* came about; its Slovenian acronym reads: Creative Co-operation of Many for an Innovating Work (Mulej et al., 1982 and later, including 2012). It helps people face complexity by using systems theory with no word of theory, but implicitly. Now, we combine it with '6 Thinking Hats' (Mulej, M., Mulej, N., 2006; Mulej et al., 2012). The latter enables implicit systemic behavior, too.

We cannot provide details here, except the ones on the guidelines (points 'Ad 4' and 'Ad 5').

'Ad 4': *Guidelines about the subjective starting points before definition of objectives:*

(1) *Purpose of work in contemporary conditions:* Both the contemporary human capacity of global influences and the interdependence require humans to innovate their culture toward more holism in terms of the Tables 1-3, e.g. by awareness of complexity and purpose of facing it with a creative/innovative action rather than avoiding it. Hence, the purpose is requisitely holistic invention-innovation-diffusion process (IIDP) and innovation (i.e. IIDP's beneficial outcome in users' practice) in tackling any topic.



(2) *Approach*: For this general purpose to be attainable, systems thinking, e.g. by DST methods, must replace one-sidedness as the methodology of observing, thinking, communication, decision-making, and action.

(3) *The dialectical system of 'trouble, objective(s) and tasks'*: If the problem/trouble is oversight by one-sidedness, and (requisite) holism is the objective, then more of the application of creative co-operation based on DST can be a task (among many more, such as the ones of the narrow specialists).

(4) *The procedure of work on tasks*: Application of the (D)ST in practice can belong to the necessary procedures for more creative co-operation and work, and so can all available and necessary and sufficient, i.e. requisite, knowledge and motivation of specialists to be no over-specialists.

(5) *Consideration of everything crucial*: Double-checking, whether meeting guidelines (1) – (4) is enough or not, says that no single theory is enough, but the practice of system thinking, related legal and political institutions, and prevailing culture must support requisitely holistic, creative, and even innovative behavior to attain synthesis of several theories. If, e.g., all crucial professionals are not involved in the team, one must introduce them.

(6) *Capacity of requisite holism*: Hence, the dialectical-systems thinking, which stresses interdependence and creative co-operation of mutually different viewpoint-holders, such as the interested parties in business and society, is needed as a human attribute. Using the concepts of inter- and trans-disciplinary approaches of single-disciplinary specialists supports this human attribute (See: Herrscher, 2012).

(7) *Dialogue in team*: Teamwork is an organizational possibility for co-operation that enables participants of the work process and/or other stakeholders to diminish alienation and attain requisite holism. The combination of USOMID and '6 thinking hats' (Mulej M. and N., 2006, 2012) makes the dialogue less troublesome and more productive.

(8) *Continual updating*: Innovation of the subjective starting points of co-operating entities toward ethics of interdependence and knowledge of co-operation make their teamwork easier. Obsolete knowledge and values are obstacles to creative facing of the modern complexity and its challenges. *Interdependence of knowledge and values*: For creative co-operation, both knowledge and values/culture/ethic/norms need innovation because they are interdependent and support each other, either toward creative co-operation or against it. People with obsolete values of what is right and what is wrong will very rarely accept and develop contemporary knowledge, and vice versa, in ones' K&V. Several proofs are provided (in e.g. Hrast et al., 2012).

(9) *Evolution and path dependence*: Innovation of human subjective starting points, e.g. toward the requisitely holistic behavior, is rarely easy, if the experience of the tackled humans lets them prefer the old K&V and allows the old K&V to keep impacting the current behavior, although circumstances and conditions have changed. In such a case it would be difficult to define up-to-date starting point and salient objectives. The likely alternative is poor success due to lagging behind competitors, who do not lack modernity. Several proofs are provided (in e.g. Hofkirchner, ed., 2012; e.g. Gagnidze, Maisuradze, 2012). The current crisis is an obvious case, too.

'Ad 5': *Guidelines on how to form the subjective starting points of persons realizing the objectives*

- (1) *Requisite holism throughout the entire work process:* After the objectives have been defined, tasks and procedures for narrower specialists have their turn. Still, success may be poor, if specialists do not work hard enough for both their own and shared requisite holism. Their knowledge is unavoidable, but not sufficient without requisite holism in their K&V.
- (2) *Openness:* Holism, including the one concerning the work of narrow specialists, is very rarely attained with a lack of co-operation, and hence specialists must be open to each other, because they differ from each other. They become complementary to each other in this way. If agents are humans, ones' K&V may even be usable in combination with project management (Lostado Bojo, 2012; Vrečko, 2011).
- (3) *Dynamics, adaptability:* Many specialists lack training in openness and must change / innovate their K&V in this respect. Dynamics does not cover change in the course of time, e.g. in statistical terms, only; it includes human capacity to adapt to each other, e.g. to accept proofs that are based on another viewpoint. With ethics of interdependence this is easier to attain than with ethics of self-sufficiency. Experience in use of USOMID and 6 thinking hats helps.
- (4) *Interdisciplinary approach:* Openness is closer to specialists, as long as they may stay inside their own specialty; inter-disciplinary approach is harder for many, but equally or even more necessary for requisite holism. Capacity to listen to and hear the disagreeing ones is crucial; application of '6 thinking hats' helps crucially.
- (5) *Probability:* One can never know and master totally everything; rather, a hard-to-define level of probability must be expected. This is why we do not speak of holism, but of the requisite holism.
- (6) *Interaction based on interdependence and flexibility:* If specialists use the modern dialectics rather than the one-sided medieval metaphysics ('independence, no mutual impact, no change, boss is always right'), all the above five demands that concern specialists, can be met more easily and reliably: ethics and practice of interdependence support co-operation and changing, including innovation of human subjective starting points (K&V).
- (7) *Clear delimitation of roles, jobs, viewpoints and resulting systems:* While guidelines (1-6) require the participants' co-operation, the latter is easier to attain, if jobs of specialists are precisely delimited. Thus, responsibilities are clear-cut; nobody has the right of irresponsibility.
- (8) *Realism in generalization of conclusions:* Once every specialist does his or her own job, one must from time to time generalize findings / results; this phase includes a simplification, in which some details are omitted. It is important that this generalization is realistic, e.g. enabling a salient judgment on the level of holism and performance attained so far. Tables 1-5 are crucial.
- (9) *Application of a dialectical system:* To make the judgment realistic, one should go for requisite holism by using the dialectical system, rather than a total or fictitious/one-sided one. See Tables 1-3 again, if necessary.
- (10) *Interdependence of analysis and synthesis:* Judgment results from analysis and from synthesis following it. But there is also another synthesis with a crucial impact: synthesis of the subjective starting points and the selected viewpoints before, and as the basis of, analysis. This synthesis influences the level of holism of specialists crucially, in every work. This is why both dialectical systems of guidelines for subjective points were defined here.

On this basis, in Mulej's DST, *holism* tends to be both close to the definition of holism found in Bertalanffy's work and workable. Holism is therefore a dialectical system networking four interdependent attributes (Table 4):

Table 4. *Holism as a dialectical system of four interdependent attributes of human thinking.*

- |  |
|--|
| <ul style="list-style-type: none"> <li>• <b>Systemics</b> (attributes of the whole, but not of its single components), complexity, synergies.</li> <li>• <b>Systematics</b> (attributes of the single components, but not of the whole), complicatedness, details.</li> <li>• <b>Dialectics</b> (attributes of relations that form the attributes of the whole, by causing emergence, resulting in synergy), interdependence, and resulting interaction.</li> <li>• <b>Materialism</b> (attributes of the observer, decision maker, and/or actor, called also realism), the smallest possible deviation from reality in observing, thinking, decision making, and action.</li> </ul> |
|--|

The attributes in Table 4 have been sought from the very beginning of cybernetics and (the general) systems theory, but have lost to the unavoidable narrow specialization of the contemporary times. Formally, Table 4 can be attained inside a single viewpoint, too, but practically the *requisitely holistic interdisciplinary co-operation* is needed for people to avoid crucial oversights.

A new method supportive of creative co-operation of requisite and mutually different and hence interdependent specialists, e.g. coming from different units/sectors of an organization, or different organizations, etc. surfaced in our research; we used it in several workshops and consultancies with very satisfactory responses from participants (Mulej, M. & Mulej, N., 2006). As described in the following paragraph (4.4).

#### 4.4. Application of USOMID and Six Thinking Hats in Synergy

Methodologies of creative cooperation based on interdependence and aimed at requisite holism, USOMID (Mulej, 1982) and 'Six Thinking Hats' (De Bono, 1985; 2005) have been applied in separation for nearly three decades very successfully, before the following synergy was created (Mulej, M. & Mulej, N., 2006) (Table 5).

USOMID elaborated the blue hat better by its 6 SREDIM phases and its 4 USOMID steps to be applied inside each of the 6 SREDIM phases. The 6 SREDIM phases were learned from the 'Work Simplification' method of IIDP; but we found them addressing more the procedure of work than the one of cooperation. This failure created the danger of fictitious rather than requisite holism. USOMID also pays more attention to the execution of the taken decisions.

On the other hand, the SIX THINKING HATS methodology elaborates better the application of four hats presenting the emotional part of human behavior, which USOMID has not covered; these hats prevent arguing from rigid individual viewpoints. This is crucial for success.

Table 6 briefs attributes of each of the six thinking hats, which are used by all team members at the same time one after the other, not all hats in the same moment. This helps all *emotional attributes* of every team member to show up without arguing that causes fighting. One comes from argumentative thinking of people feeling infallible, to complementary thinking, called parallel thinking (De Bono, 2005).

Table 5. Synergy of USOMID/SREDIM and 6TH Methodologies in Procedure of USOMID

<b>SREDIM Phases</b>  <b>USOMID Steps inside the SREDIM phases</b>	<i>1. Select problem / opportunity to work on in an USOMID circle</i>	<i>2. Record data about the selected topic (no 'Why')</i>	<i>3. Evaluate recorded data on the topic ('Why' - is central)</i>	<i>4. Determine and develop the chosen solution/s of the topic</i>	<i>5. Implement chosen solution of the topic in reality</i>	<i>6. Maintain implemented solution for a requisitely long term</i>
<i>1. Individual brain-writing by all in the organisational unit / circle</i>	All 6 hats	White hat	All 6 hats; red, black, yellow, green, first of all	All 6 hats; red, black, yellow, green, first of all	All 6 hats in <u>preparation</u> of implementation	All 6 hats in <u>preparation</u> of maintenance
<i>2. Circulation of notes for additional brain-writing by all</i>	All 6 hats	White hat	All 6 hats; red, black, yellow, green, first of all	All 6 hats; red, black, yellow, green, first of all	All 6 hats in <u>preparation</u> of implementation	All 6 hats in <u>preparation</u> of maintenance
<i>3. Brain-storming for synergy of ideas / proposals</i>	All 6 hats	White hat	All 6 hats; red, black, yellow, green, first of all	All 6 hats; red, black, yellow, green, first of all	All 6 hats in <u>preparation</u> of implementation	All 6 hats in <u>preparation</u> of maintenance
<i>4. Shared conclusions of the circle</i>	All 6 hats	White hat	All 6 hats; red, black, yellow, green, first of all	All 6 hats; red, black, yellow, green, first of all	All 6 hats in <u>preparation</u> of implementation	All 6 hats in <u>preparation</u> of maintenance

Table 6. Essence of Each of the Six Thinking Hats

<ul style="list-style-type: none"> <li>• <b>White</b> = neutral, objective, facts without interpretation, like a computer;</li> <li>• <b>Red</b> = feelings, emotions, intuition, irrationality, unproved feelings, no justification;</li> <li>• <b>Black</b> = watching out, caution, pessimism, search for danger, doubt, critique; it all works well against mistakes and weak points of proposals;</li> <li>• <b>Yellow</b> = optimism, search for advantages of proposals, search for implementation ways, sensitivity for benefit of the idea, constructive approach;</li> <li>• <b>Green</b> = energy, novelty, creation, innovation, in order to be able to overcome all obstacles;</li> <li>• <b>Blue</b> = organization, mastering, control over procedure, thinking about thinking.</li> </ul>
---

## 5. SUGGESTION ABOUT HOW TO INTRODUCE REQUISITE HOLISM IN THE GOVERNANCE AND MANAGEMENT OF ENTERPRISES

We suggest governors and managers of enterprises to introduce into the work of their bosses, offices, and members, in general:

1. Values of social responsibility and especially the concepts of interdependence and holistic approach to cover all topics in Figure 1 by using the process from ISO 26000 mentioned earlier in this text;
2. Working in their daily practice in line with the methodology briefed in Tables 5 and 6;
3. Considering suggestions in the points 1 and 2 here a non-technological potential innovation in need of a related IIDP.

Precondition for this process and resulting innovation (rather than any change) is the fact that the organizations should look at humans as multi-layered, not only as professional entities. In

synergy, not only individually, we define humans as: (i) physical, (ii) mental, (iii) social, (iv) spiritual, and (v) economic entities, marked by requisitely, though not absolutely holistic pattern of relatively permanent characteristics, due to which the individuals differ from each other, and also as specialized professionals. All these and other attributes form synergies. Thus, we define the requisite holism of an employee as an individual existing and conscious of self as:

- Physical person respectively, implementing active techniques to gain physical balance,
- Mental entity, enriching sentiment, perception, mind and will-power by life balancing techniques,
- Social entity, building quality communication with others by the techniques of professional and working development and social integrity,
- Spiritual entity, longing after self-actualization and the sense of life, carrying it into effect by the techniques of spiritual development,
- Economic entity, striving to satisfy her material needs as a person, family member, coworker, and as a member of a wider society.

In this way the behavior of individuals, who are willing to practice interdisciplinary co-operation, becomes socially responsible. It offers a possible answer to crisis; hence the individuals evolve from being merely owners to requisitely holistic creators, who enjoy subjective and objective welfare more than the others (Šarotar Žižek, 2010).

For the enterprises to solve their possible socio-economic problems the neo-liberal economic measures can hardly work, because the problems have been caused by such measures, unless the given enterprise is very exceptional. Thus, for these enterprises' work against the given problems we can suggest the following combination of the well-proven experiences that reflect social responsibility with informal big attention to interdependence and requisite holism: described in paragraph 6.

## **6. SUGGESTION FOR SOLUTION: COMBINE EXPERIENCES FOR THE WAY OUT FROM THE CURRENT CRISIS**

The way out from the current long-term socio-economic and managerial crisis is available, based on combinations of best global practices. Non-monopolized markets and governance, collaborative management, cooperation-based ownership, tolerance toward creative talents, ethics of interdependence, and achievement of holism through SR are required and possible. The alternatives to their synergy are continued crises and ultimate destruction by world war, including nuclear destruction. One can learn from e.g. the following books about the world-class management and organizational practices.

- Collins (first with Porras, then alone) found with their teams of empirical practice researchers that “visionary companies” have been best off over an entire century, based on their socially responsible governance and management practices (Collins, Porras, 1997; Collins, 2001; Collins 2005).
- US Air Force General Wilbur. L. Creech showed, after 47 years of experience that he stayed alive during thousands of flights by cooperating with, rather than one-sidedly commanding,

his teams, which means use of ethics of interdependence for more holism (Creech, 1994).

- Mondragon is an exemplary community in the Basque region of Spain, which during the past nearly seven decades has successfully applied co-operative ownership and management to its industrial production, schools, housing, banking, etc. R. Dyck, M. Mulej and coauthors (1998) include this and 30 other case studies.
- Richard Florida's *The Rise of Creative Class* (2002) shows that the US regions with the highest 3T levels (tolerance, talents, technology) attract the most creative/productive people and enjoy the highest standard of living.
- Jeffrey Sachs' crucial new book *The Price of Civilization* (2011) contains data and analysis showing why the US is in deep crisis, and also why SR is the solution.
- Along with these models we suggest use of the voluntary international standard, ISO 26000 (2010), *Guidance for Social Responsibility*.
- We could add N. Roubini's remark, in "Gordon Gekkk Wakes up," in the Slovenian daily *Finance* (18 August 2010:10) that managers' pay needs a longer-term basis.
- To persuade people one might use data summarized from five other books in Mulej's review (2010).
- The process of making social responsibility a prevailing management and governance practice should be considered a complex non-technological invention-innovation-diffusion process applying the (dialectical) systems theory (Mulej et al., 2012).

There is one more poorly addressed issue: new jobs and profits cannot be generated in the absence of consumer demand; greed is no longer sufficient to operationalize an economy, since 85% of people around the world live on less than six US dollars a day. Shorter working hours may also be required to generate better distribution of employment. (Mulej, 2010).

Cassiers (2011) points out another crucial view:

- (1) crisis is multi-dimensional, including culture, politics, finances, economics, food, ecology, and society;
- (2) growth that has been so much exposed over the recent several centuries, cannot be put equal to prosperity because we see (2.1.) distinction between economic growth and satisfaction with one's life, (2.2.) ecological limits, and (2.3.) inequality and poverty;
- (3) quality of life depends on human being and human having; human being can be measured by: (3.1.) well-being, (3.2.) happiness, and (3.3.) good life, while human having depends on (3.4.) acquiring of richness, (3.5.) business success, and (3.6.) affluence.

Measurements in their book backing the quoted text found that humans' having certainly is an important source of good life, but far from being the only one: Belgium, USA, Japan, France and Denmark showed no serious growth of prosperity in the period of the very rapid growth of GDP 1955-2010. Data also show that six decades of economic growth has neither increased life satisfaction in the West nor swept away world's misery. – These findings also say that the neo-liberal economics have failed to make humans happy except a too small percentage. SR offers an alternative chance. But SR, of course, must still pass the entire non-technological invention-innovation-diffusion process to become a prevailing culture, political, social, and economic



practice instead of neo-liberalism toward more ethics of interdependence (rather than abuse) and holism (rather than one-sidedness).

## 7. FIVE BASIC LINES OF MEASURES TO BE UNDERTAKEN

Five basic lines of measures to be undertaken are suggested:

1. *Individuals*: to understand and practice, as consumers, to prefer real need over greed, and to prefer suppliers having a well-grounded image of social responsibility. Both has started happening in USA before the 2008 crisis (Senge et al., 2008; Gerzema, 2010; Zgonik, 2011).
2. *Organizations*: both enterprises of all sizes and other: to understand and practice social responsibility as a human attribute and business strategy that prevents or diminishes, at least, cost resulting from dissatisfaction of people (e.g. in the form of visible and white strikes, cancelling and unreliability concerning contracts and resulting expensive search for new suppliers and customers, social riots all way to international terrorism, wars, etc.) and from unhealthy natural environment (e.g. in the need for eco-remediation and medication of humans and other nature; etc.).
3. *Country/government*: to understand and practice that the public sector, as a whole, is the biggest customer and can therefore include in its procurement preconditions the demand and unavoidable precondition, which says that any organization from the public sector (from kindergarten to government offices and army, etc.) may be supplied only by suppliers that can prove to be the very top in the combination of (1) social responsibility, (2) innovation visible in the top business excellence and total quality of its supplies and its internal and external business practice, all way to its 'systemic quality' as a systemic synergy of suitable prices, pay-role, development funds, technical and commercial quality, innovativeness all way to uniqueness of its supplies, suitable range offered, sustainable care for its natural environment and other contents of social responsibility, (3) attainment of the same attributes with its own suppliers and their care for the same attributes of their suppliers.
4. *International community*: understand and practice efforts to add to the international law, which is not obligatory and can therefore not be enforced except by agreement, especially concerning the multinational corporations, world peace, and the basic human rights, while only these three topics may be the role of the world-democracy including the world government made of very honest and socially responsible persons with no abuse of their influence.
5. *Scientist and educators* (including public media): produce and teach VCEN and methods supportive of social responsibility as human attributes and organizational vision, politics, strategy, tactics and daily practice, not limited to enterprises.

Among other consequences, the economic and social theory should stop seeing the only dilemma in either market or central planning, and the engineering and natural sciences should stop seeing the only important factor in the technological innovation.

## 8. CONCLUSIONS

Without socially responsible thinking and acting the current civilization hardly has a chance to survive. Economics is a tool of governors and managers, while management and organization serve humans to improve their life, including economic viewpoints, if they succeed, i.e., if they are requisitely holistic by ethics of interdependence. SR should include the wider view, beyond CSR, taking into account the governance and management of profit and non-profit organizations, human resources, consumer and customer relations, human rights, fair and just business practice, community involvement and development and especially natural environment. Their interrelations should be with consideration of:

- (1) *interdependence* as the basis;
- (2) *holism* as the top intention/achievement.

We prefer no limitation of SR to companies: they follow influential humans' decisions. SR is a human attribute. Interdependence makes human honest and leads from one-sidedness to holism, and to survival of humankind.

The briefed DS of components of DTS means: the current crisis is extremely serious due to a critical lack of systemic thinking of the influential persons (e.g. references in Mulej, 2010); for an accelerated transition to a requisitely holistic society, one *starts best in K&V of the government* by a well-organized invention-innovation-diffusion process backed by systemic behavior (Ženko et al., 2008, 2011, 2011, 2012). Its members have had so far a poor chance to learn about and to practice requisite holism, innovation and its organization and managerial conditions; but they are *the most influential* societal group, once people find them *credible*. Then the *government office people* follow, and then all other *public services*, such as education, medicine, research, etc. Now, businesses will follow government's advices more openly than so far, when routine-lovers were telling them to be innovative. *Everybody must be innovative and requisitely holistic, if influential*, in one's values for the given knowledge to be applied with new benefit, i.e. innovation, rather than to exist only. Social responsibility reinforces DST to solve the current crisis. Methods such as USOMID and Six Thinking Hats support them.

## REFERENCES

- Ackoff, R. L., Rovin, S. (2003). *Redesigning Society*. Stanford, CA (USA): Stanford Business Books.
- Barboza, D. (2011). A Binge that Could End a Boom: China's Cities Pile Up Debt to Feed Construction Frenzy. New York Times (articles selected for Delo), July 15: 1 and 4.
- Bertalanffy von, L. (1968, edition 1979). *General Systems Theory. Foundations, Development, Applications. Revised Edition*. New York (USA): Sixth Printing.
- Bertalanffy von, L. (1979). *General Systems Theory. Foundations, Development, Application*. New York (USA): Braziller.
- Bošković, D. (2011). Ekonomija: zakaj peša okrevanje. Delo, Sobotna priloga, 02 July: 16.
- Božičnik, S., Ećimović, T., Mulej, M. (Eds.) (2008). *Sustainable future, requisite holism, and social responsibility*. Penang: ANSTED University.

- Cassiers, I. (2011). Beyond the crisis: what prosperity? *Acta Europeana Systemica*, 1, On-line journal of EUS (European Union of Systemics). Retrieved on January 2013 from: <http://aes.ues-eus-eu/aes2011enteteAESZ011.html>.
- Collins, C., Porras, I. (1997). *Built to Last: Successful Habits of Visionary Companies*. New York (USA): Harper Business.
- Collins, J. C. (2001). *Why Some Companies Make the Leap ... and others don't, from Good to Great*. Sydney (Australia): Random House.
- Collins, J. C. (2005). *Good to Great and the Social Sectors: Why Business Thinking is not the Answer. A Monograph to Accompany Good to Great, Why some Companies Make the Leap and Others Don't*. Boulder Co.
- Cordoba, J. R., Campbell, T. (Eds.) (2008). System Thinking and Corporate Social Responsibility. *Systems Research and Behavioral Science*, Special Issue, 25(3): 359-437.
- Ćosić, P., Barić, G., Tošić, M. (Eds.) (2012). *Proceedings of the 4th International Scientific Conference: Management of Technology; Step to Sustainable Production*. MOTSP 2012. University of Zagreb, Faculty of Mechanical Engineering and Naval Architecture. Croatian Association for PLM, Zagreb, Croatia.
- Creech, B. (1994): *The Five Pillars of TQM. How to Make Total Quality Work for You*. Dutton, NY: Truman Talley Books.
- Crowther, D., Caliyut K. T. (Eds.) (2004). *Stakeholders and Social Responsibility*. Penang: Anstead University.
- De Bono, E. (2005). Šest klobukov razmišljanja. Ljubljana: *New Moment*, 28, all journal.
- Đukić, G. (Ed.) (2012). *Proceedings of the International Conference on Industrial Logistics*, 14-16 June 2012, Zadar, Croatia; ICIL2012. University of Zagreb, Faculty of Mechanical Engineering and Naval Architecture, International Centre for Innovation and Industrial Logistics, FSB, Zagreb, Croatia.
- Dyck, R., Mulej, M. (1998). *Self-Transformation of the Forgotten Four-Fifths*. Dubuque, Iowa (USA): Kendal/Hunt.
- Ečimović, T., Bunzl J. M., Esposito, M., Flint, W., Haw, R. B., Mulej, M., Shankaranarayana, H. A., Wilderer, P. A., Williams, L. C., Udyavar, R. (2007). Sustainable (Development) Future of Mankind. Korte: SEM Institute for Climate Change. Retrieved on January 2013 from: [http://www.institut-climatechange.si/pdfs/The\\_Sustainable\\_Future\\_of\\_Mankind.pdf](http://www.institut-climatechange.si/pdfs/The_Sustainable_Future_of_Mankind.pdf)
- Esposito, M. (2009). *Put Your Corporate Responsibility Act Together!* Mustang, Oklahoma (USA): Tate Publishing and enterprises.
- EU (2001). *Green Paper on Promoting a European Framework for Corporate Social Responsibility*. Commission of the European Communities. Com(2001) 366 final. Brussels, 18.07.2001. Retrieved from [http://eur-lex.europa.eu/LexUriServ/site/en/com/2001/com2001\\_0366en01.pdf](http://eur-lex.europa.eu/LexUriServ/site/en/com/2001/com2001_0366en01.pdf)
- EU (2011). *Communication from The Commission to The European Parliament, The Council, The European Economic and Social Committee and The Committee of the Regions: A Renewed EU Strategy 2011-14 for Corporate Social Responsibility*. Commission of the

- European Communities, Com(2011) 681 Final. Brussels, 25.10.2011. Retrieved from <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0681:FIN:EN:PDF>
- EU (2000). Communication from the Commission to the Council and the European Parliament: Innovation in a knowledge-driven economy. Commission of the European Communities, Com(2000) 567 final. Brussels, 20.09.2000. Retrieved from <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2000:0567:FIN:EN:PDF>
- Fidermuc, K. (2011). Vlada sestavila rebalans proračuna za leto 2011: Rezi pri stroških in naložbah, za social ne sme zmanjkati. Delo, 15 July: 1 and 3.
- Florida, R. (2002). *The Rise of Creative Class*. IPAK, Velenje (Translation to Slovenian, 2005).
- François, C., (ed.) (2004). *International Encyclopedia of Systems and Cybernetics*. 2nd edition. Munich (Germany): Saur Verlag.
- Gagnidze, I., Maisuradze, N. (2012). International Educational and Scientific Links of Georgia – the shortest Way for Innovative Development. In Bichler, R. M., Blachfellner, S., Hofkirchner, W. (Eds.). *'Book of Abstracts' for the 21st European Meeting on Cybernetics and Systems Research (EMCSR)*. Retrieved on January 2013 from: [http://www.emcsr.net/wp-content/uploads/2012/Book\\_of\\_Abstracts\\_EMCSR\\_2012.pdf](http://www.emcsr.net/wp-content/uploads/2012/Book_of_Abstracts_EMCSR_2012.pdf).
- Gerzema, J. (2010). *The Power of the Post-recession Consumer*. Retrieved on January 2011 from: <http://www.strategy-business.com/article/00054?pg=all&tid=27782251>.
- Geyer, F., Hornung, B. (Eds.) (2003). *Proceedings of the Fourth International Conference on Sociocybernetics: Sociocybernetics – the Future of the Social Sciences, Society from Ancient Greece to Cyberspace and Beyond*. ISA, RC 51. Kerkyra, Corfu, Greece. June 30 – July 5.
- Gigch von, J. P. (2003). The Paradigm and the Science of Management and of the Management Science Disciplines. *Systems Research & Behavioral Science*, 20(6): 499-506.
- Gorenak, Š., Mulej, M. (2010). Upravljanje popolne odgovornosti kot pot do celovitega vodenja podjetja. *Naše gospodarstvo*, 56(1-2): 22-31.
- Grün, A., Zeitz, J. (2012). Bog, vest in denar. Pogovori med menihom in menedžerjem. Ljubljana(Slovenia): Založba Družina.
- Hammond, D. (2003). *The Science of Synthesis: Exploring the Social Implications of general Systems Theory*. Boulder, CO (USA): University Press of Colorado.
- Herrscher, E. (Ed.) (2012). *Conversaciones del Extremo Sur*. San Juan Bosco, Ushuaia (Argentina): GESI and Universidad Nacional de la Patagonia.
- Hofkirchner, W. (Ed.) (2012). *Proceedings of the EMCSR 2012*, European Meeting on Cybernetics and Systems Research. Ludwig von Bertalanffy Center, Vienna.
- Hrast, A., Kojc, S., Fistravec, A., Mulej, M., Anterer, A. (Eds.) (2011). *Proceedings of the 6th IRDO International Conference: Social Responsibility and Current Challenges 2011. Youth in Focus of World Changes*. Zbirka Druzbeno odgovornost. IRDO Institute for development of social responsibility, Maribor.
- Hrast, A., Mulej, M. (Eds.) (2010). *Narava in človek CD-R*. IRDO.
- Hrast, A., Mulej, M. (Eds.) (2008). *Socialni izzivi in izzivi casa*. Maribor (Slovenia): IRDO.

- Hrast, A., Mulej, M. (Eds.) (2009). Družbena odgovornost in izzivi casa. Maribor (Slovenia): IRDO.
- Hrast, A., Mulej, M., Knez-Riedl, J. (Eds.) (2006). Družbena odgovornost in izzivi casa. Maribor (Slovenia): IRDO.
- Hrast, A., Mulej, M., Knez-Riedl, J. (Eds.) (2007). Družbena odgovornost. Maribor (Slovenia): IRDO.
- Hrast, A., Mulej, M., Kojc, S., (Eds.) (2012). Innovation of culture toward more social responsibility - the way out of socio-cultural crisis. Conference proceedings: zbornik prispevkov, (Zbirka Družbena odgovornost). Maribor: Inštitut za razvoj družbene odgovornosti. Maribor (Slovenia): IRDO.
- Hribernik, B. (2012). Napredek in rast. Večer, 06. Jan.: 8.
- ISO, International Standards Organization (2010). ISO 26000. Retrieved December 2012 from: [http://www.iso.org/iso/discovering\\_iso\\_26000.pdf](http://www.iso.org/iso/discovering_iso_26000.pdf)
- ISO, International Standards Organization. (2010). ISO 26000:2010 ISO [on line], [cited 10 May 2011]. Retrieved December 2012 from: [http://www.iso.org/iso/social\\_responsibility/](http://www.iso.org/iso/social_responsibility/).
- James, O. (2007). *Affluenza – a contagious middle class virus causing depression, anxiety, addiction and ennui*. London (UK): Random House.
- Kajfež-Bogataj L. (2009). Zgodovina je polna poznih lekcij iz zgodnjih svaril. *Le Monde diplomatique*, 050, Oct.: 30.
- KEN (2011): Proceedings of the Knowledge economy network, annual forum, Maribor, 5-6 June; Cizelj, B.(ed.). Bruxelles (Belgium): SBRA.
- Knez-Riedl, J., Mulej, M., Dyck, R. G. (2006). Corporate social responsibility from the viewpoint of systems thinking. *Kybernetes*, 35(3/4): 441-460.
- Kopušar, S. (2011). Ameriški dolg: Visoki vložki v ameriškem dolžniškem pokru. Delo, 15 July: 6.
- Kosec, J. (2011). Mednarodni denarni sklad o reševanju Grčije: Za napake ni prostora. Delo, 15 July: 6.
- Lostado Bojo, R. (2012): SISPROMA: a Knowledge and Integration Platform for Systemics and project Management to Train professionals in Managing Change during Crises. In Bichler, R. M., Blachfellner, S., Hofkirchner, W. (Eds.). *'Book of Abstracts' for the 21st European Meeting on Cybernetics and Systems Research (EMCSR)*. Retrieved on January 2013 from: [http://www.emcsr.net/wp-content/uploads/2012/Book\\_of\\_Abstracts\\_EMCSR\\_2012.pdf](http://www.emcsr.net/wp-content/uploads/2012/Book_of_Abstracts_EMCSR_2012.pdf).
- Mašanović, B. (2011). Kako iz dolžniške krize: Irska vztraja "na pravi poti". Delo, 15 July: 6.
- Mulej, M. (1974). *Dialektična teorija sistemov*. Unpublished lecture. Ljubljana. Univerza v Ljubljani, Fakulteta za telesno kulturo, M.A. course.
- Mulej, M. (1976). Towards a Dialectical Systems Theory. In Trappl, R. (Ed.). *Cybernetics and Systems '76*. Vienna (Austria): OeSGK.

- Mulej, M. (1979). Ustvarjalno delo in dialekticna teorija sistemov (Creative work and the dialectical systems theory. In Slovene). Celje. Razvojni center.
- Mulej, M. (1982). Dialektično-sistemske programiranje delovnih procesov – metodologija USOMID. *Naše gospodarstvo*, 28(3): 206-209.
- Mulej, M. (2010). Five books review: stop hating your children and grandchildren. *Systems Research and Behavioral Science*, 27(1). Untitled book review.
- Mulej, M., Mulej, N. (2006). Innovation and/by Systems Thinking by Synergy of Methodologies “Six Thinking Hats” and “USOMID”. In Rebernik, M. (Ed.). *Proceedings of the PODIM 26, Cooperation between the economic, academic and governmental spheres: Mechanisms and levers*. Maribor, University of Maribor, Faculty of Economics and Business (EPF), Institute for Entrepreneurship and Small Business Management. March 30-31,
- Mulej, M. (2009). Nujnost in zapletenost ustvarjalnega sodelovanja za inoviranje in pot iz krize 2008. In Hrast, A., Mulej, M. (Eds.). *Družbena odgovornost in izzivi časa, Social responsibility and challenges of time Maribor*. IRDO.
- Mulej, M. (2012). *Dialectical Systems Thinking and the Law of Requisite Holism*. Goodyear, Arizona (USA): ISCE Publishing.
- Mulej, M. (2000). Dialekticna in druge mehosistemske teorije (podlaga za celovitost in uspeh managementa). Maribor. University of Maribor, Faculty of Economics and Business.
- Mulej, M., Hrast, A. (Eds.) (2010). Eseji o družbeni odgovornosti. IRDO Institute for Development of Social Responsibility, Maribor, ECPD, Ljubljana, and Ypsilon.
- Mulej, M., Knez-Riedl, J. (2011). Ethics and Corporate Social Responsibility. Proceedings of the KEN 2011 Forum. Maribor, Slovenia. June 6-7, 2011.
- Mulej, M., Kajzer, S. (1998). Ethics of Interdependence and the Law of Requisite Holism. In Rebernik, M., Mulej, M. (Eds.). *Proceedings of the 4th STIQE '98*. Maribor, Slovenia.
- Mulej, M., Ženko, Z. (2010) Proces inoviranja navad za pot iz neo-liberalne krize 2008- k družbeni odgovornosti. In Mulej, M., Hrast, A. (Eds.). *Eseji o družbeni odgovornosti*. Maribor: IRDO.
- Mulej, M., de Zeeuw, G., Espejo, R., Flood, R., Jackson, M., Kajzer, Š., Mingers, J., Rafolt, B., Rebernik, M., Suojanen, W., Thornton, P., Uršič, D. (1992). *Teorije sistemov*. Maribor. University of Maribor, Faculty of Economics and Business (EPF).
- Mulej, M., Kajzer, S. (1998). Ethics of Interdependence and the Law of Requisite Holism. In Rebernik, M., Mulej, M. (Eds.). *STIQE, 98. Proceedings of the 4th International Conference on Linking Systems Thinking, Innovation, Quality, Entrepreneurship and Environment*. University of Maribor, Faculty of Economics and Business, Institute for Entrepreneurship and Small Business Management, and Slovenian Society for Systems Research, Maribor, Slovenia.
- Mulej, M., Kajzer, Š., Potočan, V., Rosi, B., Knez-Riedl, J. (2006). Interdependence of the systems theories – potential innovation supporting innovation. *Kybernetes*, 35(7/8): 942-954.
- Mulej, M., Ženko, Z. (2004). *Introduction to Systems Thinking with Application to Invention and Innovation Management*. Maribor, Management Forum.



- Nixon, B. (2004). Speaking Plainly – A New Agenda for the 21st Century. In Crowther, D., Caliyut, K. T. (Eds.). *Stakeholders and Social Responsibility*. Penang: ANSTED University.
- Potočnik, A. (2010). Razpوتا regionalnega razvojnega načrtovanja: aplikacija DTS: magistrska naloga. UM, EPF, Maribor.
- Roubini, N. (2010). Vstajenje Gordona Gekka (“Gordon Gekko Wakes up”), Finance (18 Aug.:10).
- Sachs, J. (2011). *The Price of Civilization*. New York (USA): Random House.
- Šarotar Žižek, S. Gulev R. E. (2010). Social responsibility and subjective well-being as ways of, and to, requisitely holistic/systemic behavior. In Šušteršič, J. (Ed.) *Proceedings of the 11th international conference Social responsibility, professional ethics, and management*, pp. 281-296. Koper: Faculty of Management.
- Senge, P., Smith, B., Kruschwitz, N., Lau, J., Schley, S. (2008). *The Necessary Revolution. How Individuals and Organizations Are Working Together to Create a Sustainable World*. USA: Dobleday.
- SFPO, EFQM (2010). Priročnik z orodji za družbeno odgovornost podjetij. Ljubljana: SFPO (Slovenska fundacija za poslovno odličnost).
- Stepišnik, M., Stojan, J. (2011). Noči živih mrtvecev na stari celini. Večer v soboto, 02 July: 8-9.
- Terček, S. (2011). Ne postajamo apatični, temveč globoko razočarani. Večer v soboto, 02 July: 10-11.
- Toth, G. (2008). Resnično odgovorno podjetje. Ljubljana: GV Založba, in Drustvo komunikatorjev Slovenije.
- Valim Ribeiro, A., Martinelli, D. (Eds.) (2012). 8<sup>o</sup> Congresso Brasileiro de Sistemas. Anais. PUC Minas, campus Poços de Caldas, Minas Gerais, Brazil.
- Vrečko, I. (2012). Obvladovanje strateških kriz z uporabo projektnega menedžmenta kot celovit invencijsko-inovacijski proces. Doktorska disertacija. UM, EPF Maribor.
- Zenko, Z., Mulej, M. (2011). Diffusion of Innovative Behavior with Social Responsibility. *Kybernetes*, 40 (9/10): 1258-1272.
- Ženko, Z. (2011). Difuzija inovacij s primeri iz pridobivanja energije in onesnaževanja okolja. In Boršič, D., Štrukelj, T. (Ed.). *Sodobna ekonomija in poslovanje*. UM, EPF Maribor.
- Zenko, Z., Mulej, M. (2011). Innovating measurement of economic success for more accurate information. *Naše gospod.* 57(5/6): 11-19.
- Zenko, Z., Mulej, M. (2012). Approach to requisite holistic socially responsible behavior with Dialectical Systems Theory. *Mei Zhong gong gong guan li*, 9(2): 183-194.
- Ženko, Z. (2008). A model of making theory as invention to become an innovation. In Božičnik, S., (Ed.). *Sustainable future, requisite holism and social responsibility: (against the current abuse of free market society)*. Penang: Ansted; Korte: SEM; Maribor: IRDO: 161-169.
- Ženko, Z., Mulej, M., Božičnik, S. (2010). Sustainable Future in Terms of Dialectical, Complexity, and Chaos Theories, the 4th Order Cybernetics, Interdependence, and

Requisitely Holistic/Systemic Behavior. In Ečimović, T. (Ed.). *The sustainable future of mankind III*, pp. 80-96. Korte: SEM Institute for Climate Change.

Zgonik, A. (2011). Odvisnost od nakupovanja. Delo, 25 January: 19.

---

## Endnotes

<sup>i</sup> This contribution is based on the basic research project: 1000 - 09 – 212173; it is supported by the Public Agency for Research, Republic of Slovenia, and the C4C project SPIS no. 4300-91/2009 with the acronym Chance4Change, 2010-2013, supported by EU.

<sup>ii</sup> In the case of our Maribor, one speaks of the need for investment creating new jobs, too. Foreign direct investment is hoped for, but it requires (1) demand for investors' products, (2) geographical room for building the factories and related infrastructure, while agriculture should stay able to provide local food rather import of it, which makes food less healthy due to unavoidable chemical treatment etc. All these and other viewpoints are difficult to balance, especially without systemic thinking/behavior.

<sup>iii</sup> For a list of more other authors see KEN, 2011.



# The Value of Systemic Approach to Interpret Complex Phenomena

**Gaetano Maria Golinelli**

*Emeritus Professor of Business Management, "Sapienza" University of Rome.  
President of CUEIM. Italy. e-mail: gaetano.golinelli@uniroma1.it*

*Published online on March 31, 2013.*

*DOI: 10.7350/BSR.V03.2013 – URL: <http://dx.medra.org/10.7350/BSR.V03.2013>*

## ABSTRACT

*This speech highlights the roots of Viable Systems studies in Italy and its possible future developments.*

**Keywords:** Viable Systems Approach, Pasquale Saraceno, Stafford Beer.

Ladies and Gentlemen and Colleagues,

I am very pleased to take part in this meeting which aims to highlight the opportunities offered by the systems approach to interpret complex phenomena.

I should point out however, that I am a scholar of business studies; in particular I have studied in depth the systems approach at company level but I am unable to deal with the issue of the current global socio- economic crisis.

In the mid-Nineteen Seventies, our Maestro, Pasquale Saraceno, first introduced the systems approach to the Italian business culture. Particularly famous is Saraceno's introduction to the Italian translation of Stafford Beer's volume, *The Company as a cybernetic system*, published in 1973. The work was preceded and followed by articles and public debate including, in the early 1970s, the presentation at the Accademia dei Lincei of the Company/Firm as a system during the seminars on "Systems Science" organized by the Interdisciplinary Centre for Mathematical Sciences.

Saraceno has long addressed particular attention and interest to Beer's studies applied to industrial processes and socio-economic systems in the context of his (Saraceno's) cooperation with Salvador Allende's government in Chile, grasping the significance for the governance of complex organizations and above all, for the company as such.

He (Saraceno) sees the Company /Firm as a system where action results more and more from the processes of interactive relations.

Governance has therefore the aim of rendering the system "more aware" which means "capable of perceiving stimuli that affect its future dynamics and of realizing the significance of such stimuli with regard to the objectives that the system pursues".

Such stimuli "*potentially rewarding or oppressive, can originate from the environment or from within the system, are however, numerous and characterized by great variety.*"

Starting from Beer's theoretical approach and from the distinction in the business decision-making process between governance decisions and management, the firm as a viable system is

classified within a living systems category, having an "area of governance/government" and one of "management".

Consequently a business system is framed within the perspective of a governing body (government) that activates and guides the system. Goals and objectives are achieved by means of activities and processes carried out by a structure underpinned by tacit knowledge and autonomy in relation to routine decisions.

Emphasis is placed on the design of the business as an open system capable of surviving in harmony with the changing environment, dynamically adapting its structure and exchanging resources by virtue of interaction with other systems.

The systems approach, the interpretation of the firm as a viable system leads to the sustainable business model. A model that involves, at a theoretical level, going beyond the Stakeholder Theory, combining the safeguarding of multiple interests with the pursuit of profit.

The approach based on "relevance/influence" criteria for qualifying the critical bearing of inter-intra systems relations no longer appears sufficient.

At a philosophical level, governance trends and practices for sustainability lead to attributing centrality to inter-intra systems relations that are not or cannot be the object of negotiation linked are they are to theoretical approaches and – at times - even related to counterparts that find no representation in the context.

Such theories/Theoretical approaches go beyond the horizons of a business plan, which however, determine ex ante, its basic framework and influence its structural basis.

The systems approach to business studies, classified as sustainable business, is crucial to grasp the distinctive traits of the complex challenges that sustainability implies in terms of a factor of corporate development for a firm and its context.

## REFERENCES

- Beer , S. (1973). *L'azienda come sistema cibernetico / introduzione all'edizione italiana di Pasquale Saraceno*. Milan: ISEDI.
- Golinelli G. M. (2010). *Viable Systems Approach (VSA). Governing Business Dynamics*. Milan: CEDAM-Kluwer.



# Complexity and Action: Reflections on Decision Making and Cybernetics

**Gandolfo Dominici, Ph.D.**

*Scientific Director, Business Systems Laboratory, Italy.*

*Ass. Professor of Business Management, University of Palermo, Italy*

*e-mail: gandolfo.dominici@bslaboratory.net*

*Published online on April 7, 2013.*

*DOI: 10.7350/BSR.V04.2013 – URL: <http://dx.medra.org/10.7350/BSR.V04.2013>*

## ABSTRACT

*This paper highlights some theoretical and epistemological reflections about the relevance of action for managerial studies. These reflections show how the cybernetic paradigm of complexity management can be used for better decision making that unites knowledge and action in a comprising, dynamic, and evolving approach. Cybernetics can help to overcome the fear of decision making in the face of uncertainty in complex scenarios, and can be an effective tool for improving the viability and competitiveness of firms in the twenty-first century.*

**Keywords:** Cybernetics, Systems thinking, Knowledge, Action, Action research, Systemic practice, Decision making, Prototype, Kybernetes.

*«In the beginning was the Deed!»  
(Johann Wolfgang von Goethe in Faust)*

## 1. INTRODUCTION

*“In the beginning was the Deed!”*— this is how Goethe rewrites the beginning of the Gospel of Saint John (1:1), valuing the “deed” over inactivity. Not the Word, not the thought, not the energy, but human action creates the world. This statement suggests philosophical implications that are relevant to managerial and entrepreneurial studies, and which can be summarized as

*The aim is not the objective but the path.*

Along the path to success, errors are not failures but rather opportunities to learn. This is seen in the etymology of the word “error,” deriving from the Latin word “*errare*,” which has the double meaning of both making a mistake and wandering along a path. It is by acting, wandering, and making mistakes that it is possible to learn and to improve.

Emergence, deriving from the complexity of the social and economic environment, makes it impossible to forecast the future. It is not possible to be sure of achieving a goal, and there is no single best way to approach such a goal.

Today the “*planning mentality*” (Stacey, 1993) is still the dominant paradigm in managerial practice; it denies unpredictability and always considers failures to be negative occurrences, rather than chances to learn (Yolles, 1999: 17).

This unpredictability does not, of course, imply unintelligibility or inaccessibility to understanding, but it does predicate a different type of understanding (Turner, 1997; Phelps & Hase, 2002). In such a complex context, individuals and organizations must seek to discover and refine their own preferences over time, through a process of experimentation and error correction.

A problem faced by certain approaches to complexity is that of abstraction from the competitive character of action. Man is often not rational, because of his cognitive limits, his heuristics of thought, and his passions—of which the most dangerous is fear. The awareness that the world is complex and that there is no way to forecast the future is something that can scare to the point of inhibiting decision and necessary action.

Today there is a lot of talk about how the world—and hence the markets, the social, and business environment — is complex, but there are few real proposals about what to do. The temptation coming from reductionist models (and the reason they are still so strong in managerial (mis)practice) is that they are “reassuring.” Reductionist models are able to exorcise the fear of mistakes. The challenge is to find a “reassuring” alternative to reductionism. As Yolles (1999: 13) points out:

*«The theoretical shift has occurred with the realisation that there is a distinction between simple and complex situations. The shift in management practice to management systems is in general far from being realised. Managers still do not realise the need for systems modelling, even when they are simply seen as metaphors for a problem situation that can be used to help them formulate intervention strategies.»*

Managers and entrepreneurs still need to understand the systemic perspective and to develop new capacities to learn from the future, as it emerges (Scharmer, 2009).

Cybernetics suggests two powerful tools for overcoming the fear of the unpredictability and the inhibition of action: “feedback” and “feedforward.” Feedback can be used as way of learning by doing, or a way of learning better through mistakes. But before making mistakes to learn from, we need to think in order to simplify complexity in mental schemes (as in Berthoz’s simplicity) and produce a “feedforward” of possible scenarios. To do so, we need to develop prototypes for exploring the future; we do this by undertaking something small and fast that quickly generates feedback from all the key stakeholders. Therefore, the *kybernetes*<sup>1</sup> of an organization needs to be able to grasp the environment and to create new paths towards goals. To choose and create new paths, the *kybernetes* must be able to continuously learn to create and redesign the paths.

## 2. THE “ART” OF THE KYBERNETES

Cybernetics can be defined as

*the art and science of the good kybernetes.*

As the art of governing, it is by definition the discipline of leading, deciding, and managing all social organizations of all level, including nations, firms, and families.

I personally conceive of cybernetics as both an art and a science, while asserting that it is not a mere technique.

---

<sup>1</sup> κυβερνήτης is the ancient Greek word for “sea captain,” “steersman” or “governor.”

Cybernetics uses techniques and models, but it is not just what it uses. The reason it is not a technique is obvious: a technique implies a mechanical view of the world, implies a world that can be decomposed and reduced into parts whose sum again constitutes the same whole. This mechanical view, typical of the hard sciences of the first half of the last century, has been abandoned in most of the “hard” scientific fields except, paradoxically, in the softer sciences, such as management and economics, where it remains today a dominant paradigm. I believe that the social and economic crisis we are facing today has been generated by the negative effects of the implementation of the technical-reductionist-mechanical paradigm to political, economic, and managerial sciences.

Science is more than a technique; science uses methods and techniques to achieve further knowledge. For this reason, cybernetics cannot be reduced to the “technique of feedback” (as it is in much criticism of first-order cybernetics). Feedback and feedforward are the tools, not the purpose, of cybernetics.

Asserting that cybernetics is an art does not mean it is in opposition to science. Both art and science are activities of the human intellect which aim to describe and understand reality. As Dewey argued in his *Art as Experience* (1934), art is a particular quality of human experience that is present in any interaction an individual has with the world, implying that a certain quality of care and sensation are involved in the experience of reality.

According to the traditional distinction between art and science, the difference between the two relies on the subjective nature of art and the objective nature of science. According to this distinction, cybernetics is an art, since it is “subjective” (in the meaning given by second-order cybernetics; von Foerster, 1974, 1979, 2003). As von Foerster (1979: 6-7) pointed out:

*«[...]the flawless, but sterile path that explores the properties seen to reside within objects, and turn around to explore their very properties seen now to reside within the observer of these objects. [...] From this it appears to be clear that social cybernetics must be a second order cybernetics—a cybernetics of cybernetics—in order that the observer who enters the system shall be allowed to stipulate his own purpose [...]»*

However, science is also subjective, since it is made by humans who carry their own autopoietic schemes, their mindsets, and their own perceptions of the reality.

Conceiving of cybernetics as the art and science of governing implies that there is no objective property of things out there in the context that could be used to determine the single best way to achieve the goals of an organization. In a complex environment, an actor cannot rely on a single strategy and a single method (Nicolis & Prigogine, 1989; Dominici, 2011, 2012). The best guide of an organization will have a combination of creativity and discipline, and to that extent, art and science are complementary. Elliot and Powell (2002: 134) assert that:

*«Scientific research can be thought of as a practice, as something done over time. It could be argued that the conduct of any practice can be thought of, at least potentially, as an art.»*

The subjective nature of cybernetics makes the *kybernetes* a “scientist-artist” in charge of shaping reality and guiding the organization over time through a path that will lead towards its goals, being aware that there is not only a single path to the goal, that there is not a single “*best practice*” for everybody and for everything.

*The kybernetes creates through the very act of creation.*



### 3. KNOWLEDGE OR ACTION?

«[...] *life is not a problem to be solved, but a reality to be experienced.*» (Søren Kierkegaard, quoted in Steele, 2002: 159)

Problems are often the path through which we can learn by action. As we continue to improve, we come to value the lessons learned through our problems. What must be avoided is “problem thinking” becoming a problem in itself. There is much academic discussion about how the world is complex, about how the problem of the twenty-first century is the increasing complexity of the social and economic scenarios, and so on. But these reflections are often limited to mere philosophical speculation, and rarely suggest how to deal and “act” in complex contexts. Some approaches to complexity rely too much on abstraction from the competitive character of action. As pointed out by Martin Shubik (1982, quoted in Scholz, 1893: 3):

*«One of the most important problems of our world is the trembling hand.»*

As Edgar Morin would say (1990), [the kybernetes] needs some archipelagos of certainty to navigate on the sea of complexity. The temptation of reductionist models, and the reason why they are still so strong in managerial (mis)practice, is that they are “comfortable” and capable of exorcising the fear of mistakes coming from uncertainty. This is actually what happens today with most business consulting (Dominici, 2011) where consulting agencies, being marketing-oriented, produce business models to satisfy the firms’ demand for “magic formulas” that promise to bring them out of the crisis. Unfortunately the excessive abstraction and fuzziness of most approaches to complexity leaves space for this kind of “promising” reductionist business model that, of course, cannot keep their promises and thus often create more problems than they claim to solve. As Mihata (1997: 34) points out:

*«The problem with complexity is that it is - well - complex. It is difficult to conceptualize, much less operationalize, emergent phenomena. Thus, as intuitive and even obvious as the idea of emergence may be, it has not advanced much beyond rhetoric, metaphor or disclaimer. If anything, the effect has been to trivialize emergence as either too obvious or trite to be theoretically useful, or too complicated to be practically useful.»*

As suggested by Duncker (1945), what is lost is the power of feedback as way of learning by doing-learning by mistakes through correcting variation. In other words (Groner et al, 1983: 103):

*«[...] in a complex world, the alternatives of action are not given but must be sought out.»*

Of course, this does not mean that the kybernetes must act without thinking; both thinking and acting are necessary to deal with complexity. Just as thinking without acting is a mistake, acting without thinking is of course also an error. As Yolles (1999: 13) points out:

*«Management can be argued as being concerned with inquiry and action, and involving cybernetic processes.»*

Thinking implies checking the feedforward against the feedback as way of learning—that is learning by doing and learning by mistakes in a continuous loop. This loop is characterized by the cybernetic type of circular causality given by the loop. Socrates’ assertion that “*I know that I know nothing*” implies that we never stop learning, and that learning is a continuous and circular process that does not proceed straight from “not knowing” to “knowing,” but requires that,

sometime, we unlearn something to learn something different; this is the circular loop of life and learning symbolized by the snake “*ouroboros*.” In this cyclical learning process, action contributes to knowledge and knowledge adjusts action, involving the agents in the context into this learning loop.

Action is evident in the real world through an organizing process that is, in effect, a transformation of reality. In other words, action is the way by which the kybernetes, through a thinking-action logic, can identify those archipelagos of certainty that make possible to guide the organization through the sea of complexity towards improvements of the context in which it operates. As McNulty and Canty (1995: 57) point out:

*«Action learning develops the ability to create change and not be afraid to do so. It enables members to see and understand the concomitant change that is happening inside themselves so that they can do it again with ever greater facility.»*

Cybernetics can suggest a path of action that goes beyond passive “*thinking about complexity*,” which includes thinking, experiencing, and acting.

*«Cybernetics is a way of thinking that bridges perception, cognition and living-in-the-stream-of-experience (the involvement of the observer) [...]»* (Glanville, 2007: 1175)

To be successful, the kybernetes must be able to combine knowledge with the required action. Knowledge alone is just “*power in reserve*” (Scharmer, 2009)—a reserve of possible actions that are useless if not applied in the world. Knowledge supports the generation of visions of the future (feedforward), but these visions require action if they are to be helpful in reach individual and/or organizational goals.

Some useful indications about the implementation of this perspective into business science are suggested by the field of “*action research*.” Action research is research in which the researcher enters a problem situation, “takes part” in the effort to improve things, and makes that experience the focus of his or her research (Lewin, 1946). As highlighted by Brooks and Watkins (1994: 8):

*«Complexity rejects the idea that one generalisable solution can fit multiple situations and establish a dynamic and ongoing inquiry into the particular.»*

Therefore, every theory or model must be experimented with in specific situations in the real world. In particular, economics and business science cannot make “experiments” in a lab or base the results of research on computer simulations and mathematical formulas alone. The testing laboratory of business research is represented by firms, and each approach must be tested on firms that are part of a social and economic context. If we fail to do this, we will remain in the field of mere philosophical speculation, which is of little utility for finding effective ways out of the crisis. In other words, the art and science of management (which governs the organization) is concerned with both knowledge and action linked together in a cybernetic causal loop.

The systemic-cybernetic approach gives no “magic formula” that can solve all problems with an algorithm, but it can give a practical approach to overcoming several possible states of crisis.

#### **4. THE BATHOMETER AS A CYBERNETIC PROTOTYPE**

As outlined by Datta (1994: 67) in the following metaphor, we need to go deep into reality through action if we are to grasp the way of dealing with complex reality, by diving into the deep water of complexity:

*« [...] neither the quantitative hook set for the big fish nor the qualitative net scaled for the little fish adequately captures life in most seas. We need a paradigm to help us become scuba divers.»*

Applying the approach of cybernetics with action is consistent with the notion of adapting to the environment that is fundamental to complexity. Cybernetics can be a way of bridging thinking, knowledge, and action, thus becoming a learning tool for trying out solutions to local and specific problems by thinking in order to implement a prototype of action as a feedforward tool for reading the feedback coming from it.

Cybernetics gives us two powerful tools for overcoming the fear and inhibition deriving from complexity: “feedback” and “feedforward.”

Feedback can be used as way of learning by doing or of learning better through mistakes. But before making mistakes to learn, we need to think in order to simplify complexity in mental schemes, and to have a “feedforward” of possible scenarios. As Lee (1997: 23) summarizes:

*«Interactive component relationships create hierarchical levels of complexity. Protracted over time, component interactions ‘feed forward’ to produce the macroscopic configuration of components that is discernible at any given point; ‘feedbacks’ describe the continual accretion of effects from previous interactions, which may in turn alter lower-level interactions and higher-level configurations at the next point in time.»*

Our brains have finite capabilities (e.g. Beer, 1974: 58), and hence simplification is necessary for every human decision and action. When the kybernetes observes the suprasystems in the environment (Golinelli, 2010), he observes them from “outside,” hence considering them as black boxes. As Espejo and Reyes (2011: 9) point out, when the observer is situated “outside,” he treats the observed system as a simple entity, ascribing to it some attributes and studying its interactions with its environment. This type of description is sometimes necessary to cope with the complexity of the world (Espejo & Reyes, 2011: 10).

The necessity of simplifying complexity, in order to make decisions and to move to action, has been pointed out in neurophysiology by Alain Berthoz (2011), who introduced the concept of simplicity, which describes how living organisms (and hence, how viable organizations) need to find conceptual maps that allow them to deal with information and conditions, while taking into account past experiences and anticipating future ones. Given the limits of our brains, these conceptual maps cannot include all the potentially infinite occurrences of complex reality. Using feedforward, the kybernetes can eventually change, map, and rapidly elaborate new solutions, to plan how to act and react in different situations. The capacity of a viable system to survive is hence given by the kybernetes’ ability to find conceptual maps consistent with the system scopes, and useful for finding directions of action and imposing his own rules in the context. Only with a map can the viable system act in the midst of the uncertainty of a complex world. These maps call for a conceptual simplification that can be managed by our cognitive capabilities, in order to act in the best possible manner (Pitasi & Dominici, 2012).

In other words, feedforward allows the kybernetes to find maps that allow him to grasp in advance, and to be able to modify, the deviation that a certain input could cause to a possible desired final state, while the feedback both works as a regulatory mechanism inside the chosen conceptual map and, at a higher recursive level of decision, supplies inputs as a starting point to adjust the feedforward planning and change the map.

A way to practically implement this cybernetic framework is to develop prototypes to explore the future, by doing something small and fast that generates feedback from all the key stakeholders (Scharmer, 2009).

The metaphor I propose here is that of the “*bathometer*.” A bathometer is an instrument used to measure the depth of the sea beneath a moving vessel. Using a bathometer, the captain or kybernetes can know if he is sailing in safe waters. The bathometer monitors the depth of the sea by plunging into the water, thus avoiding an accident that might occur if a route were followed without checking what is happening where the captain cannot see. The bathometer

- probes the depth of the sea;
- discovers what is not visible to the eye of the captain;
- takes the risk out of what is under the sea and cannot be seen from the ship;
- gives feedback about the bottom of the sea;
- and supplies inputs for feedforward to modify the route of the ship.

In other words, the bathometer is a metaphor of a prototype.

A prototype with feedback can give clues about the true merits of any kind of change in organizations or products. A prototype may be an organizational unit, a new product, a new process, etc. The prototype enables the kybernetes to receive feedback which help improve the prototype, and which can be used for feedforward thinking in the design and organization of new prototypes. Moreover, using a bathometer or prototype risks only the bathometer or prototype, avoiding more serious damage to the ship or firm. To be useful, a bathometer or prototype must also have the following characteristics:

- It must be clear and possess a single focus, while being easy to read and interpret, so that it can supply unambiguous feedback;
- It must be resistant to whatever in its environment threatens to inhibit its functioning, in order to be able to supply the necessary feedback.

## 5. THE GOOD KYBERNETES: CONCLUSIONS

Uncertainty, unpredictability, lack of information, and “liquid” contexts in continuous change moved by changing actors (Bauman, 2000) are the characteristics of today’s complex social and economic contexts. To overcome the fear of acting that arises in such circumstances, the manager or kybernetes requires new skills to deal with different models of depicting and manipulating new “possible” scenarios towards organizational goals. This implies the necessity of conceptual tools that can help the kybernetes to give directions in the “mare magnum” of complexity, disclosing complex issues and transformation paths that cannot be grasped by the application of a single model (Dominici, 2011). Since it is not possible to forecast events and future scenarios with a single model, every decision needs to be tested through action in the real world. The cybernetics approach supplies the kybernetes with two powerful tools, “feedback” and “feedforward,” through which he can act and learn by mistakes. Building prototypes is crucial if the kybernetes to choose the direction appropriately and to understand his mistakes, in order to improve decisions and the actions consequent on them. The good kybernetes must be

able to continuously learn by mistakes. The good kybernetes must conceive of errors, not as failures, but as opportunities.

Of course, even using a prototype or bathometer is not without risk. Today high levels of competition require decisions to be made quickly, and this may lead to “*slipping on a banana peel*.” The organization must be viable, but the kybernetes must also be resilient. For organizational resilience is the ability of the viable system to return to the previous (or desired) state after an unexpected perturbation occurs. For the kybernetes, psychological resilience is the ability to cope with stress and adversity, resulting in the individual bouncing back to a previous state of normal functioning, or to “*posttraumatic growth*,” in which the occurrence of hardship leads to better performance.

In summary, the main criteria for a good manager or kybernetes in the twenty-first century should be knowledge, an aptitude to action, the ability to learn from mistakes, and psychological resilience which allows eventual failures to be damped and absorbed, learning from these failures, and starting up again to act better than before.

## REFERENCES

- Bauman, Z. (2000). *Liquid Modernity*. Chichester (UK): Wiley-Blackwell.
- Berthoz, A. (2012). *Simplicity: Simplifying Principles for a Complex World*. USA: Yale University Press.
- Beer, S. (1974). *Designing Freedom*. Chichester (UK): Wiley-Blackwell.
- Brooks, A., Watkins, K. E. (1994). A new era for action technologies: A look at the issues. In Brooks, A., Watkins, K. E. (Eds.), *The Emerging Power of Action Inquiry Technologies*, 5-16. San Francisco (USA): Jossey-Bass.
- Datta, L. (1994). Paradigm wars: A basis for peaceful coexistence and beyond. In Reichardt C. S., Rallis, S. (Eds.), *The Qualitative-Quantitative Debate: New Perspectives*, 53-70. San Francisco (USA): Jossey Bass.
- Dewey, J. (1934). *Art as experience*. New York (USA): Minton, Balch and Co.
- Dominici, G. (2011). Consulting of the XXI Century. *Nuova Atlantide*, 3: 69-76.
- Dominici, G. (2012). Why Does Systems Thinking Matter? *Business Systems Review*, 1 (1): 1-2. doi: 10.7350/bsr.a02.2012 .
- Dominici, G. (2013). 2013. Book Review. Organizational Systems: Managing Complexity with the Viable System Model. *Kybernetes*, 42(2): 340-348.
- Dominici, G., Palumbo, F. (2013). Decoding the Japanese Lean Production System According to a Viable Systems Perspective. *Systemic Practice and Action Research*, 26(2): 153-171. doi: 10.1007/s11213-012-9242-z.
- Dunker, K. (1945). On problem-solving. Lees, L. S., (Trans.). *Psychological Monographs*, 58(5): 1-113. doi:10.1037/h0093599
- Eisner, E., Powell, K. (2002). Art In Science? *Curriculum Inquiry*, 32(2): 131-158.

- Espejo, R., Reyes, A. (2011). *Organizational systems: Managing Complexity with the Viable System Model*. Heidelberg: Springer.
- Foerster, H., von (1974). *Cybernetics of cybernetics or the control of control and the communication of communication*. Minneapolis (USA): Future Systems.
- Foerster, H., von. (1979). *Cybernetics of Cybernetics*. In Krippendorff, K. (ed.) *Communication and Control in Society*, 5-8. New York (USA): Gordon and Breach.
- Foerster, H., von. (2003). *Understanding Understanding: Essays on Cybernetics and Cognition*. Heidelberg (Germany): Springer.
- Glanville, R. (2007). Try again. Fail again. Fail better: the cybernetics in design and the design in cybernetics. *Kybernetes*, 36(9/10): 1173-1206.
- Goethe J.W. von (original 1808). *Faust*. Translated by Luke, D. (1994). Oxford (UK): Oxford University Press.
- Golinelli, G. M. (2010). *Viable Systems Approach (VSA). Governing Business Dynamics*. Italy: Cedam, Wolters Kluwer.
- Groner, R., Groner, M., Bischof, W. F. (1983). The Role of Heuristics in Models of Decision. In Scholtz, R. W. (ed.). *Decision Making under Uncertainty: Biases, Fallacies, and the Development of Decision Making*, 87-108. North-Holland: Elsevier Science Publishers
- Kuhn, T. S. (2012). *The Structure of Scientific Revolutions: 50th Anniversary Edition*. University of Chicago.
- Lee, M. E. (1997). From enlightenment to chaos: Toward nonmodern social theory. In Eve, R. A., Horsfall, S. M., Lee, F. (Eds.), *Chaos, Complexity and Sociology: Myths, Models and Theories*, 15-29. Thousand Oaks (USA): Sage.
- Lewin, K. (1946). Action research and minority problems. *Journal of Social Issues*, 2(4): 34-46.
- McNulty, N., Canty, G. (1995). Proof of the pudding. *Journal of Management Development*, 14(1): 53-66.
- Mihata, K. (1997). The persistence of 'emergence'. In Eve, R. A., Horsfall, S., Lee, M. F. (Eds.), *Chaos, Complexity and Sociology: Myths, Models and Theories*, 30-38. Thousand Oaks: Sage.
- Morin, E. (1990). *Introducción al Pensamiento Complejo*, Barcelona (Spain): Editorial Gedisa
- Nicolis, G, Prigogine, I. (1989). *Exploring Complexity: An Introduction*. USA: Freeman & Co.
- Phelps, R., Hase, S. (2002). Complexity and action research: exploring the theoretical and methodological connection. *Educational Action Research*, 10(3): 507-524.
- Pitasi, A., Dominici, G. (2012). Reframing the Systemic Approach to Complex Organizations as Intangible Portfolios. *Nuova Atlantide*, 1: 22-52. doi: 10.4399/97888548485135.
- Scharmer, O. (2009). *Theory U: Learning from the Future as It Emerges*. San Francisco, CA (USA): Berrett-Koehler.
- Searle, J. (2005). What is an Institution? *Journal of Institutional Economics*, 1(1): 1-22.

- Scholtz, R. W. (1983). *Decision Making under Uncertainty: Biases, Fallacies, and the Development of Decision Making*. North-Holland: Elsevier Science Publishers.
- Stacey, R. (1993). *Managing Chaos*. London (UK): Kogan Page Ltd.
- Steele, D. R. (2002). *Genius - in Their Own Words: The Intellectual Journeys of Seven Great 20th Century Thinkers*. Chicago (USA): Open Court.
- Turner, F. (1997). Foreword. In Eve, R. A., Horsfall, R. A. , Lee ,M. F. (Eds.), *Chaos, Complexity and Sociology: Myths, Models and Theories*, xi-xxxii. Thousand Oaks (USA): Sage.
- Yolles, M. (1999). *Management Systems: A Viable Approach*. London (UK): Financial Times Pitman.



# Addressing the Critical Need for “New Ways of Thinking” in Managing Complex Issues in a Socially Responsible Way

**Ockie Bosch, D.Sc.**

*Professor, Systems Design and Complexity Management  
University of Adelaide Business School, Adelaide, Australia  
e-mail: ockie.bosch@adelaide.edu.au. Corresponding author*

**Nam Nguyen, Ph.D.**

*Research Fellow, Systems Design and Complexity Management  
University of Adelaide Business School, Adelaide, Australia*

**Daowei Sun, Ph.D.**

*Research Fellow, Systems Design and Complexity Management  
University of Adelaide Business School, Adelaide, Australia*

*Best paper award winner for the track: [Corporate] Social Responsibility. An approach to overcome the crisis. Published online on April, 1 2013*

*DOI: 10.7350/BSR.V05.2013 – URL: <http://dx.medra.org/10.7350/BSR.V05.2013>*

## ABSTRACT

*Managers and leaders today are expected to deliver innovative solutions and policies to cope with increasing change and uncertainty. Even more challenging is the fact that the complex issues tend to transcend the jurisdictions and capacities of any single organisation or Government department.*

*Systems thinking offers a holistic and integrative way of appreciating all the major dimensions of a complex problem, and enables the formation of effective management strategies (systemic interventions) with long lasting outcomes. This paper reports on three major systems based approaches to help current and create future managers and leaders to be equipped with new ways of thinking that are systems design-led to deal with complex problems in a systemic, integrated and collaborative fashion. These include establishing Evolutionary Learning Laboratories (ELLabs); “Starting with the Young”; and introducing systems education at tertiary level.*

**Keywords:** Cross-sectoral collaboration, Cybernetic strategy gaming, Evolutionary Learning Laboratories, Management, MBA, Systems thinking.



## 1. INTRODUCTION

We live in a world in which difficult issues, such as the management of businesses and organisations, healthcare, environmental protection, gender relationships, poverty, economic development and social responsibility (just to name a few), are common in societies worldwide. These issues have become increasingly complex due to the fact that they are embedded in a global web of ecological, economic, social, cultural and political processes and dynamic interactions (Vorley 2002; Pimbert, Thompson et al. 2003; Thompson and Scoones 2009; Jackson 2010).

Stakeholders in each contentious issue maintain their own mental models of how the systems in which they are interested work. Mental models are different assumptions or different knowledge about the complex systems with which they are dealing (Senge 2006; Maani and Cavana 2007). These differences make the management of complex systems (e.g. organisations and organisations in their environments) frighteningly challenging (Bosch, Ross et al. 2003; Khavul and Bruton 2013; Scherer, Palazzo et al. 2013). In addition, we manage the systems we are part of in a highly compartmentalised structure – organisations, divisions within organisations, business institutions, government departments, university schools and disciplines (Bosch, Nguyen et al. 2013). However, complex political, environmental, socio-economic, and business-financial issues tend to transcend the jurisdictions and capacities of any single individual, organisation, profession or government department. This adds significantly to the difficulties in finding management solutions.

We also live in a globalised world which is leading to multicultural societies in which there are serious inequities, such as the increasing gap between rich and poor, urban and rural and the lack of intercultural engagement (Held et al., 2006).

All of the above issues always lead to wicked problems (Rittel and Webber 1973; Grint 2005) – problems that are resistant to resolution and where complex interdependencies exist between problem elements such that there is no definitive description of the problem, no central authority for addressing it and no discrete optimal solution.

Current management approaches to such ‘wicked’ problems are universally ad hoc and non-systemic (Kirkbride & Letza 2004; Younos 2011); and the lack of cross-sectoral communication and collaboration in such complex national and global environments compromises the leaders of our society, managers in business and organisations and policy makers in governments (Sterman 2000; Gharajedaghi, 2011). Centralised protocols and siloed departments undercut local responsiveness (Walker et al., 2012).

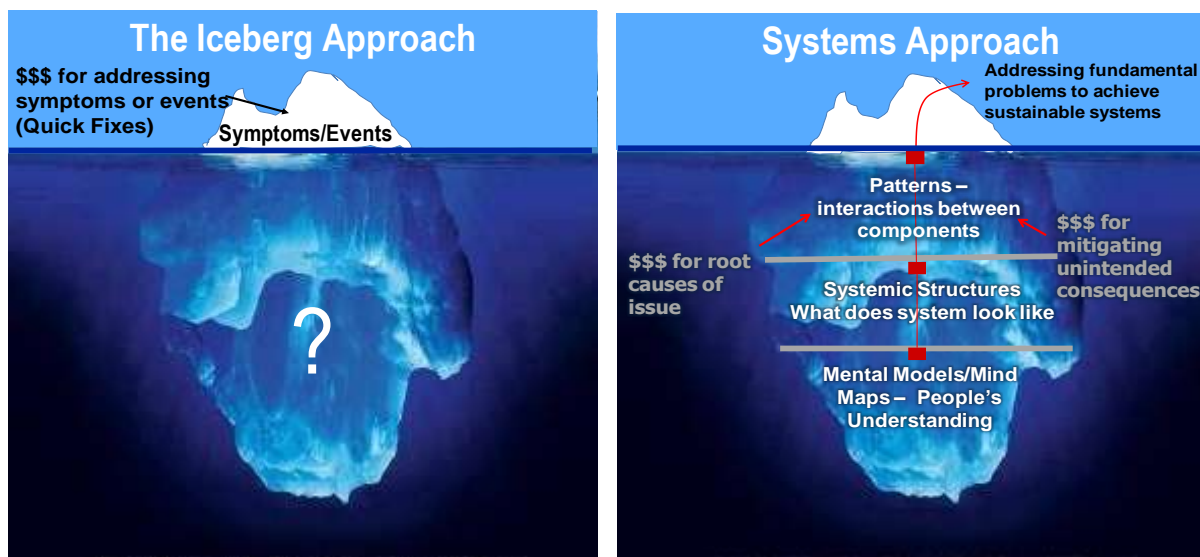
The lack of systemic management and cross-sectoral communication and collaboration are not new problems. There are seminars, retreats and courses that focus on finding solutions and entire books have been written on these problems (Harris, 2007; Helbing, 2007; Donald, 2010; Espinosa, 2011; Gharajedaghi, 2011). However, little has been done that is new or has proved able to overcome the barrier to communication caused by differing mental models of the world and to devise systemic management strategies towards complex problems.

An important question arises from the above: “*Do we need a paradigm shift towards systems thinking?*” The answer is undoubtedly “yes”. This paper discusses three major leverages, which help such a paradigm shift by particularly addressing the aforementioned issues.

## 2. IDENTIFY AND ADDRESS KEY LEVERAGES FOR A NEW WAY OF THINKING

Key leverages to address complex issues are those interventions and management strategies that can address corresponding root causes of complex problems under concern. The ability of all stakeholders to identify and address the core issues is in itself an important leverage for developing a new way of thinking. This new way of thinking is completely different from linear thinking that is still dominating decision making processes in our society. Traditional linear thinking often ends up in addressing the symptoms of complex problems via “quick fixes” (Figure 1).

Figure 1. Iceberg approach (quick fixes) versus a systems approach (addressing root causes) (Bosch, Nguyen et al. 2013)



However, it has become increasingly clear that addressing and managing complex issues in a socially responsible way require cross functional, cross-sectoral communication, collaboration and intercultural engagement to develop a common understanding and shared vision among different stakeholders. The ultimate leverages are those interventions that will help to develop a shared understanding of each other’s mental models, which can only be achieved through learning processes (Senge 2006) – both formal and informal (Illeris 2009).

Discovery and engagement in the creation of future managers and leaders and enhancing understanding and collaboration across different sectors and cultural groups in society through different forms of learning are the core solutions to address the above mentioned “wicked” problems. Learning is a spontaneous process; however, rapid and effective learning can only be achieved through systemically designed platforms and mechanisms (informal) or curricula (formal). In the following sections three major systems approaches are identified as key leverages, namely: establishing “Evolutionary Learning Laboratories” (ELLabs) as platforms for collaborative learning in how to manage complex issues in a socially responsible way; introducing the young generation (future managers and leaders) to systems and interconnected

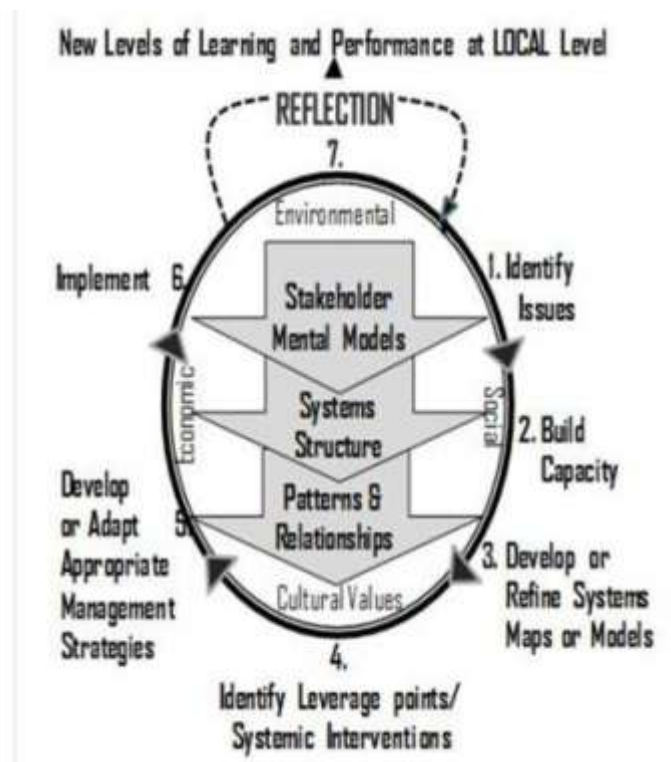
thinking; and “infiltrating” formal traditional disciplinary focused education with systems thinking concepts.

## 2.1. Evolutionary Learning Laboratories (ELLabs) for Managing Complex Issues

The Evolutionary Learning Laboratory (ELLab) is a generic process to address any complex issue, regardless of its nature, through the creation of a platform for continuous “learning by doing”. The establishment of a systems based ELLab has proven to be an innovative and effective approach (Nguyen, Bosch et al. 2011; Nguyen and Bosch 2012; Bosch, Nguyen et al. 2013) for unravelling and managing complex multi-dimensional issues.

Bosch et al. (2013) describe the ELLab (Figure 2) as a series of steps that enables diverse groups of participants, all with different mental models, to engage in a cyclical process of thinking, planning, action and reflection of collective learning towards a common vision or goal – learning together in an ‘experimenting laboratory’ environment about how best to manage the complex multi-dimensional and multi-stakeholder problems they are facing.

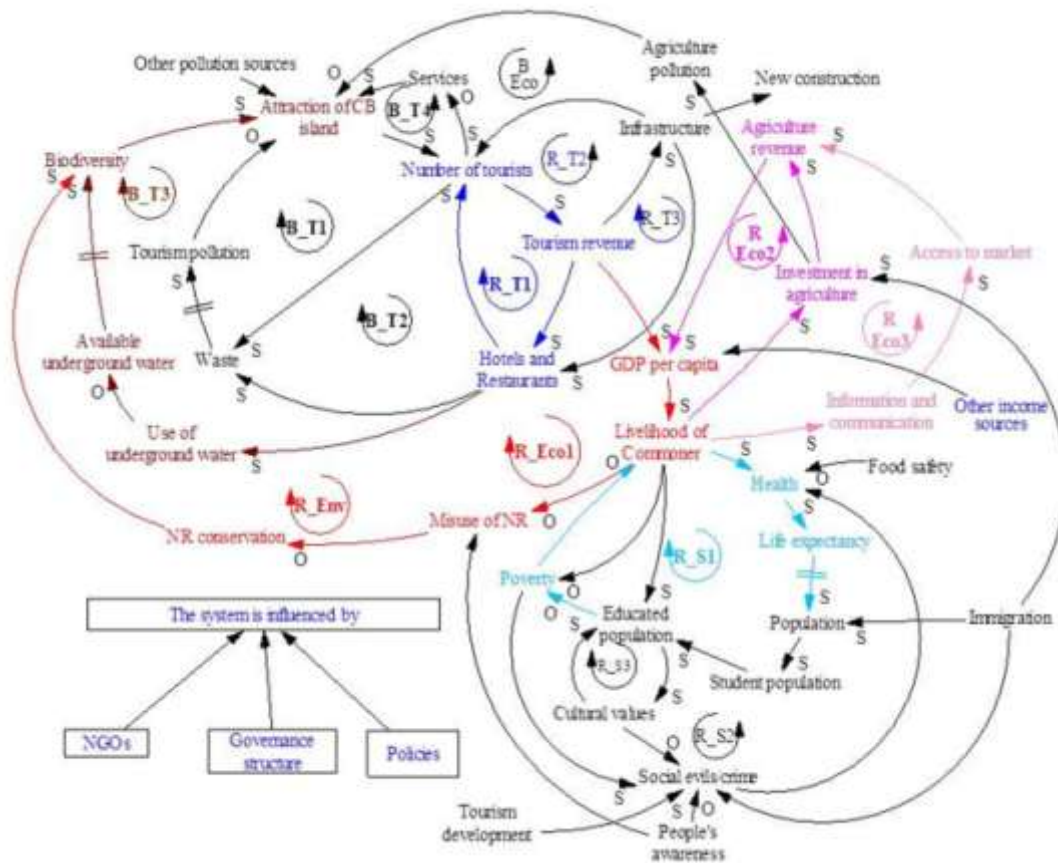
Figure 2. Evolutionary Learning Laboratory for Managing Complex Issues (Bosch, Nguyen et al. 2013)



Although it builds on evolutionary design principles as described in the work of Banathy (1996) and the concept of evolutionary leadership developed by Laszlo (2001), the process of establishing an ELLab could be regarded as a unique “methodology” to collaboratively integrate and use existing and future knowledge to help manage complex issues. The seven unique steps (Figure 2) include:

1. Workshops, specialist forums and individual interviews to gather the mental models of all stakeholders involved in the issue under consideration. Special emphasis is given to unlock their perceptions of how the system operates, what they identify as drivers and barriers to success and their ideas around possible solutions to address the issue.
2. Capacity building is an essential ingredient of the ELLab process, because more knowledge allows stakeholders to become actively involved and take ‘ownership’ of the process.
3. This learning starts with integrating the various mental models into a systems structure using “Causal Loop Diagrams” (Sherwood 2002; Maani and Cavana 2007) and continues during the steps of interpreting and exploring the model for patterns. Of particular importance is to learn how different parts of the model are interconnected and whether feedback loops are reinforcing or balancing (Senge 2006) (Figure 3). The model construction and interpretation processes help stakeholders to further understand each other’s mental models, their interdependencies, roles in the system and responsibilities. The systems thinking and analysis process and diagram also provide the framework for obtaining the knowledge and values required for making systemic management decisions.

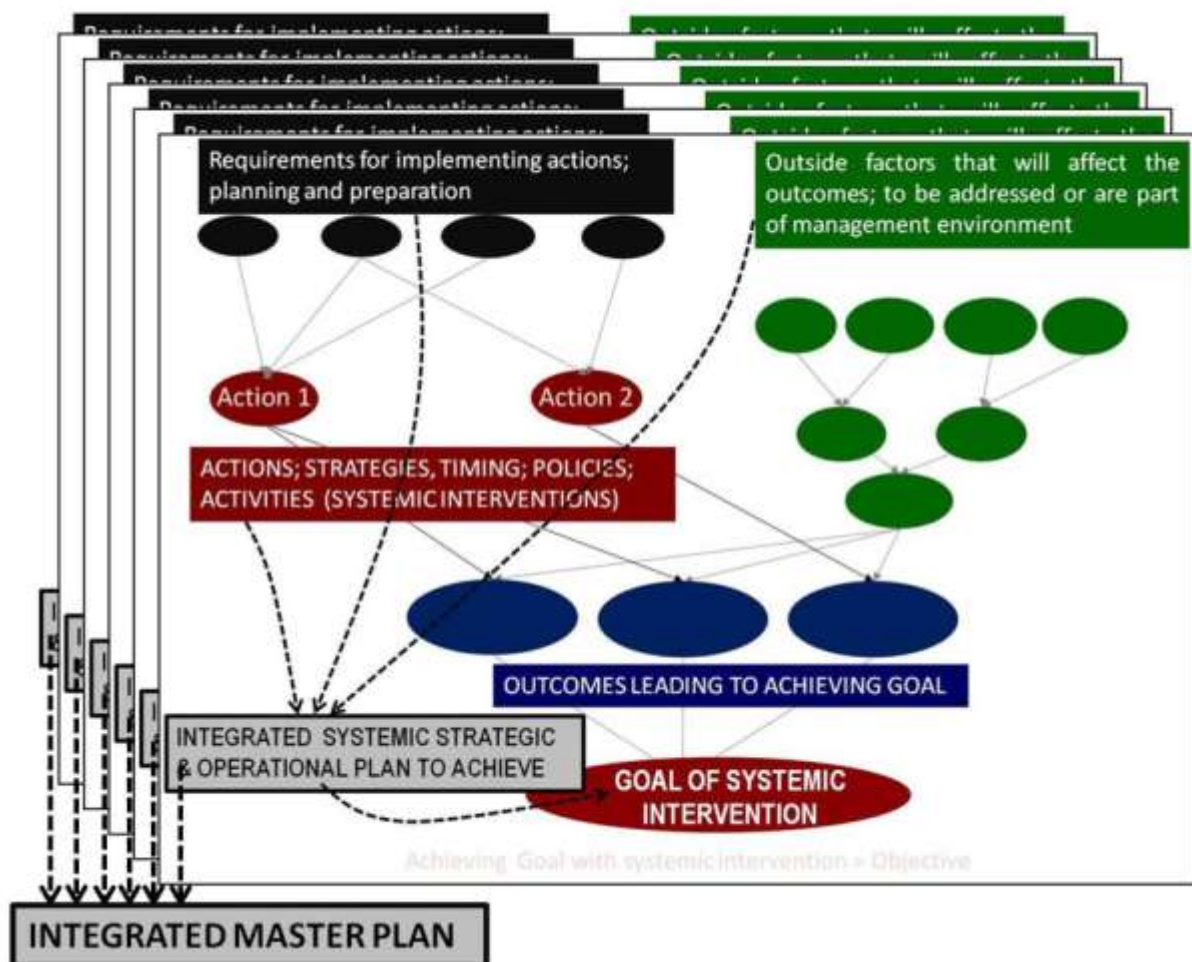
Figure 3. Systems model of Cat Ba Biosphere Reserve – A Platform for Collaboration (Nguyen, Bosch et al. 2011)<sup>1</sup>



<sup>1</sup> Legend: S (same direction), O (opposite direction), R (reinforcing), B (balancing), T (Tourism), Eco (Economic), Env (Environment), S (Social), 1,2,3 refer to loop number, e.g. R\_T1 (Reinforcing loop no.1 of Tourism).

4. A deeper understanding of the potential implications of actions, strategies and policies leads to the identification of leverage points (Meadows 1999) for systemic intervention and that will contribute to the achievement of goals or managing problems in the system under consideration.
5. Bayesian Belief Network (BBN) modeling (Cain, Batchelor et al. 1999; Smith, Felderhof et al. 2007) is a valuable tool for determining the requirements for implementation of the management strategies to achieve systemically defined goals; the factors that could affect the expected outcomes; and the order in which activities should be carried out to ensure cost-effectiveness and maximum impact. The outcomes are used to develop a refined systems model, which forms at the same time an integrated strategic and operational plan for managing the complex issues (Figure 4).

Figure 4. Using Bayesian Network Modelling to develop a Master Plan for achieving different goals/systemic interventions.



6. Once the systemic interventions have been identified and an operational plan has been developed, the next step is to implement the management strategies and/or policies that will create the biggest impact.



7. No systems model can ever be completely ‘correct’ in a complex and uncertain world and unintended consequences always occur. The only way to manage complexity is by reflecting at regular intervals on the success or failure of the interventions. This step could be regarded as the most valuable opportunity for co-learning in how to deal with complexity. Not only do the outcomes bring new insights, but discussing these is helping to further enhance the understanding of each other’s mental models towards the development of shared understanding and goals, improving cross-sectoral communication and collaboration and serve as a valuable opportunity for innovation. These are all leading to new levels of learning and enhanced management performance in the different sectors of the system as a whole. This last step of the first ELLab cycle reveals new issues such as unintended consequences and new barriers that were previously unforeseen. Strategies may need refinement or a complete change may be required. This will lead to refining the model, identifying new knowledge requirements and the ELLab cycle starts to repeat itself.

ELLabs have been established and used to manage various complex issues in a variety of contexts such as enhancing the reputation of an organisation, sustainable development, policy design for child safety and managing tree density (Bosch, Nguyen et al. 2013). The ELLabs are linked together in a Global Evolutionary Learning Laboratory (GELL) that serves as a platform for:

- sharing lessons learned from successes and failures and collaboratively finding systemic management strategies in an intercultural and intergenerational learning environment;
- enabling the development of a common understanding and shared visions, emerging from the mutual exposure and shared reflection across individual ELLabs.

GELL is currently being enhanced as a knowledge sharing virtual environment. This is being carried out by an international team in collaboration with the Collective Intelligence Enhancement Lab (CIEL) of the International Society for the Systems Sciences (Laszlo, Blachfellner et al. 2012), who is prototyping a version of CIEL as a knowledge-sharing and collaboration-support virtual environment that is customized to meeting the needs of ELLabs and their global network, GELL.

## **2.2. Starting with the Young**

It is a very difficult task to change the way of thinking in a society that mainly operates in silos. Add to this the predominance of traditional linear thinking in decision and policy making, it becomes even more challenging. Taking into account that the issues facing the world are increasingly becoming complex, the managers and leaders of tomorrow will need to develop a deeper understanding of the interconnectedness between all the components of a system and the ability to think in systems, rather than continuing traditional approaches of the past. Starting with the younger generation is therefore an important leverage to create new era leadership that is systems thinking and design-led to deal with complex problems in a systemic, integrated and collaborative fashion.

“Starting with the Young” could be regarded as a small rudder that will serve as a leverage to influence a big ship that is moving strongly in one direction (as in the past) to change its direction in the long term. This requires first to expose the young generation to systems design thinking and how it offers a holistic and integrative way of appreciating that all sectors in life are highly interconnected. Second will be the realisation that interdisciplinary, cross-sectoral

communication and collaboration are the only ways in which issues of a multi-dimensional and multi-disciplinary nature can be addressed. Third, will be an understanding that short term fixes can only “treat the symptoms” and problems need to be addressed systemically at the root causes.

“Gaming” is part of the culture and language of young people and:

*«Schoolchildren are at an age in which they can access interconnected thinking with the greatest of ease. As a matter of fact, training in interconnected thinking should start early – before specializing in a certain field of study. We need experts who do not pursue their special topics in isolation, but in an end-to-end context, integrating it in a systemic overall understanding.» (Malik 2010).*

A simulation game (Ecopolicy, Figure 5) that was developed in Germany (Vester 2010; Management 2011) has been introduced in July 2012 in 16 selected high schools in Adelaide, South Australia. These schools took part in a series of competitions in which students learn through playing the cybernetics computer simulation game how to shift from traditional linear, simple cause-effect thinking approaches to a new way of thinking in relations, in feedback cycles, patterns, networks and in systems.

Figure 5. Ecopolicy Cybernetic Strategy game (Vester 2010; Management 2011)



What is special about Ecopolicy is that the fast and obvious solution generally proves inadequate – just as in real life. By getting acquainted with pattern recognition and parallel processing of the interconnected levels of the reality they are dealing with, the players experience how to develop relevant and future oriented decisions in order to achieve resilient and sustainable systems. The students acted like the government of a country in despair, with the goal to stabilize the country through developing a balance between education, health, politics, production, environment, quality of life, and population growth. These are all important sectors of human life and in the

game they are all interlinked in such a way that each decision results in a chain of effects and repercussions.

In the game the results of both foundering the fictitious country with short term decisions, and leading it towards a stable and sustainable country are experienced. The highest score is automatically calculated from the nature and effectiveness of the decisions that students make.

The competitions were run within schools in several rounds between small teams (three students) within classes, between classes within schools until a winning team for each school was determined. Around 3,000 students in Adelaide were taking part in the various rounds.

The final competition was run in December 2012 as an “Ecopolicyade” when all the winning teams from each school competed against each other in the Adelaide City Council Chambers and in the presence of invited guests from all walks of life. Managers and decision makers in Government, companies, businesses and organisations provided advice to the students during the final competition, while some of the guests also played the game and became familiar with how investments in one sector could have unintended consequences in another. The value of the Ecopolicyade did not only lie in the benefits to the students, but the event itself was acknowledged by all present as a most valuable inter-generational co-learning experience.

The Ecopolicy game is currently being extended to other schools in the State of South Australia as an annual event, with the intention to eventually become nationwide. Since its instigation in 2005 this holistic simulation game has become one of the most popular competitions in various countries in Europe. For example, in Germany more than 3000 schools and 200,000 pupils per year are now taking part in the competitions.

### **3. FORMAL SYSTEMS EDUCATION**

#### **3.1. The challenges**

In order to manage businesses, institutions and organisations in our complex society towards resilient and sustainable technical, economical and social developments there is an urgent need to step outside our collective ‘comfort zone’ and to develop new ways of thinking and acting in the interest of our future. Podolny (2009) claims that most ‘business schools don’t develop students’ powers of critical thinking and moral reasoning’.

Several issues have triggered a worldwide rethinking of business and management education. For example:

- There is much disquiet over the apparent silo-nature of much business and management education, in which individual courses are taught and discussed as if they operate as discrete activities.
- The link between theory and practice in current MBA programs is inadequate and fail to prepare graduates for the “real world” (Mintzberg 2004; Atwater, Kannan et al. 2008).
- Business management education emanates from a largely Western perspective through ideas put forward by scholars mainly from the US. Engwall (2007) points out that business schools teach diverse classes of international students whose cultural differences may be under-appreciated, and who may not readily relate to somewhat mono- cultural prescription of business and management.



- Traditional linear thinking approaches work against an understanding of how the different parts of an organization or business work together and underplay or ignore the multifaceted nature of complex problems. It has become essential to change the nature of the curriculum to emphasize the interconnectedness of the various aspects of businesses and organisational systems as a whole.

In addition, one of the most challenging conceptual and practical issues today is that our society and economy have to craft innovative approaches to growth and development within increasing resource (physical and natural) limits. However, the limits will not only be in resource terms (source or sinks) but increasingly also in the capacity of our social, political and economic constructs to rapidly redesign for the new world we are living in. It is this capacity to redesign, in systems and sustainability terms, that will increasingly be what society and employers will require. This “requirement” has become one of the biggest challenges for education (especially tertiary) in this century. Educators have to ensure they meet the growing need for graduates, from all faculties, to not only have an understanding of the disciplines they study, but also how they fit into societal and global systems in a century when humanity will meet ever more limits. A revolution is taking place at the University of Adelaide’s Business School in Australia regarding the integration of systems concepts into discipline specific courses (also within a variety of University-wide programs). This revolution has been driven mainly by the need to:

- Educate systems scientists who can deal with the complexities of integrating environmental, social, economic and business components associated with the development of sustainable management systems and the creation of new era leadership. To achieve this we need to greatly advance our understanding of how to apply our economic, social/political tools and systems knowledge to develop ways to maintain our qualities of life within ecosystem limits. This demand for a systems-based focus on sustainability is very rapidly increasing in Australian society as well as globally, and there is thus a great need to provide educational platforms that bring together the concepts of sustainability, social responsibility and systems – in physical terms, social constructs (institutional, community) and using all the tools of our economic and legal worlds (business systems, economic instruments, regulation and pricing constructs). There is thus a clear need for systems scientists to deal with the complexities involved in such integration, as the knowledge and skills required cannot be obtained through some fragmented attempts to include concepts of systems thinking and sustainability in individual courses or the programs of a few university schools.
- Instill systems thinking attributes in graduates. Industry requires particular attributes from future graduates that will enable them to operate fully and effectively in our turbulent 21st century knowledge society. University Schools should play an active role in enhancing the educational experience of students by focusing on high quality programs and developing a high degree of work-readiness of graduates through incorporating courses that will enhance personal and professional skills. Systems approaches are important mechanisms to help achieve the attributes that industry wants from future graduates – for example, the ability to contextualize (systems thinking skills), to identify issues, develop strategies, managing projects (unraveling complexity and problem solving models), convey the message (communication), to build effective networks and work in teams (personal and collaborative skills), the ability to build resilience and being adaptable and socially responsible (dealing with change, complexity and impacts on the human dimensions of systems), and appreciate the need for lifelong learning (self learning capability). These attributes can be instilled

through developing a deeper knowledge of systems thinking approaches, without having to become a systems scientist.

### 3.2. Meeting the challenges

These issues create a significant pedagogical challenge in that current university education tends to be focused on discipline specific teaching which has no room for a wider systems approach. Didactic autonomous discipline based courses fail to foster a social networking culture that has been proven to enhance the process of deep learning, nor do they promote interactions with other students in other disciplines. To address this problem we need innovative curriculum designs and learning environments that address academic paradigms as well as industry requirements.

**Systems Education Matrix:** During the 2008 Fuschl Conversations of the International Federation for Systems Research (IFSR) a group of systems scientists engaged in generative strategic dialogue on the themes of the quality of education, the different ways that systems knowledge can be applied in education, the main concepts that might be taught, and the ways in which we might match these concepts with the different types of systems education for different types of students (Bosch, Drack et al. 2009). Through this it was realised that differences in systems education are based on two main dimensions: the depth and type of systems knowledge required, and whether systems concepts are taught per se or rather through application within one or more specific disciplines. Table I illustrates the main result of the discussions. Six types of recipients of systems education were identified.

*Table I. The Systems Education Matrix (Adapted from Bosch, Drack et al. 2009; Jones, Bosch et al. 2009)*

	<b>1. Sense-Making</b>  Having the ability to use basic systems concepts to make sense of phenomena, objects and processes in the world. See things holistically; understand interconnectedness; understand how their field of interest fits into the bigger picture.	<b>2.1. Practical Understanding</b>  Having the ability to competently apply systems concepts for research or practice; The ability to expound upon or teach systems concepts to others and add to knowledge. Effectively manage messy, ill-defined situations; facilitate integration across disciplines.	<b>2.2. Theoretical Understanding</b>  Deeply understand multiple systems approaches; refine and/or develop new system approaches; In a position to add competently to the body of systems knowledge (viz., philosophy, theory, methodology, and praxis), as well as areas of practical application in specific contexts.
<b>A. Discipline-Integrated</b> Having the ability to integrate systems approaches into one or more areas of application.	e.g. horticulturalist, accountant, lawyer	e.g. systemic horticulturalist, systemic lawyer, systemic manager	e.g. creator of knowledge within systemic horticulture systemic accountancy, systemic management; integrator
<b>B. Generic</b> Having the ability to understand, apply, and relate systems concepts in multiple contexts and/or to add to the systems knowledge base.	systems student	systems practitioner	creator of systems knowledge

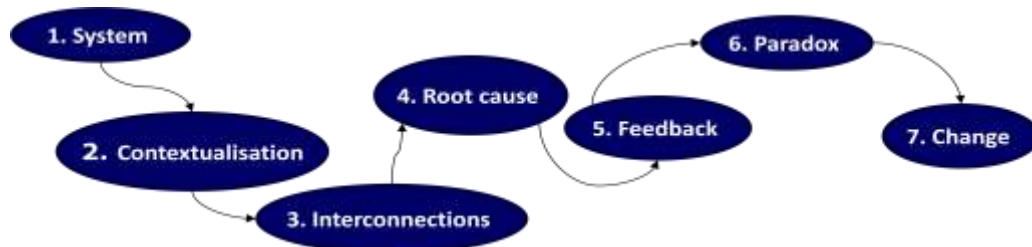
This Systems Education Matrix was seen as a useful tool for educators charged with designing new university-level curricula that effectively integrate systems concepts and/or teach those concepts explicitly. The development of this matrix was followed by the IFSR 2010 Pernegg Conversation, during which the main issues of systems education (within the above framework) were characterised as:

- being highly fragmented, both intellectually and pedagogically;
- there is a need for a first year introductory course that will be applicable to all disciplines to create “*the ability to use basic systems concepts to make sense of phenomena, objects and processes in the world*”;
- what contents/concepts should be covered in developing a more advanced course for students who are interested in “*having the ability to competently use or apply systems concepts for research or practice*?”

*Frameworks for introductory and advance systems courses:* A brainstorming session resulted in a long list of far too many concepts and tools that could or should be covered (Bosch, Maani et al. 2010). These were “clustered” into broad modules/categories (Figure 6) that will need to be addressed to serve as broad guidelines to educators. The content could be adapted to meet the needs of different types of students, disciplines and purposes of the systems education.

The intended learning outcomes of an introductory and an advanced systems course are summarized in Figure 6 and 7.

Figure 6. Broad framework of the modules of an introductory systems thinking course (Adapted from Bosch, Maani et al. 2010)<sup>2</sup>



*Infiltrating discipline focused courses and programs:* At undergraduate level introductory systems courses are becoming increasingly compulsory as core courses in many areas of studies.

2

1- Learn that issues facing the world are complex - ; multi-dimensional, straddle many different factors and involve diverse multi-stakeholder systems.

2- Understand the context in which the problems arise (culture, political systems, values); how disciplines or areas of interest fit into the whole.

3- Understand how different disciplines are interconnected, interdependent.

4- Learn to address the underlying root causes rather than the symptoms of a problem.

5- Learn to identify positive and negative feedback across components of a system.

6- Learn skills to address problems that appear to be intractable.

7- Understand how the changing nature of the world impacts upon the way in which people and organisations make decisions.

For example at Australia an introductory systems course has become compulsory in various degree programs in the University of Queensland (with more than 1000 enrolments since 2008) and the University of Adelaide.

Figure 7. Framework of the modules of an advanced systems thinking course (Adapted from Bosch, Maani et al. 2010)<sup>3</sup>



Interesting to note, is that the courses are normally compulsory in programs which are close to the home school of the systems scientists (e.g. Animal Science, Food and Crop Sciences and Natural and Rural Systems at the University of Queensland and Business, Economics and Management at the University of Adelaide). “Infiltration” of courses to enhance work readiness of students is illustrated in Figure 8.

The systems courses are also made available as electives in many programs and experience have indicated that these courses are becoming increasingly popular amongst students from all Faculties across the University as a whole. In 2008 there were three enrolments for the advanced Systems Thinking course at the University of Queensland, which has grown by 2012 to almost 200 students studying various programs offered by all the Faculties in the University. It is clear

3

1- How to frame issues as problems; what is a problem; distinguish between problems and symptoms (by examining interrelationships across multiple areas of concern).

2- Understand the importance of ethics and values in relation to contemporary issues such as poverty, pollution, children’s rights, climate change, resources shortages, food safety, the financial crisis, and corruption.

3- How the changing nature of the world affects the way in which people and organisations make decisions.

4- Learn how complex problems cannot be solved in isolation within single disciplinary boundaries; how to use tools to integrate knowledge and to involve and value knowledge of all stakeholders; ‘hard and soft systems theories’.

5- How to communicate, work in teams towards a common good and enable collaboration in designing better futures.

6- Understand that traditional forms of organisation are inadequate in dealing with increasing complexity and interdependency in the emerging global society - implications for organisations of all kinds (small to large).

7- Learn that systems are composed of subsystems, and how to map out relations across subsystems.

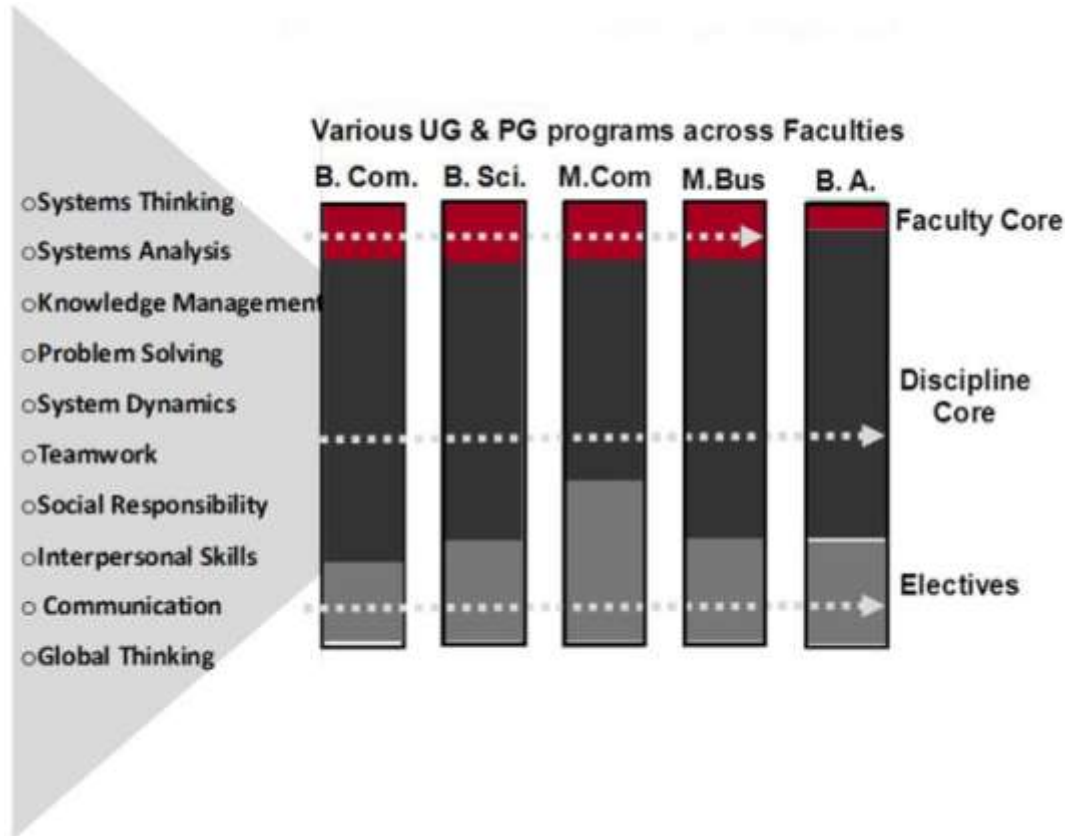
8- Learn about generic patterns of systems structure and behaviour, such as the ‘tragedy of the commons’, ‘shifting the burden’ and ‘fixes that fail’.

9- Learn about tools for decision making, systems mapping, system dynamics, building consensus.

10- Equipped with new ways of thinking which enables you to become an agent for change.

that students are looking for cutting edge and new courses and are not interested anymore in courses that were offered 10 and 15 years ago.

Figure 8. Infiltrating existing programs with Systems Thinking and other value adding courses.



The Adelaide MBA is an excellent example of the incorporation of the above introductory and advanced courses in redesigning it as a “new era” degree program that is not regarded as merely a collection of courses, but as a “system” in which the various courses are strongly interconnected.

The use of systems thinking at the early stages of the re-design points out that the Adelaide MBA program is thought of as a system in itself. In other words the MBA program is seen as multi-dimensional and holistic rather than simply a collection of modules or courses.

Such a systems perspective acknowledges that one particular course or module will be limited in terms of what it enables students to see, but a program that is informed by systems thinking should facilitate students’ ability to learn by reflecting on the links between the parts (Gregory & Miller, unpublished draft) in order to better understand complex multi-dimensional issues, the art of dealing with interconnectedness and how to deal with multiple interpretations of business and management problems.

The ‘New Era MBA’ with its systems focus is highlighting issues such as ongoing viability by ensuring relevance of the program according to emerging management issues and balancing internal demands for stability with the need to be responsive to external drivers for change; delegating maximum autonomy to the parts within the cohesive whole to ensure that decisions

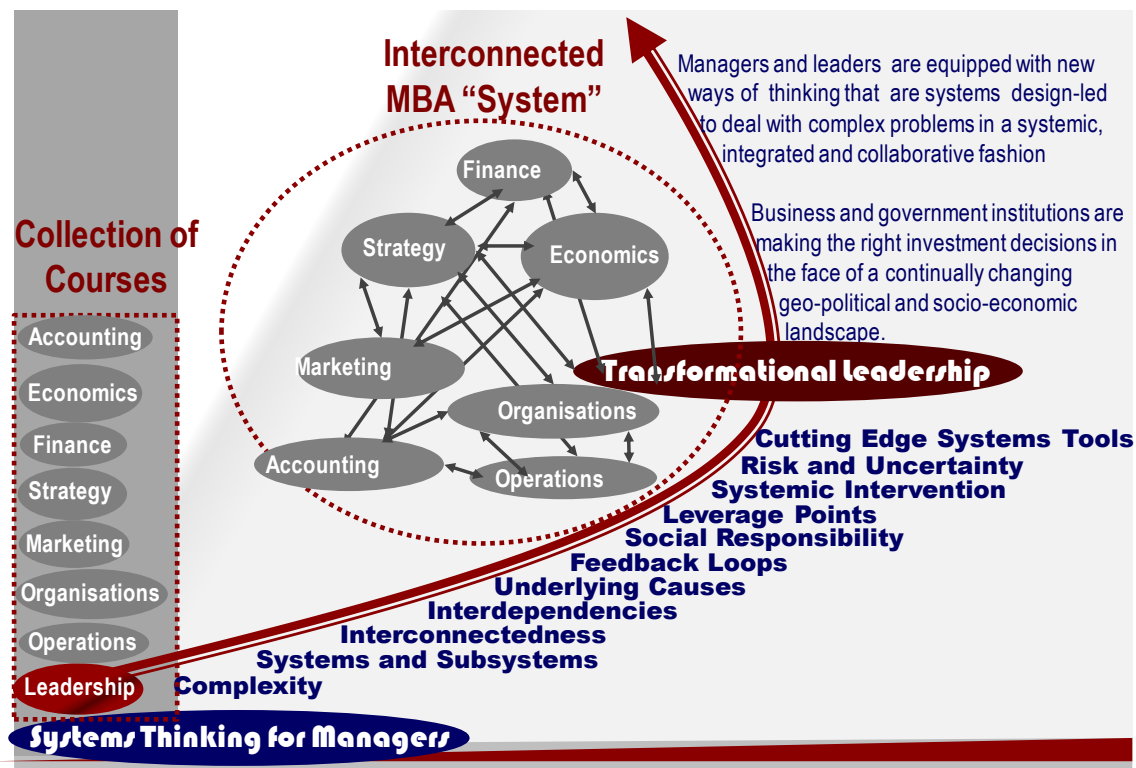
are taken at the most appropriate level; and avoiding a silo-based approach by ensuring co-ordination and the proper functioning of information flows (Gregory & Miller, unpublished draft).

The current MBA is redesigned to incorporate a systems approach through:

- a compulsory ‘*Systems Thinking for Management*’ (STM) course at the onset of the program;
- followed by advanced systems modules to be incorporated into existing courses in various forms (e.g. workshops, lectures, video links to experts from around the world, practical sessions to become acquainted with cutting edge systems tools and methodologies, discussion forums, etc.).

The ‘*Transformational Leadership*’ capstone course is the main vehicle through which the advanced systems modules are incorporated in the program. The systems thread through the MBA is illustrated in Figure 9.

Figure 9. Systems based New Era Adelaide MBA.



The Transformational Leadership course is offered as three intensive units, which makes it ideal to embed the systems thread throughout the program as a whole. After the compulsory Systems Thinking for Management course, the first intensive block of the Transformational Leadership capstone creates a space for students to better appreciate the need for a systems approach through their critical reflection on complexity in terms of both theory and their experiences of ‘messes’ in their own situation, business or organisation.



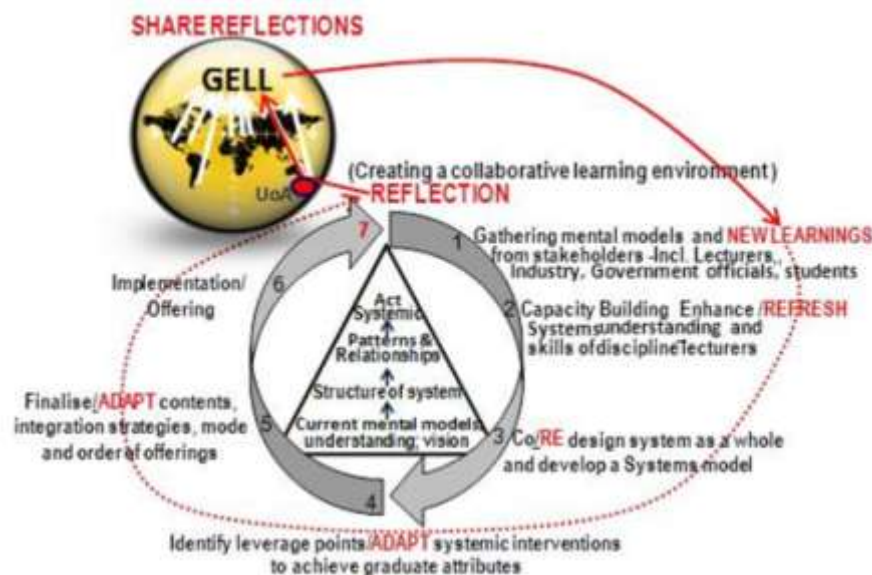
This appreciation will also challenge the students to apply this new way of thinking when studying the rest of the MBA. In this context the incorporation of advanced systems modules in the second intensive block of the Transformational Leadership course will lead to students:

- using different systems methodologies in their own situations and exploring how the theory and practice can be useful/not useful in their particular contexts of application;
- appreciating the partial nature of management knowledge by exploring paradigm shifts in management and how systems ideas can be applied in the other MBA courses/themes.

During the third intensive Transformational Leadership block students are provided with cutting edge systems tools and methodologies that could be used in their social enterprise project. This final part of the Transformational Leadership capstone course will also provide students and staff with an opportunity to critically reflect on the MBA as a whole and how an understanding of systems thinking relates to different areas of management practice.

The MBA Evolutionary Learning Laboratory (ELLab): Ongoing viability by ensuring relevance of the program according to emerging management issues forms an important principle of the New Era MBA. Furthermore, the way in which the MBA will become a systems based new cutting edge program is very much dependent on the “buy-in” of lecturers involved, the way advanced systems modules will be incorporated to form a thread and basis for the New Era MBA and whether the delivery mechanisms through existing courses and especially through the new Transformational Leadership capstone course will lead to the learning outcomes that a 21st Century student would expect to receive from an MBA program.

Figure 10. Evolutionary Learning Laboratory for the Adelaide MBA, linked to the Global ELLab (GELL).



The MBA ‘System’ has been established as an ELLab (Figure 10). As mentioned earlier, the ELLab is used as a systems based methodology and process for integrated cross-sectoral/disciplinary communication, decision making, planning and collaborations in dealing with complex problems. In this case the MBA has been identified as the “complex problem”. It is

used by all involved to develop a deep understanding of the MBA ‘system’ (program contents and delivery), shared vision (learning outcomes) and skills for systemic continuous adaption, innovation and improvement of the new era MBA over time, ensuring in this way it remains viable and relevant.

The cyclic process includes different steps as illustrated in Figure 9. In summary, it starts with enhancing the capacity of lecturers involved to develop an understanding of the interconnectedness of all components of the MBA system (program). The program is then designed and the mental models of all involved on how the contents can be adapted and especially how learnings can be integrated (contents, mechanisms of delivery, nature of student activities, etc.) are determined. After this is the implementation stage (actual offering of the program), which is followed by reflection (co-learning, adaption and the cycle repeats itself).

Framework for a generic Masters course in Systems Thinking and practice: Given the rapid rate of knowledge creation and the wide range of disciplines involved in addressing complex issues, there is a clear case to draw together a diverse range of knowledge and skills in this area. Most complex issues are in the first place a cross-disciplinary endeavor that cannot be clustered and dealt with in one Faculty or school. Secondly, finding solutions to complex issues in practice is not about science per se, but about the integration of biophysical, social, business/economics, and built and natural environmental knowledge and systems to achieve effective management outcomes.

The vision of this initiative is to provide a cross-disciplinary Masters level program in Systems Thinking in Practice that will:

- meet international capacity and knowledge needs to manage complex issues facing our world;
- introduce ‘systems-based’ thinking and integration as the basis of understanding complex multi-stakeholder issues;
- produce distinctive attributes that employers and society seek in graduates;
- be available in flexible and multiple modes of learning including internal, intensive, distance and blended learning.

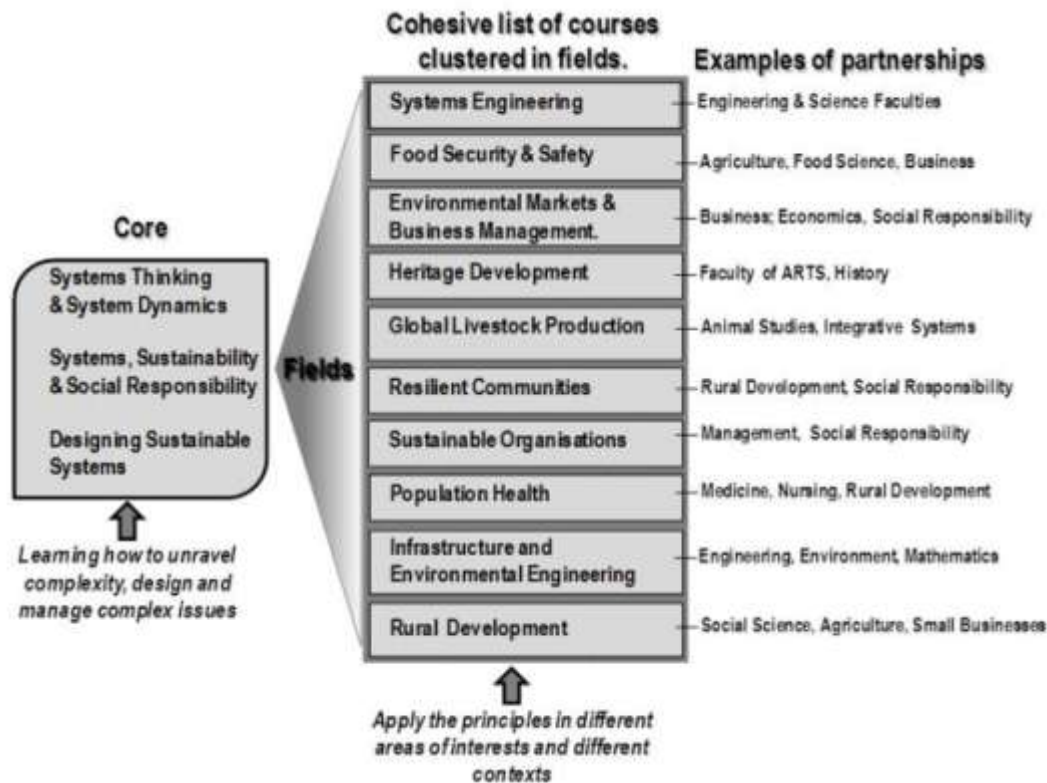
The proposed structure of the cross-disciplinary program will need the participation and shared governance by all relevant faculties, and collaboration amongst relevant faculties and with external partners in the development of ‘fields’ (See diagram – Figure 11).

The program is being designed to include a core that reflects the inter-disciplinarity and systems nature of any complex problem and consists of three generic courses, giving maximum scope for specialization in fields and flexibility in student selection of electives. The design of the program is to provide an educational “platform” for dealing with complex issues that will enable students with backgrounds in any discipline or Faculty) to enroll in this Masters program. All students will undertake the three core courses, but will then be able to specialise in their particular area of interest.

The third compulsory course (Designing Sustainable Systems) brings together teams of students from various disciplinary backgrounds to tackle a problem identified in the industry that provides them with various opportunities to utilize the systems theory and tools they have learned to integrate, model and make sense of the various forms of disparate knowledge that are available to find systemic solutions to the problem. The teams are deliberately selected to include a wide variety of backgrounds.



Figure 11. Masters Program in Systems Thinking available to students across all areas of interest.



#### 4. CONCLUSIONS

In this paper we argued that a new way of thinking is urgently needed to address the complex issues in our current turbulent world. To achieve this it has become essential to greatly advance our understanding of how to apply our economic, social/political tools and systems approaches to develop ways to maintain our qualities of life within ecosystem limits. We will need to be smarter in what we do because transforming present governance approaches presents formidable challenges (Walker, Porter et al. 2012). The drivers of change all culminate into the need for a change in the 'what and how' of learning, discovery and engagement in the creation of future leadership and enhancing understanding and collaboration across different sectors and cultural groups in society.

The ability to think in systems and understand the implications of the high degree of interconnectedness between components of a system are in itself the most important leverage towards a societal change to move away from traditional linear thinking. This was well confirmed by the students who, in playing the Ecopolity game, experienced the pitfalls of the usual practice of concentrating on isolated problems – that is, solving one problem and creating several new ones. "Starting with the young" represented an informal learning process that is specifically targeting young people in high schools, with the aim to affect their mental models in understanding the complexities and dynamics of complex issues.

Of equal importance is the ability to understand each other's mental models in order to be able to communicate, collaborate and work towards shared visions. It was shown in the paper how every step of the ELLab process helps people to understand the different mental models that various stakeholders are holding. The ELLab also provides opportunities for the stakeholders to debate the issues and over time, through the iterative, cyclic process of implementation and reflection, to change their mental models through co-learning. Without an understanding of each other's mental models, cross-sectoral communication and inter-cultural engagement will not be possible. The ELLabs have been proven invaluable in creating a platform for achieving such understanding.

It is clear that systems education, from informal learning to formal educational programs is at the foundation of the key leverages to develop new ways of more holistic thinking to ensure systemic decision and policy making. Although many informal short courses exist and are being offered to government departments, businesses and organisations, their impact on changing the way of thinking is often not long lasting. This could be due to the fact that systems thinking short courses are seldom followed by providing attendees with the relevant systems tools and especially with practical experience of these tools over a longer period of time. The Evolutionary Learning Laboratories specifically focus on capacity building through direct involvement in the integration of mental models and the construction and interpretation of systems models. This combination of capacity building with activities in which appropriate systems tools are being used by the end-users who will directly benefit, is a critical success factor for long term change in the way that management decisions and policymaking can become systemic, rather than focusing on treating the symptoms. Adults seldom have the opportunity to undergo formal continual education but the design of ELLabs provides a process and platform to facilitate adult learning in a working (learning by doing) and collaborative environment.

Formal education in systems thinking has become essential. Many efforts are being put into ways to "infiltrate" the traditional teaching of disciplines as isolated units. An appreciation by lecturers and students that degree programs should not merely be the traditional "collection" of courses, but rather "systems" of interconnected courses, will be a great step forward for the creation of new era researchers, leaders and decision makers. The three major leverages discussed in this paper, together with many other initiatives from around the world (e.g. the K-12 System Dynamics in school projects in the USA, systems courses and programs being offered in many universities and centres for systems studies) and informal teaching programs (e.g. (Palaima and Skarzauskiene 2010; Smith 2011; Nguyen, Graham et al. 2012)), can contribute significantly to the efforts of the systems community in making systems thinking and systems education become 'unremarkable' (Allen 2010) and 'absorbed' into society, in the same way that statistics is today an integral part of everyday life (Bosch, King et al. 2007).

The path forward for institutions, government, corporations, stakeholders and political interest groups will be challenging and will need collaborative courage to change the wasteful and destructive practices of the past. Courage is required to take value-driven action through a system thinking and sustainability framework that identifies key leverages and systemic interventions for 21st century leaders to systemically intervene within a globally focused system (Keegan and Nguyen 2011).

## ACKNOWLEDGMENTS

The authors wish to thank our many research collaborators in various countries and organisations in which we are practicing systems science. A special word of thanks to Dr Nguyen Van Thanh, Professor Dan Duc Hiep and the researchers and managers of the Cat Ba ELLab in Vietnam; Dr Sam Wells and Mr Damian Scanlon for their continual support in encouraging the incorporation of systems approaches in the Adelaide MBA and management programs in general at the University of Adelaide. Last but not least, the authors also want to thank the teachers and students from 16 high schools in Adelaide, Australia who have enthusiastically taken part in the first pilot project to introduce Ecopolicy and the final Ecopolicyade in Australia.

## REFERENCES

- Allen, T. F. H. (2010). Making liveable sustainable systems unremarkable. *Systems Research and Behavioral Science*, 27(5): 469-479.
- Atwater, B. J., Kannan, V. R., Stephen, A. A. (2008). Cultivating systemic thinking in the next generation of business leaders. *Academy of Management Learning and Education*, 7(1): 9-25.
- Banathy, B. H. (1996). *Designing Social Systems in a Changing World (Contemporary Systems Thinking)*. New York (USA): Springer.
- Bosch, O. J. H., Drack, M., Horiuchi, Y., Jones, J., Ramage, M. (2009). Informing the Development of Systems-Oriented Curricula at the University Level: The Systems Education Matrix. *International Federation for Systems Research: Proceedings of the Fourteenth Fuschl Conversation*. Fuschl, Austria: SEA-Publications, SEA-SR-22 <http://ifsr.ocg.at/world/node/45>
- Bosch, O. J. H., King, C. A., Herbohn, J. L., Russell, I. W., Smith, C. S. (2007). Getting the big picture in natural resource management - systems thinking as 'method' for scientists, policy makers and other stakeholders. *Systems Research and Behavioral Science*, 24(2): 217-232.
- Bosch, O. J. H., Nguyen, N. C., Maeno, T., Yasui, T. (2013). Managing Complex Issues through Evolutionary Learning Laboratories. *Systems Research and Behavioral Science* 30(2). DOI: 10.1002/sres.2171.
- Bosch, O. J. H., Ross, A. H., Beeton, R. J. S. (2003). Integrating science and management through collaborative learning and better information management. *Systems Research and Behavioral Science*, 20(1): 107-118.
- Cain, J., Batchelor, C., Waughray, D. (1999). Belief networks: a framework for the participatory development of natural resource management strategies. *Environment, Development and Sustainability*, 1: 123-133.
- Donald, A. N. (2010). *Living with complexity*. USA: MIT Press.
- Engwall, L. (2007). The anatomy of management education. *Scandinavian Journal of Management*, 23: 4-35.
- Espinosa, A. (2011). *Complexity Approach to Sustainability: Theory and Application*. ICP.
- Gharajedaghi, J. (2011). *Systems Thinking: Managing Chaos and Complexity : A Platform for Designing Business Architecture (3<sup>rd</sup> Edition)*. Burlington: Morgan Kaufmann.

- Grint, K. (2005). Problems, problems, problems: The social construction of 'leadership'. *Human Relations*, 58(11): 1467-1494.
- Harris, G. (2007). *Seeking sustainability in an age of complexity*. Cambridge: Cambridge University Press.
- Helbing, D. (2007). *Managing Complexity : Insights, Concepts, Applications: Insights, Concepts, Applications*. Dordrecht: Springer.
- Held, C., Knauff, M., Vosgerau, G. (2006). *Mental models and the mind: current developments in cognitive psychology, neuroscience, and philosophy of mind*. *Advances in psychology* Vol. 138. NL: North Holland.
- Illeris, K. (2009). *Contemporary theories of learning: learning theorists ... in their own words*. New York: Routledge.
- Jackson, M. C. (2010). Response and comments on the special issue: 'Systems methodology and social development: a global conversation in China'. *Systems Research and Behavioral Science*, 27(2): 241-244.
- Jones, J., Bosch, O. J. H., Drack, M., Horiuchi, Y., Ramage, M. (2009). On the Design of Systems-Oriented University Curricula. *Research Reports of Shibaura Institute of technology. (Natural Sciences and Engineering)*, 53(1): 121-130.
- Keegan, M., Nguyen, N. C. (2011). Systems Thinking, Rural Development and Food Security: Key Leverage Points for Australia's Regional Development and Population Policy. *Migration Australia*, 1(1): 50-64.
- Khavul, S., Bruton, G. D. (2013). Harnessing Innovation for Change: Sustainability and Poverty in Developing Countries. *Journal of Management Studies*, 50(2): 285-306.
- Kirkbride, J., Letza, S. (2004). Regulation, Governance and Regulatory Collibration: achieving an "holistic" approach. *Corporate Governance: An International Review*, 12(1): 85-92.
- Laszlo, A., Blachfellner, S., Bosch, O. J. H., Nguyen, N. C., Bulc, V., Edson, M., Wilby, J., Pór, G. (2012). Curating the Conditions for a Thrivable Planet: Systemic Leverage Points for Emerging a Global Eco-Civilization. *Proceedings of the 16th International Federation for Systems Research (IFSR) Conversations "Systems and Science at Crossroads"*, 14-19, April 2012, Linz, Austria, SEA-Publications: SEA-SR-32.
- Laszlo, K. C. (2001). Learning, design, and action: creating the conditions for Evolutionary Learning Community. *Systems Research and Behavioral Science*, 18(5): 379-391.
- Maani, K. E., Cavana, R. Y. (2007). *Systems thinking, system dynamics: Managing change and complexity*. Auckland (NZ): Prentice Hall.
- Malik, F. (2010). *Managing, Performing, Living: Effective Management for a New Era*. Frankfurt, (Germany): Campus Verlag GmbH.
- Management, M. (2011). Ecopolicyade®." Retrieved 1 March 2012, from <http://www.malik-management.com/en/news/380/Ecopolicyade-Magazine-now-available-in-English>.
- Meadows, D. (1999). *Leverage points: Place to intervene in a System*. Hartland, VT (USA): The Sustainability Institute.

- Mintzberg, H. (2004). *Managers not MBAs*. San Francisco: Berrett-Koehler Publishers.
- Nguyen, N. C., Bosch O. J. H. (2012). A Systems Thinking Approach to identify Leverage Points for Sustainability: A Case Study in the Cat Ba Biosphere Reserve, Vietnam. *Systems Research and Behavioral Science* In Press. DOI: 10.1002/sres.2145.
- Nguyen, N. C., Bosch, O. J. H., Maani, K. E. (2011). Creating 'learning laboratories' for sustainable development in biospheres: A systems thinking approach. *Systems Research and Behavioral Science*, 28(1): 51-62.
- Nguyen, N. C., Graham, D., Ross, H., Maani, K., Bosch, O. J. H. (2012). Educating Systems Thinking for Sustainability: Experience with a Developing Country. *Systems Research and Behavioral Science*, 39(1): 14-29.
- Palaima, T., Skarzauskiene, A. (2010). Systems thinking as a platform for leadership performance in a complex world. *Baltic Journal of Management*, 5(3): 330-355.
- Pimbert, M., Thompson, J., Vorley, B., Fox, T., Kanji, N., Tacoli, C. (2003). Global restructuring, agri-food systems and livelihoods, Gatekeeper Series 100. Retrieved 11 January 2009, from <http://www.iied.org/pubs/pdf/full/9166IIED.pdf>
- Rittel, H. W. J., Webber, M. M. (1973). Dilemmas in a general theory of planning. *Policy Sciences*, 4: 155-169.
- Scherer, A. G., Palazzo, G., Seidl, D. (2013). Managing Legitimacy in Complex and Heterogeneous Environments: Sustainable Development in a Globalized World. *Journal of Management Studies*, 50(2): 259-284.
- Senge, P. M. (2006). *The fifth discipline: The art and practice of the learning organization* (revised and updated). New York (USA): Random House, Inc.
- Sherwood, D. (2002). *Seeing the Forest for the Trees: A Manager's Guide to applying Systems Thinking*. London (UK): Nicholas Brealey Publishing.
- Smith, C., Felderhof, L., Bosch, O. J. H. (2007). Adaptive Management: Making it Happen Through Participatory Systems Analysis. *Systems Research and Behavioral Science*, 24(1): 567-587.
- Smith, T. (2011). Using critical systems thinking to foster an integrated approach to sustainability: A proposal for development practitioners. *Environment, Development and Sustainability*, 13(1): 1-17.
- Sterman, J. D. (2000). *Business dynamics: systems thinking and modeling for a complex world*. Irwin: McGraw-Hill.
- Thompson, J., Scoones, I. (2009). Addressing the dynamics of agri-food systems: an emerging agenda for social science research. *Environmental Science & Policy*, 12: 386-397.
- Vester, F. (2010). *Ecopolicy: A Cybernetic Environmental Simulation Game*. Munich (Germany) English/German Version 2010.
- Vorley, B. (2002). Sustaining Agriculture: Policy, Governance, and the Future of Family Based Farming. Retrieved 11 May 2008, from: [http://www.poptel.org.uk/iied/////sarl/pubs/exec\\_summ/9175.html](http://www.poptel.org.uk/iied/////sarl/pubs/exec_summ/9175.html).

- Walker, B. W., Porter, D. J., Marsh, I. (2012). *Fixing the Hole in Australia's Heartland: How Government needs to work in remote Australia*. Alice Springs (Australia): Desert Knowledge Australia.
- Younos, T. (2011). Paradigm shift: Holistic approach for water management in urban environments. *Frontiers of Earth Science*, 5(4): 421-427.



# Probability of default and probability of excellence, an inverse model of rating. One more tool to overcome the crisis: an empirical analysis.

**Marco Muscettola**

*Independent researcher. Italy. e-mail: marcomuscettola@hotmail.com. Corresponding author*

**Francesco Naccarato**

*Lecturer. University of Padova, Padova, Italy. e-mail: francesco.naccarato@unipd.it.*

*Best paper award winner for the track: Financial Systems and the Economic Crisis. Challenges and Solutions Proposals*

*DOI: 10.7350/BSR.BV06.2013 – URL: <http://dx.medra.org/10.7350/BSR.BV06.2013>*

## ABSTRACT

*After rated as "excellent firms" which in 2010 showed good profitability and a solid financial balance, this essay aims to explore the possibility that a rating model already focused on bankruptcy prediction may also be a valuable tool for the selection of firms that after three years could turn to a state of excellence. Furthermore, the test is carried out and completed even starting from the opposite side: it detects the opportunity of a model calibrated on the prediction of successful firms to provide accurate results in the calculation of the probability of default. In this paper we empirically examine the determinants of a predictive econometric model, in a time frame of three years, using the statistical technique of logistic regression on a panel of 5,000 North Italian SMEs over the period 2007-2010.*

**Keywords:** Rating, SME finance, Modelling credit risk, Value of firms, Structural models.

## 1. INTRODUCTION

Predicting the probability of default has become increasingly important, especially if we take a look at the financial crisis of recent years. The development of a default and statistical model, capable of distinguishing the firms will become insolvent firms, within a definite timeframe, that remain healthy can play great practical importance both for local financial institutions involved in supporting the economy and for the companies themselves.

On the other hand it is essential that banks invest in successful firms characterized by an outstanding relationship between value added and income or high-efficiency: it means to advance a whole territory. Financing firms of low production level, however, leads to the destruction of scarce resources. It is not enough to focus resources only on firms which are

assumed to remain healthy, we need to invest largely on the “excellent firms”.

Companies that have been defined, in this paper, as “excellent firms” in 2010 showed good profitability and a solid balance sheet. They are the firms that have invested in the three years before the crisis more resources in research and development, which have already led to a successful reorganization with a view to developing strategies, which have completed a management control system that have crossed national borders and that they did not rely exclusively on bank borrowings. In all those firms is possible to quantify a variable “value” than the others: those are the firms that create jobs, wealth and welfare.

The objective of the paper is to prove if a rating model based on predictions of defaults can also be a valuable tool for the selection of firms that after three years would become excellent. It also verifies if a model aimed at the prediction of successful firms can provide good results in the calculation of the probability of default.

Compared to the existing literature, the work provides a twofold contribution. On the one hand it analyzes the projections to excellence, rather than solely to the insolvency. This reverses, in fact, the whole structure of classical models of prevision of the crisis. On the other hand, emphasizing the width of the equipment and the sample used, the work extends the timeframe up to three years following the financial statement analysis. Unlike the more common statistical and regulated models to estimate the crisis, in fact, the present study is aimed to be much more *forward looking*.

One rating statistically summarizes a set of values derived from some different and often conflicting aspects of business life. That combination of judgment on firms has been conducted using only quantitative information: financial statements, registered data, province of residence, number of employees, year of any default, class size and code number of main activity. For such a reason we felt compelled to examine all areas of financial and economic data derivable from the financial statements i.e. the financial structure, its growth potential, the affordability, the volatility of cash flow and, finally, the efficiency of business management. That information has also been reclassified in index ratio, flow trends and periodic variations. It’s excluded from the analysis, therefore, all the qualitative and behavioural information and the judgment trend of bank.

In this paper we seek empirically the determinants of an econometric model to estimate, in a range of previous three years, using the statistical technique of logistic regression on a dataset with 56 financial ratios.

The analysis was developed on a sample of SME’s resident in the northern regions of Italy, for uniformity of local context, with revenues from 5 million to 50 million euro. The main dataset counts the financial statements of 2007 of 5,000 companies of which 2,500 manufacturing firms and 2,500 commercial firms. Inside of each sub-sample were identified 100 companies definable “bad firms” in 2010 and 100 companies definable “excellent firms” in 2010.

Using logistic regression will be created more rating scales to estimate the event sought (default or excellence). This in view also of the sub-sample used (manufacturing firms and commercial firms). In this way, the entire sample will be divided into 10 classes depending on the model used. After dividing the sample into classes we describe the distribution of default and excellence cases.

Our paper is structured in five sections beyond the premise. The first paragraph is introductory. The second one is devoted to the definitions, the sample description, the preliminary analysis on the dataset and the explanation of the statistical methods we have been using on it. In the third one it’s outlined the results of the descriptive analysis of the sample examined. The use of a



univariate statistical analysis may better show every single peculiarity and the most predictive financial ratios. There also will be illustrated the tables on the indicators used by the comparison between healthy firms, excellent companies in 2010, and insolvent firms in 2010. In the fourth paragraph we show the results of the empirical evidence through a presentation of the findings of the logistic regression. In the fifth paragraph rating scales will be constructed in relation to the results of the regression and will occur if actually the statistical variables, useful and predictive of excellence, are also suitable for the prediction of default. In the end, the last paragraph, the sixth, contains some concluding remarks.

## **2. DESCRIPTION OF THE ANALYSIS**

### **2.1 Objective**

The focus will be centred in the identification of economic and financial paradigms capable to order firms by default and excellence probability and, therefore, to observe if one can use a single mathematical tool to differentiate, from the general sample, those firms going to insolvency (bad firms) from healthy (good firms) and excellent (excellent firms) ones.

### **2.2 Data**

About the scale and heterogeneity of the sample<sup>i</sup>, adequately dimensioned large, the set of analyzed SMEs<sup>ii</sup> is limited to certain types of firms sufficiently uniform for size<sup>iii</sup>, place and type of company (Guiso, 2003). In a perfectly balanced way were considered 2,500 commercial firms, of any kind and type, and 2,500 manufacturing firms excluding, therefore, farms, construction, real-estate industries, service and financial companies. Furthermore, firms owned by public institutions are also excluded, due to their non-profit nature. The final dataset lists, thus, the ordinary financial statements (not abbreviated)<sup>iv</sup> of 5,000 firms. Within each sub-sample we detected 100 firms which became insolvent in 2010<sup>v</sup> (bad firms) and 100 firms able to be determined as excellent in 2010 (excellent firms).

By the same token, the use of a generic Italian sample allows us to standardize some behaviours, normalize or homogenize some data<sup>vi</sup> and, especially, to treaty better with outliers of the test sample. The input information we used and managed on the sample is only the accounting ones and, in particular, those relating to the financial statement of the year 2007, before the financial and economic crisis which has also involved the local firms we analyzed. Firms were monitored for four years and, among them, firms that in 2010 were classified as excellent have been distinguished from firms that by their side in 2010 became, instead, insolvent.

We have made an essential cleaning of the dataset by erasing from the sample those firms with irrational data arising from intruding, exceptional or generically abnormal elements. We cut off firms with less than 8 years, which operate as a dependent entity or a trading subsidiary of the parent companies, and other firms which hold a controlling stake in one or more companies. The study also excludes companies enduring, along the four years of analysis, significant fluctuations in sales, assets, liabilities or returns.

In Table 1 are summarized peculiarities and structural parameters of the sample used.

Table 1. Characteristics of the sample used in the research

	WHOLE SAMPLE		BAD FIRMS		GOOD FIRMS		EXCELLENT FIRMS	
	NR	%	NR	%	NR	%	NR	%
MANUFACTURING FIRMS	2,500	50.00	100	2.00	2,300	46.00	100	2.00
COMMERCIAL FIRMS	2,500	50.00	100	2.00	2,300	46.00	100	2.00
WHOLE SAMPLE	5,000	100.00	200	4.00	4,600	92.00	200	4.00
STRUCTURAL PARAMETERS								
SALES (X1.000 €)	15,457		18,203		15,414		14,200	
TOTAL ASSETS (X1.000 €)	12,018		19,004		11,815		10,749	
EQUITY (X1.000 €)	3,415		4,957		3,299		4,852	
EBITDA (X1.000 €)	1,149		1,125		1,118		1,925	
REGION OF ACTIVITY								
LOMBARDIA	2,048	40.96	81	40.50	1,869	40.63	71	35.50
	1,058	21.16	51	25.50	966	21.00	47	23.50
EMILIA	878	17.56	27	13.50	819	17.80	37	18.50
PIEMONTE	550	11.00	21	10.50	513	11.15	21	10.50
VENEZIA GIULIA	186	3.72	4	2.00	175	3.80	11	5.50
TRENTINO ALTO	147	2.94	8	4.00	140	3.04	1	0.50
	125	2.50	8	4.00	110	2.39	12	6.00
	8	0.16	0	0.00	8	0.17	0	0.00
YEARS OF ACTIVITY								
AGE (YEARS)	21.24		19.78		21.25		21.60	

To actually build up a valid and verifiable model we had to overhaul the impact of outliers on it as well as their frequency and origin, trying to minimize their process. Regarding the treatment of outliers, it was chosen an organization with an acceptance wide enough. The process has been conducted "case by case" of the variables, treated in a manual way, depending also on the logic of the indices (Muscettola, Gallo, 2008). The reason is both to not lose heavy data and because of, in one dataset wide enough like that, unusual and outliers cases have been detected meager numerically<sup>vii</sup>.

In this work it was decided to "truncate" the distributions of the values which exceeded two times the *standard deviation* of the distance from the first quartile to the bottom, and from the third quartile to the top, giving the anomalous value the extreme of "normality" so put in relief. In most symmetric distributions and with acceptable *kurtosis*, the methodology above specified has been toned down, with the cutting of the array, defining outliers as values outside the first and ninety-ninth percentile.

The indices with visibly skewed distributions, or having data spoiled by significant discrepancies from the averages, have not been examined by the process in successive steps. That's it although many doubts remain whether outliers are really negligible or messengers of basic information.

With regard to the phenomenon "missing values", even for the conjectures determining the construction of this dataset, have been very few cases (34) of absence of data. In the case in

which a value has been lacking in the cell, not comparable to the value "0", it was replaced with the *winsorization method*. In that way, the missing data, only if relevant, have been replaced by *boundary values*<sup>viii</sup>.

### 2.3 Bad firms

Various, and with different multiple impacts on ultimate results, may be the definitions attributable to the “default” as an event.

In our work it has been stated satisfactory the definition of default adduced by Basel Committee (Basel 2)<sup>ix</sup>. That not-expanded definition has been mandatory for we couldn't include within our research the internal ratings from banks and so the behavioural and qualitative analysis has been completely kept off.

Among the selected, firms got insolvent in 2010 are 200 whose 100 commercial and 100 manufacturing. As a percentage of total number of companies analyzed, therefore, the incidence will be 4.0%.

### 2.4 Excellent firms

On the other hand, if we take back and mix up some of the best known definitions from the Italian literary production, it was described as "excellent" that firm owning the same time some of the qualities derivable also from the financial statement (Bartoli, Ossoli, 2009). That group includes companies marked for long life and having been shown to create a level of value added and also with certain evidence that lead to identify a clear creditworthiness and profitability, especially in the long term.

Excellent firms are those capable to operate in an integrated and organic way (Merli, 1994), getting a clear vision of the future shared by all the subjects of their own system (Moglia, 1998), having a production system both effective (Marcantoni, Torresani, 2000), and flexible as they combine demand with lower costs (Guatri, 1986). Excellent firms enhance the human capital with an unbreakable and self-powered *know-how* (Caruso 2000) and are in harmony with the external environment (Gallino, 2005). Furthermore excellent firms, besides having a clear solvency and profitability, must have a solid capital base too, flexible towards management and operative onto the market (Bufera, 2003).

Starting from an accounting standpoint, to distinguish and eventually study those firms, we sought the concurrent fulfilment of multiple qualities<sup>x</sup> (Muscettola, 2007). More specifically, we have isolated, from the sample, firms in 2010 with the following features:

1. Ebitda / Sales of 2010 > 0.075;
2. No economic loss through the last four years;
3. Cost for employees increasing between 2008 and 2010;
4. Total debt / Sales decreasing through the last four years;
5. Gross profit / Sales increasing between 2008 and 2010;
6. Net cash flow / Sales of 2010 > 0.025;
7. Operating cash flow stated as positive in 2009 and 2010;
8. Investments in research and development growing between 2007 and 2010;

9. Perfect financial equilibrium in 2010;
10. Solid and efficient capital structure<sup>xi</sup> in 2010.

As well as for companies in default in 2010, to maintain perfectly balanced the distributions of cases, the number of firms defined as excellent is about 100 cases among commercial firms and 100 cases among manufacturing firms.

## **2.5 Empirical methodology**

Unlike the more common and regulated statistical models to forecast a crisis, our study is aimed to be more "forward looking". In that sense, then, although it is estimated that the degradation of performance in terms of robustness (Barontini, 2000), verifiability and replicability of the model, the time frame is fixed at three years following receipt of the judgment. In other words, the variables from which are derived the most predictive ones refer to a period of three years earlier (2007). This innovation not only makes that study unique, it even elides in part the influence of the economic cycle on the inherent risk of the company.

The search for specific factors that carry the firm to insolvency or, on the contrary, to the success, it is not new in the literature at all. Structural models, based on information taken from the financial statements, go on for over forty years indeed.

The rating model, or crisis forecast, is based on past experience and is built by investigating the similarities in the analyzed firms with the others whose you already know the future. In the above-indicated sense the statistical approaches are similar especially to the diagram so-called "one size fits all". Since Fama (1970), the purposes of the different schemes have been focused mainly to sift the results based on the empirical contents rather than any assumptions on a model. In other words, a single universal model has been tried to build, a model valid for all the firms, capable of giving an opinion the more verifiable and replicable.

Differently from the methodological approach to cost accounting (it seeks the chances of success within the logical causes of the earning ability or the capability to repay debts) and from the market approach (it turns the external evaluations of creditors or investors into ordinal judgments trying to estimate a hypothetical option on corporate debt), in this essay we shall use a merely statistical approach without any methodological premise if not the empirical experience of what has already happened. Within this configuration we will opt for logistic regression to assess the unknown while affirming the validity of other statistical systems<sup>xii</sup>.

Entering more specifically the present digression, the statistics logic is ever to watch the data of the year 2010 to develop the mathematical model year 2007. Afterwards, assuming a stable and quantified link between selected variables and the excellence of the firm, the model is transposed to the generic time "t" (time of assessment) in order to predict the time "t +3" the excellence of the subject studied.

Since we are in the presence of a significant amount of firms in the sample studied with an adequate numerosity of cases of excellent firms, the choice of using balance samples is cast only to guarantee the definition of "portfolio quality" (Nadotti, 2002).

We applied the multivariate discriminant analysis, accordingly, only to test the specific significance of independent variables<sup>xiii</sup>. There the method "bootstrap" has been used with "twin" samples containing 100 units each.

## 2.6 Variable construction

A special attention was paid to the first step of the analysis process: the choice of variables.

The indices built<sup>xiv</sup> (113 at the beginning) have been reduced with the univariate statistical technique up to a total of 83. Then, to be brief<sup>xv</sup>, using the factor analysis, our set had been limited to the final 56 elements. In the selection of the variables, in addition to the techniques already mentioned, we found that each of the indices used to answer positively to the principles of monotonicity test (De Laurentis, Maino, 2010) and sensitivity or specificity check (*Roc curve*). Everything is going to be nodal for the validation of the results produced by the logistic regression.

Another important test is the "Wald test" in order to verify the significance of independent variables with the probability of excellence (dichotomous dependent variable).

The subdivision of the sample in good, bad and excellent firms has been developed in order to analyze and show the trend of every single financial ratio. In the specific case of the present digression we put a particular attention towards the distribution of the 200 cases of excellent firms relating to the year 2010, referring to the company data of 2007 and to the 200 cases of bad firms.

The indices used may be placed, by a parallel analysis carried out with the factor analysis, in eight macro-groups of indicators. This choice solves the problem of statistical correlation avoiding, thus, redundant indicators or duplicates in the dataset. We go to describe below the eight indices – categories that eventually identify business characteristics as financial statement or, in other terms, some virtues detectable in the analyzed firms.

1. Asset breakdown: with these indices one can explain the flexibility of business activities, the liquid ability and the incidences, on total assets, of fixed assets, total receivables and inventories;
2. Capital structure: in this array are included the indices that describe the frame of the sources to properly support the activities and the composition of the debts;
3. Liquidity: these solvency indices express the so-called "horizontal adequacy" among sources and uses, the fixed asset coverage and the capability to face short time debts through the liquid assets;
4. Financial ratios: this category includes those variables composed of liabilities or burden of debts and the amount of debt employed to finance a firm's assets;
5. Turnover: these indicators reveal how many times a year financial items, as trade receivables, inventories, investments or trade payables, run. These ratios operate as the substrate to raise the operating cycle time and more efficiency indices;
6. Net profitability: this describes the business capability to generate net income return regarding to the income statement and the balance sheet;
7. Operating profit: unlike the net profitability, especially expressed by the *cash flow*, the operating profit is the business capability to create gross profit margins accounting some causation;
8. Efficiency: it expresses the business to generate income considering how much had been invested estimating the potential to maximize the available resources.

### 3. DESCRIPTIVE ANALYSIS

Since the *univariate statistical analysis* carried out on the sample of firms it was possible to see important information on the discriminative ability of some variables rather than others both for the study of the default and for the most innovative search of the excellence.

In the following tables we are going to describe, upon all the used indices, the averages noticed in three sub-samples: bad firms, good firms and excellent firms. These charts show the summary statistics of sample firm characteristics which will be used as control variables in our regressions. They are assorted by categories and divided considering the year of survey: 2007, 2008 and 2009. The tables report pooled time-series so three years before the possible excellence or default (2007), two before (2008) and the previous year (2009).

As you can see, the averages of many indices get convergent, as time passing by, toward the best direction, referring to excellent firms, or to a gradual worsening, for firms entering into default in 2010.

“Asset breakdown” indices (table 2) don’t particularly suffer of approaching to an event, both default and excellence.

Table 2. Asset ratios

ASSET BREAKDOWN	BAD FIRMS			GOOD FIRMS			EXCELLENT FIRMS		
	2007	2008	2009	2007	2008	2009	2007	2008	2009
Total fixed assets / Total assets %	29.14	32.51	34.80	21.92	26.16	27.29	21.75	23.69	24.93
Cash and bank deposits / Total assets %	2.50	2.40	5.11	7.46	6.70	7.54	10.78	10.86	12.82
Total receivables / Total assets %	40.35	40.30	36.31	47.42	44.95	44.25	50.43	48.79	47.39
Inventory / Total assets %	27.60	24.60	22.21	22.84	21.87	20.74	16.73	16.33	14.93
Trade receivables / Total assets %	34.21	32.53	28.90	42.06	39.47	38.57	43.64	41.26	40.25
Prepaid expenses and current financial assets / Total assets %	1.67	1.92	2.72	1.23	1.21	1.20	1.29	1.27	1.19
Intangible fixed assets / Total assets %	4.05	4.20	3.24	2.39	2.46	2.49	1.55	1.61	1.90

The averages remain steadily separate, although not visibly remote. “Trade receivables / Total assets” or “Total fixed assets / Total assets” are not particularly significant for distinguishing the excellent firms. On the other side, clearer it’s the divergence among groups about “Inventory / Total assets” (16.73% in 2007), “Cash and bank deposits / Total assets” (10.78%) and “Intangible fixed assets / Total assets” (1.55%).

The averages of the ratios that describe the firm capital structure (table 3), instead, show trends much more depending on the period prior to the excellence. Paraphrasing it, we note that in 2009 the averages reveal an organization of the sources certainly more oriented to the risk capital against a total decrease of any typology of debt.

Compared to the other firms we note the way the capitalization of best firms is completely different and the differential raises as years passing by. The debt of excellent firms is lower than for good firms even just considering the onerous debts solely. The financial debts (“Borrowings / Total assets”), in year 2007, record an incidence on the total liabilities and shareholders’ equity



of 12.26% for excellent firms, of 25.15% for good firms and of 42.14% for bad firms. About the trade payables, instead, there aren't relevant notes among the groups even if, for excellent firms, it's clear a fast reduction year after year till the 22.24% of 2009. The debts due beyond one year are more present in bad firms and in good firms instead of excellent firms. "Long term liabilities / Total assets", indeed, is equal to 5.52% for excellent firms, compared to 11.97% for bad firms and 8.39% for good firms.

Analyzing the table below, concerning overall the years of reference, we can see indices averages more steady through the time for bad firms. Furthermore it's visible on the analyzed sample the reduction of the financial debts from above all 2009, to tell the truth of a period of "credit crunch" realized by the banks. Those deficiencies had been strongly balanced by the relative increase of the risk capital.

Table 3. Capital structure ratios

CAPITAL STRUCTURE	BAD FIRMS			GOOD FIRMS			EXCELLENT FIRMS		
	2007	2008	2009	2007	2008	2009	2007	2008	2009
Long term liabilities/ Total assets %	11.97	12.70	16.12	8.39	8.41	9.47	5.52	3.86	4.48
Leverage	4.65	3.36	1.41	2.29	2.04	1.74	0.23	0.11	-0.01
Borrowings / Total assets %	42.14	46.23	49.88	25.15	25.21	23.97	12.26	10.92	8.97
Trade payables / Total assets %	28.42	30.19	32.78	33.79	30.30	28.72	28.45	25.54	22.24
Bonds / Total assets %	0.09	0.06	0.01	0.05	0.03	0.02	0.00	0.00	0.00
Total shareholders' equity / Short term debt %	33.28	29.47	27.43	59.76	77.70	88.23	125.53	157.15	195.69
Total shareholders' equity / Total assets %	15.94	13.01	10.55	23.47	27.6	28.73	42.18	47.53	52.50
Shareholder debt / Total assets %	1.08	0.71	2.31	1.21	1.23	1.30	0.84	0.63	0.54

Table 4. Liquidity ratios

LIQUIDITY	BAD FIRMS			GOOD FIRMS			EXCELLENT FIRMS		
	2007	2008	2009	2007	2008	2009	2007	2008	2009
Quick ratio %	64.80	58.96	58.80	100.37	102.59	110.02	150.69	163.11	188.97
Total shareholders' equity / Fixed assets %	122.38	85.18	73.83	321.46	312.71	334.76	490.49	517.85	528.99
Current ratio %	111.63	99.10	97.34	143.55	147.38	155.83	197.07	211.77	243.38
Consolidated liabilities and equity / Total fixed assets %	225.78	176.90	160.67	472.51	453.66	492.33	617.4	632.0	654.71
Net working capital / Total investment %	3.18	-7.00	-13.64	18.37	17.78	20.45	38.52	40.59	47.35
Inventory / Trade receivables %	130.28	136.30	157.69	102.84	103.76	102.88	63.12	60.50	66.72
Cash / Sales %	2.93	2.91	5.89	5.41	5.04	6.43	8.61	9.40	11.27

The liquidity ratios (table 4) show diametrically opposed scenarios between the bad firms and

those firms definable excellent in 2010. “Quick ratio” settles at an average of 60% for bad firms opposite to the balance of good firms (100%) and averages exceeding 150% for excellent firms. Evidently separate, and with opposite trends, we see the averages of the other solvency ratios and fixed assets coverage ratios. Both the “Current ratio” and the “Total shareholders’ equity / Total fixed assets” fall below parity for firms in default while as, on the other side, they show values that portray a strong solvency for excellent firms (“Current ratio” 2007 = 197%, “Total shareholders’ equity / Total fixed assets” 2007 = 490%).

This might suggest that, reversing the judgments, it’s possible to use the rating model built to detect insolvent firms also to sort the excellent firms. That situation, yet, is noticeable specially in the year prior to the default while, as we will assert in the epilogue, often a firm with an ample liquidity, tough responding to the minimum credit risk level, steps aside from the best firms for its negative influences, in terms of efficiency and productivity, exactly sprung by the excess of non-invested liquidity.

The financial ratios (table 5) don’t show any particular changes as time goes by. In other words, although less markedly than the liquidity ratios, in the three years prior to the event crisis or excellence, the averages remain constantly far between groups. I.e. “Total debt / Sales”, changes during the time only for bad firms. Substantially motionless the averages “Debt ratio” and “Current liabilities / Total debts”. The “Interest expense / Sales” grows gradually with time for firms insolvent in 2010 opposing to a perfect constancy for excellent firms. The stability over time could suggest that the financial indices are capable to distinguish the sample, even three years, for the excellence and thus not only when the state of crisis or the evolution to the excellence is to come.

Table 5. Financial ratios.

FINANCIAL RATIOS	BAD FIRMS			GOOD FIRMS			EXCELLENT FIRMS		
	2007	2008	2009	2007	2008	2009	2007	2008	2009
Interest expense / Total debt %	4.16	3.95	3.64	2.49	2.83	2.01	1.57	1.67	1.10
Gearing	0.70	0.76	0.51	0.40	0.36	0.27	-0.05	-0.16	-0.24
Total debt / Sales %	84.20	101.72	134.03	53.39	54.74	59.46	36.41	34.42	30.45
Current liabilities / Total debt %	84.57	84.65	82.61	88.32	87.44	85.64	89.88	91.79	89.89
Interest expense / Financial debt %	8.49	8.61	9.61	13.16	13.56	12.57	14.34	15.63	12.57
Interest expense / Sales %	3.41	4.10	4.94	1.40	1.63	1.31	0.59	0.58	0.35
Intercompany and shareholder debt / Assets %	4.05	3.24	3.79	5.74	6.13	6.53	5.02	4.78	4.77
Debt ratio %	78.73	81.21	84.03	70.04	66.26	64.32	50.62	45.43	39.99

Like it’s been disclosed in similar previous studies, the turnover ratios (table 6) have the flaw to get large grey zones where different situations and firms with their own destinies baffle with each others. I.e., the averages of the “Account receivable turnover” cannot accurately distinguish the sample for good and bad firms, causing large overlaps and numerous errors. In the same way the “Investment turnover” doesn’t differentiate the sample for excellent firms from that one for good firms. There aren’t so well-defined, moreover, the borders drawn by the averages of the other turnover ratios. That incapability depends at first on the numerator of those ratios, usually



represented by the total sales. In this way we notice a contraction of revenues for the bad firms when approaching to the default, opposed to an increase of revenues for the excellent firms. That case, added to opposite events in terms of variables at denominator, lets the index shiftless to take a sharp direction and a valid selective power.

Table 6. Turnover ratios

TURNOVER	BAD FIRMS			GOOD FIRMS			EXCELLENT FIRMS		
	2007	2008	2009	2007	2008	2009	2007	2008	2009
Account receivable turnover	7.65	15.23	22.13	11.17	10.72	12.65	8.37	7.32	10.94
Inventory turnover	19.66	15.29	83.25	64.89	77.52	80.54	44.94	50.73	38.28
Investment turnover	1.20	1.10	1.20	1.75	1.68	1.52	1.52	1.46	1.38
Trade payables turnover	3.37	6.33	23.78	6.87	6.95	7.03	3.48	3.73	3.57
Current liabilities / Sales %	69.21	83.61	99.94	44.50	44.55	46.87	31.99	31.16	26.86
Fixed assets turnover	39.52	50.18	53.18	21.40	29.17	34.14	17.76	21.63	23.51

The net profitability ratios (table 7) show the broadest parting in the averages of the single groups. In addition, it also occurs that, as time going forth, that gap gets ever higher. The most of indices formed by the cash flow, turn into negative yet one year prior to the crisis for the bad firms. Those economic indicators illustrate broad differentials already in the year 2007 for excellent firms. The operating cash flow, indeed, exceeds, in 2007, 14.17% of the total investment (6.53% for good firms), 32.58% of the current liabilities (12.55% for good firms) and 8.76% of the revenues (4.04% for good firms).

Table 7. Net profitability ratios

NET PROFITABILITY	BAD FIRMS			GOOD FIRMS			EXCELLENT FIRMS		
	2007	2008	2009	2007	2008	2009	2007	2008	2009
Operating cash flow / Total investment %	2.24	-3.71	-4.82	6.53	5.83	5.08	14.17	14.37	16.53
Operating cash flow / Current liabilities %	4.48	-4.16	-5.33	12.55	12.59	11.41	31.58	35.14	43.76
Operating cash flow coverage %	1.06	-0.63	-2.67	64.54	77.34	75.39	164.31	178.66	263.10
Extraordinary income %	-9.45	4.34	-10.88	-1.39	-0.79	-1.77	1.72	2.76	1.22
Operating cash flow / Sales %	2.36	-2.88	-4.44	4.04	3.75	3.51	8.76	9.25	10.84
Roe %	-11.40	-8.95	26.85	7.24	2.76	-1.25	22.89	19.72	20.14

Confirming the world economic crisis, it ought to be noted how those profitability ratios (table 8) have got a negative trend indeed. That's different matter for the averages of excellent firms when the maximum level standing is at the door, with the sole exception of "Roe" in slight decrease. Even among the operating profit ratios, gaps highlight between the averages of excellent firms and all the other firms: the "Ebitda", three years prior to excellence, is averaging 13.40% of the

revenues, compared to values well below for good firms (7.11% in 2007) and for bad firms (6.27% in 2007). The “Ros” (*return on sales*) too, describes similar conditions with a value of 10.34% for excellent firms, 4.40% for good firms and 2.75% for bad firms. The following year it’s to record an evident decrease for that index especially for bad firms, decrease that will be repeated and make worse the negativity even in 2009.

For some economic indicators it’s still hard to distinguish good firms and bad firms, primarily referring to 2007. The operating profit ratios, in fact, aren’t so valid to discriminate firms going to insolvency after three years.

Table 8. Operating profit ratios

OPERATING PROFIT	BAD FIRMS			GOOD FIRMS			EXCELLENT FIRMS		
	2007	2008	2009	2007	2008	2009	2007	2008	2009
Operating profit / Sales %	6.27	0.90	-1.52	7.11	6.57	5.75	13.40	13.01	15.01
Ros %	2.75	-5.02	-9.24	4.40	3.68	2.33	10.34	9.93	11.53
Gross profit / Sales %	19.51	16.00	13.77	19.02	19.27	20.03	25.22	25.28	28.38
Ebitda / Cost for employees %	87.47	37.05	6.45	105.08	94.50	81.78	170.20	170.40	176.77
Ebitda / Interest expense %	2.30	0.36	-1.42	203.56	262.60	239.92	551.60	566.96	767.80
Ebitda / Net financial position	0.23	-0.24	-0.39	-0.36	-0.42	-0.65	-0.78	-0.80	-1.52

The efficiency ratios (table 9), at last, show a fair capability to separate the sample and do it already in 2007. That’s evincible above all looking at the trend of the “Roi” (*return on investment*) which was 17.08% three years before the excellence for best firms, 7.61% for good firms and 2.92% for bad firms. It’s evident, then, the selective power of the “Net working capital / Sales” (24.76% for excellent firms). Talking about the “Depreciation and amortization / Sales”, the “Total shareholders’ equity / Sales” and, less markedly, the “Cash / Sales”<sup>xvi</sup> it’s confirmed the considerations made with respect to turnover ratios.

Table 9. Efficiency ratios

EFFICIENCY	BAD FIRMS			GOOD FIRMS			EXCELLENT FIRMS		
	2007	2008	2009	2007	2008	2009	2007	2008	2009
Ebit / Total liabilities %	3.82	-5.51	-9.07	11.06	9.74	6.97	29.53	30.19	36.47
Cost for employees %	12.71	16.02	19.17	11.52	12.27	14.02	11.54	12.01	13.27
Ebitda / Total investment %	6.10	0.03	-2.06	11.22	9.73	8.08	21.41	19.98	22.79
Depreciation and amortization / Sales %	3.42	5.82	8.75	2.58	2.72	3.20	2.85	2.86	3.18
Roi %	2.92	-5.12	-8.09	7.61	6.17	4.25	17.08	15.77	18.19
Roa %	2.70	-4.19	-6.60	6.30	5.11	3.32	13.92	12.88	14.22
Net working capital / Sales %	3.87	-7.74	-19.04	11.52	11.47	14.57	24.76	27.66	32.64
Total shareholders’ equity / Sales %	21.34	21.04	16.44	20.09	25.77	30.70	34.11	41.91	48.20

#### 4. EMPIRICAL ANALYSIS

Indicating  $p_i$  as the probability that the  $i$ -th firm join, after three years, the group of the studied firms (first in default, then the excellent ones),  $x_{1-56}$  as the set of the 56 financial statement variables,  $k$  as constant and  $\beta_{1-56}$  as the coefficients of the aforementioned variables, it's possible to write the logistic model, in which the probability is a linear function of the indicators and the model parametres ( $\beta_{1-56}$ ) are reckoned via the maximum likelihood estimation in the following manner:

$$p_i = f(k + \beta_1 x_1^i + \beta_2 x_2^i + \dots + \beta_{56} x_{56}^i) = \frac{1}{1 + e^{-(\alpha + \beta_1 x_1^i + \beta_2 x_2^i + \dots + \beta_{56} x_{56}^i)}}$$

That way  $p_i$  is included in the range (0; 1) and represents the probability of an event to occur, considering  $p$  as dichotomus variable that assumes the value “1” if the  $i$ -th firm is insolvent or excellent in 2010 and the value “0” otherwise. The dataset of the 56 explanatory variables, as already illustrated, includes the financial statement ratios referring to 2007.

The results of the logistic regression through the forward stepwise procedure<sup>xvii</sup> are shown below. The model we adopted allows a massive use of all the variables starting from the index which can express the most predictive strength. Next step instead stands for detecting the best combination of explanatory variables of a regression, assuming a relationship of cause – effect among the identified “ $x$ ” inputs.

The results of the stepwise regression are reported below considering the event searched and the model used.

In Table 10 there are the results of the forward stepwise regression that considers the 56 financial ratios selected by determining the probability of default on the sample of the manufacturing firms. The Tables show the coefficients ( $\beta$ ) for the significant factors at a level between 1% and 5%. “S.E.” stands for the standard error of the estimated coefficients.

Table 10. Stepwise logistic regression - Event: default - Sample: manufacturing firms

	$\beta$	S.E.	Wald	Exp( $\beta$ )
Interest expense / Total debt	0,492	0,055	80,574	1,636
Current liabilities / Sales	0,011	0,003	11,302	1,011
Current liabilities / Total assets	0,027	0,008	12,721	1,027
Borrowings / Total assets	0,034	0,006	31,694	1,035
Cash and bank deposit / Total assets	-0,050	0,017	8,763	0,951
Trade receivables/ Total assets	-0,035	0,007	23,946	0,966
Quick ratio	0,008	0,003	7,193	1,008
Intangible fixed assets / Total assets	0,039	0,014	7,468	1,040
Constant	-7,397	0,649	129,853	0,001

Table 11. Stepwise logistic regression - Event: excellence - Sample: manufacturing firms

	$\beta$	S.E.	Wald	Exp( $\beta$ )
Cost for employees / Ebitda	-0,075	0,027	7,721	0,928
Ebit / Total liabilities	0,037	0,005	66,045	1,038
Interest expense / Financial debt	-0,016	0,006	6,857	0,985
Interest expense / Sales	-0,854	0,159	28,912	0,426
Constant	-2,768	0,210	174,533	0,063

In the Table 11 the same examination, above described, has been developed seeking, in this case, the firms that are to enter the class of excellent firms after three years using the sample of the manufacturing firms.

In Table 12 we will use the sample of the commercial firms to study the default-cases after three years. The logistic regression, therefore, will be set in order to specify a discriminant function capable of isolating the 100 cases of bad firms from the remaining sample.

Table 12. Stepwise logistic regression - Event: default - Sample: commercial firms

	$\beta$	S.E.	Wald	Exp( $\beta$ )
Operating cash flow coverage	0,002	0,000	18,252	1,002
Cost for employees / Ebitda	-0,094	0,032	8,465	0,910
Gross profit / Sales	0,039	0,015	6,880	1,040
Net working capital / Sales	0,018	0,009	3,997	1,018
Account receivable turnover	-0,052	0,021	6,299	0,949
Interest expense / Financial debt	-0,036	0,016	5,177	0,964
Interest expense / Sales	0,446	0,087	26,255	1,563
Total shareholders' equity / Sales	-0,040	0,011	12,640	0,961
Quick ratio	-0,021	0,006	14,639	0,979
Intangible fixed assets / Total assets	0,056	0,021	7,105	1,058
Constant	-2,355	0,539	19,101	0,095

Below in Table 13 there are the results of the the stepwise logistic regression done over the sample of the commercial firms and calibrated for the research on the excellent firms.

Table 13. Stepwise logistic regression - Event: excellence - Sample: commercial firms

	$\beta$	S.E.	Wald	Exp( $\beta$ )
Inventory turnover	-0,002	0,001	6,754	0,998
Interest expense / Financial debt	-0,043	0,011	15,042	0,958
Debt ratio	-0,029	0,008	12,976	0,971
Borrowings / Total assets	-0,021	0,012	3,158	0,980
Current assets / Total assets	-0,025	0,007	13,402	0,975
Inventory / Trade receivables	-0,009	0,003	9,375	0,992
Roa	0,135	0,017	59,852	1,144
Constant	0,679	0,702	0,934	1,971

In Table 14 the whole available sample has been taken on. The logistic regression, indeed, had been calculated on the 5,000 firms and with, as a dependent variable, the firm's default after three years.

Table 14. Stepwise logistic regression - Event: default - Sample: all firms

	$\beta$	S.E.	Wald	Exp( $\beta$ )
Operating cash flow coverage	0,001	0,000	10,807	1,001
Account receivable turnover	-0,010	0,004	8,276	0,990
Investment turnover	-0,303	0,149	4,125	0,739
Interest expense / Total debt	0,450	0,046	97,022	1,568
Total debt / Sales	-0,020	0,007	8,583	0,980
Trade payables turnover	0,005	0,003	3,539	1,005
Current liabilities / Sales	0,037	0,009	16,405	1,037
Long term liabilities / Total assets	0,027	0,012	5,458	1,028
Borrowings / Total assets	0,034	0,006	33,102	1,035
Trade payables / Total assets	0,029	0,006	20,794	1,029
Cash and bank deposit / Total assets	-0,030	0,013	5,678	0,970
Total receivables / Total assets	0,030	0,008	14,127	1,031
Trade receivables / Total assets	-0,048	0,008	32,833	0,953
Intangible fixed assets / Total assets	0,042	0,012	12,493	1,043
Constant	-6,805	0,525	167,795	0,001

In Table 15, at last, it's expounded the results of the logistic regression developed on the entire sample, searching for the event of excellence.

Table 15. Stepwise logistic regression - Event: excellence - Sample: all firms

	$\beta$	S.E.	Wald	Exp( $\beta$ )
Operating cash flow / Current liabilities	-0,028	0,007	16,704	0,972
Roi	-0,200	0,032	38,234	0,819
Gross profit / Sales	-0,856	0,319	7,187	0,425
Interest expense / Ebitda	-0,035	0,010	13,366	0,965
Ebitda / Total investment	0,129	0,026	24,250	1,138
Net working capital / Sales	0,012	0,006	4,184	1,012
Investment turnover	-0,814	0,221	13,504	0,443
Interest expense / Financial debt	-0,022	0,006	13,834	0,979
Current liabilities / Sales	-0,019	0,009	4,790	0,982
Debt ratio	-0,022	0,008	8,287	0,978
Borrowings / Total assets	-0,018	0,008	5,458	0,982
Inventory / Total assets	-0,021	0,006	11,060	0,979
Consolidated liabilities and equity / Total fixed assets	0,000	0,000	5,444	1,000
Roa	0,260	0,029	79,542	1,296
Constant	0,231	0,674	0,118	1,260



## 5. RATING SCALES AND MODEL VALIDATION

The construction of the rating scales occurs in connection with the type of sample used. In that way there will be six rating scales considering the six logistic functions remarked in the previous paragraph.

Given the values for a set of predictors, with the aid of logistic regression, we can foresee the probability that each observation belongs to class of excellent firms or class of bad firms. Our logistic model, for a binary response, determines the subdivision of the sample into ten classes equally numerous<sup>xviii</sup>. Using a logistic regression model, in fact, for each observation we would have 10% probabilities of belonging to each of the ten ordinal classes<sup>xix</sup>. To shape the optimal cut-off probability we have been making use of the technique of the median: Cut-off value for a two-class case is 0.5. This is done by setting a cut-off value, such that observations with probabilities above the average of the individual decile are categorized as belonging to upper class, and moreover observations with probabilities below this average are classified as belonging to lower class<sup>xx</sup>.

After splitting the sample into classes of membership we take a survey on the distribution of the cases of both default and excellence, in connection with the rating scale and the sample used.

On the other hand, model validation is established on the accuracy<sup>xxi</sup> level. The accuracy of a measurement system is the degree of closeness of dimensions of a quantity to that quantity's actual (true) value. As of the false positive or the false negative, they relate to default/excellence cases situated into the best/worst three classes of rating.

Table 16 summarizes the distribution of the cases of excellence and default as the used model varies.

Table 16. Distribution of cases of bankruptcy and cases of excellence within the rating classes

RATING	MANUFACTURING FIRMS				COMMERCIAL FIRMS			
	EXCELLENT		DEFAULT		EXCELLENT		DEFAULT	
	PD	PE	PD	PE	PD	PE	PD	PE
1	26	38	0	1	18	69	0	2
2	20	29	1	1	16	21	1	1
3	17	15	1	1	27	4	0	5
4	14	5	1	2	9	3	9	9
5	7	4	1	3	7	2	1	7
6	6	4	5	5	9	0	3	19
7	6	3	6	7	4	0	1	15
8	2	1	10	16	7	0	10	21
9	1	1	22	18	2	1	21	14
10	1	0	53	46	1	0	54	7
TOT	100	100	100	100	100	100	100	100
TRUE %	63.00	82.00	85.00	80.00	61.00	94.00	85.00	42.00
FALSE %	4.00	2.00	2.00	3.00	10.00	1.00	1.00	8.00

In the last lines you may count the number of correct classifications and the number of errors. The “PE” column points out the sample classification considering the logistic regression formulated in order to seek the excellence (PE = “probability of excellence”); again, the “PD” is

the model of rating calculated considering the logistic regression formulated in order to seek those firms going to insolvency (PD = "probability of default").

The 100 cases of "excellent firms" being part of the sample of the manufacturing firms are well detected by the aid of the discriminating model calibrated to the probability of excellence. A good 91 firms out of 100 are collocated into the first five classes of creditworthiness, 38 firms in the first class and no one in the last zone. On the other side it is much more uncertain the distinction of cases exploiting the probability of default. 33% of cases of excellence, indeed, it's in central areas of rating.

As of the cases of bad firms, instead, a discrete performance of both models occurs. Using the probability of default, false classification is of 2% with 53 cases found in the worst class of rating. Using the probability of excellence, although one may attribute to the model a discrete function, more cases of bad firms are manifestly inserted into central classes of rating as well as one case of insolvent firm ranked in the higher standing zone.

Passing to the sample for commercial firms, the trend of the distributions is not too dissimilar from the rest. The performance of the model calibrated to the probability of excellence is optimal in order to mark just the firms getting excellent after three years (99% of excellent firms is included in the first five rating classes). In the Table 16 one sole error is underlined and even 69 excellent firms reach the higher standing class. Using the probability of default the misclassifications increase unequivocally; ten excellent firms are ranked inside the worst three rating classes while in the highest standing class there are only 19 out of 69 excellent firms selected via the probability of excellence.

Unlike the sample of manufacturing firms, the research of bad firms inside the array of commercial firms is strongly conditioned by the statistical method used. Particularly, in fact, with the probability of default it's feasible to correctly rank about 85% of insolvent firms. Only one bad firm has been incorrectly classified as good firm and over 50% of the subset has got the lowest rating. Using instead the probability of excellence, much more errors occur and, above all, the performance of correct classifications quickly decreases. Only 42% of bad firms, in fact, are in the last three classes of creditworthiness. 50% of insolvent firms, finally, are ranked at central classes of rating.

Table 17 illustrates the distribution of excellent firms and bad firms using, on the entire sample, the logistic regression built first seeking the cases of bankruptcy (probability of default) and, then, cases of excellence (probability of excellence). As viewed for sub-samples of manufacturing and commercial firms, it's evident a discrete performance about the model when the studied event corresponds to that event the model calibrated. In details, it's appreciable indeed the capability to discern the sample of excellent firms when using the rating model built with the probability of excellence. 180 firms out of 200 cases of excellent firms are situated in the first three classes. Just three errors occur and are 1.50% of cases. Top too the discriminatory capability of the model, based on the probability of default, to sort just the 200 cases of firms turning into an insolvency in 2010. Even here three misclassifications occur while as 112 cases reach the worst rating class.

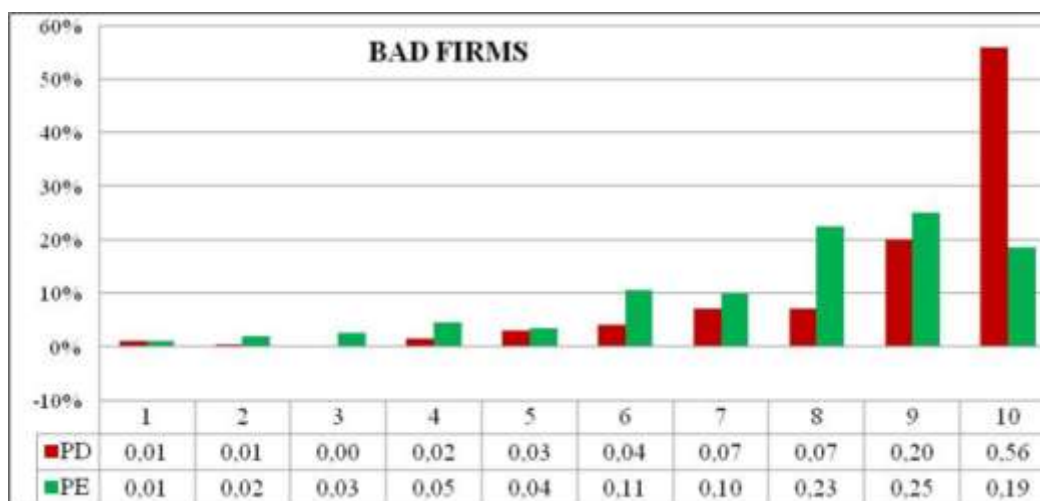
By the same token, replying to that question put into the premise, it's unlikely to correctly detect bad firms using the probability of excellence and, first of all, excellent firms for the probability of default. A rating model calibrated to the default isn't suitable, that's it, to identify firms going efficient and more productive after three years (excellent firms).

Table 17. Distribution of cases of bankruptcy and cases of excellence, in whole sample, within the rating classes

RATING	WHOLE SAMPLE			
	EXCELLENT		DEFAULT	
	PD	PE	PD	PE
1	42	98	2	2
2	39	62	1	4
3	39	20	0	5
4	38	9	3	9
5	14	4	6	7
6	15	3	8	21
7	3	1	14	20
8	4	0	14	45
9	4	2	40	50
10	2	1	112	37
TOT	200	200	200	200
TRUE %	60.00	90.00	83.00	66.00
FALSE %	5.00	1.50	1.50	5.50

The empirical tests allow us to differentiate the performance of different structural models. Despite the superior performance of “PD model”, it seems that a percentage of default risk remains unexplained suggesting that there might other variables that affect the variability of excellence or default. Nonetheless, it is evident that the overall performance of “PD model” is better than “PE model” in explaining the variation in probability of default in our sample. The overall performance of “PE model”, on the other side, is found to be higher than “PD model” in explaining the variation in probability of excellence.

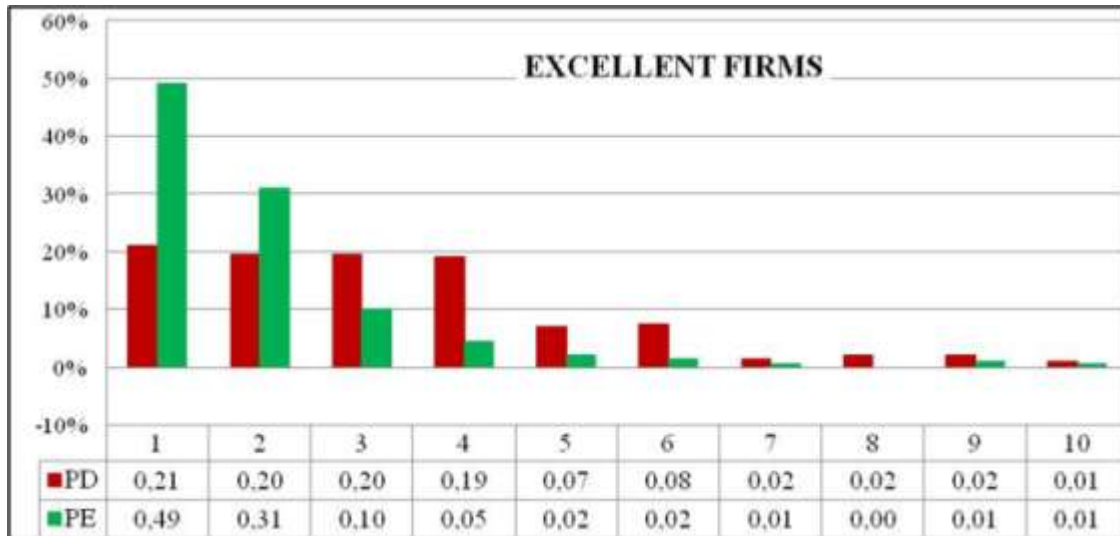
Figure 1. Distribution of the number of bad firms by rating class, with the rating classes determined by the “PD model” and “PE model”





Moreover, the explanatory power of the logistic regression for excellence event of the “PE model” is higher than observed by other studies in the literature regarding the research for cases of bankruptcy.

Figure 2. Distribution of the number of excellent firms by rating class, with the rating classes determined by the “PD model” and “PE model”



Figures 1 and Figure 2 provide the distribution of excellent firms and bad firms, in the whole sample, for each rating class of all two methodologies. It is weighted by the number of observations attributed each class by each rating methodology.

The common measures of performance are used to assess how well the logistic model does<sup>xxii</sup>. In this study the measure of performance of models is the quantity (percentage) of firms correctly classified. Accurate classification can be obtained from the error matrix for the validation data. The error matrix gives a sense of the classification accuracy and what type of misclassification is more frequent. From the error matrix and error rates in Table 18 it's absolutely visible how much the model does better in classifying excellent firms correctly, and is less accurate in classifying bad firms.

Table 18. Error matrix

		SENSITIVITY	SPECIFICITY	ACCURACY
MANUFACTURING FIRMS	PD	63.0	85.0	74.0
	PE	82.0	80.0	81.0
COMMERCIAL FIRMS	PD	61.0	85.0	73.0
	PE	94.0	42.0	68.0
ALL FIRMS	PD	60.0	83.0	71.5
	PE	90.0	66.0	78.0

Epitomizing the performances of the models viewed, albeit a slight way, it's clear that a model built in order to predict any excellence is more suitable than a more classic model of bank rating.

That's as for the abundance of misclassifications.

Insofar as above, if one wants to venture, risking more "false positive error" (Type I error), then it might be more accurate a method of analysis and selection oriented to seek the best firms, the most productive and those which create greater prosperity. However, considering though the different cost of the misclassification, the larger risk taken is not adequately counterbalanced by the bigger overall classifications. It's quite evident that there is a non-symmetric cost structure such that one type of misclassification is more wasteful than the other. For this very fact, the cut-off value should be selected to minimize the cost of errors. The aim of the "tweaking" will be to identify those firms most likely to be insolvent with a more gradual adjustment so reduce the misclassifications on cases of bankruptcy or allaying its effects.

## **6. CONCLUSIONS**

Our study begins with a particular definition of "excellent firm" borrowed from the already existing literature. Starting from that definition, we describe the peculiar quantitative characteristics that depict it.

As a first result, we have detected a set of indicators, elicited from the financial statements, that allows us to predict which ones will be, after three years, the excellent firms. Obtained results have shown the statistical significance of the financial structure of a firm, of operating profitability ratios, of efficiency ratios and turnover ratios.

The same statistical method has been applied to a sample of insolvent firms since we extrapolated those indicators suitable to predict which will be the insolvent firms during the same period. The indicators of capital structure and the financial ratios demonstrated ability to predict for a satisfactory future. Both as for excellent firms and as for bad ones, indices for asset composition, liquidity ratios and net profitability ratios are poorly predictive, although the average values taken from those indicators were deeply different between the two families of firms. The indicators fitted to predict the excellence are different from those aimed to foretell the insolvency. Nevertheless the capital/economic/financial structure in an excellent firm is distinct from that one in a non-insolvent firm.

We can therefore state that a firm with a very low probability of default is a solvent firm, but not necessarily a successful one. So, to identify an excellent firm it's not sufficient to conversely render the default probability. According to the mentioned model, a firm with a low probability of default, that is with an excellent rating associated to, will be, i.e., characterized by high values taken from financial ratios, but no one can assure us it's also an efficient firm and/or with a solid operating profitability. This follows from the distribution of cases of default in the rating scales constructed by seeking the excellence, and vice versa.

So, especially in one historical moment characterized by the liquidity problems of intermediaries and the lack to access the credit for firms, to frame assessments of creditworthiness about traditional rating systems is to allow to entrust firms that probably will not become insolvent within the reference time, but it may not ensure a support for excellent firms. To uphold firms distinguished by efficiency, productivity, internal organization, strategic vision, is equal to provide possibilities of developing towards firms that create wealth and opportunities for the district, for the chain, for the territory: it's at least necessary to find out firms equipped to become excellent. Our work clearly underlines that this goal cannot be achieved with credit policies focused on the use of a system of rating calibrated to seek the defaults. It may be

necessary, as well as profitable, to deepen the empirical evidence we described in a model of "rating of value."

## ACKNOWLEDGEMENT

The authors wish to thank Four Finance Sas for making available the test sample and for having assembled the 5,000 financial statements analyzed, Michele Ruggieri for the translation work and the boys of *Genchi's house* who kindly provided comments on earlier versions of this paper and for constructive suggestions that have helped us improve the paper substantially. All errors and omissions as usual rest with the authors.

This paper is devoted to the little angel Aldo Colucci for his courage and his dignity.

## REFERENCES

- Altman, E. I., Sabato, G. (2007). Modelling credit risk for SMEs: evidence from the U.S. market. *Abacus*, 43(3): 332-357.
- Barontini, R. (2000). *La valutazione del rischio di credito*. Bologna (Italy): Il Mulino.
- Bartoli, F., Ossoli, G. (2009). *Valore d'impresa e valore tangibile. Una metodologia per la valutazione delle aziende*. Milan (Italy): FrancoAngeli.
- Bufera, L. (2003). L'impresa eccellente socialmente capace. *Impresa e Stato*, 58.
- Caruso, E. (2000). *L'eccellenza nelle imprese*. Milan (Italy): FrancoAngeli.
- De Laurentis, G., Maino, R. (2009). *I rating a base statistica*. Rome (Italy): Bancaria Editrice.
- Fama, E. (1970). Efficient capital markets: a review of theory and empirical work. *Journal of Finance*, 25(2): 383-417.
- Gai, L. (2008). *Il rating delle PMI. Un approccio metodologico per banche, confidi e intermediari finanziari*. Milan (Italy): FrancoAngeli.
- Gallino, L. (2005). *L'impresa irresponsabile*. Turin (Italy): Einaudi.
- Guatri, L. (1986). *Crisi e risanamento dell'impresa*. Milan (Italy): Giuffrè.
- Guiso, L. (2003). Small business finance in Italy? *EIB Papers*, 8 (2): 121-149.
- Hosmer, D. W., Lemeshow, S. (2000). *Applied Logistic Regression* (2nd ed.). New York: John Wiley & Sons.
- Lo Martire, G. (2002). *L'analisi di bilancio con la metodologia degli indici di gestione*. Milan (Italy): FrancoAngeli.
- Marcantoni, M., Torresani, A. (2000). *Guida alla vision 2000*. Milan (Italy): FrancoAngeli.
- Marco, G., Varetto, F. (1994). *Diagnosi delle insolvenze e reti neurali. Esperimenti e confronti con l'Analisi Discriminante Lineare*. Rome (Italy): Bancaria Editrice.
- Merli, G., Saccani, C. (1994). *L'azienda omonico-virtuale*. Il Sole 24 Ore Libri.
- Moglia, T. (1998). *Partner nella performance*. Milan (Italy): FrancoAngeli.

- Montrone, A. (2005). *Il sistema delle analisi di bilancio per la valutazione dell'impresa*. Milan (Italy): FrancoAngeli.
- Muscettola, M. (2007). *Come migliorare il rating*. Milan (Italy): FrancoAngeli.
- Muscettola, M. (2010). *Analisi di bilancio ai fini dell'accesso al credito*. Milan (Italy): FrancoAngeli.
- Muscettola, M., Gallo, M. (2008). *Analisi e gestione del rischio di credito. Il progetto Mayflower*. Milan (Italy): FrancoAngeli.
- Muscettola, M., Pietrovito, F. (2012). La rilevanza delle variabili finanziarie nel rating: i risultati di un'analisi empirica sulle PMI italiane. In V. Formisano, Modena M., (Eds.). *Il rating tra impresa, banca e territorio*, 325-347. Sinergie, Rapporti di Ricerca, n. 36.
- Muscettola, M., Pietrovito, F. (2012). Le caratteristiche delle imprese insolventi. In V. Formisano, Modena M., (Eds.). *Il rating tra impresa, banca e territorio*, 303-324. Sinergie, Rapporti di Ricerca, n. 36.
- Nadotti, L. (2002). *Rischio di credito e Rating interno*. Milan (Italy): EGEA.

---

## Endnotes

<sup>i</sup> We tried not to overdo the generalization of the sample, to avoid a trivialization in terms of results and, by the same token, the strong specialization bringing an incapability of the output.

<sup>ii</sup> North Italian SMEs with revenues between 5 and 50 million euro.

<sup>iii</sup> The conclusions reached by Altman and Sabato (2007) confirm the need to use a specific forecasting model for SMEs instead of adapting the instruments already built on generic samples.

<sup>iv</sup> These yearly statements belong to 5,000 unique firms, from 2007 to 2009, of which 200 have had at least one defaulted loan in 2010 and 200 we ranked as excellent firm in 2010 provided by FourFinance Sas who assembled, cleaned, regulated and reclassified financial statements collected from multiple databases as, above all, Cerved Group Spa. Concerning to the creation of the statistical model, the preliminary operations on the data, the choice of the outliers and the creation of financial ratios the reader ought to refer only to the authors.

<sup>v</sup> We excluded from the analysis all those firms which got to insolvency in 2007, 2008 and 2009.

<sup>vi</sup> To obtain a working model, empirically verifiable during the time and transferable (through time and space), it's used to manage clear and valid sources of information and accessible data that may be measured all time long (Gai, 2008). For that focus, we simplified the sorting of the segments of the sample and built the model with a non-exceeding series of variables associable with data always fairly conspicuous and reachable.

<sup>vii</sup> It is assumed that it is not easy to define what are the "outliers", because there is no universal rule that explains the "normal" values.

<sup>viii</sup> Missing values are substitute with averages relating to the percentile of reference by a predetermined table.

<sup>ix</sup> The bank determines that the borrower is unlikely to pay its obligations to the bank in full, without recourse to actions by the bank such as the realization of collateral; or the borrower is more than 90 days past due on principal or interest on any material obligation to the bank.

<sup>x</sup> This refers to debt sustainability, affordability business, low debt burden, the efficiency of management, the competitive strength and the ability to generate appropriate cash flow.

<sup>xi</sup> It's explicitly referred to the corporate leverage and to the business gearing. In this case, it's considered structurally efficient that firm with both a leverage ratio (net financial position/equity) less than 0.15 and a gearing ratio less than 0.25 in 2010.

<sup>xii</sup> Among the best known models: linear or multivariate discriminant analysis, logit or probit model and neural networks.

<sup>xiii</sup> The greatest fault of discriminant analysis with bootstrap methodology is the heavy commitment into restoring the initial proportions at the time of inference based on single sample (Varetto, 1998), practice exposed to a significant and questionable subjectivity which can affect the model stability.

<sup>xiv</sup> Particular importance in the development of indicators has been devoted to the writings of Muscettola (2010), Montrone (2005) and Lo Martire (2002).

<sup>xv</sup> The number of variables used represents indeed a necessary but not satisfactory condition to obtain a valid and working model. The main fault to avoid is primarily the overfitting and multicollinearity in presence of too many variables.

<sup>xvi</sup> This indicator is one of liquidity ratios already seen.

<sup>xvii</sup> The methodology is to include a factor for a time starting from the most significant variable.

<sup>xviii</sup> A rating on a scale of 1 to 10 where 1 is best, 10 is worst, and each number corresponds to an increment of 10 percentage points.

<sup>xix</sup> Ordinal classes are sessions that have a consequential order. There are several ways to extend the binary-class case. In this paper we define the cumulative logistic method. Here, in fact, we look at cumulative probabilities of class membership. For other methods see (Hosmer and Lemeshow, 2000).

<sup>xx</sup> The motivation is to give an observation to the class in which its probability of membership is highest. The overall precision is designed for many values of the cut-off value, and the cut-off value that obtains maximum accuracy is chosen. Other approaches to maximizing accuracy, and to avoid problem of overfitting, are to maximize sensitivity subject to a quantity of least level of specificity or, in another words, to minimize false positives subject (Type I Error) to some maximum rate of false negatives (Type II Error). It is important, finally, don't oversee the cost-approach and to find a cut-off value that minimizes the estimated cost of error. In this instance one must identify the misclassification costs and the prior probabilities of belonging to each class.

<sup>xxi</sup> Accuracy is also used as a statistical measure of how well a binary classification test correctly detects or rejects a condition. The accuracy, in fact, is the percentage of true results (both true positives and true negatives) in the population.

<sup>xxii</sup> There are various performance measures. The most popular ones being methods based on the confusion matrix (accuracy alone or combined with costs) and the lift chart. The purpose is to find a model that accurately classifies observations to their class, using only the predictor data.



# Exploring the Common Roots of Culture, Politics and Economics

**Maurice Yolles**

*Centre for Creating Coherent Change and Knowledge (UK).  
e-mail: prof.m.yolles@gmail.com. Corresponding author*

**Gerhard Fink**

*Emeritus Professor, Vienna University of Economics and Business, International Business,  
Vienna , Austria. e-mail: Gerhard.Fink@wu-wien.ac.at.*

*Published online on April 1, 2013.*

*DOI: 10.7350/BSR.V07.2013 – URL: <http://dx.medra.org/10.7350/BSR.V07.2013>*

## ABSTRACT

*The 2008 recession resulted from the failure of financial institutions including banks, due to their uncontrolled self-indulgent financial practices leading to a severe economic crisis. Policy options to resolve the recession that has resulted from the crisis included financial sector restructuring or bail-outs on the assumption that the banks are generally moral and trustworthy organizations. A bail-out policy required debt servicing which has led in the European Union to measures of austerity, damaging social fabrics and hurting the more vulnerable. An alternative policy in the US has been to borrow more to stimulate economic growth the result of which should be a servicing of the debt. The economic crisis was not predicted by any economic models. Prediction of the crisis by economic models failed. After the Lucas Critique which says that economic and political processes are both important to economic theory, political processes have tended to be reflected in economic models. The policy options of austerity and investment can be associated respectively with the culturally based political modes of Individualism (methodological individualism) and Collectivism (collectivistic methodological institutionalism). The making of economic policy arising from either of these political modes is seen by some to be an inadequate basis for developing a sustainable economic society, implying the need for improved socio-economic modelling basis that reflects culture. A new culturally based economic meta-model is developed, where cultural orientation is a driver for a strategic economic agency and the formation of economic policy. The meta-model enables the modelling of the relationship between cultural, economic and political processes using cybernetic agency theory, and specific propositions can be introduced to generate specific models. The meta-model that arises can assist in the understanding of complex socio-economic processes. The meta-model adopts trait-based agency theory, the strategic economic agency that is constituted as an agency's normative personality from which political orientations and the anticipation of classes of decision making behaviour can develop. The paper shows that Individualism and Collectivism can be seen as a subset of the broader mindscape theory, reformulated here for the meta-model.*

**Keywords:** Recession, Status quo, Bank deficits, Policy, Socio-economic system, Macroeconomics, Strategic economic agency, Normative personality, Traits, Mindscape theory.

## 1. INTRODUCTION

This paper addresses the ability of policy makers to create macroeconomic policy not only under politically undisturbed conditions, but also during crises. The interest in this issue has arisen because of the current economic crisis, which will help create a frame of reference. In perusing this interest we will look briefly at how economic theory tends to assist policy makers in making economy policy. The strategy of this paper is to take a summary view of economic theory and its development as it has passed from neoclassical theory to modern theory. Following the *Lucas Critique* (Lucas, 1976), economic theory began to embrace policy makers. This has led to some work in the literature that explores the connection between macroeconomics and policy making, where it is noted that during crises this is affected by power shifts and regime change (Coats, 1969; Dolphin & Nash, 2011: 13), a notion that is supported by theory concerning the dynamics of complex systems. This leads to the realisation that there is a need to explore both human and political dimensions. Costanza, Wainger, Folke & Miler (1993) note that economic policy also needs to embrace cultural theory. To take this forward, we shall present a meta-model that formulates a relationship between culture, sociocultural dynamics and socio-political orientations that contribute to the formation of economic policy. This meta-model arises from cybernetic theory, and develops the concept of normative personality from which the orientation of an organisation and its potential for behaviour can be ascertained. This personality is then explored in terms of mindscape theory.

The situation of interest relates to 2008 and 2009 when the world economy experienced its worst ever financial crisis caused by a US relaxation of the constraints on financial institutions and their responsibility in making loans, resulting effectively in unsecured lending and in due course a collapse in the sub-prime market resulting in uncountable failures and financial disasters. It has resulted in the deepest recession since the 1930s. According to the IMF in 2011, global GDP contracted by 0.5 per cent in 2009 – the first annual fall in GDP in the post-war period (Dolphin & Nash, 2011). More, real GDP in the advanced countries fell by 3.4 per cent, and the banks were bailed out by their host nations thus creating a mountain of debt that has been responsible for an economic disaster in Europe and the US, and has destabilised the Euro.

To deal with the crisis there has been argument that the policies which have been pursued are politically distinct, there being two approaches: austerity and stimulation. These policy positions can be related, not so much to right and left politics, but rather to one of two ideological positions: Individualism and Collectivism. This drives us to look more critically at these two cognitive positions. For some economics is identified with individualism, a theme that Davis, Marciano & Runde (2004: 21) have interest in when they say that “close examination of the underlying claims [of Individualism] making such explanations raise a number of difficult philosophical issues. One of the most challenging concerns the requirements for reducing statements about social phenomena to statements about individuals...Another fundamental issue involves what constitutes the ‘best’ explanation in science or in economics. These more philosophical questions return us to economic methodology’s epistemological concerns, but no less important are the ontological ones the topic of individualism raises. When we privilege individualist explanations in economics, do we believe that only individuals exist? That society

itself does not exist?” Nozick (1977: 359; cited in Davis, Marciano & Runde, 2004: 121) notes critically that methodological individualism is quite distinct from the more Collectivistic methodological institutionalism, so why are economists not equally methodological institutionalists? Neither individual nor institutional factors have legitimate explanatory primacy, and the idea that all explanations have ultimately to be in terms of individuals (or institutions) is thus unfounded. This leads us to consider that nature of Individualism and Collectivism, and the consequential political and hence policy dynamics that result.

Finally, an alternative model will be presented which reflects on Bandura’s (2006) realisation that Individualism, Collectivism, or indeed a Collective Individualism balance between the two cannot hope to respond to the sort of challenge that the economy is passing through. More, it is explained that given the right model, it should be possible to anticipate policy tendencies and hence macro-economic processes.

## **2. BACKGROUND TO THE CURRENT PROBLEM**

In 2008 and 2009 the world economy experienced its worst ever financial crisis, initially caused by a US relaxation of the constraints on its financial institutions and their responsibility in making loans. It has resulted in unsecured lending leading to a collapse in the sub-prime market (composed of people with questionable credit ratings who have sought to secure home loans), and resulting in uncountable failures and financial disasters. A consequence has been the deepest recession since the 1930s (Dolphin & Nash, 2011).

The crisis resulted from a combination of complex factors that draws on the relationship between smaller-scale microeconomic behaviour (concerned with the market behaviour to understand the decision-making process of firms and households, the interaction between individual buyers and sellers and the factors that influence the choices made by buyers and sellers, patterns of supply and demand and the determination of price and output in individual markets, and the effects of national economic policies), and larger-scale macroeconomics (concerned with such conditions as growth, inflation, unemployment, balance of payments, and key macroeconomic variables like interest rates, money supply, and foreign exchange rates). However, macro-economics is related to micro-economics in that the former can be modelled to exist as a systemic basis for emergent macroscopic processes (Goldspink & Kay, 2004; Dopfer, Foster & Potts; 2004; Gibson, 2008). More particularly for Lavin & Coburn (2011), it was high risk lending by U.S. financial institutions, regulatory failures, inflated credit ratings, and high risk, poor quality financial products designed and sold by some investment banks, and financial poor models that contributed to the development of the financial crisis.

The knife edge of the problem came from US policy that deregulated the provision of credit during the period 2002–2008, allowing high-risk lending and borrowing practices. Substantial changes were made to the banking industry that resulted in the relaxation of the rules under which banks operated, and the encouragement of risk-taking. In 1994 a novel relaxation was created by Congress to explicitly authorise interstate banking, permitting federally-chartered banks to open branches nationwide more easily than before. Perhaps relatively harmless on its own, in addition more macroscopic deregulation occurred in 1999 with the repealed Glass-Steagall Act of 1933. This had required organisations concerned with investment (banks, investment banks, securities firms, and insurance companies) to operate separately, and the repeal allowed them to openly merge operations (Levin & Coburn, 2011). Developing further on



these deregulatory macroeconomic policies, in 2002 the US Treasury Department along with other federal bank regulatory agencies altered the way capital reserves were calculated for banks - effectively allowing them to hold less capital in their reserves than if the individual mortgages were held directly on the banks' books. More, two years later the U.S. Securities and Exchange Commission (SEC) relaxed the capital requirements for large broker-dealers, allowing them to grow even larger, often with borrowed funds. Having let the deregulatory genie out of the bottle only then to discover its malevolence, in 2005 SEC attempted to assert more control over the growing hedge fund industry by unsuccessfully requiring certain hedge funds to register with the agency, an attempt that was overturned in a Federal Court of Appeals in 2006.

This tendency towards unbounded deregulation has not been a problem for the US alone. Countries of the European Union were also pursuing policies of deregulation that broadly paralleled those of the US over the last half century with, according to Eichacker (2012), the development of competitive forces and political shifts to the right (or more correctly towards political Individualism, or within the context of economics methodological individualism).

This provides a serious illustration of the dramatic problem situations that can arise when idealistic deregulatory trails of poorly considered and partisan patterns of macroeconomic policy develop, leading to unbridled microeconomic dynamics that highlight policy failure. Such policy set the scene for the 2008 crisis that involved conflicts of interest in regulatory bodies, inadequate control processes (e.g., the failure of regulators, the credit rating agencies, and the market itself), no control of financial excesses, and ultimately the use of the wrong models to guide control processes (Levin & Coburn, 2011). This especially includes a lack of understanding of the complex dynamics of microscopic processes from which macroscopic processes arise.

The issue of conflicts of interest for some (e.g., Ferguson, 2010) are also reflective of corrupt practices that imply issues of ideology and ethics. An argument to support such a view can be made quite easily. For instance Barclays Bank was fined the token sum of UK£290m in June 2012 by the Financial Services Authority in the UK, and the Commodity Futures Trading Commission and Department of Justice in the US. It seems that for four years (2005-2009) Barclays lied about the interest rate it had to pay to borrow, to make the bank look more secure during the financial crisis and, sometimes - working with traders at other banks - to make a profit. This was one of the pegs that encouraged the UK Member of Parliament Steve Collins to refer to the banking sector as a sewer of dishonesty. As a consequence of its behaviour, Barclays Bank lost its Chairman, CEO and COO, forced out of office for corrupt practice in relation to Libor. However, there are indications of complicity as there are indications that the NY Fed and US Treasury Secretary knew since April 2008 that Barclays was misreporting its Libor submission (Pabst, 2012), and possibly working as a cabal (Before its News, 2012). Beyond Libor, Stibor (Sweden's main interbank rate), Sibor (the leading rate in Singapore), and Tibor (the rate in Japan) are among others facing fresh scrutiny because, like Libor, they are based on banks' estimated borrowing costs rather than real trades. In some cases these rates may be easier to rig than Libor, as fewer banks contribute to their calculation (Vaughan & Finch, 2012). Vaughan & Finch further note that regulators and industry groups now wish to determine whether other benchmark rates have been manipulated similarly. Thus: Sweden's central bank, the Japanese Bankers Association, the Monetary Authority of Singapore and South Korea's Fair Trade Commission have all announced probes into how their domestic rates are set; traders at Deutsche Bank, HSBC Holdings Plc (HSBA), Societe Generale SA and Credit Agricole SA are under investigation for interest-rate manipulation. Yet more, Citigroup Inc. and UBS AG were

also ordered to suspend some operations in Japan in December 2011 after the Financial Services Agency found their employees attempted to influence Tibor to a “favourable level” for derivatives trading. Citigroup was banned from any trading tied to Libor and Tibor for two weeks and UBS received a one-week suspension. While interest rate fixing seems to be an easy target for banks, it is not the only area of possible corrupt practice. JPMorgan Chase, the largest US bank, is being investigated for energy-market manipulation (Klimasinska & Kopecki, 2012), while the US base of the HSBC bank is being accused of drug money laundering. More, Bankia, a leading Spanish Bank, is being investigated for practices of Fraud, embezzlement and stock price manipulation. Among those accused of being involves is Rodrigo Rato, the bank's former chairman and the IMF's managing director from 2004 to 2007 (Minder, 2012).

### **3. ECONOMICS AND POLICY**

Economic crises are often the result of government policy failure, giving rise to the perception that there is a need for policy change and reform, and as a result there is also a need for (Bolt et al., 2003):

- (i) sufficient sector diagnosis to understand the contextual concerns of policy changes;
- (ii) improved ex-ante assessment of likely impacts of policy reforms and related analysis of the costs of adjustment;
- (iii) sufficient attention to institutional capacity building, before, during, and after the implementation phase of policy reform.

Reforms represent changes to the underlying framework that govern the behaviour of different stakeholders. How these may respond to policy changes must be taken into account in policy analysis.

Reforms centre on the removal and replacement of alternative constraints and facilitations or encouragements. Understanding of the nature and dynamics of policy changes and institutional reforms is therefore an essential need in policy formulation. This tends to conform to an evolutionary process that Bolt et al. (2003) explain in simple terms as:

- (1) macroeconomic stabilization and the parametric policy changes (like price liberalization);
- (2) structural policy and the underlying market and institutional changes;
- (3) a formative stage, although it is exemplified by an emphasis on the political economy of policy reforms.

The appreciation of the nature of reforms so characterized facilitates reinforcement for the need for more systematic policy and deep institutional analyses.

The European Project offers an illustration of the need for institutional reforms. The creation of effective economic policy to manage the recently developed debt crisis has been threatening the Project's integrity (Veron, 2011), and Europe seems to have had some difficulty in responding to the issues that need to be addressed. One reason for this has been given by William Rhodes, who predicted the great financial crisis in the last decade. To deal with a debt crises like this one policy makers need to (Rhodes, 2012):

- (1) manage it;

- (2) be time sensitive since delays deepen crises;
- (3) provide political leadership;
- (4) fast decisions, clear communication, prompt action and persistence;
- (5) recognise in a plural economic system that each country is a unique case;
- (6) realise that there is no single recipe for all borrowers;
- (7) allow the private sector and public and private sectors to work together, calling on trust between all stakeholders, with consensus;
- (8) avoid panic which often arises from outside perception, from the rescued stakeholders and public opinion;
- (9) provide measures for contagion, noting that every sovereign debt crisis is followed by banking crises;
- (10) recognise that reforms take time to develop.

A number of these principles, Rhodes claims, have been lost within the European Crisis.

An alternative more macroscopic perspective of this situation comes from Dolphin & Nash (2011) who, drawing on Hall (1993) and Hill (2010) among others, argue that the current debt crisis has arisen due to an adherence to an old and now inappropriate economic paradigm that needs to be replaced. In particular they note (Dolphin & Nash, 2011:13):

*«[...] the economics profession continues to resist change because it has invested so much intellectual capital in the wrong models and is reluctant to admit its mistake. James Galbraith describes 'a kind of Politburo for correct economic thinking' that has been 'on the wrong side of every important policy issue' (2009: 95). This 'Politburo' resists new ideas. Consequently, new economic thinking, or anything that challenges the consensus, is marginalised. Those outside the current mainstream, he argues, cannot get a place at a top US university, cannot get published in top academic journals and are reduced to publishing their ideas in newsletters and blogs.»*

They also note that in the “real world” democratic political systems, economic paradigm change is likely to be associated with a shift of power, possibly within the ruling party, but more likely through a change in the party in charge, that is, resulting in a policy regime shift. Most of the time the ‘old guard’ will be too closely associated with the old paradigm to credibly put forward the new one, although ‘conversion’ is not impossible (Coats 1969). Broadly they note the distinction between the “utopian economics” that centres on notions of rational expectation, and “reality economics” that does not.

However, the likelihood that a new paradigm will emerge can only be the result of what Dolphin & Nash refer to as an extended period of little-to-no economic growth, something that is likely to occur, at least in Europe. In support of this they note a letter written by Richard Koo, Chief Economist at Nomura ([www.economist.com/node/21526289](http://www.economist.com/node/21526289)) to *The Economist*, when he says:

*«The economics profession has never considered a recession that could be caused by the private sector minimising debt in order to repair balance sheets after a debt-financed bubble in asset prices. As a result, the profession has no clue as to what is the right thing to do.»*

However, Dolphin & Nash also note the possibility of a way forward that draws on an evolutionary approach to economic history proposed by Lent (2009). Here, “advanced economies are seen to be entering a ‘synergy’ phase during which productive (rather than financial) capital will have the central role in determining growth. But, he [Lent] argues, the level of investment needed to ensure that strong growth occurs will only be forthcoming if companies are reasonably confident about future levels of demand. This will require that ‘demand is consciously encouraged through public policies and business strategies’ (ibid. 61). The outcomes of these policies should include a reversal of the trends that have seen real median wages stagnate in recent years and a steady decline in the share of wages in national income over the last three decades” (Dolphin & Nash, 2011: 16).

Lent’s (2009) notion arises from the work of Carlota Perez (2002, 2004a, 2009a) who has studied the tensions and patterns that prefigured major crashes and recessions in the past. In particular, Perez is interested in the historical economic processes that drive the volatility of capitalism, and their shift through historical phases of boom, bust, stagnation and radical reinvention. These historical periods can be split into four phases, and between phase 2 and 3 there is the often troubled turning point created by a financial crash. These phases are:

1. *irruption* when a new cluster of technologies and an associated business paradigm emerges and begins to spread;
2. *frenzy* when finance capital invests ever more heavily in the new technology and linked businesses and greatly expands its political influence;
3. *synergy* when the new technology and paradigm spreads more fully across all spheres of society leading to economic benefits;
4. *maturity* when the technology and paradigm reaches the point at which it stops producing major productivity gains and achieves market saturation.

So far we have learned that economic issues can arise when crises appear and when policy makers do not respond in a timely and appropriate way to the crises, or when there is a change in policy thinking resulting from a shift in political power or political regime change. However, what profoundly determines how we address economic issues is the dominant economic paradigm that informs the current wisdom of policy making thought, that is likely currently in transition. The cyclic theory proposed by Perez may be new for economics, but it has its theoretical basis elsewhere, in the study of socio-cultural dynamics by Pitrim Sorokin (1938-42). Here, consistent with Costanza, Wainger, Folke & Miler (1993), changes in culture have the capacity to change everything else in their social system, including economics. Culture, Sorokin argues, passes through a cycle of change for which two modes of thought are responsible, Sensate and Ideational. The tensions that arise between these two cultural orientations result in an outcome from which all of a society’s strategic and behavioural processes derive. This tension between two cultural orientations is manifested, for instance, in the political orientations that arise in the European Parliament, and which are ultimately responsible for its very cohesion. This is explained by Yolles (2009) who argues that the European Project is able to make decisions because its membership fall into two basic political divisions, Individualists and Collectivists. In what follows, we shall introduce Sorokin’s theory, and then discuss Individualism and Collectivism.

#### 4. MACROECONOMIC MODELLING

Macroeconomics can be broadly distinguished into two areas of interest:

- (1) the causes and consequences of short-run fluctuations in national income (the business cycle);
- (2) the attempt to understand the determinants of long-run economic growth (increases in national income).

In order to be able to make future forecasts for these areas, macroeconomic models are used by both governments and large corporations to assist in the development and evaluation of economic policy and business strategy.

Early macroeconomic models like the IS-LM (Investment-Saving/Liquidity preference-Money supply) model, the Mundell–Fleming model of Keynesian macroeconomics, and the Solow model of growth theory tend to be static rather than dynamic models describing the economy over many time periods (Blanchard, 2000). The simplicity of such models, however, while satisfying useful illustrative macroeconomic purposes, does little to assist any capacity to make useful anticipatory forecasts of macroeconomic change.

Neoclassical approaches to macroeconomic modelling (Veblen, 1898) tend to dominate microeconomics, and seek to determine prices, outputs, and income distributions in markets through supply and demand. These often centre on propositions of utility maximization by individuals with bounded resources, and of profits by firms with budget constraints which assume rational choice theory with available information and factors of production. Such approaches suffer from certain questionable assumptions which include: accurate anticipations; determinable states of knowledge; decisions made through bounded rationality. Now boundedness in rationality supposes that a decision maker: does not know all alternatives and all outcomes; makes a limited search to discover a few satisfactory alternatives; makes decisions which satisfy his or her aspirations; and is an objective (rather than subjective) entity. In bounded rationality decision makers may wish to act rationally but their ability to do so is constrained because they have a limited ability to absorb and handle information. Inquirers are further supposed to have limited cognitive ability to perceive alternatives and their consequences, so that there is limit on the search for alternatives, and hence the first alternative to satisfy the problem constraints is generally accepted. As such a search for optima in given problem situations may occur (e.g., through profit maximization, utility maximization or cost minimisation) - where the performance of an economy is judged in terms of how close it is to some theoretical optimum.

Empirical approaches have also been evident, resulting in a model called the Phillips curve (Phillips, 1958) in which unemployment and inflation were seen to have an inverse relationship. Friedman (1968), among others, argued that this relationship was due to unexpected past inflationary episodes, and that such a simple relationship should not be seen to be generally valid. In addition, he argued, there was a need to build in human perceptions and resulting behaviours. Less than a decade later Lucas (1976) argued, in what has come to be called the *Lucas Critique*, that empirical results in macroeconomics are seen to be unreliable due to their being derived from observed relationships between various macroeconomic quantities that varied over time, but that they were in fact dependent on the macroeconomic policy regime that was currently in place. So, now not only was human perception to become part of macroeconomic theory, but also policy regime. Lucas further argued that it would not be possible to predict the effects of new policies

unless models were created independent of policy changes, based on deep parameters that constitute such economic fundamentals as preferences, technology, and budget constraints.

As a result of the Lucas Critique, two types of model arose: dynamic stochastic general equilibrium (Phelps, 1970), and computable general equilibrium (Kehoe & Kehoe, 1994). The dynamic modelling approach makes the assumption that all agents of given classes (for instance the class *corporations*, or the class *households*) are identical, so that outcomes arise from an averaging process. They also centre on assumptions about preferences, technology, and budget constraints, and are often interested in business cycles and the cyclical effects of monetary and fiscal policy. In contrast, computable general equilibrium approaches centre on long-run relationships, typically exploring the long-run impact of permanent policies like the tax system or the openness of the economy to international trade. Both approaches attempt to represent the relationships between the various macroeconomic variables each from their own set of propositions and with the intention of anticipating behavioural outcomes. In doing this, both classes of model make assumptions that the economic system being modelled is both in equilibrium, and closed.

Where modelling processes centre on conditions of general equilibrium, the analysis of economic growth tends to be grafted on to the theory, and this can pose a problem where growth does not conform to general equilibrium (Nelson, 2004). Where an economic system is postulated to be closed, then it cannot be directly influenced by other economic systems, a proposition which in the current global crises is blatantly wrong. As implied by Friedman and the Lucas Critique, closure is a proposition that sits uneasily with the recognition that economics only exists through the open human activity systems that carry them. In equilibrium systems there is normally an assumption of rational determinism, so that everything that needs to be known about the situation is, or at least can be, known. Equilibrium and closedness are often connected. Leijonhufvud notes that *closure* in modern macroeconomics:

*«[...] stems from the commitment to optimising behaviour as the ‘microfoundations’ of the enterprise. Models of ‘optimal choice’ render agents as automata lacking ‘free will’ and thus deprived of choice in any genuine sense [...] Whatever happens, they are always in equilibrium.»* (Leijonhufvud, 2011: 3).

Trosby (2001) notes that despite its intellectual imperialism, neoclassical economics is quite restrictive in its assumptions, is highly constrained in its mechanics; and is limited in its capacity to provide explanations. He further argues that economics comprises of a plurality of paradigms that each offer uncoordinated alternative ways of analysing the functioning of the economy or the actions of the individual.

Consistent with Postpositivism (and unlike Constructivism), the positivist rational determinism of neoclassical economic modelling has given way to a principle of rational expectation that allows for randomness. Hence the core proposition is as follows. Expectations occur such that: **if** (a) an analysis and model can be in some way validated, **and** (b) an intervention strategy can be deduced that allows problem situations to be resolved in some way, **and** (c) the analysis arises from a view that comes out of the perspective demanded by the model, **then** (d) during implementation of the intervention strategy the specifications are honoured such that that monitoring occurs to ensure that (b) and (c) are valid. Under such conditions the result will satisfy the perceived needs of the situation.

Leijonhufvud (2011) relates the idea of rational expectation to George Soros' (2008) use of the term “reflexivity” where for instance, at the start of an analysis of financial markets one

recognises that present beliefs about the future induce actions that create the future (Soros, 2008). As such an investor who can assess current market sentiment and consequently infer how it will produce a future (different from that which is generally expected) can make a profit. A bad reading of the market or poor inferences will result in a loss. Agents do not only have to form expectations about a future objective reality, but they must also form an opinion of their own about the expectations of other market participants, and implicit to this there are other higher degrees of expectation that can result. In rational expectation the postulated randomness is assumed to be well behaved, conforming to a normal (Gaussian) distribution, and hence allowing the future to be known with some well-known degree of confidence. Hence, the certainty about a situation is transferred from having full knowing of the nature of a situation to having full knowledge about the bounds of its variations. For Leijonhufvud (2011), rational expectations is a special degenerate case of reflexivity, where the future actually realised is always a random draw from the universally believed and true Gaussian distribution of possible futures. This assumption makes the economy a closed system, where agents are supposed to possess at least probabilistic knowledge of the *objective* reality about which they must learn.

In contrast to rational expectation, one needs to accept that the future cannot be known with certainty, even as a Gaussian probability distribution (Leijonhufvud, 2011). This then implies that the economy must be seen as an open system. Agents in such a system have to *adapt* to events the probability of which they had not estimated correctly, or which may be totally surprising. Once behaviour is seen as resulting from adaptive processes, then the need becomes to consider non-linear behaviour that entertains complex system dynamics. Approaches that draw on these ideas may be referred to as post-neoclassical.

An entry point to post-neoclassical modelling comes from agency theory (Spence, 1975) - an information system based approach that supposes outcome uncertainty, where it is assumed that an agency operates through self-interest and bounded rationality, risk attitudes of the principal and agent, and where agency hierarchies roughly correspond to behaviour-based contracts, while markets correspond to outcome-based contracts. In a conceptual development of this, human activity systems can be modelled mathematically as complex adaptive systems (Prigogine & Stengers, 1984). Computational approaches have developed from this, such as Agent-based computational economics (Spence, 1975; Tesfatsion, 2003, Tesfatsion & Judd, 2006), which operates through computer simulations and decomposes aggregate macroeconomic relationships into microeconomic decisions for predefined individual economic agents. The classes of agent interactions that occur with the market and each other are also specifiable. There is a tendency to ignore agent preferences, and rather to concentrate on outcome strategies. The agent is constituted as an objective computer based bundle of data and behavioural methods that is intended to represent an entity residing within the world<sup>1</sup>. Such agents may be classed as individuals (like consumers and producers); social groups (like families, firms, communities, and government agencies); institutions (such as markets and regulatory systems); biological entities (like crops, livestock, and forests); and physical entities (such as infrastructure, weather, and geographical regions). They may also be composed of other agents.

Nelson (1982; 2004; 2005) discusses a relatable approach called the evolutionary theory of economic change, which has its roots in biology (Kauffman & Johnson. 1991). Costanza, Wainger, Folke & Miler (1993) note that just as biological systems maintain their information in biological genes so these systems evolve with changes in the genes that define them. Taking this as an analogy to explain evolutionary change in social systems, Costanza Wainger, Folke &

Miler explain that in social systems the genetic structures can be replaced by cultural ones, and economic systems are seen as a subset of cultural systems.

The evolutionary theory of economic change (e.g., Dopfer, 2005) concerns the principles of economic growth in relation to both scientific and social technologies (the latter referring to business practice, organizational forms, and institutions). Consistent with earlier approaches, this also embraces the idea of bounded rationality, but here the actors also have the capability to do something new, to innovate, if they think they see an opportunity, or when what they have been doing becomes clearly inadequate in a changed context. This approach is hence capable of embracing non-equilibrium processes. Unlike neoclassical theory, in evolutionary theory there is no theoretical optimum that acts as comparative base line, since the possibilities for economic action are perceived to be in flux, and this disallows detailed prediction. Rather, economic performance is seen in terms of the rate and nature of progress, recognising that it arises through a learning process that belongs to the human activity system that maintains the economic system. This approach to the modelling of economics has frequently drawn on the work of evolutionary game theory (Weibull, 1995; Hofbauer & Sigmund, 2003; Nowak, 2006).

The idea of prediction may be problematic within the context of non-equilibrium systems. In its place, however, one may refer to *anticipation*. Within the context used here this refers to an anticipating system, which Schwarz (2001) takes to mean the systems which (thanks to their structure and organization) have the ability to make predictive models, to influence or to generate the future, and to anticipate the future functioning of real life systems. This notion arises with Robert Rosen (1985), who proposes that *anticipatory systems* are those which contain predictive models of themselves and/or of their environments and which allows them to change state at an instant in accord with the model's predictions pertaining to a latter instant, consistent with the notion of adaptation. Such anticipation, Rosen tells us, is typical for “living systems”. Dubois (2000) developed on Rosen's notion to distinguish between weak anticipation (where the anticipation is based on a model of the system and thus is capable of model-based prediction) and strong anticipation (part of anticipatory systems where the anticipation is self-produced<sup>ii</sup> by the system itself and not by a model). Moreover he has shown that any model is implicitly anticipatory. For instance economic planning is constituted through weak anticipation when it is based on a strategic economic model. In complex situations long term economic planning and thus long term deterministic anticipation normally fails. As a result weak anticipation must be seen as an incremental (step by step) process that is necessarily associated with adaptation. In an adaptive system strong anticipation is both evolutionary and is accompanied by systemic cognitive change. As such new structures can arise, enabling new forms of behaviour to occur that can relate to changes in the environment. Anticipation is thus a dynamical process in constant renewal.

For Geels (2011), evolutionary economic theory includes the following substantive propositions:

- (1) a focus on populations of agents like firms in industries that compete for scarce resources (money) in market environments, and which exert selection pressure;
- (2) the use of behavioural theory as a tool for providing foundational concepts, alternative to neoclassical theory, on which to build a theory of industry and technological change - here, routines and bounded rational search have limited foresights, and use routines and rules of thumb for decision-making productive knowledge, and unresolved conflict provide an alternative to profit maximization and optimal agency contracts;



(3) the use of agency comes from the behavioural theory of the firm, and this has been complemented with the resource based view of the firm in which capabilities and knowledge also arise;

(4) competition is technology-based through product and process, and companies can acquire competitive advantage by offering improved products or doing things better, faster, more efficiently, more reliably than others;

(5) capabilities and knowledge tend to gradually accumulate over time through ‘behavioural learning’ or ‘trial-and-error learning’ with search processes providing variations to which markets provide performance feedback.

According to Goldspink & Kay (2004), the capacity for theory to explain the relationship between the constitutive elements of social systems (people) and the emergent phenomena that result from their interaction (i.e. organizations, societies, economies) is limited unless there exists a substantive theory of sociality that is sometimes regularly referred to as the ‘micro-to-macro problem’. This idea has been responded to through evolutionary economics and the development of a meso-economic level of analysis. For Dopfer, Foster & Potts (2004), meso-economics is able to embrace microeconomics, and provide a link to macroeconomics. This arises by seeing the knowledge of an agency not as conceptual structures that are able to inform strategic processes (as occurs in learning theory), but rather more reminiscent of Knowledge Based Computing Systems in which strategic models (that presumably arise from these conceptual structures), are constituted as an information base of rules from which strategic outputs can result given appropriate inputs. A generic rule has a population of actualizations which arise from this base, and which is referred to as a ‘meso unit’. Generic rules are carried by agency hosts, and when focussing on a single generic rule for an agency, a ‘micro’ perspective on the rule in its local environment arises. Here, particular interest tends to lie in the connective structure between:

(1) the carriers of the rule;

(2) the efficiency and efficacy of the rule in relation to particular processes;

(3) and with the socio-psychological processes that shape the origination, adoption and adaptation and retention of a rule in a carrier.

At the meso level, abstracts are generated such that the population of rule actualizations can be observed, where issues of population size and state of development of the meso unit and the composition of the carrier population are of interest.

Geels (2011) has proposed a development of evolutionary economics that is sensitive to:

(a) agency strategy and interpretation;

(b) environment and civil society;

(c) and social problems and normative issues.

It does this by coupling in disciplines and fields such as neo-institutional sociology, organization theory, economic sociology and strategic management, and synthesizes these into a new co-evolutionary theory. Here, actors are perceived as being embedded in external task and institutional environments. In an industry regime the core elements of technology, beliefs, mission, and strategic orientation guide actions towards the external environments. The external environments are linked to core elements and types of action through a number of ‘enactment-

adaptation cycles’: an evolutionary cycle that embraces behavioural learning; a sensemaking cycle that embraces cognitive learning; a political cycle; a cultural cycle; and a normative cycle. These cycles are recursive and link external pressures with endogenous strategic responses, allowing for destabilization processes in transitions, industry responses to social problems, and longitudinal industry trajectories.

Taking a different route within complexity, Frieden and Hawkins (2009) have developed a dynamic information theory that is able to model complex adaptive systems using *Extreme Physical Information* (EPI). Here the interaction between information and economic agents in a price discovery process can result in the uncovering of the dynamical laws of an economic system. On its own this is just illustrative of the potential that EPI has of representing the dynamics of economic systems. However, its broader potential to represent a wide variety of situations can be made apparent through its intimate link with Knowledge Cybernetics (Yolles, 2006), which centres on a graphical “living system” cybernetic theory. Such theory has the capacity to model growth, and hence has an implicit ability to connect with evolutionary economic theory. It also has the capability to anticipate future outcomes. Illustrations of the use of this theory are provided by Yolles, Frieden and Kemp (2008) for the context of cultural dynamics, and by Yolles, Fink, and Frieden (2012) in the exploration of behavioural processes for human activity systems. Our interest in this paper is to return to this general approach in due course.

## 5. A CYBERNETIC MODEL OF ECONOMIC AGENCY

We recall that Costanza, Wainger, Folke & Miler (1993) note that changes in culture have the capacity to change everything else in their social system, and economic systems are seen as a component of cultural systems. So, while Geels (2011) draws on evolutionary economics to embrace a variety of other complementary theoretical streams that embrace complexity, we draw on a cybernetic approach that:

- (a) centres on Schwarz’s (1997) “living system” theory of adaptive organisation;
- (b) incorporates Habermas’s (1971; 1987) theory of knowledge and communication;
- (c) addresses Bandura’s (2006) agency theory of human development;
- (d) incorporates Piaget’s (1950) theory of cognitive development;
- (e) delivers a theory of normative personality that within an economic context can be seen as a strategic economic agency, and which has embedded within it strong anticipation (Dubois, 2000) as one of its features;
- (f) adopts as a propositional aspect of its formalisation Frieden’s (1998) mathematical information theory EPI, itself deriving from Fisher Information theory.

Established as a recursive modelling system, it also has the capacity to introduce disparate modelling features from complementary theoretical streams.

This work has its basis in a variety of studies, including Yolles (2006), Yolles, Frieden and Kemp (2008), Yolles and Fink (2009), Yolles (2009a), Yolles (2009b), Yolles, Fink and Dauber (2011) and Yolles, Fink and Frieden (2012).

The theory constitutes a formal<sup>iii</sup> psychosocial framework for the “collective mind” of an agency that is its *normative personality* that formulates in decisions and results in agency behaviour. Within the context of this paper, behaviour is constituted as the implementation of macroeconomic policy.

The term normative personality is not new, being usually used within the context of the ambient normative social *influences* that exist during the formation of personalities, and that *mould* them (Mroczek & Little, 2006). Our interest lies in recognising that the norms in a collective may together coalesce into a unitary cognitive structure such that a collective mind can be inferred, and from which an *emergent* normative personality arises. To explain this further, consider that stable collectives develop a common dominant culture within which shared beliefs develop in relation to the capacity of the collective power to produce desired outcomes. Cultural anchors are created that are represented within the paradigm that the agency carries, which enables the development of formal and informal norms for patterns of behaviour, modes of conduct and expression, forms of thought, attitudes and values that are more or less adhered to by its membership. When the norms refer to formal behaviours, then where the members of the collective contravene them, they are deemed to be engaging in illegitimate behaviour which, if discovered, may result in formal retribution - the severity of which is determined from the collective’s ideological and ethical positioning. This develops with the rise of collective cognitive processes that start with information inputs and through decision processes result in orientation to action. It does this with a sense of the collective mind and self. It is a short step to recognise that the collective mind is associated with normative personality. Where a normative personality is deemed to exist, it does not necessarily mean that individual members of the collective will conform to all aspects of the normative processes: they may only do so “more or less”.

Strong anticipation arises in the normative personality through a set of core traits which function as personality control variables (Van Egeren, 2009), where the values/ states that they adopt refer to personality types (Eysenck, 1957), and where the type values of a personality derive from the state of its traits. Thus, the cultural orientation traits discussed by Sorokin can take values of Sensate and Ideation that determine cultural type. However within the personality, Sensate cultural type is manifested as forms of Individualism, while Ideational cultural type is manifested as forms of Collectivism (Sorokin, 1962). The trait theory that emerges is based on and reflective of emotional-motivational systems that are able to increase adaptation to classes of stimuli associated with positive and negative reinforcement (Depue & Morrone-Strupinsky, 2005, p. 314, cited in Van Egeren, 2009). For Davis (2000) durable personality traits are usually tightly bound to qualities of emotions, but they may also be defined in terms of preconscious mental dispositions that affect the reflective processes and influence the different categories of cognitive and animated behaviour. They also provide the regulatory patterns that create agency stability. For Fleishman Constanza & Marshall-Mies (1999) they are also related to performance, and within the context of this paper we can also refer to economic performance. In corporate theory the traits have generic characteristics that are domain dependent, and may be seen as normative personality variables that regulate the importance attributed to different classes of information. They are indicative of personality styles that arise from a combination of personality *types*, and which suggest a collective agency’s expected behavioural orientation in relation to that class of information. The types have a special role in personality theory. They are deemed to be responsible for the patterns of behaviour that a personality generates. Patterns of behaviour are generically defined as an abstraction from a concrete form that keeps recurring in specific, non-

arbitrary contexts. It is this very nature that enables an agency's behaviour to be strongly anticipated, even when it comes to their interaction with personal and situational variables. Where it is possible to associate personalities with stable type preferences, a consistent connection to behaviour can be discerned (de Oliveira, 2008; Hyldegård, 2009), and this includes the likelihood of determining economic behaviour, even under conditions of uncertainty.

In Figure 1 we show a generic model representing a durable collective agency that has a culture, a normative personality, an operative capacity, operates intelligently, can adapt to changing situations, creates and implements policy, and hence becomes responsible for macro-economic processes. It enables specific relationships to be introduced within and across domains, as necessary and according to the logical processes that may be proposed within a socio-political situation. This economic "living system" is designed to satisfy the context of economic performance, which following the *Lucas Critique* is sensitive to political regime and particular policy orientations.

Figure 1 is also a result of thematic combinatorial conceptualizations from which the collective agency maintains its normative personality (Yolles, 2006; Yolles, Fink & Dauber, 2011) and which is fundamentally relational, allowing for the modelling of more or less complexity. It does this through what some refer to a *systemic hierarchy*: where systems are structured as a hierarchically nested set of recursively embedded systems, one within another creating more complexity in the modelling process (Williams and Imam, 2006). Thus, complex "bottom-up" interpersonal interrelationships can be modelled that "cause" (through a complex multiplicity of reasons that often are taken as a principle of *emergence*) higher order systemic forms in which complexity becomes reduced to an invisible horizon of meanings. At the same time, top-down influences can be made to constrain, under normal (as opposed to post-normal uncertain and perhaps chaotic) circumstances, the nature of the interactions that are legitimized at the bottom level. Thus, the modelling approach can represent networks of processes at the individual and small group level, as well as their impact on the higher level social influence networks of processes and vice versa (Yolles, 2006).

An agency is not isolated, but interacts with an environment, or with other agencies in an environment, as illustrated in Figure 1. Here, the agency is shown to have behavioural intelligence, as represented through its *overt actions* (Ang, Van Dyne, Koh, Ng, Templer, Tay & Chandrasekar, 2007: 6). This is constituted as a structural coupling (Maturana and Varela, 1987) that is responsible for past, present and future interactive history.

The agency also has internal intelligences, also indicated in Figure 1, which are constituted as forms of autogenesis and autopoiesis (Schwarz, 1997). These internal intelligences include a form of cultural intelligence (Yolles et al., 2011), and personality intelligences - concepts originally drawn from Piaget (1950). The autogenetic function operates as figurative intelligence enabling it to *self-create* its collective cognition, and the autopoietic function operates as an operative intelligence that enables it to operatively *self-produce* its collective cognition. In cybernetic terms, intelligence may thus be seen as a network of relational processes of transformation of a definable set of components of a given domain of the living system:

- (i) through their interactions and transformations continuously regenerate, realize and adapt the relations that produce them;
- (ii) constitute its socio-cognitive nature as a concrete unity.

Such a concrete unity represents an open socially viable economic system, because:

- (a) the development path of the system is open in the sense that it maintains permanent system dynamics driven by the internal *autopoietic* (or self-producing) and *autogenetic* (or self-creating) processes and the sub-units within the system;
- (b) it is open in the sense that the system by itself is to be seen as a sub-system of a larger system.

Figure 1. An Economic “Living System” in Interaction with Environments

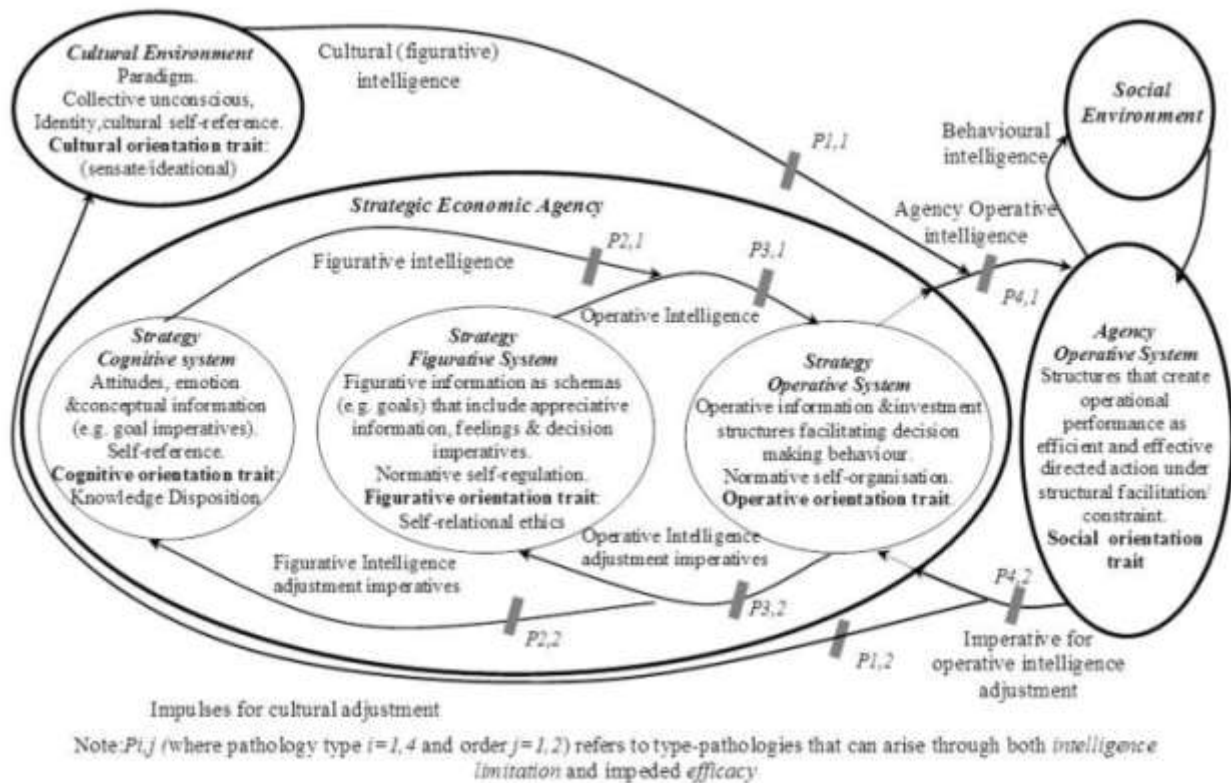


Figure 1 embraces the idea that a concrete “living” economic system is embedded into a cultural environment and interacts with a social environment, a notion extended by reflecting on the recognition that there are consequential influences and interactions with these environments. Central to the understanding of the model in Figure 1 are two principal features:

- (1) the living system can be seen as an agency equipped with a necessary and sufficient set of intelligences that has the capacity to create and pursue the system’s own goals,
- (2) it may self-organize and respond to a changing environment through adaptation (Bandura, 2006).

Under complexity, the dynamics of change for this living system are generically well defined (Yolles, Fink, Iles & Sawagvudcharee, 2013).

The intelligences may be seen as the driver for and the constraints of the achievements that a “living” economic system may be able to materialize: without intelligences there are no achievements; with low levels of intelligence poor results develop; and with high levels of

intelligence good results can be achieved. Several forms of intelligence are widely referred to in the literature, including: intelligence at large (general intelligence), cultural, social and emotional intelligence. In the context of strategic thinking and operational activity, we further distinguish between figurative (self-creational) and operative (self-producing) intelligence. Bandura's (2006) notion of efficacy is also useful, and can be differentiated as desired and actual efficacy as it relates to performance, the efficacy gap impacting on work satisfaction and emotions.

The figurative system in Figure 1 operates as a Strategic Economic Agency. As such it also has "strategic" figurative and operative intelligences represented by  $P2,1$  and  $P2,2$ , and  $P3,1$  and  $P3,2$ . The nature of these intelligences is due to their sensitivity to contexts that arise from the meanings of the systemic domains, and since different components of the model have different meanings, so they are distinct from other figurative and operate intelligences in other parts of the model.

This allows us to consider intelligence as a systemic function. Such a notion has been identified by Hämäläinen & Saarinen (2007) as intelligent action in real time and within complex, interconnected, and changing structures, in contexts and environments, where human agents tune to, react to and influence one another in those subtle and sometimes-not-so-subtle ways that are unique to us as human beings. We may develop on this by proposing an enhanced definition for intelligence within the context of an economic system as: the general ability of an agency (a living economic system) to appreciate and harness its own knowledge as information about its environment (feedback processes), to construct new knowledge and to generate new or better capabilities through the *manifestation* (resulting in forms of internalization) of information about its experiences (feedback from the external environment- counterparts in the task environment, feedback from agents within the society/economy - stakeholders, institutions- and overall evaluation) into other parts of the system, and from that manifested information, to pursue its goals effectively and efficiently.

Into this definition, we can integrate all extensions and differentiations of intelligences, as far as cultural intelligence, socio-economic (behavioral) intelligence and agency operative intelligence are concerned, and as long as:

- a) there is an action or application oriented network of processes (feed-forward process) and a corresponding feed-back network of processes;
- b) each type of intelligence weights the relevance, importance, efficiency, and effectiveness of these processes and can attach different importance to forward linkages and feedback linkages in the processes of self-reproduction and self-organization.

*While agency operative intelligence is constituted as a network of self-producing processes that occur between the normative personality of the agency and its operative system (through its bureaucracy - this being responsible for the implementation of policy that arises from the normative personality), behavioural intelligence then maps this implementation into the social environment. Economic intelligence may be operative in that it is autopoietic - as part of the agency that is responsible for economic policy and determining the principles that are to be pursued. In contrast, behavioural economic intelligence is connected with how this policy is applied, and it is constituted as a structural coupling that maintains a past and future relationship between the agency operative system and its social environment.*

Figure 1 also indicates that there are five traits in any agency that we regard as *formative*, one of which defines its cultural orientation, 3 of which define its normative personality (the cognitive, figurative, operative orientations), and the last of which defines its social orientation.

As indicated by Yolles et al. (2011) and Fink et al (2012), in the context of organizational culture research, these are bi-polar value dimensions which typify an agency and establish strong anticipation. Within the context of a national economy, this agency is therefore able to make use of the concept of bi-polar traits, and indicate preferences in the respective domains for the forward linkages (i.e. action oriented processes) or feedback linkages (i.e. information collection, adaptation and learning processes). As a result, given understanding the five type values that an agency has adopted can enable strong anticipation to be manifested, thereby creating macro-economic expectations. While these five traits are representative of the agency as a whole, particular aspects can be examined individually. The recursive nature of the modeling process that delivers Figure 1 enables a drilling down to permit a more detailed examination of microscopic socio-economic phenomena, to which macroeconomic policy should be responsive. Sensitivity to more micro-economic features can be lost with pathologies (indicated by the bars by  $P_{i,j}$ , where  $i=1,4$  and  $j=1,2$ ) that arise in the agency system. These pathologies inhibit the normal functioning of the intelligences, and degrade the performance capability of an agency.

## 6. SOCIOCULTURAL DYNAMICS

As represented in Figure 1 and consistent with the argument of Costanza, Wainger, Folke & Miler (1993), economic agency is also influenced by culture since it influences the strategic and operative nature of an agency.

Culture may be seen as being constituted through the shared norms, values, beliefs and assumptions, and the behaviour and artefacts that express these orientations - including symbols, rituals, stories, and language; norms and understanding about the nature and identity of the social entity, the way work is done, the value and possibility of changing or innovating, relations between lower and higher ranks, the nature of the environment (Yolles, 2006; Williams et al, 1993). All durable societies have a culture. This is explained by Schaller, Conway & Crandall (2008) when they refer to Sumner's realization that culture results from "*the frequent repetition of petty acts*" (Sumner, 1906: 3) that result in what he calls folkways. They further note that these cultural folkways "*are not creations of human purpose and wit*" but are instead "*products of natural forces which men unconsciously set in operation*" (Sumner, 1906: 4) and which develop through fundamental psychological processes that govern the thoughts and actions of individuals. Culturally based social groups (socio-cultures) are not static entities that are just shaped simply in reaction to external forces. As Kemp (1997) explains, the reason is that socio-cultures are dynamic systems, constantly in a state of change generated by the properties within the system. In other words human cultures do not 'change', but are rather always in a 'state of change'. They form historically not as discrete entities, but through continuous development. Thus, cultures can be defined less for what they are now, and more for where they are coming from and where they are going. This is not unique to human socio-cultures since many non-human societies also culturally adapt, both in technology and social organization (Rensch, 1972). However, what seems to be unique about human society is that it has developed the capacity to take cultural adaptations and convert them into an evolutionary process. Human cultures evolve, rather than

just adapt to circumstances. Here evolution is a distinct dynamic process, and is what Gell-Mann (1994) describes as a *complex adaptive system*: that is:

«[...] a system [that] acquires information about its environment and its own interaction with that environment, identifying regularities in that information, condensing those regularities into a kind of 'schema' or model, and acting in the real world on the basis of that schema. In each case, there are various competing schemata, and the results of the action in the real world feedback to influence the competition among those schemata.» (Gell-Mann, 1994: 17).

This constitutes both a learning process for the system through feedback, and the generation of its own capacity to change over time - hence creating its dynamic. A socio-culture is not isolated from its environment, which acts to impose natural selection on schemata that limit which schemata might be successful.

An explanation for change in the complex socio-cultural system has been given by Sorokin (1937-42) through his *Principle of Immanent Change*. This tells how cultures change not just as a response to the external needs of human society, but through something that occurs within the process itself. This principle states that a durable social system changes by virtue of its own forces and properties, and it cannot help changing even if all external conditions are constant. A socio-cultural system satisfying this principle generates consequences which are:

«[...] not the results of the external factors to the system, but the consequences of the existence of the system and of its activities. As such, they must be imputed to it, regardless of whether they are good or bad, desirable or not, intended or not by the system. One of the specific forms of this immanent generation of consequences is an incessant change of the system itself, this being due to its existence and activity.» (Sorokin, 1942: Vol. 4, 600-1).

For Sorokin (1964) all social systems, whether they be the family, the State, universities, schools, churches, or any other, are reflections of complex systems of meanings (Gibson, 2000). Sorokin created a theory of socio-cultural change that explains how, through the domination of one of two cultural conditions, different patterns of cultural based behaviour can develop. The two cultural conditions identified are referred to as *sensate* and *ideational* types (Yolles, Frieden and Kemp, 2008).

These types are paired and exist together within a given frame of reference, and form an interactive couple. In a cultural frame of reference they are constituted as opposing and interactive sensate and ideational forces. Kemp (1997) explains that in a culture in which the sensate type dominates, meanings are only taken from the senses, this resulting in a predominantly utilitarian and materialistic society. Ideational culture relates to the supersensory, to the creation of ideas, and the highlighting of the humanitarian or spiritual. In an ideational culture the *creation* of ideas may predominate, and people with a predominantly ideational mind-set generate possibilities through the pursuit and maturation of a variety of ideas.

Communication is also important within socio-cultural settings and the way in which it operates through narrative. In this context, Gibson (2000) notes that ideational culture centres on metanarrative, while sensate culture centres on Visualism<sup>iv</sup> - in which metanarratives<sup>v</sup> collapse and fragment into antenarratives<sup>vi</sup> leading to a society without integrated thought or judgment.

Returning to the ideational notion of spirit, Zetterberg (1997) notes that it is connected with Hegel's notion of *Zeitgeist*, and has been used mainly as a term to designate the "*predominant ideas*" of a period like "*the spirit of romanticism*," or "*predominant structures*" like the character of the era of constitutional monarchy or of industrialism. However, the definition of spirit,



Zetterberg suggests, does not necessarily arise from its structures. Rather, we are told, the term “Zeitgeist values” can be taken as a loose designation of those values of a period that are not *cardinal* values. *Cardinal* values are sensate, represented by wealth, order, truth, the sacred, virtue, and beauty; these arise from Max Weber who spoke of seven *Lebensordnungen* (life-orders) and *Wertsphären* (value-spheres). They are constituted as the economic, political, intellectual (scientific), religious, familial, and erotic life-orders and spheres of life-activity and values, each with *Eigengesetzlichkeit* (internal, lawful autonomy).

Cultural dynamics arise because these cultural conditions maintain the coupled interactive types. Jung<sup>vii</sup> uses a relative of this term, *enantiodromia*<sup>viii</sup>, to act as a principle in which the superabundance of any force will inevitably produce its opposite. He in particular used it to explore the dichotomous relationship between the unconscious and conscious mind, the former acting against the wishes of the latter (Jung, 1989). This Jungian word is usefully explained by Wilson (1984: 1) when he tells us that:

*«When the imperatives of various life stages are not attended to, i.e., when particular calls for use of different kinds of energy are ignored, and the person continues to rely only on those functions and attitudes one can readily ‘handle,’ the commitment to growth stops and the drive to employ those new untapped energies is dammed up. If continued long enough, this can produce those dramatic mid-life upheavals we all know about: the disciplined, sensate Wall Street broker suddenly flips and is off to join the flower children in their grooving intuitive commune, etc. Jung had a wonderful Greek word for this phenomenon: enantiodromia, which says literally that ‘things run into their opposites’ and actually means that if any of the energies that belong to the fullness of the humanum is blocked and has no acceptable outlet for any extended period of time, it will turn back on its host like a mighty tidal wave engulfing all that seemed to have been built so solidly. Such is the stuff of dramatic religious conversions - as well as the collapse of self in narcissistic anarchy. It is interesting that this is one concept that Jung did apply beyond the level of the individual self and its journey, but characteristically he applied it, not to the middle level of organizations and institutions, but rather to the macro-level of great world cultures and civilizations which skew the revelation of the humanum in one direction for centuries until the pendulum finally swings back with a vengeance. For purposes of our reflections here the questions would be: What is enantiodromia for a small legal firm or for the archdiocese of New York or St. Swithin's Prep? What are its advanced warning signals? How can its cataclysmic fallout be minimized as we harvest the gains it will bring for our richer understanding of what it means to be human?»*

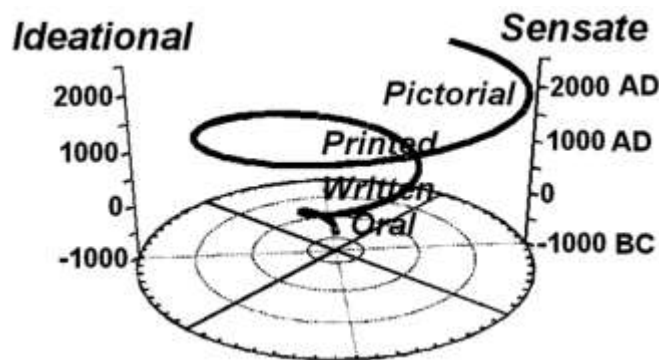
While the word *enantiodromia* refers to the shift in forces, it can be explained through the notions of yin-yang in relation to the development of the mature and well-adjusted personality, where the various opposites are united through some middle path through what Jung called the *transcendent function*; it is through this function that the various opposing aspects of personality are united, particularly consciousness and unconsciousness, into a coherent middle ground. This function also creates guidelines for personal development that enable personalities to develop (Jung, 1971; Aveleira, 2004). So, yin and yang may be seen as dichotomous primal opposing interacting enantiomers<sup>ix</sup>. All change in the whole system that it produces can be explained by the interactive workings of yin and yang, as through in their dialectic interaction they either produce or overcome one another (Du, Ai & Brugha, 2011). Since each of these coupled types are opposites one of which produces the other, the production of yin from yang and yang from yin occurs

cyclically and constantly so that no one principle continually dominates or determines the other. However, this cyclic symbiosis can be interrupted and overcome. The result of this interaction is that a mix between the two cultural conditions can result, and one of the culminations is what Sorokin refers to as a third cultural condition, the *Idealistic* - a balance between Ideational and Sensate cultural attributes. Set within the context of Western cultural development, during the early part of the industrial revolution society was seen to have developed this cultural mix.

In respect of the cultural domain of interest to Sorokin, cultural (yin yang) coupled types are polar opposites of a primary cultural trait, and constitute cultural mentality types that dominate a given culture. So, when ideational cultural type mentalities interpret the world, they are idea-centred and tend to embrace the *creation* of ideas (Kemp, 1996). However, they are unable to apply the ideas created or the practical or material governing controls necessary to manifest them as behavioural aspects of the system. People with a predominantly ideational mind-set generate possibilities through the pursuit and maturation of a variety of ideas, though they tend not to know how to use them materially. They thus create variety, but they cannot harness and apply it. In contrast, sensate mentalities will be interested in or support practical and/or material matters relating to external events which are then sought to be integrated within the dominant one-world-view.

Zetterberg (1997), referring to Sorokin, illustrates how Western culture has oscillated between sensate and ideational dominant types. An ideational culture in 600 B.C. changed to a sensate culture at the height of the Roman Empire, which in turn became ideational in the Middle-Ages, after which it became sensate again in more modern times. This shifting process has been illustrated by Zetterberg, who refers to Marshall McLuhan's historical study of changes in media technology, shown in Figure 2.

Figure 2: Ideational and Sensate Values and Media Technology (Zetterberg, 1997)



According to Davis (1963), in predominantly sensate cultures war, crime, and rising divorce rates are seen as phenomena inherent in an excessively sensate and materialistic culture. Such notions are reconsidered and elaborated on by Rummel (1975), who centres on Sorokin's view that extreme conflict is part of the process of rapidly changing social relationships. In particular Rummel recognises that the development of internal and violent conflict occurs with stages of cultural instability.

Western Sensate culture is currently in decline (Sorokin, 1939-41, Vol. 4: 312) and moving towards its Ideational state. When a cultural system moves from its dominant stable (Ideational, Sensate or Idealist) state it becomes culturally unstable so that dominant values and beliefs are

lost across a culture, and the social develops a “disorderly stage” (in reference to Confucius: Sorokin, 1942, Vol. 4: 365; Sorokin, 1942: Vol.4: 725). This results in the greater likelihood of social disruption and conflict. Such dynamic conditions are well explained in theory on the dynamics of complex adaptive systems (e.g., Fink and Yolles, 2012; Yolles, Fink and Sawagvudcharee, 2012; Manmuang, Yolles & Talabgaew, 2012), though this is beyond the scope of this current paper.

It is worth noting that there are certain particular properties of Sensate and Ideational society that are relevant to political-economic processes. Sorokin (1938: Vol. 1:217) notes that:

*« [...] the beginning of an [Ideational] up-swing of culture it is virile and stern, is marked by a collective state of mind and discipline...is a culture of volition and strong determination to achieve an ideal.... The decline of the culture or a great cultural period is stamped by femininity, Sensate mentality, and individualism.»*

Sorokin (1938, Vol.1: 241) further recognises that:

*« [...] the relative predominance of the spirit of Individualism and Collectivism alter as cultures move through a cycle of change.»*

Summarizing earlier considerations and extending Zetterberg’s (1997) views on the nature of culture, it is possible to generate a set of characteristics that identifies and distinguishes between sensate and ideational cultural conditions, as shown in Table 1.

*Table 1: Relating and distinguishing the notions of Ideational and Sensate Cultural Orientations*

Type System	Cultural Concept (Agency)	Ideational	Sensate
Culture	Beliefs and meanings	Supersensory	Sensory
	Values	Humanist/spiritual/ Zeitgeist	Materialist/ Cardinal
	Value adherence	Fidelity	Pragmatism
	Life view/ knowledge imperative	Being	Becoming
Strategic Personality	Ethics	Unconditional morality	Happiness
	Ideology	Stability of tradition	Progress/modernity
	Needs	Internal	External
	Purposes	Humanist/spiritual development	Material exploitation
	Variety	Creating	Applying
Behaviour	Activities	Introverted	Extroverted
	Development/ control interests	Self	Technological/ instrumental
	Communication of stories	Metanarratives	Visualism
	Investigation	Conceptualization	Empiricism

The complex dynamics through which these changes operate are well known (Schwartz, 1997; Yolles, 1999). In particular, in a study by Yolles, Fink, Iles & Sawagvudcharee (2012) it is explained how cultural change as represented through Sorokin’s theory is also responsible for complex changes in the Business Life Cycle. While this is relevant to the study of macroeconomics, there is no space to discuss this issue here. However, there is space to further discuss the nature of Individualism and Collectivism since it relates directly to policy provision and hence to macro-economic processes.

## 7. INDIVIDUALISM AND COLLECTIVISM

Individualism and collectivism are very broad constructs. While integration of all values of a society into one bipolar dimension is seemingly 'parsimonious', the terms individualism and collectivism mean different things to different people. As a guiding position we may refer to Sagiv & Schwartz (2007) who present three constructs which are clearly related to "Individualism":

- *Intellectual Autonomy* {broad-mindedness, freedom, creativity, security};
- *Affective Autonomy* {exciting life, varied life, pleasure, enjoying life, self-indulgent};
- *Mastery* {capable, successful, ambitious, independent, influential, social recognition, choosing own goals, daring};

and two others are clearly related to "Collectivism":

- *Harmony* {accept my portion in life, world at peace, protect environment, unity with nature, world of beauty};
- *Embeddedness* {polite, obedient, forgiving, respect tradition, self-discipline, moderate, social order, family security, protect my public image, national security, honour elders, reciprocation of favours}.

There is also the construct of *Hierarchy* {authority, wealth, social power}, which is opposed to *Egalitarianism* {loyal, equality, responsible, honest, social justice, helpful}, and it is unclear whether hierarchy or egalitarianism should be seen as orthogonal to, or linked with, individualism/collectivism. This is because hierarchy appears to have some correlation with both mastery and embeddedness. As such there are apparently some forms of hierarchy which are practiced by individualists, in particular in mastery oriented society; and there are other forms of hierarchy which are practised by collectives, in particular in embeddedness oriented societies. Similarly, egalitarianism may on the one hand refer to the ideal that all humans are equal beings and thus, are intellectually free to say what they want, but on the other hand it could also mean that equality implies that everyone should get a reasonable share in available resources, irrespective of the individual contribution to achieving those resources.

Different authors give different weight to specific aspects of the "value universe" and more often than not illustrate their perceptions of individualism and collectivism with "two-word" constructs, like for instance *methodological individualism* versus *methodological institutionalism* (Davis, Marciano & Runde, 2004), or more common to politics *transactional individualism* versus *relational collectivism* (Herrmann-Pillath, 2009; Tangen, 2009; Glasman et al, 2011; Yolles, 2009). However, we also find the use of the same term to describe different constructs, like conservative individualism as opposed to socialist (or collective) individualism or transactional individualism as opposed to relational collectivism. Both pairs depend on the ideological position of those who adopt the terms. Here, different weight may be given to the intellectual, spiritual, economic or social aspects of "individualism", or on the spiritual, intellectual, economic or social aspects of "equality", or on the right to enjoy individual achievements without boundaries or responsibilities to take care of other human beings and of natural resources.

There is necessarily a connection between economics and the social since it is the social that hosts economics, and without the host there would be no economics. The *methodological individualism* adopted in economics has an impact at the social level through the behaviour of individual persons (Frey & Benz, 2004). In methodological individualism not all human beings are considered to be isolated entities, their behaviour being perceived to be the result of interactions with their surroundings - other people and institutions.

This perspective might recognise that social groups are *complex* systems with dynamic interactive processes that result in the development of *systemic emergence* (Archer, 1982; Cohen & Stewart, 1994; Yolles, 2006) – where such emergence results in an autonomous social system having propriety properties. However, methodological individualism tends to assign little value or significance to this.

So, perspectives of methodological individualism differ fundamentally from theories in which collectives are emergent and act as autonomous units. This latter view embraces the more collectivistic *methodological institutionalism* which is concerned with the constructed sets of institutional rules that ‘regulate’ and ‘stabilise’ human behaviour, a view that is more consistent with notions of culture theory (e.g., Hofstede, 2001), where it is seen that it is through the development of cultural values and norms that collectives develop more or less uniform styles of perception and collective behaviours.

The recognition by Costanza et al. (1993) that the economic system is a subset of the cultural system is here of interest. The cultural system has a dynamic that is a result of the interaction between its coupled types, and hence these ultimately determine the orientation that an agency may have. It would be of interest, therefore, to be able to identify how this cultural orientation can impact on the cultural system, something that we shall return to in due course. However, if orientations exist within a cultural system, perhaps they also exist elsewhere, for instance in the economic system.

Some indication of this is provided by Davis, Marciano, & Runde, (2004:1), when they say:

*«For some, economics is identified with individualism. But close examination of the underlying claims making such explanations raise a number of difficult philosophical issues [...]»*

They continue by noting that:

*«[...] adherence to the principles of economic individualism and laissez-faire (cast in the natural law tradition) is a doctrinal and dogmatic commitment [...]» (Ibid., 204: 10).*

That such orientation exists in socio-cultural organisations is illustrated by Best & Widmaier (2006). They note that in recent decades there have been: recurrent financial crises; an increasing gap between the rich and poor; and an intensified global debate concerning the appropriate responses to globalization. Yet, in the midst of this debate they suggest that:

*«[...] tensions persist between economists’ claims to apolitical value-neutrality and their often-passionate commitments to classically liberal ideals. From an ostensibly technocratic vantage, the legitimacy of institutions such as the International Monetary Fund and the World Bank has come to rest on their claim to the neutrality of expertise. Their various programs, whether emphasizing the importance of surveillance, conditionality, structural adjustment or technical assistance, have been presented as “tool kits” for states in need of guidance — value-neutral means to whatever ends a state determines. However, this claim to have divorced economics from any ethical biases coexists with a recurring resort to a*

*classically liberal rhetoric that stresses the need to enhance the scope for individual choice and autonomy.... [consistent with the single political position of Individualism that results in] tensions between...liberal ethical principles and the continued claims of ethical neutrality?» Best & Widmaier (2006: 609).*

Individualism is apparent elsewhere, as explained by Best & Widmaier (2006), when they note that it embraces the idea that the social world has no independent meaning outside the action of individuals, and micro-classical approaches consider the individual to be *responsible* for his or her own economic welfare. However, it is not only Individualism that is of interest, as explained by Kwang-Il Yoon (2010) in reference to its conceptual opposite Collectivism. Individualism and Collectivism occur at two levels of analysis. Yoon, drawing on Schwartz (2004) and following Hofstede (2001: 215-216), distinguishes between these two levels: the *individual level* (with its history of little empirical inquiry), and the *cultural level* (with its history of significant empirical inquiry). The individual level supports multidimensional constructs (e.g., multiple key attributes and orthogonal classifications). At the cultural level there are unidimensional bi-polar constructs relating to cultural values, allowing analysis of how collectivistic or individualistic a nation is (e.g., ecological factor analysis based on the aggregate survey data). However, within such a unidimensional construct, multidimensional constructs can be discovered at a lower systemic level thereby allowing individual and cultural level analysis to be matched.

Most academics who write about *Individualism and Collectivism* appear to centre their studies on the individual level of analysis. At this level, Yoon notes that Triandis (Triandis et al. 1985; Triandis et al. 1988; Triandis 1994) distinguishes between two attributes of personality that drive the view of individuals: allocentric personality attributes of collectivism where people operate subjectively, and idiocentric attributes of individualism where people "*operate through*" social contracts that develop through the rational wills of its individual members. Triandis also established the psychological study of Individualism and Collectivism, explaining how these cultural orientations affect the psychology of the individual (Hock 2002). Triandis (1995) largely speculated the implications of these cultural syndromes for politics in Individualism and Collectivism. Such an approach also enables:

(a) a connection to be made between micropolitics and macropolitics;

(b) culture (specified as Individualism and Collectivism) «*affects an individual's political attitude and behaviour as internalized values at the individual level and as "human-made" environments under which people think and act.*» (Almond & Verba, 1963: 32).

If particular penchants are apparent in supposedly neutral bodies like the International Monetary Fund and the World Bank, then we surely need to understand more fully what the terms Individualism and Collectivism actually mean. For Bandura (2006) Individualism is part of a duality with Collectivism that arises from the same value set. Tamis-LeMonda et al. (2007) also note that the duality is theoretically and empirically limiting. The two perspectives are culturally embedded and affect how people respond to the world (Shulruf, Hattie & Dixon, 2011), even though how they are manifested also depend on the contextual situation (Triandis, 1988). Oyserman, Coon & Kemmelmeier (2002) explains Individualism as the doctrine that all social phenomena (their structure and potential to change) are in principle explicable only in terms of individuals – for instance their properties, goals, and beliefs. In contrast Collectivism in principle and ideally relates to people coming together in a collective to act unitarily through normative processes in order to satisfy some commonly agreed and understood purpose or interest. Bodies

that adopt Individualism and Collectivism have realities that are differently framed, and hence maintain ontologically distinct boundaries that constitute frames of reality, and these represent barriers for coherent meaningful mutual communications. While Collectivists are interested in society as such, Individualists deny that society may have any coherence beyond that of the individual, and in this sense Individualism and Collectivism are ontologically distinct.

For Individualism, reality frames the development goal of *autonomy/ independence* while Collectivism frames *relatedness/interdependence* (Tamis-LeMonda et al., 2007; Schartz, Luychx & Vignie, 2011). Individualism and Collectivism both embrace distinct cultural identities (from which organisational structures are a reflection) that are manifested within individuals as self-identity that impacts on basic motives for action (Earley & Gibson, 1998). Viskovatoff (1999) also notes that Individualism-Collectivism represents a dualism, and recognises attempts to overcome it that:

- (i) adopt a post-structuralist approach;
- (ii) recognises that reality should be seen as chaotic (and hence subject to chaos), disorganized and fragmented (hence affecting the framing of development goals);
- (iii) views the social world in terms of the *decentred* subject (thus impacting on self-identity).

Collectivism and Individualism each have their own value ranges, but the boundaries between their differentiations can become merged. Thus, the notions of Toennies (1957), Triandis (1995, 2003) and White & Nakurama (2004) connect through *transactional* and *relational* forms of Collectivism (Yolles, 2009), so that *Transactional Collectivism* is constituted as a boundary for Individualism. Thus, in a complex society in which the collective exists and operates politically through civil society, the form of individualism that is prevalent in western societies is: (a) *Transactional Individualism* and the form of collectivism is (b) *Relational Collectivism*. Yolles (2009) has further claimed that the two orientations of Transactionalism and Relationalism constitute polar political forces that are in interaction with each other, and from which balances may emerge even temporally. He also creates definition for the bi-polar positions: in Transactionalism the collective is not seen to be separable from the individual, relationships to other individuals are important and must be honoured, individuals and their proprietary belief systems important, individual social contracts are important, goal formation should be for individual benefit, and '*ideocentric collectives are important, operating through controlled*' social contracts between the rational wills of its individual members; in relationalism the collective is a superior organic whole, the relationship to the whole is important and must be honoured, the whole is influenced by relationships with individuals and influence in relationships with particular collectives, goal seeking should be for collective benefit, collective goal formation takes precedence over personal goal formation, and allocentric collectives are important, where the members operate subjectively

Considering that *Transactionalism* and *Relationalism* constitute an orientation towards others in a social environment, it is possible to reconsider them within the light of Shotwell et al. (1980), who were interested in the development of symbolisation in children as they engaged in play. The significance of studying children is that they operate without the constructed fabric of a defensive social consciousness, and hence their basic cognitive information processes can be more easily inferred. Symbolic play is the ability to represent actual or imagined experiences through the combined use of objects, motions and language that can develop into the building of

structures, and as such symbolisation therefore has an impact on operative functionality. Two distinct polar styles of symbolisation were defined:

- (a) *dramatists*;
- (b) *patterners*.

Dramatists are interested in sequences of interpersonal events, having dramatic or narrative structures that are likely to involve distinction (e.g., the distinction of scenes or chapters), and undertaking effective communications. Patterners show strong interest and skill in configuration, deriving from persistent curiosity about the object world and how it works, how it is constructed and is named, varied or explored. It is connected to problems of symmetry, pattern, balance, and the dynamics of relationships between entities. These bi-polar orientations can drive transactional and relational orientations, broadening their very basis. So linking these types with Transactionalism and Relationalism, we can now define Dramatism and Paternism as follows:

(1) *Transcational Dramatism* refers to '*individual relationships*' to others, constituted as sequences of controlled interpersonal events. Communication is important, as are individuals and their proprietary belief systems, and individual social contracts. Goal formation should be for individual benefit. '*Ideocentric collectives are important, operating through*' social contracts between the rational wills of its individual members.

(2) *Relational Patternism* refers to the importance of *configurations* of social and other relationships. The social is influenced by relationships with individuals.

Some importance is attached to symmetry, pattern, balance, and the dynamics of relationships. Goal seeking should be for collective benefit, and collective goal formation takes precedence over personal goal formation. Allocentric collectives are important, where the members operate subjectively.

Returning again to Individualism, it can be considered in the same way as we have considered Collectivism. In doing this it might be useful to refer to Ron Allen<sup>x</sup> who relates forms of Individualism and Collectivism to the political right and left respectively. Thus he refers to political:

(1) *Conservative Individualism* which he argues is based upon:

- (a) an unquestioned acceptance of the capitalist status quo which is concerned with competitive and possessive individualism;
- (b) the individual and their properties and needs;
- (c) individual accomplishment/achievement.

In contrast,

(2) *Socialist Individualism* is defined as being concerned with the role of the individual to facilitate the collective, with respect for instance the distribution of goods. Socialist Individualism may therefore more correctly be seen as a boundary form of Collectivism in which the role of the individual is represented.

Extending Allen's considerations, might it be the case that a universal connection can be made between Individualism and the political right, and Collectivism and the political left? If so then a logical problem arises. If, as indicated by Sorokin, Sensate culture is associated with



Individualism and Ideational culture with Collectivism, then stable Sensate cultures will necessarily tend to embrace the political right while stable Ideational cultures will tend to embrace the political left. Now stable Idealistic culture (which is a precursor for stable Sensate culture: Sorokin, 1941, Vol. 4: 265), would need to be connected with a political balance point between Individualism and Collectivism. Such a balance does exist, and has been called *Collective Individualism* (Limerick & Cunningham, 1993), and this would need to embrace the centre ground politics. If such restriction on the political left, right and centre are deemed unlikely, and it is taken that what constitutes the right and left are always universally well defined, then the only apparent way out of the dilemma is to suggest that the epistemological boundaries (and thus the very meaning) of what constitute Individualism and Collectivism are different under Sensate and Ideational cultures. This conforms to the realisation that Sensate and Ideational normative epistemologies are different, and hence any frames of reference that are created during such stable periods will be different. This view can be supported by recognising that in the current epoch Individualism delivers *Transactional Dramatising*, and Collectivism delivers *Relational Patterning*. As an extension of this argument, we also need to refer to unstable cultural periods, when political regimes are likely to oscillate between the right and the left.

The distinction between the *Dramatising Political Right* and the *Patterning Political Left* leads to a consideration of their main opposing characteristics:

(1) the *Dramatising Political Right* tends to disavow the collective and its processes in favour of the individual, so that a phrase like “there is no such thing as society” (voiced by a UK Conservative Prime Minister: Thatcher, 1987) may not be a surprise, and where society’s sacrificial lambs are those who do not have personal resources or capacity to make their individual lives sustainable to some level of personal dignity;

(2) the *Patterning Political Left* tends to disavow the individual and its human rights for the sake of the collective and the sustainability of its directing executive (World Report 2012: China, 2012). The commonality between both extreme positions is always the potential abuse of the individual and its human rights.

While cultural type orientations are important to the political orientation of Individualism and Collectivism, Ball (2001) explains that the Individualist/Collectivist orientation of a society will on one hand influence its course of economic development; on the other hand, economic growth and changes in economic structure will alter the orientation of the society toward Individualism/Collectivism.

We have argued that durable collective bodies like societies or corporations adopt orientations that are Individualistic or Collectivistic. As such they have realities that are differently framed. For Individualism, the reality frames the development goal of *autonomy/independence* while Collectivism frames *relatedness/interdependence* (Tamis-LeMonda et al., 2007; Schartz, Luychx & Vignie, 2011). Individualism and Collectivism both embrace distinct cultural identities (from which organisational structures are a reflection) that are manifested within individuals as self-identity that impacts on basic motives for action (Earley & Gibson, 1998). Viskovatoff (1999) notes attempts to overcome the Individualist-Collectivist dualism that:

- (i) adopt a post-structuralist approach;
- (ii) recognises that reality should be seen as chaotic (and hence subject to chaos), disorganized and fragmented (hence affecting the framing of development goals);

(iii) views the social world in terms of the *decentred* subject (thus impacting on self-identity).

The durable collective may adopt an Individualist or Collectivist (cultural level) orientation, but individuals also do this. The connection between the collective and the individual is not only that the individual makes up the collective, but that the collective develops socio-cultural norms that derive from the population of individuals (Bandura, 2006; Yolles, 2009a). It is thus that the individual level of Individualism/Collectivism informs the cultural level. Tamis-LeMonda et al. (2008) are interested in the socialization of children by their parents, and note the dominating influence in this of Individualistic and Collectivist perspectives. Each of these perspectives operates through a set of traits that inform the socialization process. Tamis-LeMonda et al. are also interested in examining if and how this duality might *coexist* in some form of continuity. Exploring the behaviour of parents during the socialization of their children within changing contexts, they find that the Individualism-Collectivism duality is a dynamic:

- (i) coexistence of the two cultural value systems as forms of association change over time;
- (ii) that may be better viewed as conflicting, additive, or functionally dependent;
- (iii) the dual parts of which are individually dynamic, changing across situations, developmental over time, and being so in response to social, political, and economic contexts.

That idea that the Individualism-Collectivism duality coexists and maintains a dynamic changing relationship implies that the dominant cultural set in a given situation should be seen as a variable that is sensitive to fluctuating contexts, and is contained within a single continuum which maintains characteristics that embrace both value sets. In their study of child socialization processes Tamis-LeMonda et al. also note that the dynamic nature of the Individualism-Collectivist relationship implies discontinuities in parenting practices. This is consistent with work elsewhere (de Oliveira, Croson & Eckel, 2008; Hyldegård, 2009; Myers Briggs, 2000) in which, while the traits may be subject to continuous variation, they coalesce into only a few stable personality states that can result in particular modes of behaviour.

While the context of the Tamis-LeMonda et al. analysis relates specifically to the short term individual processes of child socialization, it has a much broader implication when it comes to the group as illustrated by other research. Taking a leaf out of personality theory and following Eysenck (1957), the orientations of Individualism and Collectivism may be seen as type conditions that arise from a trait, reflective of Sorokin's model of culture. The trait is able to change its representation for the group because of the principle of immanent change (Sorokin, 1962; Yolles, 2006; Yolles, 2009b; Yolles, 2009; Yolles, Fink & Dauber, 2011). During this, the types that each of the two subgroups hold may be in conflict and create a chaotic cultural environment, but for durable groups one condition develops where either one of the types achieves a stable dominance, or some form of stable balance between the two types may arise. Within this cultural continuum the ascendancy of one type over the other may change periodically through immanent change. The duration of the period depends upon the size of the population (creating social momentum) associated with the affiliation (Yolles, Frieden & Kemp, 2008). Hence for the case of individual parents as considered by Tamis-LeMonda et al., periodicity may be indiscernible and fully dependent on changing situations, while in the case of Sorokin's study of civilisations, it may occur over generations.

In the current corporate paradigm the dominant cultural value set is Individualism, and we have already cited Milton Friedman's article as support for this in *The New York Times Magazine* in 1970 in this regard. Thus in corporate environments, dealing with structures that are populated

by individuals, and dealing with them as single instances from which derive a problematic issue, seems to dominate the diagnosis of organisational problems. However, Collectivism seems to be important too, as illustrated by Rosenhead (1998) who notes that one of the characteristics of the well-managed organisation is that it has cohesive management teams. The main distinction between Collectivist and Individualism orientations in seeking the resolution of problematic issues is that in the case of the former, organisational culture is important, while in the latter it is organisational structures and individual roles and the search for individual responsibility and blame that holds attention. Within this frame of reference, the fact that perhaps 90% of all joint alliances fail due to lack of consideration of cultural factors (Kelly & Parker, 1997) is likely an illustration of the dominant Individualist corporate orientation.

As in Sorokin's sociocultural dynamics, the two polar values types of Individualism-Collectivism can result in an intermediate balance, thus implying that the trait to which they belong is a continuum, as highlighted by Limerick & Cunningham (1993). This balance point was earlier called *Collective Individualism*. It refers to network organisations in which a corporation may be seen to have a reality frame of reference that supports the development goal of *collaboration*. Here, individuals work together with others towards a common vision and mission, and their emancipation, their freedom from groups, organisations and social institutions. The organisation is also seen as a host for learning the development of shared values and beliefs among its participants. One of the features of Collective Individualism is shared value, and a process of decentring already referred to in relation to Viskovatoff (1999). From the cultural identity of Collective Individualism is manifested the self-identity of individuals that is referred to as that *liminality* – a decentring that constitutes a threshold-like quality of the personality as people lose their group identity. This constitutes an emancipated identity defined not by the external agencies of social and institutional Individualists or Collectivists membership, but by self. Here, self is defined in terms of a number of characteristics within a corporate context, which include:

- (i) identity, where self is continuity;
- (ii) psychological contracts which are issue related;
- (iii) cultural values which include integrity, maturity and field independence (perhaps today referred to as empowerment);
- (iv) processes which include negotiation, career responsibility of self, the traversing of many systems, and collaborating with others on issues.

For Bandura (2006) Individualism and Collectivism allow views to be taken that encompass territorial culturalism and parochial interests, and this draws in their balance of Collective Individualism too. This continuum establishes an orientation that creates partiality and more generally limits any capacity to undertake a balanced analysis, including that of sustainability. In concert with this, each of the value sets drives specific development goals that exclude the rise of alternatives that might be more suitable, especially under conditions of chaos when ontological boundaries and the related development goals may need to change. Bandura (2006) therefore looks towards an alternative that does simply not lie on the Individualism-Collectivism continuum. In doing this he proposes that a broader view needs to be taken that is directed toward human development, adaptation and change, and this can provide guiding principles and the creation of innovative practice in complex situations, and assist with creating sustainability.

An illustration of this lies in the current economic crisis that emerged in 2008. The debt crisis that resulted is perceived differently by Individualists and Collectivists. In a Sensate culture and in particular in countries where the rule of law has value and is not a political football, Individualism has a transactional *dramatist* nature that adopts a rule based control approach intended to resolve the crisis through a policy of social austerity. In the current debt crisis, society is seen as an object of attention, and as such is simply regarded as a financial source that needs to be drained in order to balance debt<sup>xi</sup>. As we have seen within the Greek saga (Humphries, 2012), this can result in severe individual hardship and the endangerment of economic sustainability to a level of dignity in a large proportion of the economically disadvantaged society. Under the same conditions of rule of law, the Collectivist alternative is relational *patterning*, operating through a policy of relational growth stimulation, where the state facilitates the encouragement of enterprise, ignoring the indebtedness, and assuming that the economic system will self-adjust. The balance point between Individualism and Collectivism is Collective Individualism, a midway compromise in which austerity and stimulation are parallel policy options. However, neither of these policy options responds to the concerns of Bandura (2006) which seeks analysis and diagnosis devoid of territorial culturalism and parochial interests. Such a “proper” analysis seems far from the horizon. Noting the apparently corrupt nature of western banks referred to in the introduction of this paper, such an analysis and diagnosis might lead in an unexpected direction, for instance by redefining of the social nature and role of banks. It is likely such a development is consistent with the need for an economic paradigm shift, as described by Dolphin & Nash (2011).

There has been some indication here that distinguishing Individualism and Collectivism as the only alternatives to decision making to develop macroeconomic policy may be inadequate. Moving away from this dichotomous perspective in favour of a broader cultural perspective, Shalom Schwartz (1992, 1994) developed his 'Schwartz Value Inventory' based on a survey of 60,000 respondents, to identify common values that act as guiding life principles, and which lay beyond the relatively simple notions of Individualism and Collectivism. In doing so he identified ten 'value types' that gather multiple values into a single category. We shall revisit this study in due course.

## 8. TRAITS, ENANTIOMERS AND AGENCY TYPES

The term trait as used here refers to the preferential variables of an agency that are formative in defining its functional nature. The traits may take one of two bi-polar values, called enantiomers that orientate the agency in the way that it processes information and develops, and which ultimately creates a penchant towards particular forms of decision and policy making and behaviour. For Van Egeren (2009) and Davis (2000), such traits operate as fundamental control and characterising function. There are 5 traits: combinations of the enantiomers of 3 normative personality traits create *personality types*; and combinations of the 5 traits create *agency types*.

The traits arise from core properties of the agency that commonly exist within it, and its capability to create performance is a function of its capacity to process information efficaciously. The traits establish stable regulatory processes that enable the emergence of stable patterns of behaviour. Different traits therefore have different control functions (Figure 1) and hence necessarily reflect different definitive characteristics (Yolles, 2009; Yolles & Fink, 2009; Yolles, Fink & Dauber, 2011).

*Table 2: Cultural Agency Traits, Strategic Economic Agency Traits and Social Agency Traits, and their Possible Polar Orientations*

Orientations	Personality Type Enantiomers			
	Enantiomer	Nature	Enantiomer	Nature
<b>Cultural</b>	Senate	Appreciating nature of needs and ends to be satisfied. Means of satisfaction occurs through exploitation of the external world. Practically orientated, with emphasis on human external needs.	Ideational	Appreciating the conceptual and internal nature of an entity. Creating fulfilment or realization through self-imposed minimization or elimination of most physical needs.
<b>Cognitive</b>	Autonomy	Bounded entities should find meaning in their own uniqueness, encouraged to express their internal attributes like preferences, traits, feelings and motives.	Embeddedness	Emphasizes on maintenance of status quo and restraining actions or inclinations that might disrupt in-group solidarity or the traditional order.
<b>Figurative</b>	Mastery	Monistic in nature and encourages active self-assertion to attain group or personal goals and to master, direct and change the natural and social environment, like values: ambition, success, daring, competence. May involve spontaneous decisions following from the spontaneous desires of the decision makers	Harmony	Pluralistic in nature. Tries to understand and appreciate rather than to direct or exploit. Connected with appreciations driving goal formulation as a process deriving from data collection and involving careful weighing of arguments
<b>Operative</b>	Hierarchy	Relies on hierarchical systems of ascribed roles for productive behavior. Actors are socialized to take the hierarchical distribution of roles for granted and to comply with the obligations and their role's rules. Tends to adopt a chain of authority with well-defined roles. Actors expected to comply with role-obligations putting interests of the organization first. Unequal distribution of power, roles and resources legitimate (values: social power, authority, humility, wealth).	Egalitarianism	Actors tend to recognize one another as moral equals sharing basic interests. Actors are socialized to co-operate and to feel concern for welfare of others. Expectation of action for benefit of others as a matter of choice (values: equality, social justice, responsibility, honesty). Organizations are built on co-operative negotiation among employees and management.
<b>Social</b>	Patterning	Persistent curiosity about the object world and how it works, is constructed, and is named, varied or explored. It is connected to problems of symmetry, pattern, balance, and the dynamics of physical relationships between entities, and is likely to indicate relational connection.	Dramatist	Interested in sequences of interpersonal events, having dramatic or narrative structures that are likely to involve distinction and differentiation (e.g., distinguishing situations), and undertaking effective communications.

Personality interacts with its environment, and because of this we need also to consider influences that impinge from the environment on the agency. We distinguish two environmental traits: agency *cultural* and *social* orientation. Agency cultural orientation controls what is culturally legitimate in the agency, while social orientation controls how the agency reacts to the perceived needs of what it identifies as its environment, including others.

The set of five traits (cultural, cognitive, figurative and operative, and social) derive their bipolar enantiomer type values from a cultural study by Sagiv and Schwartz (2007). This examines cultural values, and illustrates how societal culture influences organisational values both directly and indirectly, and ultimately with respect to organisational tasks. An adaptation of their study drawing on Yolles and Fink (2011) provides the following explanation of the traits shown in Figure 1, and summarised in Table 2. Here, the strategic economic agency shown in Figure 1 has 3 formative traits which are influenced by its cultural agency trait. The social agency trait determines the likely agency behaviours under given contexts.

These traits can be explained at greater length in the following subsections.

## 8.1 Cultural orientation

This trait maintains three forms of knowledge: identification, elaborating and executor knowledge (Yolles, 2006) that can each be manifested into the personality system as information. The enantiomers of this trait have been explored at some length in Yolles et al (2008) and arise from the work of Sorokin (1939-1941), and summarised in Sorokin (1962). As already explained, the two type orientations are Sensate and Ideational. Sensate epistemic attributes include: appreciating the nature of the needs and ends that are to be satisfied in respect of a given object of attention, the degree of strength in pursuit of those needs, and the methods of satisfaction. The means of satisfaction occurs not through adaptation or modification of human beings, but through the exploitation of the external world. It is thus practically orientated, with emphasis on human external needs. With reality as perceived from senses, its operative nature is highlighted in that it views reality through what can be measured and observed rather than reasoned. Ideational cultural orientation epistemic attributes include: appreciating the conceptual and internal nature of an object of attention, and creating fulfilment or realization through self-imposed minimization or elimination of most physical needs. With reality as perceived conceptually, its operative nature is highlighted in that it views reality through what can envisaged and reasoned. When we are considering the macro-economic context of a country and the policies that government generate and implement to achieve efficacious performance. We will likely be referring to the political culture that drives its governance, which may adopt predominantly Sensate or Ideational perspectives. In cases of cultural instability, the ascendancy of one type over the other may vary according to the means by which a particular regime is able to come to power and maintain it.

## 8.2 Cognitive orientation

This arises from cognitive and social psychology (Van Liere & Dunlap, 1981; Menary, 2009), is existentially connected with cognitive self-reference (Hannah et al, 2008 & 2010), and maintains a relationship with cognitive intention (Freeman, 2008). It might involve the effective realising of potential recognising social and political structures and the associated constraints imposed on the agency. The variable may be seen to take enantiomers that give the agency an *autonomy orientation* when an agency will follow less the guidance of its host culture, but might react more autonomously to the lessons drawn from (or opportunities offered by) environmental impulses; the other enantiomer of the variable might be *embeddedness orientation* (Sagiv and Schwartz, 2007). Autonomy refers to bounded entities that should find meaning in their own uniqueness and who are encouraged to express their internal attributes (preferences, traits, feelings and motives). Embeddedness emphasizes the maintenance of the status quo and restraining actions or inclinations that might disrupt in-group solidarity or the traditional order. The trait is affected by attitudes, and emotive imperatives that may orientate the agency towards cognitive coherence or dissonance. It also has impact on perspectives that are associated with strategies, ideology and ethics/ morality. It in addition creates imperatives for the control of the patterns of behaviour through intention. The development of inefficacy can lead to lack of coherence and a demonstration of collective cognitive dissonance, and this can act as a driver for cognitive state/dispositional<sup>xiii</sup> dysfunctions (Endler & Summerfield, 1995: 255). This can also be connected with patterns of information that arise from conceptual and cultural knowledge.

### 8.3 Figurative orientation

This has both cognitive and evaluative aspects, is influenced by attitudes and reflection, and connects with cognitive purpose and processes of cognitive self-regulation. As a trait variable it takes enantiomers that define a *harmony orientation* and a *mastery orientation* (Sagiv and Schwartz, 2007). Mastery is monistic in nature and encourages active self-assertion to attain group or personal goals and to master, direct and change the natural and social environment (values: ambition, success, daring, competence). Harmony is pluralistic in nature, and tries to understand and appreciate rather than to direct or exploit. We could further relate this to appreciations driving goal formulation as a process that derives from data collection and involving the careful weighing of arguments as opposed to spontaneous decisions following from the spontaneous desires of the decision makers. This trait maintains an interconnected set of more or less tacit standards which order and value experience, determines the way an agency sees and values different situations, and how instrumental judgements are made and action is taken. The trait facilitates how an agency as a decision maker observes and interprets reality, and establishes decision imperatives about it. As such the trait regulates the appreciations and resulting goals of the organisation with respect to its intended operations, the potential for social interaction, and the ethical positioning that may occur as a response to opportunities provided or indicated by the social environment. Efficacy in this trait in relation to the operative orientation trait can lead to self-principled agencies with aesthetical, intuitive or ethical/ideological positioning. It can provide preferred ideological images that may facilitate action. It orientates the agency towards a view of stages of historical development, with respect to interaction with the external environment. In-efficacy can lead to corrupt and sociopathic organisations (Yolles, 2009a), or more broadly agency misconduct (Greve et al., 2010).

### 8.4 Operative orientation

This provides the ability of an agency to be able to durably maintain a separate operative existence while coping with unpredictable futures. As a trait variable it is able to take one of two enantiomers. These are *hierarchy* and *egalitarianism*. Hierarchy relies on hierarchical systems of ascribed roles to ensure productive behavior (Sagiv and Schwartz 2007, 179). Through hierarchy, people are socialized to take the hierarchical distribution of roles for granted and to comply with the obligations and rules attached to their roles. In hierarchical cultures, organizations are more likely to construct a chain of authority in which all are assigned well-defined roles. Members are expected to comply with role-obligations and to put the interests of the organization before their own. Hierarchy defines the unequal distribution of power, roles and resources as legitimate (values: social power, authority, humility, wealth). In contrast egalitarianism seeks to induce people to recognize one another as moral equals who share basic interests as human beings. People are socialized to internalize a commitment to co-operate and to feel concern for everyone's welfare. They are expected to act for others' benefit as a matter of choice (values: equality, social justice, responsibility, honesty). Egalitarian organizations are built on co-operative negotiation among employees and management (Sagiv & Schwartz, 2007, 180). Hierarchy is also consistent with the formulation of strong control measures to accrue funds that might develop through the supposition that austerity measures are needed that must be directed to easily objectively controlled parts of a system through processes of mass taxation, while egalitarianism would rather challenge this by pointing to the unequal distribution tax collection according to resources and capacity to pay. Challenges from the social system may

require flexibility in the application of these rules. This trait can represent a durable and distinct personality orientation that is able to cope with unpredictable futures. It structures appreciative information enabling adaptation, and enables the personality to facilitate responses to its social environment and predefine its behavioural penchant towards its operations. Agency efficacy in relation to the social orientation trait may contribute to the realising of its full social orientation potential, to engage with the environmental predictions that it controls, and adjust its own operative processes. In contrast, in-efficacy may result in an agency inadequacy that can impact on its operative intelligence or the recognition of agency adjustment imperatives. This may occur through self-regulation and either the subordination to hierarchy or liberation away from power and bureaucratic regulations allowing normative rule obedience to be defined at a sub-agency level. The distinction between hierarchy and egalitarianism is reflected in considerations information power. This is constituted as the disciplining of information, and its control through, among other things, socialization and division of labour (Boje, 2004).

### 8.5 Summarizing the traits

These traits and their enantiomer characteristics are summarised in Table 3, also listing keywords that arise with respect to the enantiomers.

The traits are instrumental in control aspects of the agency, the cultural orientation trait acts to constrain personality through normative self-reference and identity. The figurative orientation trait is concerned with normative self-regulation, and the operative orientation trait is concerned with normative self-organisation - while the two together constitute a first order operative couple one of which drives the other cybernetically. There is also a second order figurative couple that links the operative couple with its cultural environment and involves identity and self-reference. While cultural orientation of a governing body refers to its political culture, it is in itself influenced by the ambient host culture in which the agency is embedded. Social orientation is an extension of the agency personality that orientates it within the social environment that hosts it. Both cultural and social traits are therefore part of the agency personality environment, and both are able to represent changing contexts that influence personality.

While there are various ways to characterise personality, most are typologies that distinguish between different classes of individual (Furnham, 1996). The exception to this is the mindscape theory of Maruyama. This represents personalities through one of least four basic cognitive types or *epistemological meta-types* (Maruyama, 2001 & 1988).

Tung (1995) notes that for Maruyama (1993), mindscapes constitute epistemological structures that refer to the way in which people process and interpret information, and this is therefore a form of cognitive processing (e.g., Galavan, 2005). Maruyama identified four epistemological meta-types: **H** (*hierarchical bureaucracy*); **I** (*independent prince*); **S** (*social revolutionary*); **G** (*generative reformer*) to differentiate agencies on the basis of logical processes and the way in which they analyze and synthesize information.

Table 3: Summary of the Traits and their bi-polar enantiomers for an Agency

Trait	Trait Enantiomer	Nature
<b>Cultural</b>	<b>Sensate (S<sup>c</sup>)</b> Sensory. Pragmatic. Instrumental.	Reality is sensory and material, pragmatism is normal, there is an interest in becoming rather than being, and happiness is paramount. People are externally oriented and tend to be instrumental and empiricism is important.
	<b>Ideational (I<sup>d</sup>)</b> Supersensory. Moral. Creation.	Reality is supersensory, morality is unconditional, tradition is of importance, there is a tendency toward creation, and examination of self.
<b>Cognitive</b>	<b>Autonomy (A<sup>u</sup>)</b>	People seen as autonomous, bounded entities who should find meaning in their own uniqueness and who are



	Autonomy. Uniqueness (heterogenetic). Independent. Self-development.	encouraged to express their internal attributes (preferences, traits, feelings and motives). Intellectual autonomy encourages individuals to pursue their own ideas and intellectual directions independently (important values: curiosity, broadmindedness, creativity). Affective autonomy encourages individuals to pursue affectively positive experience for themselves (values: pleasure, exciting life, varied life). Likely to treat others as independent actors with their own interests, preferences, abilities and allegiances. Others need autonomy to self-develop own ideas.
	<b>Embeddedness (E<sup>m</sup>)</b> Social relationships. Traditional (homogenetic). Status quo. Order. Solidarity.	People are viewed as entities embedded in the collectively. Meaning in life comes through social relationships, identifying with the group, participating in its shared way of life and striving towards its shared goals. Such values as social order, respect for tradition, security and wisdom are especially important. Embedded cultures emphasise maintaining the status quo and restraining actions or inclinations that might disrupt in-group solidarity or the traditional order. Embrace responsibility and duty and commit to shared goals. Connected with Transactional scripting that constitutes simple repetition and sameness.
<b>Figurative</b>	<b>Mastery (M<sup>a</sup>)</b> Self-assertion. Mastery Monistic.	Encourages active self-assertion to attain group or personal goals and to master, direct and change the natural and social environment (values are: ambition, success, daring, competence). It is basically monistic in nature.
	<b>Harmony (H<sup>a</sup>)</b> Understanding. Unity Pluralism.	Trying to understand and appreciate rather than to direct or exploit. This orientation emphasizes the goals 'unity with nature', 'protecting the environment', and 'world at peace'. It is basically pluralistic in nature.
<b>Operative</b>	<b>Hierarchy (H<sup>i</sup>)</b> Hierarchic. Inequality (heterogenetic). Authority. Humility. Power.	People are socialized to take the hierarchical distribution of roles for granted and to comply with the obligations and rules attached to their roles. In hierarchical cultures, organizations are more likely to construct a chain of authority in which all are assigned well-defined roles. There is an expectation that individuals operate for the benefit of the social organization. Sees the unequal distribution of power, roles and resources as legitimate (values are: social power, authority, humility, wealth). This has an implicit connection with power and power processes.
	<b>Egalitarianism (E<sup>s</sup>)</b> Moral equality. Cooperation. Equality (homogenetic). Social justice. Responsibility. Honesty. Service.	Seeks to induce people to recognize one another as moral equals who share basic interests as human beings. People are socialized to internalize a commitment to co-operate and to feel concern for everyone's welfare. They are expected to act for others' benefit as a matter of choice (values: equality, social justice, responsibility, honesty). Organizations are built on co-operative negotiation among employees and management. This has an implicit connection with service to the collective.
<b>Social</b>	<b>Dramatism (D<sup>i</sup>)</b> Relationalist. Sequential. Communication. Contracts. Individualist. Ideocentric.	Individual relationships to others are important, constituted as sequences of interpersonal events. Communication is important, as are individuals and their proprietary belief systems, and individual social contracts. Goal formation should be for individual benefit. <b>Ideocentric collectives are important, operating through</b> social contracts between the rational wills of its individual members.
	<b>Patternism (P<sup>a</sup>)</b> Configurations. Relational. Pattern. Balance. Collectivist. Allocentric.	Configurations are important in social and other forms of relationships. There is persistent curiosity. The social is influenced by relationships with individuals. Some importance is attached to symmetry, pattern, balance, and the dynamics of relationships. Goal seeking should be for collective benefit, and collective goal formation takes precedence over personal goal formation. Allocentric collectives are important, where the members operate subjectively.

These four epistemological types are claimed to account for nearly two-thirds of all peoples in the world (Maruyama, 1993). While the four epistemological types are universal, one mode tends to dominate in a given country. Consequently, Maruyama theorised that cultural differences arise from the way in which the epistemological meta-types evolves and becomes dominant in one country. These mindscapes provide a link between seemingly separate activities such as decision process, criteria of beauty, and choice of science theories. They do not line up on a single scale, nor do they fit in a two-by-two table. Mindscape theory is relational, rather than having a classificational typology, since its purpose and use "lie in interrelating seemingly separate aspects of human activities such as organizational structure, policy formulation, decision process, architectural design, criteria of beauty, choice of theories, cosmology, etc" (Maruyama, 1988:2). Following Yolles & Fink (2012), mindscapes can be formulated through Sagiv-Schwartz traits as shown in Table 4. The strategic economic agency is shown in its 3 dimensional space in Figure 3, though the additional 2 traits are symbolically indicated as arguments of each mindscape mode. Now, two mindscape modes that take leading institutional roles are **I** and **H**. These are very closely connected Individualism and Collectivism adopting the recognition that they are cognitive conditions that can be described through mindscapes.

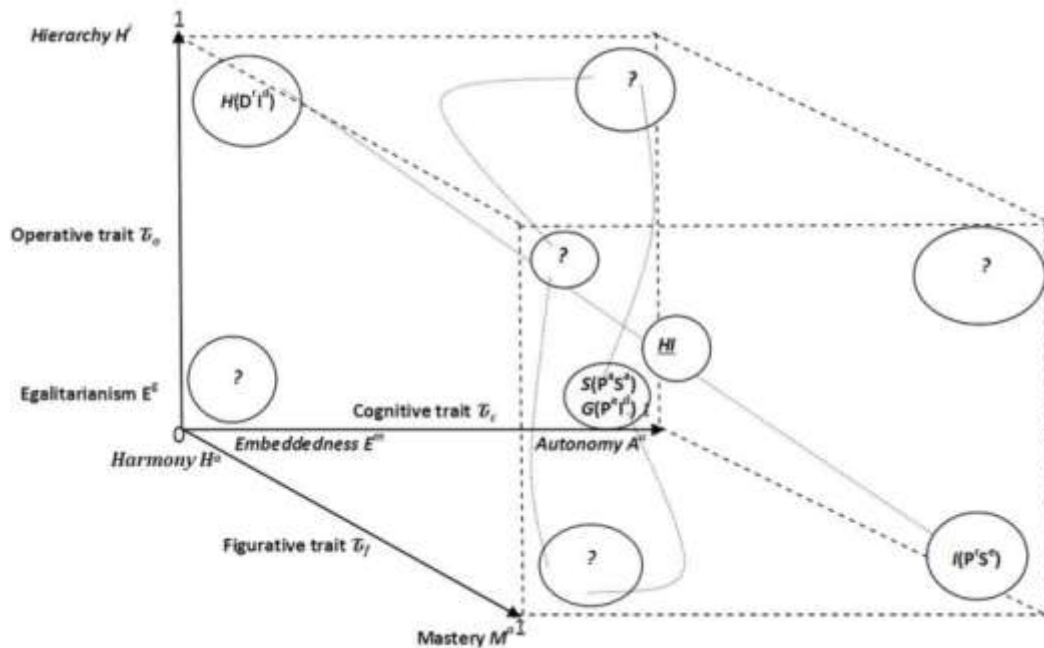
Mindscape modes are responsible for the potential cognitive patterns that can and do arise, both in and across different cultures. This is clearly the case with the rise of **I** or **H** modes and their respective connection with Individualism and Collectivism. Having said this, it should be noted that some of the attributes of these modes may change, as Oyserman, Coon & Kemmelmeier

(2002) note that the specific meanings of Individualism and Collectivism tend to change across cultures.

Table 4: Nature of the Sagiv-Schwartzian Mindscapes

Sagiv-Schwartz Mindscape	Nature
Hierarchical Bureaucrat $H(E^m H^a H^d T^d)$	Social relationships. Traditional. Status quo. Order. Solidarity. Understanding. Unity. Pluralism. Hierarchical. Inequality. Authority. Humility. Power. Relationalist. Sequential. Communication. Contractivist. Individualist. Ideocentric. Supersensory. Moral. Creation. Prone to Ideational collectivism.
Independent Prince $I(A^u M^a E^d S^e)$	Autonomy, Uniqueness, Independent, Self-development, Self-assertion, Mastery, Monistic, Moral equality. Cooperation. Equality (homogenesitic). Social justice. Responsibility, Honesty. Service, Relationalist, Sequential.
Social Reformer $S(A^u H^a E^d P^e S^e)$	Autonomy. Uniqueness. Independent. Self-development. Order. Understanding. Unity. Pluralism. Moral equality. Cooperation. Equality. Social justice. Responsibility. Honesty. Service. Configurations. Relational. Pattern. Balance. Collectivist. Allocentric. Sensory. Pragmatic. Instrumental. Prone to Sensate individualism.
Generative Revolutionary $G(A^u H^a E^d P^e T^d)$	Autonomy. Uniqueness. Independent. Self-development. Understanding. Unity. Pluralism. Moral equality. Cooperation. Equality. Social justice. Responsibility. Honesty. Service. Configurations. Relational. Pattern. Balance. Collectivist. Allocentric. Supersensory. Creation. Prone to Ideational collectivism.

Figure 3: Distribution of strategic economic agency (normative personality) meta-types in a 3 dimensional trait space, each displaying its cultural and social trait natures.



This brings us to Tamis-LeMonda et al. (2007), who note that Individualism and Collectivism are macroscopic overarching value systems, and agencies may adopt either value system according to the context in which they find themselves. Noting that individualism and collectivism are indicative of *I* and *H* mindscapes, this is consistent with the recognition by Dockens (2012) that agencies often shift the mindscape that they adopt according to

differentiable *public*, *private* and *personal* contexts, these respectively related to Habermas' (1987) distinction between the *social*, *external* and *internal* worlds that define our social reality. Returning now to our interest in explaining the development of macroeconomic policy under complexity, the above considerations imply that establishing a simple set of policy options that arise from either individualism or collectivism may be too limiting. Necessarily there is rather a requirement for a more inquiring analysis capable of grasping the basic nature of a problem situation. It also brings us back to Nozick's (1977) view introduced earlier, that Individualism and Collectivism really have no rational precedence in economic thought.

## 9. TRAITS, POLICY AND MACROECONOMICS

The capacity to anticipate variations of economic policy created by a governing body is driven by the ability to evaluate the stable type values that emerge for each of the five traits of the personality. Each system of the agency needs to be carefully assessed, likely enantiomers identified, and an evaluation made of the relationships between the traits that occurs. There is also a relationship between that governing body and civil society as a force for adjustment, and external stakeholders who are constituted as voters. Consistent with the Geels' formulation, agents have not only an internal environment composed of their culture, personality and operative system, but they are also interactive with external task environments, and the agency is sensitive to all of its strategic attributes. However, unlike Geels' theory, the external environments are not necessarily restricted to types of action through 'enactment-adaptation cycles' that may be susceptible to pathologies that are able to interrupt the cycles or inefficiencies that may ameliorate them. Behavioural learning is fundamental to the nature of agency though its cybernetic processes, and cognitive learning and adaptation as part of personality development are also core to the conceptualisation. Other forms of cycle may develop, but what is central is that all agency processes are tied in some way to cultural and personality dynamics.

Now we have modelled how values, defined in terms of bi-polar traits, guide and legitimate policies. Policies at large and economic policies have the same roots within a society, are driven by internal interest groups, and are subject to cultural influences. To understand the interplay between the forces it is of importance to refer to the mutual auxiliary function of the alternative poles of the bipolar traits. This was identified by Jung in the 1930s within the development of his theory of Psychological types (though not as part of trait theory), was strongly re-emphasised by Blutner & Hochnadel (2010), and at family level was empirically identified by Tamis-Le Monda et al (2007).

With emphasis on the auxiliary function of the bi-polar traits we can define intelligence as the ability of an agent to appreciate and harness its own knowledge as information about its environment, to construct new knowledge converted from information about its experiences, and based on the information to pursue its goals effectively and efficiently, these terms subsumed within the concept of efficacy.

Intelligences enable the consideration of the interests and influences of the external environment (stakeholders, institutions, counterparts in the task environment), an agency's own goals, and the goals of others, and facilitation of the development of ideas about the possible reactions of others in relation to the action taken by the agency. In an economic policy context intelligences become manifest in the behaviours and actions of politicians, civil servants, and other economic agents and in the outcomes of these behaviours. These intelligences are facilitated through degrees of

efficacy or inefficacy, determinants for the manifestation of information between the distinct systems of an agency. Adapting the notion of efficacy from Bandura (2006), it relates to the soundness of an agency's collective cognitive processes (e.g., as discussed by Heylighen, Heath & Van Overwalle, 2012) and actions, the meaning of its pursuits, and its ability to take corrective adjustments where necessary. Efficacy is conditioned by emotive imperatives that derive from emotions and feelings (Adeyemo, 2007) that can be controlled by emotional intelligence (Salovey & Mayer, 1990). Efficacy therefore influences an agency's *capabilities* to produce designated levels of performance that exercise influence over events that affect economic life.

By assigning such capability to the intelligences, inefficacy can be taken as the performance capability of the intelligences to connect the ontologically distinct systems of the agency in a coherent way. While efficacy is the performance capability of the intelligences to connect the ontologically distinct systems of the agency in a coherent way, inefficacy limits that performance capability.

For illustration of our thoughts on economic intelligence and efficacy we drafted a stylized table of national accounts. With these illustrations we also deliver some insights for the empirical remark of Siegel et al. (2012, p.24) why « [...] *FDI tends to flow to countries higher on cultural harmony.*»

This is shown in Table 5, where all data are expressed in unspecified currency units. One currency unit corresponds to a claim on one product unit. In the baseline 'balanced scenario', the basic assumptions are that functional distribution of income between labour and capital is 70:30%, assuming that this corresponds to marginal and average labour and capital productivity, and that this distribution of income corresponds to the levels of consumption and investment.

Workers pay 50% of their income for taxes and social insurance to the government. Capital owners pay 20 % tax on incomes, and spend 24 units for investment to maintain production of 100 units. Governments invest 25 % of private investment into infrastructure, maintenance investment, etc. Government receipts of taxes and social insurance contributions from wages are necessary to maintain adequate education, health care, safety, public security, etc., and ascertain political and social coherence.

Next, in the second part of Table 5, for the 'Mastery case' we assume that due to organisational and technological progress, labour and capital productivity increased by 10%. However, trade unions are weak and capital owners can take it all. The mastery guided case illustrates generation of capital surplus through wage 'discipline', by that increasing relative poverty. After productivity increase, capital owners can invest the same amount as before (24) to maintain the higher output level of 110 units. Since they pay more taxes (8 units), a capital surplus of 8 units remains, which cannot be reasonably invested into the domestic economy, because demand for consumer goods increases less than output. Demand for consumer goods increases only by 2 units, because the government spends the increase of tax income from capital owners for consumptive purposes. Thus, excess capital of 8 units can be used to provide export credits or to be invested abroad, what is needed, because excess output of 8 units must be exported.

In the third part of Table 5, we illustrate a specific form of a harmony (and more egalitarian) case. Trade unions are very strong and "welfare" increase of the masses of population takes place through wage and employment increase (wage indiscipline), which are not supported by productivity increase. Production stagnates at the previous level of 100 units. Excess demand of 10 units can be met only through imports. What will be feasible if in another country the 'mastery case' prevails? In the 'mastery' country capital owners are looking for export opportunities, which they can finance through excess capital gained through wage discipline in

their home country. In the ‘harmony’ country they cannot afford imports, but they need imports to balance supply and demand, so they take the offered export finance opportunity and incur foreign debts.

In the fourth part of Table 5, the second harmony case is constructed to show how the twin deficit emerges. From wages paid by government 50 % directly flow back to the government through taxes and social insurance payments. Thus, only after tax wage payments increase the state budget deficit. In this case we assume that government increases employment by 16. It suffers only from an 8 unit deficit. Consumption increases by 8 units through increase in net wages.

Of course, one also could construct many variants and also a merger of the two harmony cases: employment increase through budget deficit and wage increases beyond productivity gains.

Considering the “mastery case” and the two “harmony cases” it seems to be clear that neither unconditional mastery strategies nor any of the stylized harmony cases would be feasible for a longer period. Both strategies imply that other societies pursue the alternative pole strategy. Without deficit countries, capital surplus countries would not know where to export their capital surplus - and vice versa. But, one day capital owners of mastery countries may want their money back, and, even in mastery countries poverty cannot be increased endlessly. Inevitably there will come the riot point (Roe and Siegel, 2011).

Thus, economic intelligence is a function of long term efficacy of economic policy action. Intelligence weighs possible direct outcomes of behaviours induced by both types of “single pole” policies and also the negative side-effects. Consequently, it mostly will aim at a more balanced approach, since single pole driven behaviour may not be sustainable in the long run. Here, in a “mastery” driven society, concerns about emerging poverty and social coherence put constraints on mastery driven behaviours of profit and income maximization of a small group of extremely rich individuals. In a “harmony” driven society concerns about lack of achievements (e.g., lack of productivity gains and innovation) constrain “harmony” driven behaviour towards more equal distribution of income, which may be pursued irrespective of different contributions of different classes of individuals to goods and services production and to future productivity gains.

Beyond intelligence, we can see the agency orientation globally represented through mindscapes, and to see an illustration of this we can create a hypothetical story about decision making behaviour in respect of economic policy. The story needs to link combinations of enantiomers across traits. How this can be done still needs to be properly formulated. It could be done qualitatively, using some form of rationality, examining the notions underpinning trait relationships, but overwhelmingly there will also need to be a quantitative analysis.

Table 5: Illustration of Economic Intelligence to Figurative Trait Value Options<sup>1</sup>

Figurative Trait "Balanced" case of "Harmony" and "Mastery": [all data in unspecified currency units, one currency unit corresponds to a claim on one product unit]						
	Workers	Capital Owners	Government	Total of Rows	Available Goods	
Income from goods production	70	30		100	100	
Taxes and social insurance	-35	-6	41	0		
Expenditure for						
Consumption	-35	0	-35	-70	Total Demand	
Investment	0	-24	-6	-30	-100	
Balances (external balance)	0	0	0	[0]	[0]	
Figurative Trait "Mastery" case after 10 units labour productivity and production increase, but stagnant wages: [all data in unspecified currency units, one currency unit corresponds to a claim on one product unit]						
	Workers	Capital Owners	Government	Total of Rows	Available Goods	Excess Supply
Income from goods production	70	40		110	110	
Taxes and social insurance	-35	-8	43	0		
Expenditure for						
Consumption	-35	0	-37	-72	Total Demand	
Investment	0	-24	-6	-30	-102	[+8]
Balances	0	8	0	8	[+8]	
[external surplus = excess capital gains = capital export]						
Figurative Trait "Harmony" case after 10 units wage increase, but stagnant production: [all data in unspecified currency units, one currency unit corresponds to a claim on one product unit]						
	Workers	Capital Owners	Government	Total of Rows	Available Goods	Excess Demand
Income from goods production	80	30		110	100	
Taxes and social insurance	-40	-6	46	0		
Expenditure for						
Consumption	-40	0	-40	-80	Total Demand	
Investment	0	-24	-6	-30	-110	[-10]
Balances (external deficit)	0	0	0	0	[-10]	
[external deficit = capital import]						
A "Harmony" case after 8 units wage increase (after tax) through budget deficit, but stagnant production: [all data in unspecified currency units, one currency unit corresponds to a claim on one product unit]						
	Workers	Capital Owners	Government	Total of Rows	Available Goods	Excess Demand
Income from goods production	70	30		100	100	
Taxes and social insurance	-35	-6	41	0		
Expenditure for						
Consumption	-35	0	-43	-78	Total Demand	
Investment	0	-24	-6	-30	-108	[-8]
Balances (external deficit)	0	0	-8	-8	[-8]	
[external deficit = capital import]						

<sup>1</sup> General Assumptions: Workers pay 50% of their income for taxes and social insurance to the government. Capital owners pay 20% tax on incomes, & spend 24 units for investment to maintain production of 100 units. After productivity increase capital owners can invest the same amount as before & maintain higher output level. Governments invest 25% of private investment, e.g. infrastructure maintenance investments.

## 10. CASE SITUATION: THE 2008 EUROPEAN RECESSION AND MINDSCAPES

Interest here now rests in offering an illustration of how mindscapes can be used within a social psychological context. To do this we will create a short political-economic story, i.e. “*The Situation*” that can be explored in a way that indicates how a mindscape macro analysis might develop.

First we describe “*The Situation*”: Let us consider the following story as an illustration of how mindscape theory can be used. In exploring this story, it will not be important whether we adopt Maruyama or Sagiv-Schwartz mindscapes, since according to Table 4 they are epistemologically equivalent. However, for clarity we shall adopt the Sagiv-Schwartz symbolism.

Financial deregulation allowed financial institutions to make investments without responsibility, and in due course this led to a sub-prime meltdown (Ferguson, 2010) and the 2008 global economic crisis. The banks were found to be under-funded, and so were bailed out by their host nations thus creating a mountain of debt that has been responsible for an economic disaster in Europe and the US, and has destabilised the Euro. This debt crisis arose because of the way in which the banks had conducted (or misconducted) their business.

The approach to the resolution of the economic crisis that the EU intended to adopt in 2009 is clearly defined in a report published in 2009 by the European Union (EU, 2009):

*«The European economy is in the midst of the deepest recession since the 1930s, with real GDP projected to shrink by some 4% in 2009, the sharpest contraction in the history of the European Union. Although signs of improvement have appeared recently, recovery remains uncertain and fragile. The EU’s response to the downturn has been swift and decisive. Aside from intervention to stabilise, restore and reform the banking sector, the European Economic Recovery Plan (EERP) was launched in December 2008. The objective of the EERP is to restore confidence and bolster demand through a coordinated injection of purchasing power into the economy complemented by strategic investments and measures to shore up business and labour markets. The overall fiscal stimulus, including the effects of automatic stabilisers, amounts to 5% of GDP in the EU.»*

So the perceived need was to restore confidence. At this stage there was no question as to whether there might be a need to change the very nature of the banking system. If the strategy taken was found not to work, or if the banks were found to be sociopathic or corrupt (Yolles, 2009), then perhaps an alternative strategy might have been sought.

Interestingly, there has been some indication that the banks might be analytically (as opposed to clinical) sociopathic (Yolles, 2009a) – where pathologies develop that result in organisational dysfunctions that create antisocial outcomes such as consistent acts of pollution and amoral behaviour that verges on, or is a central part of, corrupt practices. This may be illustrated through the realisation that they have maintained amoral high executive pay-outs (Finance and Investment, 2012) in the face of vast public pay-outs to support them, and there is evidence that they may also be corrupt. This is seen by Barclays bank being fined UK£290m in June 2012 by the Financial Services Authority in the UK, and the Commodity Futures Trading Commission and Department of Justice in the US. For four years between 2005 and 2009 Barclays had lied about the interest rate it had to pay to borrow, to make the bank look more secure during the financial crisis and, sometimes - working with traders at other banks - to make a profit<sup>xiii</sup>. This was one of the pegs that encouraged the UK Member of Parliament Steve Collins<sup>xiv</sup> to say that banking is “a sewer of dishonesty.” As a consequence, Barclays Bank lost its Chairman, CEO

and COO, forced out of office for corrupt practice in relation to Libor<sup>xv</sup>. Investigations into various other possible bank frauds of this type have also been undertaken across the world (Vaughan & Finch, 2012). At the same time, JPMorgan Chase, the largest US bank, is being investigated for energy-market manipulation (Klimasinska & Kopecki, 2012), while the US based HSBC bank is being accused of drug money laundering<sup>xvi</sup>.

This leads to a new question. Is the policy of austerity the correct course of action (Roe, 2012), or are there alternatives? According to Joseph Stiglitz (2012), the Nobel Prize winner for economics, the German diagnostic preoccupation with a policy of austerity to overcome the crisis has been wrong. He notes that Spain and Ireland had a surplus before the crisis, and it was the crisis that caused the deficit, not vice versa. An incorrect diagnosis leads to an incorrect prescription which will not redirect the economic misfortune creatively. Europe, he says, rather requires a comprehensive set of reforms for growth, which would necessitate more spending, a European-wide banking system and euro bonds. The notion of more spending is of course, an alternative to austerity to maintain the status quo, in which the government spends money in order to stimulate growth. So, we have two opposing positions: austerity and stimulation. There is, of course, a clear alternative as practiced currently by the US government: a combined policy of stimulation and austerity (Orszag, 2012). Which of these positions might be the way to move forward then, if any?

The “*Situation*” requires “*An Analysis*”: The European Community (EU) established its European Project in the 1950s, and while it is composed of diverse nations each of which send political representatives, it still maintains political cohesion (Yolles, 2009a) that stems from its dichotomous Individualist-Collectivist political culture. This is consistent with a mindscape examination where the EU leaders are representing the European Economic Community through its agency, and where both the *I* and *H* mindscapes are representative of the agency as a whole. It is currently a sensate organisation and since “like begets like” its leadership is constituted by leaders who must necessarily have mindscapes that are cognitively similar. In sensate organisations senior/leadership *I* (related to Individualist) roles succeed in the EU political administration, seen to be similar to Individualism and obverse to the *H* mode (and Collectivism). Now in a political context it is relatively easy to see mode *I* and *H* mindscapes in terms of Individualism and Collectivism, especially where, as Bandura (2005; 2006; 2007), recognises, there are *parochial interests* because politicians wish to ensure their political survival. So then how do parochial interests develop in an agency? They arise within the personality’s operative system, when they impact on the agency’s operative intelligence (Figure 1). When we refer to mode *I* and *H* mindscapes from here on, we shall take them to be represented respectively by Individualism and Collectivism, recognising that they are prone to *parochial interests*.

While the EU may be a stable collective that began with the will to political stability, even though it is composed of diverse cultures, the bi-polar nature of its politics is stable (Yolles, 2009a). This does not mean that its culture is necessarily Sensate or Ideational, since during a period of post-sensate period and cultural decline, its mindscape orientation will likely oscillate, leading to the ascendancy of either a mode *I* or *H* mindscape depending on circumstances, or a trait balance that applies to *I* and *H* mindscapes making them equivalent to Collective Individualism (Limerick & Cunnington, 1993; Viskovatoff, 1999).

The debt crisis is perceived differently by *I* and *H* mode mindsets. In a Sensate culture and in particular in countries where the rule of law has value and is not a political football, the mode *I* mindsets has a transactional *dramatist* nature that adopts a rule based control approach intended



to resolve the crisis through a policy of social austerity. In the current debt crisis, society is seen as an object of attention, and as such is simply regarded as a financial source that needs to be drained in order to balance debt<sup>xvii</sup>. As we have seen within the Greek saga (Humphries, 2012), this can result in severe individual hardship and the endangerment of economic sustainability to a level of dignity in a large proportion of the economically disadvantaged society. Under the same conditions of rule of law, the mode **H** mindset alternative is relational *patterning*, operating through a policy of relational growth stimulation, where the state facilitates the encouragement of enterprise, ignoring the indebtedness, and assuming that the economic system will self-adjust. The balance point between Individualism and Collectivism is Collective Individualism, a midway compromise in which austerity and stimulation are parallel policy options. However, neither of these policy options responds to the concerns of such a “proper” analysis that seems at present unavailable. Noting the apparently corrupt nature of western banks referred to earlier, such an analysis and diagnosis might lead in an unexpected direction, for instance by redefining of the social nature and role of banks. It is likely such a development is consistent with the need for an economic paradigm shift, as described by Dolphin & Nash (2011).

Mode **I** and **H** mindscapes are quite distinct in the way in which policy provisions are designed and implemented. The reason lies in the  $S^e$  and  $I^d$  enantiomer distinctions between them.  $S^e$  agencies like to maintain clear control since they like to see results appearing, and this is why in a financial crisis such as the current one they tend to favour measures of austerity to alleviate debt that impose strict controls on a mass “controllable” portion of the population, rather than the stimulation of growth which rather constitutes relational and uncertain processes. This drives us to look more critically at these two cognitive positions. For some economic policy is identified with individualism, a theme that Davis, Marciano & Runde (2004: 21) have interest in when they note noting that “close examination of the underlying claims [of **I** mindscapes] making such explanations raise a number of difficult philosophical issues. One of the most challenging concerns the requirements for reducing statements about social phenomena to statements about individuals...Another fundamental issue involves what constitutes the ‘best’ explanation in science or in economics. These more philosophical questions return us to economic methodology’s epistemological concerns, but no less important are the ontological ones the topic of individualism raises. When we privilege individualist explanations in economics, do we believe that only individuals exist? That society itself does not exist?” Nozick (1977: 359; cited in Davis, Marciano & Runde, 2004: 121) notes critically that methodological individualism (or the driving of **I** mindscape economic policy) is quite distinct from the more Collectivistic methodological institutionalism (that drives policies that come from the **H** mindscape), so why are economists not equally methodological institutionalists? Neither individual nor institutional factors have legitimate explanatory primacy, and the idea that all explanations have ultimately to be in terms of individuals (or institutions) is thus unfounded. This leads us to consider that nature of Individualism and Collectivism, and the consequential political and hence policy dynamics that result.

The policy highlighted by the EU (2009) report was promoted by a mode **H** mindscape since it embraced the stimulation of growth. However, the post 2009 policy that emerged and which was driven by the German premier Angela Merkel, was quite alternative to this, leading to cries that austerity measures cannot work (Arestis & Pelagidis, 2010). According to Arbabzadeh (2012), Germany’s relative financial and economic power and its creditor position is allowing it to drive EU policies. This leads to a validation of Bandura’s view of parochialism, as explained by Pastor (2012). He argues that in the making of economic policy, “confidence” has more political power

than actual epistemological wisdom, so that the post-crisis economic recovery is being driven by a narrative crafted through the power of parochial economic interests.

The resolution to the debt crisis is still not in sight (Arbabzadeh, 2012; Schmidt, 2011). It is unlikely to be solved by an **I** mode mindscape, through commitment to policies of austerity (Arestis & Pelagidis, 2010). However, there are also problems with the **H** mindscape to resolve the current crisis. According to Dockens<sup>xviii</sup>, “the **H** mode cannot deal with the diversity and change that is demanded by complex information driven societies. My prediction is that changing demography, social networks and climates will combine to produce a 21<sup>st</sup> century that precludes the survival of **H** mode thinking. Even the fantastic ability of the **H** mode mindscape to rationalize defeat as victory has its limits.” It is therefore also unlikely that a trait balance in the mindscape will succeed by drawing on both stimulation and austerity in succession, as has been attempted by the US President Obama. Dockens’ prediction of the failure of the **H** mindscape would appear to point significantly to the resurgence of a Sensate culture in this period of cultural oscillation. Much much later, however, we shall see the ascendancy of a stable form of Ideational culture, when the **H** and perhaps **G** mode mindscape will dominate.

Returning to the current situation, while a **G** mode mindscape could resolve the issues through processes of transformation and emergence, the likelihood of such a mindscape being harnessed in this way to resolve the crisis is unlikely, unless as Dolphin & Nash (2011) imply, the crisis continues to a point where the validity of the dominant economic paradigm is destroyed. However, if the onset of a collapse like that of the Soviet Union is not on the cards, resolution may occur as the EU is forced to take advice from external consultants or involve the civil society. If it does occur, however, we may well see a sudden and unexpected shift into *Ideationalism* that might materialise over the next few generations.

## 11. CONCLUSION

The current economic crisis of 2007/8 has provoked impetus to examine the capability of economic theory in creating useful predication and its connection with political and cultural processes, and the control connections that occur between them in the formulation and deployment of macro-economic policy. In so doing it has shown that current approaches are left wanting. For instance, while there has been a tendency for economic theory to embrace paradigms that encompass complexity, there are still problems in their ability to represent a reality that is constituted by human activity systems from which culture and mindscapes determine macroeconomic policy. Further, while some approaches are interested in connecting economics with policy making and politics, no other approaches additionally connect with culture. Some argument has been made that it has risen because of a shift from Collectivist to Individualist strategic policy. However, supposing the role of Individualism/ Collectivism in any social dynamic does appear to be a questionable proposition.

The paper has embraced cybernetic agency theory to build a meta-model that can assist in obtaining an improved understanding of the complexities of cultural socio-economic systems. It adopts a trait based agency approach in which the agency has a normative personality within which its socio-political orientations arise, enabling the anticipation of classes of decision making behaviour and hence economic policy, even under crisis. It is through the trait nature of the agency that asset of scenarios can be postulated for possible futures in complex situations. For this to work, however, there is a need to appreciate the meaning and function of trait orientations.

In a simple illustration of the way in which trait orientations work, we offered a small case that explores the financial condition of different orientations.

The theory for the meta-model has developed through a cybernetic “living system” approach that allows us to examine different aspects of an agency. It is designed to represent collectives which have an observable (through their manifestations) culture and normative personality from which in principle one is able to anticipate patterns of behaviour, and illustrates the intimate connection between culture and the economic policy processes that following the Lucas Critique, should be seen as a significant influence on economic processes.

The model has then been coupled with Maruyama’s mindscape theory, and we have developed an alternative to this which we have referred to as Sagiv-Schwartz mindscapes theory since it derives from their extensive empirical research. The mindscape modes should be seen as emerging from the interactive nature of the five traits that construct the agency. There are at least 4 mindscape modes, and two of them *I* and *H* are relatable to Individualism and Collectivism. However, if we accept that Individualism and Collectivism are just two modes of mindscape theory, then this sets the scene for a broader view about likely anticipation of macroeconomic policy than has been so far apparent.

Taking a cultural view, the west is currently experiencing post-Sensate instability, resulting in an interactive conflict between Sensate and Ideational orientations, either of which is able to achieve short lived ascendancy that does little to add to social coherence. However, within this there is still a dominating orientation towards hierarchy. Dominant orientations can be examined in terms of mindscapes allowing us to explore context sensitive patterns of behaviour. To illustrate this, we have provided a very sketchy approach in telling the story of the European debt crisis through mindscape modes applied to a leadership role, showing how an analysis can create broad explanations. The next step would be to undertake a deep analysis that would move beyond a cursory examination, and seek remedies; however this would need to be left to a future paper.

As a final comment, this paper results in an emergent argument that has three strands. The first strand is the argument that the recession is due to fundamental change in policy. This comes about because even though there is so much research that tries to tease out how Individualism and Collectivism contribute to socio-cultural dynamics, there is no research outcome that is able to do this. Rather the research points to dramatic shifts in policy orientations that occur where societies and organizations have not developed norms that constrain their greedy and egocentric behaviour. The second strand argues that current macroeconomic modelling is not up to the task of anticipating economic processes. Perhaps the most promising has been in evolutionary economics, but one of the few pieces of work that suggested the oncoming 2007/8 recession has been Perez’s historical work, and this has only been generally indicative, being unable to identify the policy specifics that might be expected from a macroeconomic theory. The paper has further argued that a good macroeconomic theory should include culture as an element, and a meta-model has been proposed to satisfy this need. The third strand argues that the strategic orientations of Individualism and Collectivism, while potentially important, are only two options of a broader base of mindscape modes that can arise under different socio-cultural and trait conditions. Any preoccupation with these two strategic orientations alone will necessarily lead researchers further into an analytical *cul de sac*, especially where such analysis is solely empirical. It also suggests that researchers should rather consider culturally derived mind sets (like mindscape theory) to identify strategic and operative issues that drive macroeconomic processes.

## REFERENCES

- Almond, G. A., Verba, S. (1963). *The Civic Culture: Political Attitudes and Democracy in Five Nations*. Princeton, N.J.: Princeton University Press.
- Ang, S., Van Dyne, L., Koh, C. K. S., Ng, K. Y., Templer, K. J., Tay, C., Chandrasekar, N. A. (2007). Cultural intelligence: Its measurement and effects on cultural judgment and decision making, cultural adaptation, and task performance. *Management and Organization Review*, 3(3): 335-371. DOI: 10.1111/j.1740-8784.2007.00082.x
- Archer, M. S. (1982) Morphogenesis versus Structuration: On Combining Structure and Action. *The British Journal of Sociology*, 33(4): 455-483, The London School of Economics and Political Science, [www.jstor.org/stable/589357](http://www.jstor.org/stable/589357), accessed Feb. 2013.
- Aveleira, A. (2004). Consciousness and Reality: A stable-dynamic model based on Jungian psychology. *Metareligion*. retrieved December 2005 from: [www.metareligion.com/Psychiatry/Analytical\\_psychology/consciousness\\_and\\_reality.htm](http://www.metareligion.com/Psychiatry/Analytical_psychology/consciousness_and_reality.htm).
- Ball, R. (2001) Individualism, Collectivism, and Economic Development, *The Annals of the American Academy of Political and Social Science*, 573(1): 57-84.
- Bandura, A. (2006) Toward a psychology of human agency. *Association for Psychological Science*, 1(2): 164-80.
- Batini, N., Callegari, G., Melina, G. (2012). Successful Austerity in the United States, Europe and Japan. *International Monetary Fund Working Paper* WP/12/190, retrieved November 25, 2012 from: [www.imf.org/external/pubs/ft/wp/2012/wp12190.pdf](http://www.imf.org/external/pubs/ft/wp/2012/wp12190.pdf), accessed Nov. 25, 2012.
- Before it's news (2012). *Bank Cabal Exposed*, July 6th, retrieved December 2012 from: <http://beforeitsnews.com/economy/2012/07/2353556-2353556.html>, accessed December 2012.
- Berens, L. V. (2007). *Essential Qualities of the Personality Patterns*, retrieved January 2008 from: [www.interstrength.com/articles/essentialqualities.html](http://www.interstrength.com/articles/essentialqualities.html).
- Best, J., Widmaier, W., 2006, Micro- or Macro- Moralities? Economic Discourses and Policy Possibilities, *Review of International Political Economy*, 13:4 October 2006: 609–631.
- Blanchard, O. (2000). *Macroeconomics, 2nd ed.* USA: Prentice Hall
- Blutner R., Hochnadel, E. (2010). Two qubits for C.G. Jung's theory of personality. *Cognitive Systems Research*, 11(3):243–259. DOI: 10.1016/j.cogsys.2009.12.002.
- Boje, D. (2000). *Transformational Leadership*, retrieved January 2013 from: [http://business.nmsu.edu/~dboje/teaching/338/leader\\_model\\_boje.htm](http://business.nmsu.edu/~dboje/teaching/338/leader_model_boje.htm)
- Boje, D. (2004). *Welcome to Mindscapes*, retrieved December 2007 from: <http://peaceaware.com/mindscape/>.
- Bolt, R., Fujimura, M., Houser, C., De Guzman, F., Nixon, F., Weiss, J. (2003). *Economic Analysis of Policy-Based Operations: Key Dimensions*. Asian Development Bank
- Coats, A. (1969). Is There a “Structure of Scientific Revolutions” in Economics? *Kyklos*, 22(2): 289-296. DOI: 10.1111/j.1467-6435.1969.tb02533.x.

- Cohen, J., Stewart, I. (1994). *The Collapse of Chaos: discovering simplicity in a complex world*. London (UK): Viking.
- Costanza, R., Wainger, L., Folke, C., Miler, K. G. (1993). Modeling Complex Ecological Economic Systems: Toward an evolutionary, dynamic understanding of people and nature, *BioScience*, 43( 8): 545-555.
- Davis, A. K. (1963). Lessons from Sorokin. In Tiryakian, E. A. (ed.), *Sociological Theory, Values, and Socio-cultural Change*. pp.1-7. Free Press.
- Davis, D. N. (2000). Minds have personalities - Emotion is the core. *CiteSeer*, retrieved July 2010 from: <http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.124.419>
- Davis, J., Marciano, A., Runde, J. (2004). *The Elgar Companion to Economics and Philosophy*. UK: Edward Elgar Publishing Limited.
- De Oliveira, A. C. M, Croson, R. T. A., Eckel, C. (2008). Are Preferences Stable Across Domains? An Experimental Investigation of Social Preferences in the Field. *Center for Behavioural and Experimental Economic Science (CBEES) Working Paper #2008-3*. retrieved January 2013 from: <http://www.aeaweb.org/assa/2009/retrieve.php?pdfid=45>
- Depue, R., Morrone-Strupinsky, J. (2005). A neurobehavioral model of affiliative bonding: Implications for conceptualizing a human trait of affiliation. *Behavioral and Brain Sciences*, 28(3): 313-395.
- Dockens III, W. (2012). Personal communication.
- Dolphin, T., Nash, D. (2011). *All Change: Will there be a revolution in economic thinking in the next few years?* UK: Institute for Public Policy Research.
- Dopfer, K. (2005) Evolutionary economics: A theoretical framework In Dopfer K. (ed.) (2005), *The evolutionary foundation of economics*. Cambridge University Press.
- Dopfer, K., Foster, J., Potts, J. (2004) Micro-Meso-Macro. *Journal of Evolutionary Economics*, 14(3): 263–279. DOI: 10.1007/s00191-004-0193-0.
- Du, R., Ai, S., Brugha, C. M. (2011). Integrating Taoist Yin-Yang thinking with Western nomology: A moderating model of trust in conflict management. *Chinese Management Studies*, 5(1): 55 – 67.
- Dubois, D. (2000). Review of Incurive Hyperincurive and Anticipatory Systems - Foundation of Anticipation in Electromagnetism, CASYS'99 - Third International Conference. Dubois, D. M. (ed.). *The American Institute of Physics, AIP Conference Proceedings* 517, pp.3-30.
- Earley, P. C., Gibson, C. B. (1998). Taking Stock in Our Progress on Individualism-Collectivism: 100 Years of Solidarity and Community. *Journal of Management*, 24(3) 265-304.
- Eichacker, N. (2012) European Financial Deregulation, Liberalization, and the EMU: The Financial Underpinnings of the European Crisis. Proceedings Economics Graduate Student Workshop, Dept. Economics, University of Massachusetts Amherst, November 3 - 4.

- EU (2009) Economic Crisis in Europe: Causes, Consequences and Responses, European Economy, 7|2009. Brussels: European Commission Directorate-General for Economic and Financial Affairs.
- Eysenck, H. J.(1957). Sense and Nonsense in Psychology. Harmondsworth, Middlesex UK: Penguin Books Ltd.
- Ferguson, C. H. (2010) Inside Job: how bankers caused the financial crisis. USA, Cert 12A, 108 mins, Documentary, narrator: Mat Damien, reviewed at: [www.guardian.co.uk/film/2011/feb/17/inside-job-review](http://www.guardian.co.uk/film/2011/feb/17/inside-job-review)
- Ferguson, C.H., 2010, Inside Job, documentary film about the development of the 2008 financial crisis, [http://en.wikipedia.org/wiki/Inside\\_Job\\_%28film%29](http://en.wikipedia.org/wiki/Inside_Job_%28film%29)
- Finance and Investment (2012). The End of Exorbitant CEO Exit Packages? Don't Hold Your Breath, Knowledge Wharton, retrieved July, 18, 2012 from: <http://knowledge.wharton.upenn.edu/article.cfm?articleid=3052>
- Fink, G., Dauber, D., Yolles, M. (2012) Understanding organizational culture as a trait theory. *European Journal of International Management*, 6(2): 199 – 220.
- Fink, G., Yolles, M. (2012). Narratives, paradigms and change – the issue of relevance. *European Journal of Cross-Cultural Competence and Management*, 2(3/4): 191–208.
- Fleishman, E. A., Constanza, D. P., Marshall-Mies J. (1999). Abilities. In: N. G. Peterson, M. D. Mumford, W. C. Borman, R. P. Jeanneret, E. A. Fleishman (Eds.), *An Occupational Information System for the 21st Century: The Development of ONET*. Washington, DC: American Psychological Association.
- Foucault, M. (1972). *The Archaeology of Knowledge and the Discourse on Language*. N.Y.: Pantheon books.
- Foucault, M. (1974) Human Nature. In Elders F., (ed.), *Reflexive Water: the basic concerns of Mankind*. London (UK): Souvenir Press, London
- Frey, B. S., Benz, M. (2004). From imperialism to inspiration: a survey of economics and psychology. In Davis, J., Marciano. A., Runde, J., (eds.), *The Elgar Companion to Economics and Philosophy*. UK: Edward Elgar Publishing Limited.
- Frieden, B. R., Hawkins, R. J. (2009). Asymmetric information and economics. *Physica, A* 389(2010): 287-295.
- Friedman, M. (1968). The role of monetary policy. *American Economic Review*, 58(1): 1–17.
- Furnham, A. (1996) The bigfive versus the big four: the relationship between the Myers-Briggs Type Indicator (MBTI) and NEO-PI five factor model of personality. *Personality and Individual Differences*, 21(2): 303–307.
- Galavan, R. (2005). *Exploring the belief systems of senior managers: antecedents of managerial direction*. UK: Cranfield University School of Management.
- Galbraith, J. (2009). Who Are These Economists, Anyway? *The NEA Higher Education Journal*, Fall: 85-97.

- Geels, F. W. (2011) Towards a neo(co)evolutionary theory of industry, civil society, polity and technology: Enriching evolutionary economics with insights from institutional theory, organization theory, economic sociology and strategic management, pre-published paper. Retrieved January 2013 from: [www.sussex.ac.uk/spru/documents/frank-geels-entire/doc](http://www.sussex.ac.uk/spru/documents/frank-geels-entire/doc)
- Gell-Mann, M. (1994). *The Quark and Jaguar*. London (UK): Little, Brown and Company.
- Gibson, B. (2008). The Current Macroeconomic Crisis. *Working Paper 2008-02, Dept. Economics, University of Massachusetts Amherst*, retrieved January 2013 from: [www.umass.edu/economics/publications/2008-02.pdf](http://www.umass.edu/economics/publications/2008-02.pdf)
- Gibson, H. (2000). In the Image of Leibniz's God: of Metanarratives and Congeries, *Academic Forum* 2000-01/18. Retrieved April 2012 from: [www.hsu.edu/interior2.aspx?id=6367](http://www.hsu.edu/interior2.aspx?id=6367).
- Glasman, M., Rutherford, J., Stears, M., White, S. (2011). The Labour tradition and the politics of paradox. *The Oxford London seminars 2010-11*, retrieved January 2013 from: [www.scribd.com/doc/55941677/Labour-Tradition-and-the-Politics-of-Paradox](http://www.scribd.com/doc/55941677/Labour-Tradition-and-the-Politics-of-Paradox)
- Glezos, M. (2012). Life and Debt: A Greek Tragedy, Reporter John Humphries, *Panorama*, 25th July, viewed January 2012: [http://www.youtube.com/watch?v=Nu\\_cYB60xFY](http://www.youtube.com/watch?v=Nu_cYB60xFY)
- Goldspink, C., Kay, R. (2004). Bridging the micro–macro divide. *Human Relations*, 57(5): 597–618
- Guo, K., Yolles, M. I., Iles, P. (2011). *Understanding Organizational Fitness: The Case of China*. Greenwich USA (CT): Information Age Publishing.
- Habermas, J. (1971). *Knowledge and Human Interests*. Boston (USA): Beacon Press.
- Habermas, J. (1987). *The Theory of Communicative Action, Vol. 2*. Cambridge (UK): Polity Press.
- Hall, P. (1993). Policy paradigms, Social Learning, and the State: The Case of Economic Policymaking in Britain, *Comparative Politics*, 25(3): 275- 296.
- Hämäläinen, R. P., Saarinen, E., (eds.) (2007). *Systems Intelligence in Leadership and Everyday Life*. Finland: Systems Analysis Laboratory, Helsinki University of Technology, Espoo.
- Harvey, O. J. (1966). *Experience, Structure and Adaptability*. New York: Springer.
- Herrmann-Pillath, C. (2009). Social Capital, Chinese Style: Individualism, Relational Collectivism and the Cultural Embeddedness of the Institutions-Performance Link. *Working Paper Series no 132, Frankfurt School of finance and Management*, retrieved January 2013 from: <http://d-nb.info/997649216/34>.
- Heylighen, F., Heath, M., Van Overwalle, F. (2012). The Emergence of Distributed Cognition: a conceptual framework. *Proceedings of Collective Intentionality IV, Siena (Italy)*.
- Hill, M. (2010). The Economic Crisis and Paradigm Change, retrieved January 2013 at: [www.socialpolicy.org.uk/lincoln/Hill.pdf](http://www.socialpolicy.org.uk/lincoln/Hill.pdf)
- Hock, R. R. (2002). *Forty Studies That Changed Psychology: Explorations into the History of Psychological Research*. Upper Saddle River, N.J.: Prentice Hall.

- Hofbauer, J., Sigmund, K. (2003). Evolutionary Game Dynamics. *Bulletin of the American Mathematical Society*, 40(4)479-519. retrieved January 2013 from: <http://homepage.univie.ac.at/josef.hofbauer/03bams.pdf>
- Humphries, J. (2012). (25th June), Panorama, BBC1, viewed July 2012 at: [www.youtube.com/watch?v=Nu\\_cYB60xFY](http://www.youtube.com/watch?v=Nu_cYB60xFY).
- Hyldegård, J. (2009). Personality traits and group-based information behaviour: an exploratory study. *Information Research*, 14(2) paper 402, Retrieved January 2013 from: <http://InformationR.net/ir/14-2/paper402.html>
- Jessop, B. (1990). *State Theory*. Cambridge (UK): Polity Press.
- Jung, C. (1971). Psychological types (H. G. Baynes, Trans., revision by R. F. C. Hull), *The Collected Works of C. G. Jung (Vol. 6)*. Princeton, NJ: Princeton University Press.
- Kauffman, S. A., Johnson, S. (1991). Coevolution to the edge of chaos: coupled fitness landscapes, poised states, and coevolutionary avalanches. *Journal of Theoretical Biology*, 149(4): 467-505. DOI: 10.1016/S0022-5193(05)80094-3.
- Kehoe, P. J., Kehoe, T. J. (1994). A primer on static applied general equilibrium models. Federal Reserve Bank of Minneapolis Quarterly Review 18(1): 2-16.
- Kelly, A. Parker, N. (1997). *Management Directions: Joint Alliances*. Institute of Management Foundation
- Kemp, G. (1997). Cultural Implicit Conflict: A Re-Examination of Sorokin's Socio-Cultural Dynamics. *Journal of Conflict Processes*, 3(1):15, 24.
- Klimasinska, K., Kopecki, D. (2012). (July 4), Bloomberg, Dimon Faces Image 'Nightmare' With Energy Probe at JPM, retrieved January 2013 at: [www.bloomberg.com/news/2012-07-03/jpmorgan-probed-over-potential-power-market-manipulation-1.html](http://www.bloomberg.com/news/2012-07-03/jpmorgan-probed-over-potential-power-market-manipulation-1.html)
- Leijonhufvud, A. (2011). Nature of an economy. *Policy Insight, Centre for Economic Policy Research*, February 2011, No. 53.
- Lent, A. (2009). A new economic paradigm. *Renewal*, 17(3): 57-70.
- Levin, C., Coburn, T. (2011). Wall Street and The Financial Crisis: Anatomy of a Financial Collapse (Majority And Minority Staff Report), *United States Senate Permanent Subcommittee on Investigations Committee on Homeland Security and Governmental Affairs*, retrieved November 2012 from <http://www.ft.com/cms/fc7d55c8-661a-11e0-9d40-00144feab49a.pdf>.
- Limerick, D., Cunnington, B. (1993). *Managing the New Organisation*. Chatswood: Business & Professional Publishing.
- Lucas, R. E., Jr. (1976) Econometric Policy Evaluation: A Critique. *Carnegie-Rochester Conference Series on Public Policy*, 1: 19-46
- Maruyama, M. (2001). Individual Types: Subcultural or Transcultural. *The General Psychologist*, 36 (3): 64-67.
- Maruyama, M. (1988). Dynamics Among Business Practice, Aesthetics, Science, Politics and Religion. *Cultural Dynamics*, 1: 309.



- Maruyama, M. (1993). Mindscapes, Individuals and Cultures in Management. *Journal of Management Inquiry*, 2(2): 140-154.
- Maruyama, M. (2008). Poly-ocular Vision: Individual Cognitive Types and Their Implication in Human Resources Management. *Indian Journal of Management Technology*, 1(2): 79-94
- Minder, R. (2012). Spain's Banking Crisis Moves into the Courtroom, New York Times, July 4th, retrieved January 2013 from: [www.nytimes.com/2012/07/05/business/global/spains-banking-crisis-moves-into-the-courtroom.html?pagewanted=all](http://www.nytimes.com/2012/07/05/business/global/spains-banking-crisis-moves-into-the-courtroom.html?pagewanted=all)
- Mroczek, D. K., Little, T. D. (2006). *Handbook of personality development*. Mahwah, N.J. (USA): Lawrence Erlbaum Associates.
- Myers Briggs, I. (2000). An Introduction to Types: A Guide to Understanding Your Results on the Myers-Briggs Types Indicator. *CPP, Palo Alto, CA. Revised from the 1998 edition*
- Nelson, R. R. (2004). Economic Development from the Perspective of Evolutionary Economic Theory. *SLPTMD Working Paper Series*, No. 001, Department of International Development, University of Oxford., given as the Presidential Lecture, Schumpeter Society, December 7.
- Nelson, R. R. (2005). Where Are We Now on an Evolutionary Theory of Economic Growth, and Where Should we be Going? *Center on Capitalism and Society The Earth Institute at Columbia University, Working Paper No. 3*, February retrieved January 2013 from: [www.earth.columbia.edu/ccs](http://www.earth.columbia.edu/ccs).
- Nelson, R. R., Winter, S. G. (1982). *An Evolutionary Theory of Economic Change*. Harvard University Press.
- Nowak, M. (2006). *Evolutionary Dynamics*. Harvard University Press.
- Nozick, R. (1977). On Austrian methodology. *Synthese*, 36: 353–92.
- Orszag, P. (2012). (May 23), History Shows U.S. Can Stimulate Now, Cut Later. Bloomberg Business Week, retrieved January 2013 from: [www.bloomberg.com/news/2012-05-22/history-shows-u-s-can-stimulate-now-cut-later.html](http://www.bloomberg.com/news/2012-05-22/history-shows-u-s-can-stimulate-now-cut-later.html).
- Oyserman, D., Coon, H. M., Kemmelmeier, M. (2002). Rethinking Individualism and Collectivism: Evaluation of Theoretical Assumptions and Meta-Analyses. *Psychological Bulletin*, 128(1): 3–72.
- Pabst, A. (2012). The National, Arab Emirates, (July 18th), retrieved December 2012 from: [www.thenational.ae/thenationalconversation/comment/rot-of-corruption-in-banking-industry-poisons-investors#ixzz2F44Xj2LG](http://www.thenational.ae/thenationalconversation/comment/rot-of-corruption-in-banking-industry-poisons-investors#ixzz2F44Xj2LG).
- Perez, C. (2002). *Technological Revolutions and Financial Capital*. Cheltenham: Edward Elgar.
- Perez, C. (2004). Technological Revolutions, Paradigm Shifts and Socio-Institutional Change. In Reinert, E. (ed.) *Globalization, Economic Development and Inequality*. Cheltenham: Edward Elgar.
- Perez, C. (2005). Respecialisation and the Deployment of the ICT Paradigm', paper for the *IPTS FISTERA Project*, retrieved January 2013 at: [www.carlotaperez.org](http://www.carlotaperez.org)
- Perez, C. (2009a). After Crisis: Creative Construction, retrieved January 2013 at: [www.opendemocracy.net](http://www.opendemocracy.net)

- Perez, C. (2009b). The Double Bubble at the Turn of the Century: Technological Roots and Structural Implications. *Cambridge Journal of Economics*, 33(4): 779-805.
- Phelps, E. S. (ed.), (1970). *Microeconomic Foundations of Employment and Inflation Theory*. New York: Norton and Co.
- Phillips, A. W. (1958). The relationship between unemployment and the rate of change of money wages in the United Kingdom 1861-1957. *Economica*, 25 (100): 283–299
- Rensch, B. (1972). *Homo Sapiens, From Man to Demigod*. London (UK): Methuen & Co.
- Rhodes, W. R. (2012). *Banker to the World: Leadership Lessons from the Front Lines of Global Finance*. Kindle Books.
- Roe, M. (2012). (19 June), Greece and the Limits of Anti-Austerity, Project-syndicate, retrieved January 2013 from: [www.project-syndicate.org/commentary/greece-and-the-limits-of-anti-austerity](http://www.project-syndicate.org/commentary/greece-and-the-limits-of-anti-austerity).
- Roe, M. J., Siegel, J. I. (2011). Political Instability: Its Effects on Financial Development, Its Roots in the Severity of Economic Inequality. *Journal of Comparative Economics*, 39(3): 279-309. DOI: 10.1016/j.jce.2011.02.001.
- Rosen, R. (1985). *Anticipatory Systems*. New York: Pergamon Press.
- Rosenhead, J. (1989). *Rational Analysis for a Problematic World: Problem Structuring Methods for Complexity, Uncertainty, and Conflict*. New York: John Wiley and Sons.
- Sagiv, L., Schwartz, S. H. (2007). Cultural values in organisations: insights for Europe, *European Journal of International Management*, 1(3): 167-190.
- Schartz, S. J., Luychx, K., Vignie, V. L. (2011). *Handbook of Identity Theory and Research: Volume 1 Structures and Processes*. New York: Springer.
- Schwartz, S. H. (1994). Beyond individualism/collectivism: New dimensions of values. In U. Kim, H. C. Triandis, C. Kagitcibasi, S. C. Choi, G. Yoon, (eds.), *Individualism and Collectivism: Theory Application and Methods*. Newbury Park, CA (USA): Sage.
- Schwarz, E. (1997). Towards a Holistic Cybernetics: From Science through Epistemology to Being. *Cybernetics and Human Knowing*, 4(1): 17-50.
- Schwarz, E. (2001). Anticipating Systems: an Application to the Possible Futures of Contemporary Society. Invited paper at CAYS'2001, *Fifth International Conference on Computing Anticipatory Systems*, Liege, Belgium, August 13-18.
- Shotwell, J. M., Wolf, D., Gardner, H. (1980). Styles of Achievement in Early Symbol Use. In Brandes, F., (ed.), *Language, Thought, and Culture*, pp.175,199. New York: Academic Press.
- Shulruf, B., Hattie, J., Dixon, R. (2011). Intertwinement of Individualist and Collectivist Attributes and Response Sets. *Journal of Social, Evolutionary, and Cultural Psychology*, 5(1): 51-65.
- Siegel, Jordan I., Licht, Amir N. Schwartz, S. H. (2012), Egalitarianism, Cultural Distance, and FDI: A New Approach (June 6, 2012). *Organization Science*, Forthcoming. Retrieved January 2013 from SSRN: <http://ssrn.com/abstract=957306>.

- Sorokin, P. (1962). *Social and Cultural Dynamics*, 4 volumes. New York: Bedminster Press.
- Soros, G. (2008) *The New Paradigm for Financial Markets: The Credit Crisis of 2008 and What It Means*. New York: Perseus Books.
- Stiglitz, J. (2012) This Week, Joseph Stiglitz: Merkel needs a change in attitude to save euro, retrieved January 2013 from: [www.theweek.co.uk/eurozone/eurozone-crisis/47713/joseph-stiglitz-merkel-needs-change-attitude-save-euro](http://www.theweek.co.uk/eurozone/eurozone-crisis/47713/joseph-stiglitz-merkel-needs-change-attitude-save-euro)
- Tamis-LeMonda, C. S., Yoshikawa, H., Niwa, K., Niwa, E. Y. (2007). Parents' Goals for Children: The Dynamic Coexistence of Individualism and Collectivism in Cultures and Individuals. *Social Development*, 17(1): 183-209.
- Tangen, K. I. (2009). *Ecclesial Identification Beyond Transactional Individualism?* Ph.D. Thesis MF, The Norwegian School of Theology.
- Tesfatsion, L. (2003). Agent-Based Computational Economics. *Iowa State University Economics Working Paper #1*.
- Tesfatsion, L., Judd, K. L. (2006). *Handbooks in Economics: Vol 2, Agent-Based Computational Economics*. London: Elsevier.
- Thatcher, M. (1987). Epitaph for the eighties? "there is no such thing as society", The Sunday Times, retrieved January 2013 from: <http://briandeer.com/social/thatcher-society.htm>
- Toennies, F. (1957). *Community and Society* (trans. Charles P. Loomis), Book I. East Lansing, MI (USA): Michigan State University Press.
- Triandis, H. C. (1989). Self and social behavior in differing contexts. *Psychological Review*, 96: 269-289.
- Triandis, H. C. (1995). *Individualism and Collectivism*. Boulder. Colorado (USA): Westview Press.
- Triandis, H. C. (1994). Theoretical and Methodological Approaches to the Study of Collectivism and Individualism, in *Individualism and Collectivism: Theory, Method, and Applications*. In U. Kim, H. C. Triandis, Ç. Kâğıtçıbası, S.-C. Choi, G. Yoon. (eds.). Thousand Oaks, California (USA): Sage Publications.
- Triandis, H. C. (2003). Some hypotheses on the psychology of terrorism. *Cross-Cultural Psychology Bulletin*, 37(3): 33-40.
- Triandis, H. C., Bontempo, R., Villareal, M., Asai, M., Lucca, N. (1988). Individualism and collectivism: Cross-cultural perspectives on self-ingroup relationships. *Journal of Personality and Social Psychology*, 54: 328-338.
- Triandis, H. C., Leung, K., Villareal, M. J., Clack, F. I. (1985). Allocentric Versus Idiocentric Tendencies: Convergent and Discriminant Validation. *Journal of Research in Personality*, 19(4): 395-415.
- Trosby, D. (2001). *Economics and Culture*. Cambridge University Press.
- Tung, R. L. (1995). International Organizational Behavior. In F. Luthans (ed.) *Virtual O.B. Electronic Database*, pp. 487-518. New York: McGraw-Hill.

- Van Egeren, L. F. (2009). A Cybernetic Model of Global Personality Traits. *Personal Social Psychology Review*, 13(2): 92-108.
- Vaughan, L., Finch, G. (2012). (July 19), Interest Rates from Sweden to South Korea under Scrutiny, *Bloomberg Business Week*, retrieved January 2013 from: [www.businessweek.com/news/2012-07-19/interest-rates-from-sweden-to-south-korea-under-fresh-scrutiny](http://www.businessweek.com/news/2012-07-19/interest-rates-from-sweden-to-south-korea-under-fresh-scrutiny)
- Veblen, T. (1898). *Why Is Economics Not an Evolutionary Science?*, reprinted in *The Place of Science in Modern Civilization* (New York, 1919).
- Veron, N. (2011). The European Debt and Financial Crisis: Origins, Option, Congressional testimony submitted to the US Senate Committee on Banking, Housing, and Urban Affairs: Subcommittee on Security and International Trade and Finance, September 22. retrieved January 2013 from: [www.piie.com/publications/testimony/testimony.cfm?ResearchID=1928](http://www.piie.com/publications/testimony/testimony.cfm?ResearchID=1928)
- Viskovatoff, A. (1999). Foundations of Niklas Luhmann's Theory Of Social Systems. *Philosophy of the Social Sciences*, 29(4): 481-515.
- Weibull, J. W. (1995). *Evolutionary Game Theory*. USA: MIT Press.
- Williams, A., Dobson, P., Walters, M. (1993). *Changing Culture: New organisational approaches*. London (UK): Institute of Personnel Management.
- Williams, B., Imam, I. (2006). Systems Concepts in Evaluation: An Expert Anthology, American Evaluation Association, retrieved January 2013 from: <http://preval.org/files/Kellogg%20enfoque%20sistemico%20en%20evaluacion.pdf>
- World Report 2012: China, Human Rights Watch, retrieved January 2013 from: <http://www.hrw.org/world-report-2012/world-report-2012-china>
- Wu, S. Y., Rubin, D. L. (2000). Evaluating the Impact of Collectivism and Individualism on Argumentative Writing by Chinese and North American College Students. *Research in the Teaching of English*, 35(2): 148-178
- Yolles, M. I. (2009). Understanding the Dynamics of European Politics. *European Integration online Papers (EIOP)*, 13, Art. 27, retrieved January 2013 from: <http://eiop.or.at/eiop/texte/2009-027a.htm>
- Yolles, M. I. (2009a). A Social Psychological basis of Corruption and Sociopathology. *Journal of Organizational Change Management*, 22(6): 691-731.
- Yolles, M. I. (2009b). Migrating Personality Theories Part 1: Creating Agentic Trait Psychology? *Kybernetes*, 38(6): 897-924.
- Yolles, M., Fink, G., Dauber, D. (2011). Organisations as emergent normative personalities: part 1, the concepts. *Kybernetes*, 40(5/6): 635-669. DOI: 10.1108/03684921111142223.
- Yolles, M. I., Fink, G. (2012) Personality, Pathology and Sagiv-Schwartz Mindscapes, working paper in process.
- Yolles, M. I., Fink, G., Iles, P., Sawagvudcharee, O. (2012). Generating Corporate Life Cycles from the Paradigm Life Cycle. *Organisational Change Management*, forthcoming.

- Yolles, M. I., Fink, G. (2009). Migrating Personality Theories Part 2: Towards a Theory of the Balanced Personality? *Kybernetes*, 38( 9): 1461-1490
- Yolles, M.I., Fink, G., Frieden, R. (2012). Organisations as Emergent Normative Personalities: part 2, predicting the unpredictable. *Kybernetes*, 41 (7/8): 1014 - 1049.
- Yolles, M. I., Fink, G., Iles, P., Sawagvudcharee, O. (2013). Generating Corporate Life Cycles from the Paradigm Life Cycle. *Journal of Organisational Change Management*, work in process.
- Yolles, M. I., Frieden, R., Kemp, G. (2008). Toward a formal theory of sociocultures: A yin-yang information-based theory of social change. *Kybernetes*, 37(7): 850-909.
- Yoon, K. L. (2010). Political Culture of Individualism and Collectivism. Ph.D. Thesis, University of Michigan, USA.
- Zetterberg, H. L. (1997). The Study of Values. In Swedberg, R., Uddhammar, E., (eds.) *Sociological Endeavor. Selected Writings*, pp. 191-219. Stockholm: City University Press.

---

## Endnotes

<sup>i</sup> <http://www2.econ.iastate.edu/tesfatsi/ace.htm>

<sup>ii</sup> Self-production (also known as autopoiesis) is “a condition of radical autonomy...[which] defines its own boundaries relative to its environment, develops its own unifying operational code, implements its own programmes, reproduces its own elements in a closed circuit, obeys its own laws of motion....when a system reaches what we might call ‘autopoietic take-off’, its operations can no longer be controlled from outside” (Jessop, 1990, p320).

<sup>iii</sup> By the word formal we mean a set of explicit propositions that define a logic which establishes a framework of thought and set of conceptualisations that enables organised operation to occur, and problem situations to be addressed both theoretically and empirically. Formalisms also constrain the way in which situations can be described by the rules that they pursue. According to Kyburg (1968, p20) formal logic provides a standard of validity and a means of assessing validity.

<sup>iv</sup> Visualism is an epistemological bias toward vision, which in particular is predominant in postmodernism.

<sup>v</sup> In critical theory, a metanarrative is a globalising or totalising cultural narrative schema which orders and explains knowledge and experience.

<sup>vi</sup> Antenarrative is a pre-narrative, and a bet (ante) that an antenarrative that will become a living story that is world-changing. It is a bet that a narrative will change the extant hegemonic narrative. An antenarrative is a proto-story that is not yet, a before narrative. (Boje 2011).

<sup>vii</sup> In a letter on 3<sup>rd</sup> may 1939 that discusses *Psychological Types*

<sup>viii</sup> The simpler term enantiomer (also enantiomorph that in particular relates to form or structure) means a mirror image of something, an opposite reflection. This term derives from the Greek *enantios* or "opposite," and is used in a number of contexts, including architecture, molecular physics, political theory, and computer system design. We use it in the sense of complementary polar opposites. The related word enantiodromia is also a key Jungian concept used in his notions about consciousness (e.g., <http://www.endless-knot.us/feature.html>), and (from the Oxford English Dictionary Online) it is the process by which something becomes its opposite, and the subsequent interaction of the two: applied especially to the adoption by an individual or by a community, etc., of a set of beliefs, etc., opposite to those held at an earlier stage. For Jung the word enantiodromia represents the superabundance of any force that inevitably produces its opposite. Consequently the word enantiodromia often implies a dynamic process which is not necessarily implied by the word enantiomer. By using the simpler word enantiomer we shall not exclude the possibility of any dynamic action that may have been implied by the term enantiodromia.

<sup>ix</sup> The term enantiomer (also enantiomorph that in particular relates to form or structure) means a mirror image of something, an opposite reflection. The term derives from the Greek *enantios* or "opposite," and is used in a number of contexts, including architecture, molecular physics, political theory, and computer system design. We use it in the sense of complementary polar opposites. The related word enantiodromia is also a key Jungian concept used in his notions about consciousness (e.g., <http://www.endless-knot.us/feature.html>), and (from the OED Online) it is the process by which something becomes its opposite, and the subsequent interaction of the two: applied especially to the adoption by an individual or by a community, etc., of a set of beliefs, etc., opposite to those held at an earlier stage. For Jung the word enantiodromia represents the superabundance of any force that inevitably produces its opposite. Consequently the word enantiodromia often implies a dynamic process which is not necessarily implied by the word enantiomer. By using the simpler word enantiomer we shall not exclude the possibility of any dynamic action that may have been implied by the term enantiodromia.

<sup>x</sup> Posted in 2003 at [www.usenet.com/newsgroups/talk.politics.libertarian/msg08333.html](http://www.usenet.com/newsgroups/talk.politics.libertarian/msg08333.html), accessed July 2007.

<sup>xi</sup> This is a function of "Foucaultian objectification"...Foucault (1974) uses the term objectification within a political context when he explains how an object of attention is externalized by disassociation from the personal, thereby assigning it the status of an object. This is contrary to the sense of subjectification. This comes from the recognition that knowledge is constructed from experience, and that which is constructed is not, in any discernible way, an accurate representation of the external world or reality. The adaptive nature of knowledge underscores that knowledge is not objective "truth". Rather, internal knowledge does not match external reality; it is instead a viable model of experience.

<sup>xii</sup> Wollheim (1999) defined cognitive state in terms of impulses, perceptions and instincts, imaginings, and cognitive dispositional drives in terms of beliefs, knowledge, memories, abilities, phobias and obsessions. Mental disposition consists of beliefs, knowledge, memories, abilities, phobias and obsessions, and has duration and history. Both mental states and dispositions are causally related, mental state being able to instantiate, terminate, reinforce and attenuate mental disposition. Mental dispositions can also facilitate mental states.

<sup>xiii</sup> [www.bbc.co.uk/news/business-18622264](http://www.bbc.co.uk/news/business-18622264)

<sup>xiv</sup> [twitter.com/TradeDesk\\_Steve/statuses/218311507447001088](https://twitter.com/TradeDesk_Steve/statuses/218311507447001088)

<sup>xv</sup> Libor is the London Interbank Offered Rate, the average interest rate estimated by leading banks in London that they would be charged if borrowing from other banks. Libor is determined by a daily poll carried out on behalf of the British Bankers' Association that asks banks to estimate how much it would cost to borrow from each other for different periods and in different currencies.

<sup>xvi</sup> [www.aljazeera.com/news/americas/2012/07/2012716213139157207.html](http://www.aljazeera.com/news/americas/2012/07/2012716213139157207.html)

<sup>xvii</sup> This is a function of "Foucaultian objectification"...Foucault (1974) uses the term objectification within a political context when he explains how an object of attention is externalized by disassociation from the personal, thereby assigning it the status of an object. This is contrary to the sense of subjectification. This comes from the recognition that knowledge is constructed from experience, and that which is constructed is not, in any discernible way, an accurate representation of the external world or reality. The adaptive nature of knowledge underscores that knowledge is not objective "truth". Rather, internal knowledge does not match external reality; it is instead a viable model of experience.

<sup>xviii</sup> William Dockens III is a mathematical psychologist, and this comment was made in a personal communication in relation to this case study during August 2012.



# ***‘It’s all about bucks, kid. The rest is conversation’. A critique of risk in modern investment management<sup>i</sup>***

**Harry Hummels, Ph.D.<sup>ii</sup>**

*Professor, Maastricht University, School of Business and Economics, Finance Department  
e-mail: h.hummels@maastrichtuniversity.nl*

*Published online on April 1, 2013*

*DOI: 10.7350/BSR.V08.2013 – URL: <http://dx.medra.org/10.7350/BSR.V08.2013>*

## **ABSTRACT**

*Now the dust has settled and the worst of the housing crisis has passed and the resulting financial crisis in 2008, it is time to look back. What have we learned, particularly in the area of modern investment management? The Obama administration may have taken measures that partially undo the 1998 reversal of the Glass-Steagall Act but will this be enough? In this article I will use Charles Perrow’s Normal Accident Theory to reflect on investment management – and more in particular Modern Portfolio Theory –, the financial crisis and what we can learn from that for the future. The article concludes that the financial world could have learned from Normal Accident Theory by perceiving the financial community as one integrated system and not simply the sum of independent parts. The financial crisis was a case of negligence, foolishness and unwillingness to look beyond the immediate present to the looming dangers in the real world outside of finance. As a consequence, it would be fair to demand from investors a real world check that goes much further than what is currently happening under the heading of (socially) responsible investing. Good governance and responsible investing need to be extended to material societal risk management. Part of this risk management needs to be the assessment of the nature of the impact of investments on society.*

**Keywords:** Risk, Uncertainty, Financial Crisis, Normal Accident Theory, High Reliability Organisations, Ethics, Modern Portfolio Theory.

*«Very intelligent and informed persons are at no advantage over cabdrivers in their predictions.»*

Nassim Nicholas Taleb, 2007:14

## **1. SUMMARY**

Now the dust has settled and the worst of the housing crisis has passed and the resulting financial crisis in 2008, it is time to look back. What have we learned, particularly in the area of modern portfolio management? The Obama administration may have taken measures that partially undo the 1998 reversal of the Glass-Steagall Act in order to limit the risk of another crisis happening but will this be enough? In this article I will use Charles Perrow’s Normal Accident Theory to

reflect on Modern Portfolio Theory, the financial crisis and what we can learn from that for the future.

## 2. PRESIDENT HOOVER'S FOLLY?

*“Prosperity is just around the corner.”* When President Hoover made this claim in 1930 he was serious about his belief in the American economy and its capacity to quickly recover from the market crash the year before. Contrary to his belief, production fell in 1930 by 9.3% and in 1931 by 8.6%<sup>iii</sup>. On the basis of historic information Hoover's claim wasn't absurd or even overoptimistic. He simply assumed that similar events that have repeatedly taken place in the past are a good proxy for their occurrence in the future. Over the course of time we have learned that they are not. This paper deals with risks – the ‘known unknowns’ – and uncertainties – the ‘unknown unknowns’ – in economic life in general and in investment theory and practice in particular.

We will focus on the notion of investment risk in Modern Portfolio Theory (MPT) – and in other modern forms of investment management – and its blind spot for uncertainty as a moral issue. The theory has an eye for mitigating risk within a portfolio of investments but fails to recognize and acknowledge the risks or uncertainties at both the market and societal levels. What makes this problematic is that the behavior of investment professionals, including those working for banks, asset managers and (institutional) investors, actively contributed to the mounting set of uncertainties that gradually evolved into risks – without the majority of the investment community acknowledging it, until it was too late. The result was devastating – not only for those who were directly involved like investment professionals who lost their jobs, but also for those indirectly bearing the consequences of the actions and the behavior of the investment professionals.

It was (the mindset of) the investment professional, inspired by Modern Portfolio Theory that created this blind spot. The so-called professional only had an eye for risk and return on the level of the portfolio and ignored the consequences of their actions outside of their own realm – in particular those consequences resulting from a wide adoption of the theory. Taking (increasingly larger) risks is not per se an issue as long as investors have diversified portfolios consisting of non-correlated investment instruments. As a result, investment professionals – who are or at least should be agents acting in *the client's best interest* – failed to do their fiduciary duty by not explicitly taking their clients' interests into account<sup>iv</sup>. This resulted in clients being simply the recipients of the outcomes of the actions of the investment professionals – instead of being the cause or the reason for making well-balanced investment decisions. Before discussing these issues, we will first examine the notions of risk and uncertainty that are central to investment management in general and Modern Portfolio Theory in particular.

## 3. RISK AND UNCERTAINTY

### 3.1 Risk versus uncertainty

In its widest sense, according to Bernstein (1996), risk means, “that more things can happen than will happen” (1996:260). This does not mean, however, that risk is an object simply falling from the sky. As the German sociologist Ulrich Beck (1992) mentions in his seminal work ‘Risk



Society”, risk is a *condition of modernity*. Risk is self-made, produced and distributed. In our legislation, our education, our motivation, our infrastructures, et cetera, we implicitly or explicitly accept risk as the flip side of economic wealth creation. Without risk there would be hardly any economic progress. Risk-taking has become “one of the prime catalysts that drives modern Western society” (Bernstein, 1996:1). The idea of accepting and being able to manage risk has become a generally held presupposition of constant change and innovation. Manageable risk makes it acceptable to continuously strive for the next big thing and to have a ‘greed for life, knowledge, and progress in every domain of human and natural life’<sup>v</sup>. Our modern infrastructure would have been impossible – even unthinkable – if it were not for the acceptance of risk and the steps man has taken to minimize it. Like Prometheus, over the course of time we have “defied the gods and probed the darkness in search of the light that converted the future from an enemy into an opportunity” (Bernstein, 1996:1). Inherent in the notion of ‘opportunity’ is the uncertainty about the future. Opportunity means that we do not precisely know the potential risks and rewards and the distribution of those risks and rewards. Opportunities have a positive connotation with regard to a better future without being able to give precise account of the expected benefits and the costs. Of course, on the basis of historic data we have gained insight in the likelihood of some outcomes occurring rather than others. But statistical data do not provide a solid and reliable guide for the future. What do we do when a decision leads to a result that was not even contemplated in your set of probabilities? Take the following example:

*«A group of hikers in the wilderness came upon a bridge that would greatly shorten their return to their home base. Noting that the bridge was high, narrow, and rickety, they fitted themselves out with ropes, harnesses, and other safeguards before starting across. When they reached the other side, they found a hungry mountain lion patiently awaiting their arrival.»* (quoted in Bernstein, 1996:259).<sup>vi</sup>

This example of the ‘hungry mountain lion’ marks the distinction between risk and uncertainty (cf. Knight, 1921). Risk deals with potential outcomes that fall within the *set of known outcomes* and the likelihood of each individual outcome occurring. Uncertainty, on the other hand, deals with *unknown outcomes*.

### 3.2 The financial crisis as an unknown uncertainty?

On June 2, 2004 the US Department of Housing and Urban Development issued the following press release:

*«Thousands of low-income families will be able to realize the 'American Dream' and purchase their first home because of \$161.5 million in funding announced today by Housing and Urban Development Secretary Alphonso Jackson. The funding (...) will help first-time homebuyers overcome the single greatest obstacle to homeownership: the downpayment and closing costs. (...) The American Dream Downpayment Initiative will enable many first-time homebuyers earning less than 80 percent of their community's median income to purchase their first home.»*<sup>vii</sup>

The initiative was simply the next step in a process that started during the Clinton administration to facilitate members of minority groups to buy a house. In the US context, where high rates of homeownership convey “a sense of participation and belonging”, encouraging homeownership was seen as nothing less than “a worthy and admirable national goal” beneficial to a healthy society (Shiller, 2008:5). Nevertheless, as Robert Shiller (2008:24) comments:

*«The subprime mortgages, for all their democratic appeal, were launched with a woeful failure to understand real estate risk.»*

The first signs of a bursting housing bubble surfaced as early as 2003 (Posner, 2009:77; Lewis, 2009). They were a prelude to the financial crisis that started in April 2007 when New Century Financial, one of the largest sub-prime lenders in the United States, sought Chapter 11 protection against creditors. The company was faced with fewer customers being able to keep up with mortgage and loan repayments. The increasing number of defaults was a direct result of the declining housing prices and rising interest rates in the US – from 1 percent in 2004 to 5.3 percent in 2006<sup>viii</sup>. Financial institutions had been lax to protect homeowners from taking too much risk. The risk climate in the early days of the Millennium was one of ‘loosening standards and risk default’ (Shiller, 2008:29). However, the collapse of the housing price bubble in the United States can also be tied to the demand for high-risk, high-return securitized mortgage-backed securities (Lydenberg, 2011). These securities provided banking institutions with opportunities to offload their risk to (inattentive) investors and widely opened the doors for moral hazard. Today the economy and society at large – as well as numerous individuals – are still negatively impacted by the structured finance products that disguised the real risks of subprime mortgage loans as so-called ‘low-risk, high-return investment opportunities’. What may seem to be a case of overactive bankers, investment advisors and portfolio managers is in fact a global moral issue – without many investment professionals phrasing the issue in moral terms<sup>ix</sup>. They were simply doing their job.

### **3.3 Caveat emptor versus caveat vendor**

Is the demise of the financial system a modern tragedy, the consequences of which the clients of the financial firms and society at large simply have to bear? Recently a variety of explanations have been given to clarify what caused the subprime crisis – and contributed to the resulting financial crisis.

In his book *The Subprime Solution* Robert Shiller (2008:24) points to our individual and collective irrationality as a result of a “failure to anticipate quite obvious risks – by ‘irrational exuberance’ at the prospect of profits”. In other words, we were swept up in our “speculative enthusiasm”<sup>x</sup> (Shiller, 2008:9). The ‘we’ here refers to the government, the Fed, the financial sector, and the real estate business. However, ‘we’ also refers to the end consumer being afraid of missing the next big thing: his free lunch. Together, ‘we’ “did not comprehend that an epidemic of irrational public enthusiasm for housing investments was the core of the problem” (ib.:4)<sup>xi</sup>. Shiller (2008:41) refers in this respect to “the social contagion of boom thinking” that is supported by “new era stories” justifying the belief the booming economy will continue. Illustrative of this new era thinking is Michael Lewis’ description of a convening of the American Securitization Forum in Las Vegas in early 2007 – just two months before the market would gradually start to fall apart (Lewis, 2010:148-159). Thousands of predominantly male participants gathered to celebrate the success of their subprime business without ever contemplating the possibility of having created a Ponzi scheme. Even between February and June of 2007 Wall Street firms created and sold \$50 billion in new collateralized debt obligations (CDOs).

Just like Shiller, Richard Posner (2009) in his book *A failure of capitalism* attributes blame to the consumer, the government, the supervisory authorities and more in particular to Alan Greenspan and Ben Bernanke for the fall of the prevailing system<sup>xii</sup> and – unlike Lewis – not so much to the

banks, the investment advisors or the portfolio managers of institutional investors and asset management firms. They were just doing their job – competing in an open environment that was (poorly) regulated by the government. They might be responsible for causing the crisis but they cannot be blamed for it “anymore than one can blame a lion for eating a zebra. Capitalism is Darwinism” (Posner, 2009:284). In our competitive economy there simply were no fences where they should have been to protect the interests of the consumer and society at large. But that is, according to Posner, something you can hold against the authorities, not the financial professionals<sup>xiii</sup>.

In Mark Gilbert’s (2010) quite agnostic version of this classical whodunit everyone is to blame. He claims that “we all allowed it to happen, and we’re all to blame, either as active accomplices or complicit bystanders”. Society as a whole allowed both the banks and the investment community to grow unchecked and, therefore, carries co-responsibility for the demise of the system. It explains the title of his book: *Complicit*.

### 3.4 A financial Chernobyl?

In this article I am mainly concerned with the global investment community – consisting of banks, institutional investors, asset managers, rating agencies and investment consultants – using a wide range of investment instruments that are part of investment portfolios. Mortgage-backed assets, being only one type of investment vehicle albeit an important one in sparking the crisis, have been securitized and sold on to institutional investors in large quantities. These investment vehicles allowed US financial institutions to take on more risk than they could have, were they not able to transfer the risk to someone else. In other words, collateralized debt obligations consisting of asset backed securities spread like a virus to end up in investment portfolios all over the world leading to a tighter coupling between global financial markets and the US housing market. In the previous paragraphs it became clear that the US government was instrumental in the emergence of the crisis, just as the Fed, real estate brokers and the end consumers. Now the question comes up what there is to say about the role of financial professionals in causing the crisis? Posner’s verdict is: ‘not guilty’. But isn’t there more to say about this verdict?

The issue here is that a broad account of responsibility as given by Gilbert, Posner, and Shiller hampers a thorough analysis of what each actor contributed to the demise of the system and, respectively, what each could have done given his or her limited resources and powers to prevent the system from crashing. A collective responsibility is not an excuse for individual inertia, free-rider behavior or irresponsibility. When some of the financial institutions specialized in subprime mortgages started to collapse in the spring of 2007 this was not only felt on Wall Street but also in London, Paris, Tokyo, and other major financial centers around the world causing major financial distress. Couldn’t and shouldn’t they have done more to protect the interests of their clients, the beneficiaries of their clients and of the financial system at large – even in the absence of legal, organizational, technical or social structures that limit their discretion, ability and willingness to act as predators ready to attack their prey? Don’t they share in the responsibility of creating a system that ultimately caused a major financial crash? Can they simply continue doing business in ways that were instrumental in causing the crisis? Is there more to say about (the organization of) the financial system and the interdependencies in that system? The financial actors – banks, investors, intermediaries – that have played a major role in causing the crisis have been scrutinized in recent years. The result, however, is that not much has changed so far from a

systems perspective. Therefore, these questions deserve attention not only from a financial point of view but also from a moral point of view.

Since the focus of this article is on investors and investment professionals the next section starts with a short outline of Modern Portfolio Theory (MPT). In terms of complexity and interdependence the financial crisis has much in common with crises that occur in ‘complex organizations’ such as a nuclear power plant. These organizations are sometimes confronted with what Charles Perrow has called a ‘system accident’ or a ‘normal accident’: an “unanticipated interaction of multiple failures” in a complex system. Unlike a non-system accident, the negative consequences of which can be managed and curtailed, the result of a normal accident is usually a catastrophe. Examples are the implosion of the Chernobyl nuclear power plant, the decomposition of the Challenger, or the gas leak in Bhopal. The recent financial crisis shows signs of a ‘normal accident’ and we might be able to draw some lessons from the literature on complex organizations and normal accidents. It is particularly interesting to learn what this theory has to say about organizational couplings and the role and responsibility of professionals to prevent a crisis from occurring.

If we compare the financial crisis to a normal accident the obvious question that surfaces is whether the crisis could have been prevented if the investment industry would have been organized like a nuclear plant or some other complex system? Since it is not really possible to answer this ‘what if’ question my aim is more modest and focuses on the question: ‘What can investment professionals<sup>xiv</sup> – very often acting on the basis of Modern Portfolio Theory – learn if they perceive themselves as part of a complex system?’

## 4. MODERN PORTFOLIO THEORY

### 4.1 MPT

*Modern Portfolio Theory* found one of its origins in the work of the Nobel Prize winner Harry Markowitz in the 1950s. Taking for granted that investors are rational, in the sense that they prefer to maximize their returns with a minimum of risk, the theory recommends that the risk of a particular asset should not be looked at on a stand-alone basis. On the contrary, risk should be examined in relation to how that particular asset’s price varies compared to the variation in price of the market portfolio. Investors can reduce their exposure to individual asset risk by holding a diversified portfolio of assets. Diversification will allow for the same portfolio return with reduced risk.

### 4.2 Risk in Modern Portfolio Theory

The theory assumes that given an investor's preferred level of risk a portfolio can be constructed that maximizes expected return for that level of risk. There is an *efficient frontier* of investments where there is no portfolio with less risk given the level of return or where there is no portfolio with more value for this level of risk. However, MPT does not consider the ‘known unknowns’ at the level of the entire market – let alone the uncertainties in terms of ‘unknown unknowns’. The model it uses simply is not comprehensive in terms of external consequences. MPT has no techniques for detecting and managing risk and uncertainty outside the level of the portfolio. By not looking beyond its narrowly defined horizon MPT knowingly runs the risk of violating what Justice Samuel Putnam in 1830 called ‘prudent man rule’:

*«Do what you will, the capital is at hazard. ... All that can be required of a trustee to invest is that he shall conduct himself faithfully and exercise a sound discretion. He is to observe how men of prudence, discretion, and intelligence manage their own affairs, not in regard to speculation, but in regard to the permanent disposition of their funds, considering the probable income, as well as the probable safety of the capital to be invested.»* (Bernstein, 1996: 248)

In the real world, when the market came crashing down, asset classes that were supposed not to be correlated were correlated after all. In the words of Putnam: *‘the permanent disposition of the funds’* and *‘the safety of the invested capital’* was at stake.

In a very insightful contribution Steve Lydenberg (2011) has argued the reason MPT is deficient is a serious kind of myopia. The theory ignores the possibility that in the aggregate investors, while playing within the rules of the MPT game, can affect “systemic” risk – that is, risk at the market level. “It may seem counterintuitive to argue”, Lydenberg writes, “that risk-control techniques increase risk”. While reducing risk at a portfolio level, they increase it at the market level through the increase of the supply of, and demand for, risky products. (Lydenberg, 2011) The market risk was there, even though it was *not perceived as relevant* because the probability of a financial catastrophe was too small to contemplate for economists, politicians, bankers, investment analysts and consultants, portfolio managers, rating agencies, business managers and other *‘influentials’*. Was it therefore impossible for MPT to prepare for the *‘unknown unknowns’*?

The answer to this question is not immediately affirmative. The fact that we do not know what the future will bring does not mean that it is completely unknowable. As Posner (2009:78) argues, bankers and investment professionals “had to know that there was a lot of risk in their capital structures, that the future doesn’t always repeat the past<sup>xv</sup> and therefore that models of default risk based on historical experience in the housing and credit market might be unreliable”. They used the wrong – or at least an incomplete – model of reality and therefore failed to adequately protect the interests of their clients. At that time the potential consequences, in all their severity, were looming on the horizon: a cascade of banks going bankrupt with the inherent potential of becoming a disaster for the nation<sup>xvi</sup>. Through this cascading process it becomes extremely difficult, if not impossible, to control the entire financial system if banks start to default. By not considering the (global) systemic characteristics and by ignoring the risk that is created by the multitude of portfolios at the level of society the theory itself is not necessarily flawed<sup>xvii</sup>. It does show, however, serious but unnecessary limitations that could have been prevented. This is not to say that the theory could have predicted the consequences of (the accumulation of) a vast amount of transactions all pointing in the same direction. As Bohr once remarked: *‘prediction is very difficult, especially about the future’*. However, the theory could have contemplated what would happen if more and more managers copy each other’s behavior together creating a bubble. The fact that something is not known does not make it unknowable. In the end, with only a few exceptions, hardly any effort was made by theorists and financial practitioners to prepare for the *‘unknown unknowns’* to happen.

MPT provided no protection against the risk or uncertainty of the aggregate of portfolios in the financial economy<sup>xviii</sup>. In the financial system as a whole investments were correlated and led to extravagant losses for banks and investors and for the governments that had to bail them out – thereby allowing moral hazard to occur (Nielsen, 2009:2-3; Posner, 2009:236). In other words, both the theory and the investment community failed to distinguish between internal portfolio

risk and external uncertainties. Externalities created by the myopic implementation of the theory were not perceived or accounted for – leading to an amplification of moral hazard. The financial professionals took risks they very often did not perceive or understand and for which they were not held accountable.

### 4.3 The theory, but also the professional

It is not simply the theory itself that is deficient. Also the financial professionals should be faulted. As Myron Scholes riposted when criticized for his support of MPT: “There are models, and there are those who use the models.” Scholes thinks much of the blame for the recent woe should be pinned not on economists’ theories and models but on those on Wall Street and in the London City who pushed them too far in practice (Economist, 16 July 2009). Scholes’ viewpoint is supported by Harry Markowitz himself, arguing that “portfolio theorists must make certain simplifying assumptions”. The problem with these assumptions is not that they are incorrect. On the contrary, Markowitz remarks, they are generally true most of the time. “The problem is that they are not always true. It is precisely at the point where the assumptions break down that financial models, pushed to their limits, lead to disastrous consequences” (Markowitz, 2009:4). Echoing Nassim Taleb’s *The Black Swan*, Markowitz reminds us to “recall that panics and black swans happen as often as water heaters leak” (ib:5). The unknown is part of our daily life and all we do is ignore it and live as if it is not relevant:

*«Consider a turkey that is fed every day. Every single feeding will firm up the bird’s belief that it is the general rule of life to be fed every day by friendly members of the human race “looking out for its best interests” as a politician would say. On the afternoon of the Wednesday before Thanksgiving, something unexpected will happen to the turkey. It will incur a revision of belief.»* (Taleb, 2007:40)

Most bankers, investment consultants, rating agencies, portfolio managers, and even ultimate beneficiaries acted during the financial crisis as if they were turkeys. They failed to observe the true nature of their risk-taking behavior. They added risk to portfolios by investing in tacitly correlated and highly leveraged CDOs without knowing and understanding the real danger of these products. They could not imagine a declining market because they embraced an unsubstantiated belief that housing prices would continue to rise and remain a driving force behind the growth of the American economy (cf. Lewis, 2010). With this in mind homeowners were provided mortgages the burden of which they could not carry in the long run. History hides black swans from us: it distorts “silent evidence” (Taleb, 2007; Posner, 2009:77-78). It is only *post factum* that we understand what happened to us. As a consequence, it is only after the fact that we redirect our efforts.

As a counter argument Michael Lewis (2010) asserts that the product designers exactly knew what they were doing – taking advantage of the ignorant rating agencies – without ever paying attention to the downsides of their financial engineering. They designed and built collateralized debt obligations that contained a meaningful but not substantial amount of BBB-rated loans, the end product resulting in an AAA-rating. These CDOs could then be sold to pension funds, insurance companies and other institutional investors who were only allowed to invest in top-rated financial instruments. To illustrate the point, Lewis refers to Long Beach Financial, a wholly owned subsidiary of Washington Mutual:

*«Long Beach Financial (...) was specialized in asking homeowners with bad credit and no proof of income to accept floating-rate mortgages. No money down, interest payments deferred upon request. (...) In Bakersfield, California, a Mexican strawberry picker with an income of \$14,000 and no English was lent every penny he needed to buy a house for \$720,000.» (Lewis, 2010:97)*

Hardly anyone saw any harm in this “prime example of financial incontinence” (ib:97). However, if nothing else, the example demonstrates that banks and bankers were failing to live up to the moral standards that we should hope for (Stiglitz, 2010:280). The professionals knew – or at least could have known – they were selling crap to people who would be in financial trouble the minute the market would stagnate. It is therefore that the crisis is not just a housing crisis, a credit crisis or a financial crisis, but ‘a moral crisis’. By only looking at risk at the level of the investment portfolio Modern Portfolio Theory demonstrated its moral shortcomings – even before the financial markets crashed. Taleb argues that it is only after the event that we redirect our efforts. Financial professionals could, however, have done more in advance. Following Perrow (1999) MPT theorists like Markowitz and Scholes could have looked beyond their narrowly defined theoretical constructions by, for instance, incorporating the latent, but real system risks. One of these system risks was the notion of tail risk<sup>xix</sup>. This notion was, however, hidden behind a *veil of ignorance*<sup>xx</sup>. The following paragraph will focus on risk in high-risk technologies and high-reliability organizations, since important lessons can be learned from these fields of study.

## 5. NORMAL ACCIDENTS

Investment innovations with an impact beyond imagining, investment professionals who were ignorant about the consequences of the financial products on sale and the tight coupling of international markets, have, inter alia, contributed to the mother of all financial crises so far. Financial institutions operating in conjunction with each other, have become potentially ‘hazardous organizations’ (Roberts, 1990). The recent financial crisis shows characteristics of ‘normal accidents’ leading to catastrophes<sup>xxi</sup> in what Perrow (1990) calls ‘complex organizations’. What can we learn from these ‘normal accidents’ occurring in complex organizations? In this paragraph I will briefly describe some of the insights coming from this literature and the lessons it comprises for dealing with a major crisis in the investment world.

### 5.1 Complex organizations

Safety is too important to be left to engineers and economists (Sagan, 1994:228). Although this remark primarily refers to physical high-tech installations like nuclear power plants, aircrafts and supertankers, the observation is as relevant to financial engineers and economists as it is to mechanical engineers. Their technical designs and models of rational decision-making are indispensable, nevertheless they can be very misleading. For systems entailing hazardous technologies are not simply large mechanical devices. They are complex organizations (Sagan, 1994:228). Similarities occur between the various crises in the financial world in the last thirty years and catastrophes like Three Miles Island, the Tenerife air crash, the decomposition of the Challenger, the Union Carbide gas leak in Bhopal, the implosion of the nuclear power plant in Chernobyl, or the sinking of the Titanic, the Estonia or the Herald of Free Enterprise.

All these events appear to share the common element of an "unanticipated interaction of multiple failures" in a complex system, Charles Perrow's description of 'a normal accident' or a 'system accident' (Perrow, 1999:70). The complexity can either be technological or organizational, and often has elements of both. One important element in this complexity is the interconnectedness of processes in an organization or a system that is directly linked to the vulnerability of that organization or system (Weick, 1990). In Perrow's own words, if the coupling of processes becomes tighter the vulnerability increases. There is simply no slack between two processes. What happens in one process directly affects what happens in another. Loose couplings, on the other hand, entail a reduction of risk and vulnerability in organizations that are just waiting for the next accident to happen.

Perrow's second concept with which he studies risk-prone organizations – in the organization literature known as high-reliability organization<sup>xxii</sup> (Roberts, 1990a, 1990b; Roberts & Bea, 2001) – is complexity<sup>xxiii</sup>. Within and between organizations abundant interaction takes place. These interactions not necessarily contribute to the creation of complexity – linear interactions being a case in point. However, sometimes organizations are faced with interactions resulting in consequences that were not or could not reasonably be expected by the interacting parties. What distinguishes these interactions is that they were not designed into the system by anybody. No one intended them to be linked (Perrow, 1999:75).

Both distinctive characteristics of a hazardous, high-reliability organization – complexity and tight coupling – provide a useful framework for analyzing whether organizations are more or less catastrophe-prone. The simple truth is, as Roberts and Bea (2001:70) argue, "that any system, and especially any system that is complex and interdependent, *will eventually fail*". It is not that organizations can fail, but that they actually will fail. This simple fact requires top management of *all organizations* to consider the organization's processes and activities from a viewpoint of societal risk management. On face value this responsibility is more urgent for High Reliability Organizations (HROs) that can have disastrous consequences if something seriously goes wrong. Interestingly, however, HROs are often safer than organizations where management doesn't perceive the inherent risks of the products, processes or activities – whereas in reality the "roots of catastrophes are embedded in operational systems, latent until an undesirable combination of events occurs" (Roberts and Bea, 2001:71). Current risk management focuses extensively on organizations (such as nuclear plants) that have relatively done little harm to society<sup>xxiv</sup>, while paying only scant attention to issues and organizations (like car safety, mining or chemical plants) that on total have a larger social or environmental impact on society (Perrow, 1999:305). We could easily add the financial services industry to this list with its long history of manias, panics, and crashes (Kindleberger, 2005).

The usual answer of organizations to prevent accidents getting out of hand is to create safety devices – in the literature often referred to as redundancies. If an engine, a safety valve or a computer system breaks down the task usually will be adequately performed by a redundant system. Unfortunately, life not always goes according to plan and for whatever reason a spare system might also fail to perform the particular function. Various reasons can cause a system to malfunction: human errors, technical errors, the system may have been inadequately designed or there may be a force majeure<sup>xxv</sup>. Usually these errors do not result in a system to crash and cause a catastrophe. But if incidents coincide they might produce an effect far greater than anyone could have imagined in advance. As Perrow (1999:7) mentions, failures that are trivial in themselves can become serious when they interact.



In our personal life these interactions may have a great impact, they usually do not have a major effect on society at large. Complex organizations, however, may create problems that are overwhelming and harmful for many more individuals and groups than those who are directly involved in causing the problem. What makes it worrisome is that when things get out of hand the interactions causing them were not only unexpected, “they are *incomprehensible* for some critical period of time” (Perrow, 1999:9). Catastrophes materialize because the actors involved did not comprehend the potentiality of the event taking shape in front of their eyes. They do not understand what is going on and they are unaware of how to stop the event from having disastrous consequences.

For normal accidents to occur – including the financial crisis – usually numerous relevant signals are ignored. According to Weick this is perfectly comprehensible from a point of view of “contextual rationality” (Weick, 1993:634). Decision-making is not a rational process; it is bound to the context in which people operate. Individuals – including professionals – need to create and maintain “intersubjectively binding normative structures” to make sense of what is happening in front of their eyes and to sustain their relationships. “The basic idea of sensemaking is that reality is an ongoing accomplishment that emerges from efforts to create order and make retrospective sense of what occurs” (Weick, 1993:634/635). This means that a warning is only effective “if it fits our mental model of what is going on” (Perrow, 1999:31). To bring the point home Roberts and Bea (2001:72) argue that organizations with higher frequencies of accidents tend to suffer from *organizational hubris*. Because they do not face accidents, very often managers in these organizations tend to believe that they are in control. Managers “fail to contemplate inherent risks” (Roberts and Libuser, 1993:15). They simply do not comprehend that processes and activities in their respective organizations pose a threat to society – and that certainly counts for managers working in the financial industry as Roberts and Libuser have shown in their paper. It simply is not part of their sense-making repertoire. Only if a disaster takes place their eyes may be opened<sup>xxvi</sup>. The financial crisis in general and Modern Portfolio Theory in particular have shown that the financial community does not perceive its products, processes and activities as an inherent threat to its clients or to the industry itself, not to mention society. In the next paragraph I will focus on normal accident theory applied to the financial industry.

## 5.2 Normal accidents in the financial services industry

With a few exceptions (Mezias, 1994; Roberts and Libuser, 1993; Bookstaber, 2007; Figlewski, 2009) the financial sector as a whole is not considered to be a ‘complex organization’ or a ‘complex system’ in the strictest sense of the word – even though individual financial organizations may show far-reaching signs of complexity<sup>xxvii</sup>. Unlike a nuclear power plant, an aircraft carrier, a cruise ship, or a chemical factory, financial organizations are not likely to create a catastrophe<sup>xxviii</sup> on their own<sup>xxix</sup>. Collectively, however, financial organizations can create more devastation than any single high-reliability organization<sup>xxx</sup> can do (Roberts, 1990a, 1990b; Roberts & Bea, 2001). As numerous bubbles and crashes (Kindleberger 2005; Shiller, 2002, 2008; Sorkin, 2009) have shown financial institutions – acting in collaboration with the financial authorities, governments, intermediaries and consumers – are perfectly capable of causing financial markets to falter and ultimately stagnate. They can even bring economies down. What is special about the recent crisis is that it had an impact beyond imagination caused by the tacit or implicit organization and coordination of the actions of the individual players.

Financial organizations operated as if they were *one institution* or *one system*. That tacit or implicit system was capable of creating financial and economic chaos leading to human hardship and misery far beyond their individual circle of direct control and influence. But it all started with a bullish market in mortgage lending and securitization of mortgages.

### 5.2.1 From mortgage lending to structured finance<sup>xxx</sup>

With the support of both the Clinton and the Bush Administration homeownership was strongly promoted in the US during the nineties of the last century and the first decade of the new millennium. According to the US Census homeownership increased between 1997 and 2005 from 65.7% to 68.9%, while house prices rose in this period on an annual basis between 5 and 20 percent (Allen and Carletti, 2010:6). In the aftermath of the bursting dotcom bubble and the 9/11 disaster the Fed reinforced this increasing demand for houses with its loose monetary policy. Potential homeowners could go out and borrow at 1% to buy houses, with prices going up at a much higher rate.

During this period, stimulated by large money supplies “looking for investment opportunities” (Neal, 2008:19) subprime mortgage appeared to be just the thing. Overall, subprime mortgage loans at the time only made up a small part of the entire portfolio of mortgage loans. Nevertheless, originations of subprime mortgages swelled from less than 2.5% of total mortgages serviced in 2000 (Greenspan, 2010:3) to 20% of all U.S. home mortgage originations in 2005 and 2006<sup>xxxii</sup>. In absolute figures the subprime originations were respectively US\$ 625 bn (on a total of US\$ 3,120) in 2005 and US\$ 600 bn (on a total of US\$ 2,980) in 2006 (Gorton, 2009:18).

As Lewis (2010) explains, many of the mortgages were sold to consumers for speculative reasons. Believing that the rising housing prices would provide the mortgage banks as well as the commercial banks with sufficient guarantees in case the homeowner would default, mortgages were sold without any deposits made or to people without jobs or a regular income, the so-called NINJAs<sup>xxxiii</sup>. More precise, Gerardi et al. (2008:8) argue that the proportion of ‘low doc’ or ‘no doc’ subprime loans origination rose from 20 percent in 1999 to more than 35 percent by mid-2006.

A second characteristic that contributed to the popularity of subprime mortgages was attractive payment conditions, varying from no cost at all during the first two or three years to relatively low, but fixed interest rates (Gerardi, 2008:6; Goodhart, 2008:341; Gorton, 2009:13; Weaver, 2008:24). After this first period of fixed interest rates a long period – usually 27 or 28 years – of adjustable rates would commence, giving these ‘hybrids’ (Gorton, 2008:13) their name: Adjustable Rate Mortgages (ARMs). Because the interest rates would rise significantly after the honeymoon period was over, there was a clear incentive for the borrower to refinance the mortgage – which was encouraged as long as the value of the property would rise with at least the same rate as the interest rates<sup>xxxiv</sup>. Teaser rates, therefore, clearly attracted immigrants and low-income Americans but also “Classic Middle America” (Gerardi et al., 2008:27)<sup>xxxv</sup> to buy or refinance property using a subprime mortgage – until housing prices started falling and interest rates started climbing rapidly and significantly.

By itself selling an increasing amount of subprime mortgages to (potential) homeowners is no sufficient cause for an international financial crisis to occur. As Goodhart observes:

*«Perhaps one of the most interesting features of this crisis is that the US sub-prime mortgage market is a relatively small part of the overall US mortgage market, and, as its name indicates, was confined to the USA.»*

How then did the primarily American financial crisis become a global disease more contagious than the Mexican flu pandemic, causing worldwide financial stress, bankruptcies and personal tragedies? Various scholars (Gerardi, 2008:4; Goodhart, 2008:341,342; Weaver, 2008:24) argued that the main trigger to cause the crisis was the “*origination and distribution model*”. The originators of the most toxic structured finance products, Weaver (2008:27) argues, had no ‘skin in the game’<sup>xxxvi</sup>. They sold all the different parts – from the senior tranche to the lowest and most risky ‘equity tranche’<sup>xxxvii</sup>. The selling was done on a worldwide market with hedge funds very often taking the most risky tranches, while mezzanine tranches usually ended up with long term investors, such as pension funds. Bank conduits or special investment vehicles held the senior tranches (Goodhart, 2008:342). One of the issues that materialized over time is that originators of mortgage-backed securities, because they did not have any exposure to the financial instrument, did not particularly care about credit quality. Lewis (2010:143) tells the story of Wing Chau, a CDO manager, who “simply passed all the risk that the underlying home loans would default on to the big investors” leaving Wing Chau with no exposure to the CDOs at all. Hungry investors all over the world, afraid of missing upside opportunities, were happy to take on the risk – a risk they ultimately misperceived. The origination and distribution model also flourished because the asset-backed securities were all seen to have a credible and sufficient credit rating given by Moody’s or Standard and Poors. Ultimately, as nearly all scholars point out, their credit rating was falsified in the course of events taken place during 2000 and 2008<sup>xxxviii</sup>. Some, like Lewis and Gorton, disqualified the rating agencies as not having sufficiently done their homework or not being able to do so.

When in 2007 home prices declined leading to a drop in the S&P/Case-Shiller quarterly home price index declined by 4.5% compared to 2006<sup>xxxix</sup>, the market was shocked and faltered<sup>xl</sup>. At the beginning of 2009, Gorton explains, eighty subprime mortgage lenders had ended their business since the first one tipped over – including Option One, Ameriquest and New Century. Large banks had to write-off hundreds of billions of dollars, mutual trust between financial institutions was severely damaged and the financial system nearly came to a complete stop. As Goodhart (2008:340) summarizes the chain of events: “the 2007 financial crisis was, in reality, an accident waiting and ready to happen”. Actually, it was not simply an accident that resulted, it was a mere ‘financial tsunami’ that came over the financial community following the demise of Bear Sterns in June 2007 and the announcement of BNP Paribas on 9 August 2007 to prevent investors from redeeming cash from its hedge funds.

### *5.2.2 Lessons from Normal Accident Theory*

What can we learn from authors like Perrow, Weick, Roberts and Sagan whose reflections on complex organizations, at least on face value, appear to be useful in understanding what happens in the financial community? Just like Bhopal, Chernobyl or Three Mile Island, the financial industry was faced with a set of small failures that – once they became interdependent – caused major societal upheaval and nearly resulted in a complete breakdown of the entire financial system (cf. Sorkin, 2009). Using Perrow’s distinctions of loose versus tight coupling and linear versus complex systems it appears that the financial system was increasingly entangled and tightly coupled. Also the complexity of the financial transactions and relations soared

tremendously in the years preceding the crisis. Greenspan (2010:8) even speaks of “the virtually indecipherable complexity of a broad spectrum of financial products”. We start with a brief examination of the increasing amount of couplings in the financial world.

### 5.2.3 Tight coupling

Perrow describes tight coupling as: “no slack or buffer or give between two items”. He adds to the observation: “What happens in one directly affects what happens in the other.” With increasing interdependencies between parts of a system if something goes wrong in one part it automatically impacts the following part and so forth. There is no way to stop the cascade. During the last two decades the financial community has become more and more interdependent, leading to increased susceptibility for system failures. Among others the following factors have contributed to this heightened susceptibility for system failure:

#### 1) *Politics and finance intertwined*

The roots of the subprime crisis can be found in the monetary policy of Fed Chairman Alan Greenspan to keep interest rates low to stimulate the economy, as various authors have argued (Achterhuis, 2010; Posner, 2009)<sup>xli</sup>. In addition, both the Clinton and the Bush Administration were instrumental in causing the crisis by ordering Government Sponsored Enterprises (GSEs) Fannie Mae en Freddie Mac to provide (subprime) mortgage loans to the low-income working class and to immigrants. As Alan Greenspan (2010:4) testified: “*a significant proportion of the increased demand for subprime mortgage backed securities during the years 2003-2004 was effectively politically mandated*”. There was no better way to include Americans and immigrants in the American dream of individual freedom and prosperity than to have them owning their own house. As I mentioned in paragraph 2.2, homeownership, it was thought, would create ‘a sense of participation and belonging’. There was also another intervention by the Clinton Administration that actively promoted homeownership and consumer lending. When the administration agreed to sign the Gramm-Leach-Bliley Act in November 1999 (see also below) it only wanted to do so under the condition that minority-lending requirements would be upheld. It is ironic that the combination of deregulation and social policy ultimately went hand in hand causing the crisis.

#### 2) *Slack, buffers and circuit-breakers*

Some eight years before the crisis materialized, Charles Perrow (1999:385) wrote: “*Breaking up a loan on a home into tiny packages and selling them on a world-wide basis increased interdependency*”. Perrow, nor anyone else at that time, could foresee the collapse of the worldwide market of mortgage-backed securities nearly a decade later. But what he did notice is that “*there is twenty-four hour trading, high-speed trading, the high volume of trading, and the sheer amount of it all, all suggesting tight coupling*” (Perrow, 1999:385)<sup>xlii</sup>. Another example of tightened couplings was the 1999 Gramm-Leach-Bliley Act. The act repealed the Glass-Steagall Act in order to allow commercial banks, investment banks, securities firms, and insurance companies to consolidate. Former Treasury Secretary Lawrence H. Summers was quoted saying in the New York Times of October 23, 1999:

*«At the end of the 20th century, we will at last be replacing an archaic set of restrictions with a legislative foundation for a 21st-century financial system." The measure, he added, "would provide significant benefits to the national economy.»*

Quite elegantly, Andrew Sorkin remarked that the interdependencies in the financial world – to which the removal of the ‘archaic’ Glass-Steagall Act made a significant contribution – had become a recipe for a cascading disaster. There would be no stopping the crisis if giants like Morgan Stanley and AIG would go down. In that case even the previously unthinkable could happen: the fall of Goldman Sachs. In his testimony to the Congress committee inquiring the financial crisis, former Fed Chairman, Alan Greenspan, came to the conclusion that “the doctrine of ‘too big to fail’ (or, more appropriately, ‘too interconnected to be liquidated quickly’) cannot be allowed to stand”. (Greenspan, 2010:10)

Finally, in an enlightening article Jim Hawley (2011) argues that the lack of slack was also caused by grossly inadequate governance on behalf of the CEOs and CIOs of (financial) companies and by the failure of institutional investors – acting as universal owners – to exert control. The investors only had an eye for risk at the firm level, not for risk at the level of their financial and investment portfolios, or for any kind of systemic risk. Referring to the US 1940 Investment Company Act Hawley accuses institutional investors of a failure to act as a ‘sophisticated investor’. They did not adequately monitor their investments in financial firms, products and services and therefore failed to protect the interest of the ultimate end-owners: human beings dependent for their future income on these universal owners.

### 3) *The internationalization of financial markets*

One of the main reasons the financial crisis could evolve into a crisis of gigantic proportions was the worldwide interest in assets with seemingly low risk profiles, while generating a high return (Lydenberg, 2011). The demand for these ‘assets’ was overwhelming (cf. Lewis, 2010) providing the banks that originated CDOs and related structured finance products with abundant opportunities to offset their risk. Eager investors all over the globe bought products without knowing and fully appreciating the risk that was involved in these products. Without any critical reflection the investors trusted the assessments of S&P, Moody’s and Fitch ratings, as they were used to – not appreciating the fact that the rating agencies hardly had any experience with assessing the new set of financial instruments. As Goodhart (2008:337) argues, “the whole system depended crucially on the reputation and ‘say so’ of the credit rating agencies”, making the agencies an element in the coupling of financial institutions worldwide and in the distribution of “financial weapons of mass destruction”<sup>xliii</sup>.

#### 5.2.4 *Increasing complexity*

In addition to the nature of coupling between system parts, Perrow refers to the role of complexity in causing a crisis. At least three elements of complexity have contributed to the financial crisis taking shape. These mechanisms are:

##### 1) *The increasing complexity of the financial products*

Already in 2003 Warren Buffett expressed serious doubts concerning the risks banks were exposed to by using a wealth of derivatives. Having read “the long footnotes detailing the derivatives activities of major banks, the only thing we understand is that we *don’t* understand how much risk the institution is running.” (Buffett, 2003:15) The warning came

at a moment when most of the origination of subprime Collateral Debt Obligations (CDOs) had not even begun yet.

Many scholars (Gorton, 2009; Lewis, 2010; Adelson and Jacob, 2008) refer to the complexity of the financial products as one of the major causes of the crisis. This complexity became manifest on at least three levels: the nature of the subprime loan, the composition of the CDOs, and the composition of the investment portfolio. Illustrative is Gorton's observation (2009:37) that information got lost "due to the complexity of the chain". By that he means that for CDO investors it was "not possible to penetrate the chain backwards and value the chain based on the underlying mortgages". As a result the investors relied "to a lesser extent on the information about the structure and the fundamentals and more on the relationship with the product seller" (Gorton, 2009:37).

Quite telling in this respect is Lewis' example of how a new, but very complex financial future was structured. The financial firms used a bet to short the subprime market to synthesize more financial derivatives. When an investor bought a credit-default swap, he enabled a bank "to create another bond identical in every respect but one to the original. The only difference was that there was no actual homebuyer or borrower." The only assets backing the bonds were the side bets the investors made with firms like Goldman Sachs. These investors, in effect, were paying to Goldman the interest on a subprime mortgage. "In fact, there was no mortgage at all." (Lewis, 2008:11)

## 2) *The prevailing free market ideology veiling the increasing complexity*

When the crisis unfolded governments in the USA, Europe and Japan – each acting in its own right and territory a 'superior insurance company' (Achterhuis, 2010:33) – had to bail out risky bankers and greedy consumers. Alan Greenspan, a strong believer in the ideology of the free market, admitted the "flaw in the free market theory" when giving a testimony for the US Congress on 23 October 2008. Greenspan was shocked by this flaw and by the limited ability of himself and his team to see the crisis coming:

*«I mean, you point out quite correctly that the Federal Reserve had as good an economic organization as exists, and I would say, in the world. If all those extraordinarily capable people were unable to foresee the development of this critical problem, which undoubtedly was the cause of the world problem with respect to mortgage-backed securities, I have to – I think we have to ask ourselves, why is that? And the answer is that we're not smart enough as people. We just cannot see events that far in advance.»<sup>xliv</sup>*

Following scholars like Weick and Perrow it may not so much be the failing intellectual capacity of Greenspan and his team, as well as the human tendency to only perceive, process and store information that fits our mental models. As Robert Shiller (2008:24) argued, 'the subprime mortgages were launched with a woeful failure to understand real estate risk'. It was 'speculative enthusiasm', not rational understanding and calculation, driving the market, leading to an immense but irrational bubble. Moreover, Shiller continues, we do not see that bubbles are a social creation coming out of our unexamined belief in "new era stories".

With the benefit of hindsight Greenspan remarked that the "consequent surge in global demand for U.S. subprime securities by banks, hedge, and pension funds supported by unrealistically positive rating designations by credit agencies was, in my judgment, the core of the problem. Demand became so aggressive that too many securitizers and lenders believed they were able to create and sell mortgage backed securities so quickly that they

never put their shareholders' capital at risk and hence did not have the incentive to evaluate the credit quality of what they were selling. Pressures on lenders to supply more 'paper' collapsed subprime underwriting standards from 2005 forward. Uncritical acceptance of credit ratings by purchasers of these toxic assets has led to huge losses. It was the failure to properly price such risky assets that precipitated the crisis."<sup>xlv</sup> In other words, most buyers, including most investment specialists, not only did not fully understand the risks involved in buying potentially toxic derivatives, they lacked the willingness and the necessary competences to critically assess the risks involved in these very complex financial products. This was not so much caused by a lack of intelligence, but merely by the unquestionable faith in the high priests of finance and the circle of financial sorcerers. Part of the creation of complexity was, therefore, the concerted and deliberate ignoring of risk by bankers, investment consultants, (institutional) portfolio managers, rating agencies, government officials, oversight boards, and so forth.

### 3) *Myopia*

As Lydenberg (2011) argues it is not only the complexity of the market or the products that contributed to the breakdown of the existing financial system, but also the ignorance of that complexity by myopic financial professionals. That in itself added to the complexity, because the human factor came to be a very unreliable element in the system. Modern Portfolio Theory, Lydenberg argues, ignores the real world outside the theory – the world in which the outcomes and impact of the theory materialize. Investing is not simply about returning the highest buck to the risk-taker but also about creating value for society in which investors operate and intervene. Modern Portfolio Theory and Modern Portfolio Theorists ignore the impact of the MPT-thesis on the community that allows it to act in the first place. Investors have a 'license to operate', granted by the community, to participate in the creation of wealth, not in the destruction of it. By deliberately ignoring this impact and failing to do the reality check, theory and theorists contribute to complexity – not in a financial sense but certainly in a social sense. The crisis invoked the participation of governments, supervisory authorities, and laymen to counteract the consequences of the investment crisis.

## 6. CONCLUSION

In the aftermath of the crisis lessons have been learned. Not only has the focus on risk management more or less exploded, also the American Congress has adopted on July 14, 2010 the Wall Street Reform Bill. The bill at least partly reverses the 1999 Gramm-Leach-Bliley Act that – in turn – reversed the 1933 Glass-Steagall Act. Following the new bill, banks will have to spin-off some derivative trades to a subsidiary so that they are not in the same pot as federally insured deposits. They will not be allowed to trade in some of the most risky derivatives. However, banks can still trade some swaps to legitimately hedge risk. Most swaps would have to be cleared and traded on exchanges. In addition, and relevant for this article, a Financial Stability Oversight Council was created. The council will focus on identifying, monitoring and addressing systemic risks posed by large, complex financial firms as well as products and activities that spread risk across firms. It will make recommendations to regulators for increasingly stringent rules on companies that grow large and complex enough to pose a threat to the financial stability of the United States<sup>xlvi</sup>. Whether the bill will prove to be effective in curtailing risk in an increasingly complex and tightly coupled financial sector remains to be seen. At least some

buffers, barriers, and circuit-breakers have been introduced in the system that might help to prevent things getting out of hand. Whether it will be enough to revert the ‘natural’ inclinations of bankers, financial consultants, investment managers, rating agencies, government officials, oversight boards, consumers and other relevant players in the financial arena to only focus on short term gain and believe in ‘new era stories’ is still questionable. The first signs of what may ultimately end up in the next high-tech, social network, exuberance, are already looming on the horizon – suggesting that it still is all about bucks. The rest remains conversation.

In this article I have argued that the financial world in general – and investment professionals in particular – could have learned from Normal Accident Theory and the theory on High Reliability Organizations by perceiving the financial community as one integrated system and not simply the sum of independent parts. The major characters in and around the financial industry – ranging from the government to bankers and from the Fed to financial advisors and investors – would have been wise to analyze their community more thoroughly in system terms than they actually did. They were living in a dream world, in a social construction, instead of in the real world. By introducing a reality check they probably would not have detected Bernstein’s hungry mountain lion before crossing the bridge. Nevertheless, they likely would have been more prepared for and focused on potential dangers. The financial crisis was a case of negligence, foolishness and unwillingness to look beyond the immediate (theoretical) present to the looming dangers in the real world outside of finance. And for those, as Lewis makes clear, who were warned by the modern Cassandras of their time and knew what was coming, they felt no obligation to be cautious. They simply had no skin in the game. Instead, they were gambling with other people’s money both in their financial portfolios as well as in ‘real world portfolios’.

After the fact many scholars, including Markowitz, focused on uncertainties in the financial sector. And of course he was right – with the benefit of hindsight – when he echoes Nassim Taleb and argues that it “is precisely at the point where the assumptions break down that financial models, pushed to their limits, lead to disastrous consequences” (Markowitz, 2009:4). The resulting tragedy falls upon the non-believers, as it certainly did, and on those who were intended to be the beneficiaries of their investment decisions. As a consequence, it would be fair to demand from investors a real world check that goes much further than what is currently happening under the heading of (socially) responsible investing. Good governance and responsible investing need to be extended to (societal) risk management. Part of this risk management needs to be the assessment of the nature of the impact of investments on society. So far, no bill or reform act requires investors to improve their economic, social and environmental impact assessment. It is time to call for drastic change, since the consequences for the current and the next generations are too serious to ignore. In the words of Hawley (2011): we clearly need to rethink what it means to be ‘sophisticated investors’. In this respect I clearly sympathize with the report *From Transparency to Performance* by the Initiative for Responsible Investing of Harvard’s Kennedy School of Government (Lydenberg, Rogers, and Wood, 2010) that calls for mandatory reporting on key performance non-financial indicators.

This article deals with an analysis of the financial crisis from the viewpoint of a theory of complex systems. Changing the current system by improving social checks and balances is necessary since the prevailing system caused – and still causes – major ethical stress. As Richard Nielsen (2010) argues there are at least five types of ethics issues that are structurally related to the finance capitalism that we know: harm to others, leverage proportionality and prudence, moral hazard, transparency and social control and regulation. What does this mean for the individual working in the financial industry – from top management to investment professional?



To what extent do individual financial professionals carry a responsibility within a complex system to protect the true interests of the ultimate beneficiaries? In the end it is not the system but the (trans)actions of individual financial ‘professionals’ that caused the pain and suffering of the beneficiaries. Continued research into the (moral) responsibilities of financial professionals is required to come to a better understanding of how to prevent a major financial crisis like the 2008 crisis from happening again.

## REFERENCES

- Achterhuis, H. (1998). *De erfenis van de utopia*. Amsterdam (The Netherlands): Ambo.
- Achterhuis, H. (2010). *De utopie van de vrije markt*. Rotterdam (The Netherlands): Lemniscaat.
- Adelson, M. H., David P. J. (2008). The subprime problem: causes and lessons. *The Journal of Structured Finance Spring 2008*, 14(1): 12-17.
- Allen, F., Carletti, E. (2010). An overview of the crisis: causes consequences, and solutions. *International Review of Finance*, 10(1): 1-26
- Beck, U. (1992). *Risk Society*. London: Sage.
- Bernstein, P. L. (1996). *Against the Gods*. New York (USA): John Wiley & Sons.
- Bookstaber, R. (2007). *A demon of our own design*. Hoboken, NJ (USA): Wiley.
- Buffett, W., Berkshire, H. (2003). *Annual Report 2002*. USA: Omaha, Nebraska.
- Case, K., Shiller, R. (2004). Is there a bubble in the housing market? Cowles Foundation Discussion Paper 1089 USA: Yale University.
- Dombrowsky, W. R. (1995). Again and again: is a disaster what we call ‘Disaster’?. *International Journal of Mass Emergencies and Disasters*, 13: 241-254.
- Figlewski, S. (2009). Viewing the financial crisis from 20,000 feet up. *The Journal of Derivatives*, Spring, 16(3): 53-61.
- Gerardi, K., Lehnert, A., Sherlund, S., Willen, P. (2009). Making Sense of the Subprime Crisis. Working Paper 2009-02. Federal Reserve Bank of Atlanta.
- Gilbert, M. (2010). *Complicit*. New York (USA): Bloomberg L.P..
- Goodhart, C. A. E. (2008). The background to the 2007 financial crisis. *International Economics and Economic Policy*, 4(4): 331-346.
- Gorton, G. (2009). The Subprime Panic. *European Financial Management*, 15(1): 10-46.
- Greenspan, A. (2008). Testimony of Dr. Alan Greenspan. Committee of Government Oversight and Reform, October 23.
- Greenspan, A. (2010). Testimony of Alan Greenspan. Financial Crisis Inquiry Commission, April 7.
- Hawley, J. P. (2011). Corporate Governance, Risk Analysis and the Financial Crisis. What did Universal Owners do, and not do, to contribute to the crisis?. In Hawley, J. P., Kamath, S. J.,

- Williams, A. T. (Eds.), *Corporate Governance Failures: The Role of Institutional Investors in the Global Financial Crisis*. USA: University of Pennsylvania Press.
- Hawley, J. P., Kamath, S. J., & Williams, A. T. (Eds.). (2011). *Corporate Governance Failures: The Role of Institutional Investors in the Global Financial Crisis*. University of Pennsylvania Press.
- Helbing, T., Terrones, M. (2003). When bubbles burst. In *World Economy Outlook*, 61-96. Washington D. C. (USA): IMF.
- Kindleberger, C. P., Aliber, R. (2005). *Manias, Panics, and Crashes: A History of Financial Crises (5th ed.)*. UK: Wiley.
- Knight, F. (2009). (orig. 1921). *Risk, uncertainty, and profit*. Orlando (USA): Signalman Publishing.
- Lewis, M. (2008). The End of Wall Street's Boom, *Portfolio.com*, December: 1-17.
- Lewis, M. (2010). *The Big Short*. New York (USA): W.W. Norton & Co..
- Lydenberg, S. (2011). Beyond Risk. In Hawley, J. P., Kamath, S. J., & Williams, A. T. (Eds.), *Corporate Governance Failures: The Role of Institutional Investors in the Global Financial Crisis*. USA: University of Pennsylvania Press.
- Lydenberg, S., Rogers, J., Wood, D. (2010). From Transparency to Performance. *Industry Based Sustainability Reporting on Key Issues*. USA: The Hauser Centre at Harvard University.
- Markowitz, H. M. (1952). Portfolio Selection. *Journal of Finance*, 7(1): 77–91.
- Markowitz, H. M. (2009). Modern Portfolio Theory, Financial Engineering, and Their Roles in the Financial Crisis. CFA Institute, cfapubs.org, December 2009: pp. 1–6.
- Mezias, S. (1994). Financial meltdown as normal accident: the case of the American Savings and Loan industry. *Accounting, Organizations and Society*, 18: 181-192.
- Neal, P. (2008). The subprime mortgage crisis: lessons for regulators. *Policy*, 24(2): 19-25.
- Nielsen, R. (2008). The current subprime financial crisis: ethics issues and potential reforms. Lecture, ALBA Business School, Greece, 24 June
- Nielsen, R. (2010). High-leverage finance capitalism, the economic crisis, structurally related ethics issues, and potential reforms. *Business Ethics Quarterly*, 20(2): 299-330.
- Parliamentary Committee Inquiry Financial System (The De Wit Committee) (2010). Credit Lost, The Hague, 10 May
- Perrow, C. (1986). *Complex Organizations*. New York (USA): McGraw-Hill.
- Perrow, C. (1999). *Normal Accidents. Living with High-Risk Technologies*. Princeton, NJ (USA): Princeton UP.
- Pool, R. (1997). *Beyond Engineering: How Society Shapes Technology*. Oxford (UK): Oxford University Press.
- Posner, R. A. (2009). *A Failure of Capitalism*. Cambridge, MA (USA): Harvard University Press.

- Roberts, K. (1989). The Significance of Perrow's Normal Accidents: Living With High-Risk Technologies. *Academy of Management Review*, 14(2): 285-289.
- Roberts, K. (1990). Some characteristics of one type of high reliability organizations. *Organization Science*, 1(2): 160-176.
- Roberts, K., Bea, R. G., When systems fail. *Organizational Dynamics*, 29(3): 179-191.
- Roberts, K., Libuser, C. (1993). From Bhopal to Banking: Organizational Design Can Mitigate Risk. *Organizational Dynamics*, 21(4): 15-25.
- Sagan, S. (1994). Toward a political theory of organizational reliability. *Journal of contingencies and crisis management*, 2(4): 228-240.
- Shiller, R. J. (2006). *Irrational Exuberance*. New York (USA): Crown Business.
- Shiller, R. J. (2008). *The Subprime Solution*. Princeton (NJ): Princeton University Press.
- Sorkin, A. R. (2009). *Too Big to Fail*. New York (USA): Viking Penguin Group.
- Stiglitz, J. E. (2010). *Freefall*. New York (USA): W.W. Norton & Company.
- Taleb, N. N. (2007). *The Black Swan*. London (UK): Penguin Books.
- The Economist (2009). *Efficiency and beyond*. [www.economist.com](http://www.economist.com), 16 July.
- Weaver, K. (2008). The sub-prime mortgage crisis: a synopsis. In *Global Securitisation and Structured Finance 2008*, 22-31, Germany: Deutsche Bank.

---

## Endnotes

<sup>i</sup> The title refers to a wonderful phrase by Gordon Gekko in Wall Street which points to the heart of the matter in the financial sector.

<sup>ii</sup> Prof. Dr. Harry Hummels is professor of Ethics, Organizations and Society at Maastricht University in The Netherlands and fellow of the European Center for Corporate Engagement. In addition professor Hummels is managing director of SNS Impact Investing – a position he shares with his friend and colleague Theo Brouwers. This article is a result of a number of fascinating discussions with Steve Lydenberg CFA, CIO of Domini Social Investments and initiator of the *Initiative of Responsible Investing* at Kennedy School of Government at Harvard University. The author likes to thank Steve Lydenberg, Jim Hawley and Rob Bauer for constructive comments on previous drafts of this article.

<sup>iii</sup> Bernstein, p.183

<sup>iv</sup> One can argue that economists, bankers, investment advisors and portfolio managers used a *model* that was not comprehensive when dealing with the wider set of consequences of investment decisions. In this article I do not argue with *specific parameters* within the prevailing theories of risk and uncertainty, but with the model as such.

<sup>v</sup> Michael Douglas in his role as Gordon Gekko has shown us that this greed for everything that is valuable in life can have negative consequences if not controlled.

<sup>vi</sup> Quite intriguing in this respect is Bernstein's remark that follows this example: "I have a hunch that Harry Markowitz with his focus on volatility, would have been taken by surprise by that mountain lion. Kenneth Arrow, a man who thinks about risks in many different dimensions and who understands the difference between the quantifiable and the messy, would be more likely to worry that the mountain lion, or some other peril, might be waiting at the other side of the bridge". (Bernstein, 1996, p.260)

vii <http://www.hud.gov/news/release.cfm?content=pr04-050.cfm>. Promoting Affordable housing, particularly for minority groups, was already an important policy objective for the Clinton administration and was carried further by President Bush. With a clear objective of 5.5 million new minority homeowners in the first decade of the new millennium President Bush took the policy to its extreme by persuading – if not pressuring – the financial sector to lower its lending standards, ultimately resulting in so-called NINJA loans: No Income, No Job or Assets. What is remarkable is that this initiative was launched at a moment that the first sign of a bursting housing bubble already appeared on the horizon – later followed by a bursting credit bubble (Posner, 2009).

viii New Century Financial was at the time one among many financial institutions in the area of sub-prime lending that found itself in bad weather. HSBC Finance made provisions of over 10 bn USD, while Accredited Home Lenders saw 75 percent wiped off its value in two days due to bad debt. At that same time in March/April 2007 Barclays was still bidding on US subprime lender EquiFirst – even though it lowered its bid from \$225 mln to \$76 mln – a price fall that reflected growing problems in the US housing and sub-prime market, the bank commented. However, a spokesman added: “We think EquiFirst is positioned for profitable growth.” Source: BBC News, 2 April 2007.

ix Recently Richard Nielsen (2010) described the financial crisis as a major moral failing of financial professionals.

x Quite intriguing is Shiller’s quoting of Aaron Sakolski’s book *The Great American Land Bubble* who opens his book with the statement: “America, from its inception, was a speculation” (Shiller, p.55).

xi In the Netherlands a parliamentary commission issued its report in May 2010 making exactly this point that everyone (bankers, politicians, supervisory authorities, intermediaries, economists and consumers) is to blame for things getting out of hand – not a particularly helpful conclusion if one wants to prevent the next crisis to materialize. A summary of the report is available for downloading: [http://www.tweedekamer.nl/images/Credit\\_Lost\\_-\\_summary\\_of\\_the\\_report\\_118-206545.pdf](http://www.tweedekamer.nl/images/Credit_Lost_-_summary_of_the_report_118-206545.pdf)

xii As Posner (2009, p.281) claims: “The successive Federal Reserve chairmanships of Greenspan and Bernanke must be reckoned prime causes of the financial crisis.”

xiii In a very interesting book – *The Free Market as a Utopia* - Dutch philosopher Hans Achterhuis (2010) argues that Alan Greenspan carries most of the burden for causing the financial crisis. Following the free market ideology of Ayn Rand, Greenspan – as the high priest of capitalism – was not willing to intervene in the economy and impose certain limits to the use of what Warren Buffet already in 2003 called ‘financial weapons of mass destruction’. Greenspan, according to Achterhuis, was the Aaron of modern capitalism, allowing the people to worship the mammon. It is a personal tragedy for Greenspan that ultimately the Mammon turned against him and his people.

xiv Investment professionals are, among others, the designers of financial products, portfolio managers, relationship managers, sales reps and their managers and directors.

xv Posner refers to the relatively mild effect previous crises had on the economy by pumping a lot cheap money into the system.

xvi An issue is, of course, that a financial catastrophe may not be the end of the world to those who are well off – like the professionals and managers who the issue – that is certainly not true for the relatively poor. They were hit hard by the aftermath of the crisis and have trouble recovering.

xvii Many portfolio managers believed their risk was perfectly controlled, says Nobel Prize winner Myron Scholes, “but they needed to know what everyone else was doing, to see the aggregate picture.” It turned out that everyone was doing very similar things. So when their Value At Risk models started telling them to sell, they all did—driving prices down further and triggering further model-driven selling. (The Economist, *Efficiency and Beyond*, 16 July 2009)

xviii Jim Hawley (2011) argues it was in particular poor governance by the CEOs and CIOs of large financial institutions and the owners of those institutions – large institutional investors – that was instrumental in causing the crisis. The governance discussion was limited to the level of the firm. Both portfolio risk and systemic risk in the entire financial sector were left outside the reflection and debate on governance. In Hawley’s own words: “there has been a black hole in theory and practice regarding governance actions and engagement by end asset owners (e.g. CalPERS) and asset managers”. In other words, large institutional investors have not done their homework as

universal owners of the (financial) companies they invest in. They not only have a responsibility to challenge (financial) companies that perform poorly but also firms with “hyperperformance” – highlighting the impact of hyperperformance on market risk. An interesting example Hawley mentions in this respect is Citigroup’s former CEO Chuck Prince’s saying that “while the music is playing, you have to dance”. The market was holding individual companies in what now can be seen as a *deadly embrace*.

<sup>xix</sup> Alan Greenspan has focused attention on this issue of negative tail risk both before (Parliamentary Committee Inquiry Financial System, 2010:54) and after the crisis (Greenspan, 2010:8).

<sup>xx</sup> This famous notion is coming from John Rawls’ Theory of Justice. Where it might be justified to abstain from the details of a practice in Rawls’ theory to end up with a social arrangement that is just for everyone, in the case of Modern Portfolio Theory it is not. The veil of ignorance in this case is clearly a disqualification of the both theorists and practitioners to look beyond the narrowly defined and abstract definition of reality.

<sup>xxi</sup> Perrow (1999) defines a catastrophic accident in the context of risky technologies as “one that kills some number of first-party victims (operators), over 100 second-party victims (people associated with the system but with no control over it), and large numbers of third-party (innocent bystanders) and fourth-party victims (unborn generations)”. Since serious accidents in a financial or telecom environment highly impacts the interests of the stakeholders but usually do not lead to fatalities the definition likely transforms in a social or socio-technical environment into: ‘one that seriously affects a small number of primary stakeholders, a growing number of secondary stakeholders and even larger numbers of tertiary or quaternary stakeholders’.

<sup>xxii</sup> A high-reliability organization is an organization where major errors in their regular processes have a potential for creating catastrophic consequences. Examples, according to Roberts (1990:160), of hazardous, high-reliability organizations that (need to) engage in nearly error free operations are the US air traffic control, some power distribution grids, aircraft carriers and submarines and *international banking*. Increasingly, as Pool has argued, (socio-technical) systems like computer and telecom networks, genetic engineering, and *financial networks*, carry in it characteristics of hazardous, high-reliability organizations. Pool (1997:276) points out that “[o]ur ability to manage a technology, rather than our ability to conceive and build it, may become the limiting factor in many cases”.

<sup>xxiii</sup> Roberts (1989) points out that Perrow has not elaborated the concepts of *complexity* and *tight coupling* in a way that they have become operational. He often uses storytelling to make his point clear. Therefore, it will be difficult to actually measure both concepts.

<sup>xxiv</sup> The obvious exception is Chernobyl.

<sup>xxv</sup> A reason could be that the redundant system is having a maintenance check up. A redundancy may proof irrelevant if, for instance, an aircraft flies into a cloud of volcanic ashes damaging all of its engines. Having a spare engine if one falters is not very helpful when all engines malfunction.

<sup>xxvi</sup> Even the wording of financial professionals is softening the severity of the catastrophe. They talk about a crisis, a turning point. At best they speak of a financial crash that brought the system to a halt. They don’t use words like ‘catastrophe’ or ‘disaster’ that particularly focus on the consequences of the event (Dombrowsky, 1995:242).

<sup>xxvii</sup> It is only in the aftermath of the crisis that the analysis gradually shifts toward controlling the system risks as become clear. A clear example is provided by the report of the Dutch commission (2010) that investigated the financial crisis and its impact.

<sup>xxviii</sup> I am using the word ‘catastrophe’ in a wider sense than Perrow does. He calls a catastrophe “an accident that kills more than 100 people with one blow” (1999:357). Since the effects of the financial crisis were disastrous or catastrophic to countless individuals and groups globally, negatively impacting their (quality of) life, the latest financial crisis deserves to be called a catastrophe.

<sup>xxix</sup> The LTCM case, of course, shows that there are exceptions to the rule. Roberts and Bea (2001) also refer to the demise of Barings due to the (not officially authorized) behavior of Nick Leeson. This case is, however, of a completely different nature and not comparable to what caused the current crisis.

<sup>xxx</sup> A high-reliability organization is an organization where major errors in their regular processes have a potential for creating catastrophic consequences. Examples, according to Roberts (1990:160), of hazardous, high-reliability

organizations that (need to) engage in nearly error free operations are the US air traffic control, some power distribution grids, aircraft carriers and submarines and *international banking*. Increasingly, as Pool has argued, (socio-technical) systems like computer and telecom networks, genetic engineering, and *financial networks*, carry in it characteristics of hazardous, high-reliability organizations. Pool (1997:276) points out that “[o]ur ability to manage a technology, rather than our ability to conceive and build it, may become the limiting factor in many cases”.

<sup>xxxix</sup> Many books and articles have been written – and are still written and published – to explain what happened in the wake of the crisis and what led to it. For this article I have made use of a wide variety of academic articles as well as (polemic) books. I kindly refer to the reference list.

<sup>xxxix</sup> According to Gerardi, et al, (2008: Table 2) the number is even higher and exceeds 25%.

<sup>xxxix</sup> NINJAs is an abbreviation of No Income, No Jobs, no Assets.

<sup>xxxix</sup> Gerardi et al. (2008:5) argue that the ‘payment shock’ after the first 2 or 3 years passed was not in itself a reason for default and the increase in foreclosures. Previous research from the authors shows that “the overwhelming majority of defaults on subprime ARMs occur long before the first reset”.

<sup>xxxix</sup> Gerardi (2008:27) quotes Citi analysts writing “The subprime borrower today has a monthly income above the national median and a long tenure in his job and profession. (...) Past credit problems are the main reason why the subprime borrower is ineligible for a prime loan”. Citi analysts continued by pointing out that credit quality – as measured by the FICO scores – of the borrower had improved between 2000 and 2005.

<sup>xxxix</sup> See also Adelson and Jacob, 2008:15

<sup>xxxix</sup> Goodhart (2008:341) considers this equity part to be ‘toxic waste’.

<sup>xxxix</sup> Some writers, like Lewis (2010), at least suggest that the agencies might not have been objective as one expects from the agencies, because the originators of the securities paid them. However, as Goodhart (2008:339) rebuts, there is no “reliable evidence” that the agencies, depending so much on their reputation for honesty and straight dealing, would have been more than favorable towards the originators in assessing their products.

<sup>xxxix</sup> The index already gave a declining outlook since Q2 in 2006, becoming negative at the end of Q3 (source: Gerardi, 2008: Figure 13). As of Q3 the index would fall sharply leading to a decline in home prices of more than 30 percent at the end of Q1 2008.

<sup>xl</sup> Even in 2008, in the midst of the financial crisis, Greenspan regretted the disappearance of the market in subprime mortgages (Greenspan 2008:4). Home and small business ownership is a vital commitment to a community and, therefore, ways should be found to reestablish a more sustainable subprime mortgage market.

<sup>xl</sup> Ultimately, even Greenspan, talking about a ‘once-in-a century credit tsunami’, had to admit to the American Congress on 23 October 2008 that he had been wrong.

<sup>xl</sup> Warren Buffett was also very explicit about the interdependencies that are a result of massive trading in derivatives: “Large amounts of risk, particularly credit risk, have become concentrated in the hands of relatively few derivatives dealers, who in addition trade extensively with one other. The troubles of one could quickly infect the others.” (Buffett, 2003:14)

<sup>xl</sup> In his Berkshire Hathaway Annual Report 2002 Buffett warned for negative impact financial derivatives could have. He called them ‘time bombs, both for the parties that deal in them and the economic system’ (Buffett, 2003:13).

<sup>xl</sup> [http://www.pbs.org/newshour/bb/business/july-dec08/crisishearing\\_10-23.html](http://www.pbs.org/newshour/bb/business/july-dec08/crisishearing_10-23.html)

<sup>xl</sup> <http://clipsandcomment.com/wp-content/uploads/2008/10/greenspan-testimony-20081023.pdf>

<sup>xl</sup> [http://banking.senate.gov/public/\\_files/FinancialReformSummaryAsFiled.pdf](http://banking.senate.gov/public/_files/FinancialReformSummaryAsFiled.pdf)



# Network Approach and Stakeholder Management

**Mauro Sciarelli, Ph.D.**

*Full Professor of Business Management. University of Naples "Federico II", Naples, Italy.  
e-mail: mauro.sciarelli@unina.it. Corresponding author.*

**Mario Tani, Ph.D.**

*Research fellow, University of Naples "Federico II", Naples, Italy.  
e-mail: mario.tani@gmail.com.*

*Published online on April 1, 2013.*

*DOI: 10.7350/BSR.V09.2013 – URL: <http://dx.medra.org/10.7350/BSR.V09.2013>*

## ABSTRACT

*Recent economic crises show that enterprises cannot be managed focusing only on economic values instead managers should acknowledge their own enterprises' responsibilities toward the society as a whole. Stakeholder Management Theory can help managers accomplishing this very same daunting task. This theory demands managers to reckon the reciprocal influences linking other social actors to the enterprise activities and to understand the relative effects. While most of the works in this theory has been geared towards defining, identifying and managing each single dyadic relationship some other scholar have highlighted the need to focus on the stakeholder network to correctly assess each stakeholder's role and to fully grasp the long term effects enterprise's action will have.*

*In this paper after a review of the main topics in stakeholder management theory, we classify the various approach to Stakeholder Management Theory to identify relevant theoretical contributions and to highlight how the theoretical gap can be crossed using the tools of Social Network Analysis and embracing the network approach to stakeholder management.*

**Keywords:** Stakeholder Management, Relationships, Sustainability, Network Approach, Social Network Analysis, Network Measures.

## 1. INTRODUCTION

Recent economic crises urge managers to go beyond the *shareholder view* which focus only on economic values in order to maximize shareholder value. Managers need a broader perspective in their decision making processes in order to account for the more than the mere economic motivations for their enterprises to be successful. This perspective is well defined by Stakeholder Management Theory.

A good example of the limits of the *shareholder view* is found in the Deepwater Horizon disaster, also known as the British Petroleum Oil Spill. Stout (2012) highlights how the crisis is

the direct result of BP's policies of cost reduction driving it to save money skimping on safety measures; the consequences of the Spill have not been limited to fishing and tourism industry but it has effected shareholder too as BP was fined for more than \$ 4.5 billion; moreover its market value was cut in half, common stock plunged from \$60 to \$30 per share, suffering a capital loss near \$ 100 billion and forcing enterprise's management to cut dividends. The Deepwater Horizon disaster clearly shows as managing the enterprise only for the shareholders has fired back with dire consequences for those very same stakeholders.

Cases like this show that managers should go beyond the short term and the requests by a single class of actors (*the shareholders*) to incorporate in their decision making processes the requests of several social actors (*the stakeholders*) factored in with a long term perspective.

In management studies several theories have asked managers to look beyond the single enterprise to the relationships the enterprise have in the environment.

For example in the *resource based view* (Wernerfelt, 1984; Barney, 1991) the source of the sustainable competitive advantage is deemed to be in the resources the enterprise can get access to, both through ownership and relationships. A tighter look at the role of relationships comes out from the *Relational View* (Gulati, 1999; Dyer & Singh, 1998) that held relationships are the best way to create a competitive advantage as they help in getting access to resources without having to pay their full price.

The same idea of relationships as the core of competitive advantage have been developed in the broader *Market-Driven Management* theory (Day, 1994, Lambin, Chumpitaz, & Shuiling, 2007, Sciarelli, 2008) where the source of a sustainable competitive advantage is the firm's management capability in creating, and keeping, relationships with the other value chain players. Even more direct is the approach by *Vital System Theory* (Golinelli, 2002; Golinelli, Gatti, 2006) that, building on *management cybernetic* (Beer, 1959; Beer, 1972), focus the spotlight not in the relationships linking the enterprise to the external environment but in the interactions running through them, seen as the dynamic factor making them valuable; according to this theory, in fact, relationship are only a static element that can become “viable”, and dynamic, only when the enterprise learns, adapts and evolve in order to become more effective in dealing with the external environment.

On the same side *Stakeholder Management Theory* (Freeman, 1984), asks managers to run their enterprises satisfying the requests of various other external environment's actors. In fact this theory sees enterprises as embedded in a network of bi-directional relationships with several external actors. These actors, called “Stakeholders” (Freeman, 1984: 53), are those subjects that are significantly influenced by the firm, or that can significantly influence the firm itself in a positive or negative way. Stakeholder Management Theory asks managers to “create as much value as possible for stakeholders, without resorting to trade-offs (between them)” (Freeman *et al.*, 2010: 28).

Through the lens of this theory enterprises are seen, and should be managed, as a part of a bigger web of complex, stable and mutually influencing relationships (Sydow & Windeler, 1998); these relationships will induce managerial behaviors to satisfy stakeholders expectations (Rowley, 1997). Moreover these relationships are multi-purpose ones that are only partially based on economic reasons while combining social considerations, and environmental ones too (Wicks & Harrison, 2013).

In stakeholder management literature we have identified two main streams; the more diffused one has focused on identifying which stakeholders are relevant and on defining the right



strategies managers can use in dealing with them (Mitchell *et al.*, 1997; Kochan & Rubinstein, 2000).

The other stream urges managers to go beyond managing the relationship with each single stakeholder but to analyze the whole structure of the relationships network the enterprise is embedded into. Some authors asks managers to take into account even those actors their firm is not directly related to (Sirgy, 2002). Rowley (2000) suggests that managers can use this approach to infer potential network evolutions; the author uses this approach to get a more dynamic approach to stakeholder management.

In this paper we carry on a literature review focused on this second, more network oriented, approach to stakeholder management. Our purpose is to get a better understanding of how stakeholder management literature has dealt with the issues of interactions between stakeholder and the relative effect network structure has on them, and on the firm too.

We focus on these topics as they can have a significant effects on each stakeholder value systems changing how they perceive the enterprise's actions and influencing their evaluations and responses (Wicks & Harrison, 2013).

Moreover the network structure, and its properties (Wasserman & Faust, 1994; Prell, 2012), can be used to understand how the network will evolve in time helping managers to create a more pro-active strategy and the academicians to understand the roots of economic crisis.

## 2. THE STAKEHOLDER THEORY

*Efficient Stakeholder Theory* was developed in the '80s in the works of Freeman (1984) and Freeman and Reed (1983). Its core point is that the creation and the ongoing operations of each enterprise is the results of several actors' activities, these actors will be later identified as the enterprise's stakeholders. Building upon this central point the theory sees the enterprise's main goals as some kind of combination of the various interests these actor are caring for.

Stakeholder Management Theory is built upon ideas developed in the Stanford Research Institute, taking into account several works from organizational behavior (Simon, 1947; March & Simon, 1958; Cyert & March, 1963), resource dependence theory (Pfeffer & Salancik, 1978), strategic planning (Lorange, 1975) and some other different theoretical fields (Nasi, 1995; Freeman *et al.*, 2010).

In organizational behavior (Cyert & March, 1963) field the firm had to balance the various claims their stakeholders vouched for in order to define viable objectives.

A central role of the interactions between the enterprise and the other organizations in the environment it is embedded into has been developed into the resource dependence theory (Pfeffer & Salancik, 1978). This theory sees the environment and the enterprise as strongly interconnected; the enterprise will depend on some of the actors in the environment in order to get access at resources they control. In a similar way some other actors will depend on the enterprise, as they will need to get access to some kind of resources that the enterprise controls.

Another root of the Stakeholder Theory can be found in the strategic planning approach to management as outlined by Dill (1975) when he defines the three main challenges of strategic prowess as the need for management to understand the environment, to respond to it and to deal with the individuals and the organizations trying to influence management's strategic decision making processes.

The Stakeholder Theory has been a managerial approach since its own foundation; it has been developed to give managers a broader perspective on their responsibility for enterprise's activities and for the related value creation processes (Rusconi, 2007); its main goal is to help managers to find the balance between the various relationships that can impact upon the enterprise and affect it while it is trying to reach for its own goals (Freeman & Philips, 2002). According to Donaldson and Preston (1995) defining the idea of the enterprise's stakeholders this theory has succeeded in being both descriptive, instrumental and normative.

This approach sees the enterprise as a bundle of relationships between its' activities various stakeholders. Managers has to combine the efforts by the various actors so to make them interact in value creating processes (Freeman *et. al.*, 2010: 24).

The theory's development has focused on finding an answer to three main questions:

- Who are the enterprise's stakeholders?
- How they should be managed?
- How do managers create value for the stakeholders?

The first question is a focal point in the theory development as the very same term stakeholder has been the center of an hot and fierce debate. In 1997 Mitchell, Agle and Wood (1997: 858) had found no less than 27 different definitions of the term, some years later Hinna (2002: 7) divides them in 5 main categories characterized by a more and more active role of the stakeholder starting from considering only those actors influenced from the enterprise to those authors defining stakeholders for their participation in the value creation processes.

Usually stakeholders are all those who have a stake in the enterprise; i.e. they have something to win, or to lose, from enterprise's operations, it is something more than a general interests in what the enterprise wants to do (Clarkson, 1999).

Mitchell, Agle and Wood (1997) divide the perspectives on stakeholders' identification in two main perspectives: a narrow one and a broad one.

In the narrow perspective only those actors the survival of the organization depends upon can be considered legitimate stakeholders. This perspective aims to focus manager's attention on those stakeholders that can directly impact on the economic interests of the enterprise or can strongly affect some other resource the enterprise needs. It is a normative approach driving managers to factoring in the expectations of only few, meaningful, actors the enterprise is related to.

The broad perspective, instead, defines the stakeholders as all the various actors that can influence, or be influenced by, «*the achievement of an organization's objectives*» (Freeman & Reed, 1983: 91). This perspective is built on a more thorough analysis of the environment enterprises operate into highlighting that there is a large number of subjects that can affect it. As a consequence managers are called to define a map of these actors, to deeply comprehend their expectations and their motivations.

The need to manage stakeholders' relationships asks managers to go beyond the mere transactions and the relative economic impacts and to refer to the ethical principles of justice, transparency and fairness while adopting a more general reciprocity principle.

Clarkson (1999) identifies some main principles to make managers more aware of their responsibility towards the other stakeholders and the need to involve them in decision making processes in order to help cooperation, to stimulate a profitable dialogue with them and eliciting a stronger bond, characterized by a reciprocal trust between the enterprise and the stakeholder.

Freeman and Velamuri (2006) define some responsible behavior norms in dealing with stakeholders; they ask managers to understand that real people are driven by a more complex set of goals than the mere economic, profit-oriented, ones; their value creation processes should involve stakeholders in a cooperative value creation dynamic leading to a continuous process re-engineering effort driven by a stakeholder oriented perspective.

According to Goodpaster (1991) stakeholder management process should be divided in two main phases: stakeholder analysis and stakeholder synthesis.

In the first phase the managers will define and identify their enterprise specific stakeholders in order to evaluate them and their stakes; in the following phase these evaluations will lead managers in defining a strategic path based upon economic and ethical principles too.

Managers will have to analyze the various stakeholders in order to find out the most relevant ones and to divide them in homogeneous groups.

Mitchell, Agle and Wood (1997) hold that the phase of stakeholder analysis should be oriented by the concept of salience. Salience is a tri-dimensional construct based upon the power the stakeholder has, its legitimacy on making requests to the enterprise and the urgency of its stakes. Only those stakeholders that have the power to influence the enterprise's activities, that are legitimated by the society and that stand up for urgent issues are the relevant ones, their request are those that managers need to fully answer through enterprise's activities. If only two of the attributes are present then the stakeholders expectations will be considered but managers will not be strongly pressured to answer them. If the stakeholder has only one attribute it should not be considered as a relevant one.

Central in the theory development has been the main concept that the enterprise should be managed in order to create value for all its stakeholders, and not for only some of them.

The theory is built around a fairness principle (Phillips *et al.*, 2003) where the various stakeholders are called to participate in the processes to create, and diffuse, value. They will be rewarded for their involvement mediated by values and ethical principles.

The value creations processes itself is not limited to creating economic value as the enterprise is seen as an open-system legitimated to survive by its role in the society (Sciarelli, 2012). Its operations are not limited to actions done in the market but they are related to the broader environment of its stakeholders set, connected to the enterprise by more than the mere economic transactions (Buchholz, 1991).

An element that can explain how enterprises do really create stakeholder value is the idea of stakeholder networks (Rusconi, 2007) where each stakeholder tries to comprehend and harmonize its own perception with the other ones reaching a dynamic balance.

Identifying stakeholders according to the networks they are into can be useful for managers as it can help them to comprehend how the way a firm treats one stakeholder will influence the relationships with some other stakeholders (Freeman *et al.*, 2007). It follows that the way an enterprise manages its relationships generates a global effect greater than the sum of the direct effects it has on each relationship taken separately.

Wicks and Harrison (2013) link this interdependence to the phenomenon of generalized exchange. There is generalized exchanged when multiple actors are related in a way that what actors take from and what they give to each other are not in direct one-to-one correspondence. This phenomenon is relevant in stakeholder management as the interactions between stakeholders and the enterprise, and those between stakeholders too, do happen over time and the relative expectations are influenced by the specific perception of the results previous interactions in the network have shown.

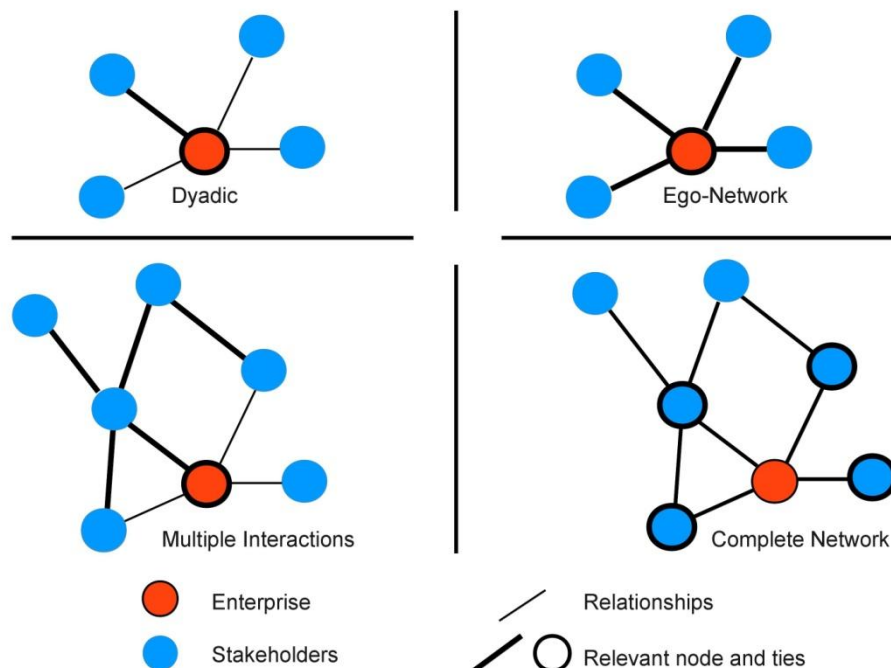
### 3. THE NETWORK APPROACH IN STAKEHOLDER MANAGEMENT THEORY

In spite of network being a relevant factor in stakeholder management the main contributions in this field have rarely gone beyond putting the emphasis on the dyadic linkages between the enterprise and each single stakeholder (Rowley, 1997). Stakeholders are seen as actors in interdependent, mutually influencing, networks since the first works on Stakeholder Management Theory. In fact Freeman (1984) defines the tools of stakeholders maps and stakeholders scorecards in order to give managers a way to assess which needs the various stakeholders the enterprise is related to have and to help managers figure out the relationships linking each of them to the others.

How networks and their structure should be used in *stakeholder management* is still under debate. There are several different approaches ranging from the traditional ones, asking managers to focus on the *salient* stakeholders (Mitchell *et al.*, 1997), to broader perspectives asking managers to take into account the very same structure of the stakeholders network (Rowley, 1997).

We have classified the various approaches to stakeholder management using two different aspects of the relationships. The first aspect we have considered is if the author asks managers to factor in the stakeholder not directly related to the enterprise; the second aspect we have used to classify the various approaches to stakeholder management is if the authors are asking managers to evaluate each stakeholder in one-to-one relationship with the enterprise or if they are asking to manage the network as a whole. The resulting approaches are shown in the following Figure 1.

Figure 1. Approaches to stakeholders network.



In the figure the bold lines and circles represent elements the approaches ask managers to put their attention on.

The approaches' main characteristics and their main writers have been summarized in the following Table 1.

Table 1. Main Characteristics of the approaches to stakeholders network.

Focus	Description	Relevant Authors
<b>Dyadic relationship</b>	Managers should define the importance of each stakeholder and answer to the most relevant ones	Savage, Nix, Whitehead and Blair, 1991; Mitchell, Agle and Woods, 1997; Kochan and Rubinstein, 2000
<b>Ego-network</b>	Managers should define the whole set of stakeholders and try to answer to all the relevant requests	Donaldson and Preston, 1995; Clarkson, 1995; Davenport, 2000; Post, Preston and Sachs, 2002;.
<b>Multiple Interactions</b>	Managers should understand how stakeholder's interacts and how they relate to their environments	Freeman and Evans, 1990; Wood and Jones, 1995; Sirgy, 2002; Preble, 2005; Wicks and Harrison, 2013
<b>Complete Network</b>	Managers should understand the structure of the network the stakeholder act in in order to find the most relevant interests	Freeman, 1984; Rowley, 1997; Frooman, 1999; Scott and Lane, 2000; Mahon, Heugens and Lamertz, 2004; Vandekerckhove and Dentchev, 2005.

### 3.1 The Dyadic relationship approach

This approach encloses those models asking managers to focus on the most relevant stakeholders in order to let the enterprise reach for its own goals. The relationship with these stakeholders are seen as dyadic relationships that are not influenced by the other relationships each of the two nodes have.

These studies acknowledge that the enterprise can be subject to conflicting requests by the various stakeholders and they try to give managers various tools to identify the most relevant ones and to select the most appropriate strategies in dealing with each of them.

The identification problem is faced providing some common criteria to identify the most important actors for a given organization. In this stream of research we have the *saliency* model by Mitchell, Agle and Woods (1997) based upon social actor's *legitimacy* and *power* and upon the *urgency* of the interest protected. Another approach is Kochan's and Rubinstein's one (2000) who define the stakeholder's *saliency* as a function of his ability to provide valuable resources for the enterprise, to hinder retrieval of valuable resources from other sources and, in general, of the influence it has inside the organization.

After the identification of the relevant stakeholders their relationship with the enterprise is evaluated to define the most appropriate strategy to adopt in order to answer each specific requests (Savage *et al.*, 1991).

### 3.2 The Ego-network approach

We have grouped the studies dealing with conflicting stakeholders' requests in this approach. They ask managers not to focus on each stakeholder but to put their effort on understanding the requests of the whole network of stakeholders they have a relationship with before defining their strategies; these studies asks managers to focus on their whole *egonetwork*.

As Freeman *et al.* (2010) have highlighted this perspective is based upon one of the very fundamentals of Stakeholder Management: the need for managers to evaluate the requests by the various stakeholders without incurring in trade-offs between them.

Donaldson and Preston (1995) adopt this point of view in their managerial thesis of stakeholder management when they acknowledge that the theory asks managers to evaluate simultaneously all the legitimate stakeholders' requests considering them as a system.

According to Clarkson (1995) this way of factoring in stakeholder requests is more coherent with actual managers behavior than the previous one as his ten-years research project has highlighted that managers respond to stakeholder issues more than to single stakeholders.

This approach should be better able to answer to the real needs of managing stakeholders as some issues are related to more than one single class of stakeholders making them more salient than what could be understood using the previous perspective (Clarkson, 1995: 99).

A similar approach is supported by Post, Preston and Sachs (2002) building upon the extended enterprise model of supply chain management (Greis & Kasarda, 1997) which asks managers to reckon the whole value chain in their decision making processes. They ask managers to respond to all the actors the enterprise has a relationship with, both market and non market-based ones, in order to compete successfully and to be legitimate in the social and political arenas.

Another reason to evaluate the stakeholder set as a whole is that the stakeholders themselves expect the enterprise to answer to all the various requests present in the stakeholder network as a proxy for good corporate citizenship (Davenport, 2000).

### **3.3 The Multiple Interactions approach**

This third approach encloses the studies asking managers to take into account not only the stakeholders their enterprise is in relation with but to take into account even the interaction between the various stakeholders and the relationships between them.

This approach is based upon a more realistic perspective on the relationship between the enterprise and its own stakeholders. The enterprise itself is seen as part of a broader stakeholder environment made of several stakeholders interacting at several levels both between themselves and between each of them and the enterprise (Freeman & Evans, 1990).

Some authors' classification of stakeholders are clearly inspired by this perspective on stakeholder management. Sirgy's classification introduces the class of distal stakeholders (2002) made of the stakeholders indirectly influence the survival and growth of the business firm through influence exerted on the firm's stakeholders. This class has the same characteristics of the one Preble (2005) identify as secondary stakeholders but this author acknowledge a more general influence power to all the various stakeholders, both direct and indirect ones.

Wood and Jones (1995), in their review of empirical research on Corporate Social Performance explain that stakeholders are not only a source of expectations but they are the very same subjects to evaluate how those expectations have been met. According to Wood and Jones (1995: 231) these evaluations are based not only upon their own experiences but on those by the other stakeholders in their same environment too. Managers should take into account stakeholder interactions too as they can change how the enterprise's behavior is perceived and evaluated in the external environment.

Wicks and Harrison (2013) affirms that stakeholders' perception of the value that an enterprise can create is a multidimensional construct that managers should evaluate as a whole as the various dimensions are mutually influencing each other. The interactions between stakeholders

are meaningful as they let the value created by the enterprise, or destroyed by it, to propagate in the network through them multiplying the net effect of the enterprise's actions.

### 3.4 The Complete Network approach

The last approach focuses on the role of the stakeholder network structure in evaluating the stakeholders' issues to focus on. This approach was already present in the seminal book by Freeman (1984), where the author suggests managers to make use of stakeholder maps in order to visualize the indirect relationships between them and urges them to understand how some stakeholders can influence the other ones.

In a more recent interview Freeman holds that:

*«[...] organizations, viewed as open-systems, are part of a broader network not isolated and independent units. Identifying stakeholder, and the interconnections between them too, is a crucial point for this approach.» (Rusconi, 2007<sup>1</sup>).*

The network structure represent the paths indirect stakeholders influence power will go through to affect the enterprise's actions. Frooman (1999: 198) identifies a class of indirect influence pathways as those strategies a stakeholder can use to influence another organization he is not in relationship with manipulating the flow of resources this enterprise needs through an ally. These strategies can rely both on having access to specific resources (Pfeffer & Salancik, 1978; Barney, 1991) and on being in a network's position to get control over them (Granovetter, 1985; Burt, 1992).

Network structure can influence the stakeholders' perceptions in two different ways (Scott & Lane, 2000). The more frequent the interactions between the stakeholders become the easier it is for the various stakeholder to share behavioral expectations so their goals tend to align and create a stronger pressure on the enterprise. The tighter the organizations are linked the more they are able to control information and resource flows becoming more influential in the network.

Managers should focus on the network defined by the enterprise's stakeholders and the relative web of relationships to fully grasp the way stakeholders' interactions can impact on the organization. Knowing the network structure can be useful in two different ways (Rowley, 1997). On one side it highlights who are its indirect stakeholders, those actors that can influence the organization without having any direct connection to it and how these influences can manifest. On the other side going beyond the enterprise egonet to represent the stakeholders' complete network will let managers leave the enterprise-centric view of the previous three classes in favor of a more realistic understanding of the role of the enterprise in the network as *«a stakeholder of many other focal points in its relevant social system»* (Rowley, 1997: 892).

This perspective will help managers get an holistic view of the environment and the actors operating in it as it will let them understand how the various stakeholders are related to each other.

Rowley (1997) suggests analyzing the stakeholders network structure with the tools of Social Network Analysis as these tools have been developed to highlight how actor's position and relationship can influence their behaviors (Wasserman & Galaskiewicz, 1994; Barabasi, 2003).

Mainly Rowley (1997) suggests focusing on two main network parameters: Density and Centrality.

The Density is the probability that any two actors in a network are linked (Wasserman & Faust, 1994). It is a measure of network cohesion, the higher it gets the more stable the network will be (Watts, 2004) and the more the network will be prone to develop his own behavioral norms that all the actors will be expected to comply with (Kreps, 1990; Burt & Knez, 1995).

The other parameter, Centrality, can be measured using three different indicators (Brass and Burkhardt, 1993); the first, degrees centrality, measures the popularity of the actor, the second one, closeness centrality, is a measure of how simple is for the actor to reach for the other actors in the network while the last one, betweenness centrality, is a measure of the control the actor has on the other part of the network.

Another reason to use a network perspective has been given by Vanderkerckhove and Dentchev (2005); the authors use an approach similar to Granovetter's (1973) work on weak ties where acquaintances are seen as the driver of changes in the network. The authors affirm that managers and entrepreneurs can use the stakeholder's perspective as a way to understand network evolution and how issues relevance is changing in the stakeholders' environment.

One way of making use of Social Network Analysis tools is to integrate these two reasons in a single complex analytic process exploiting concept of affiliation networks, a type of network structure linking where actors that have shared some kind of common experience are linking. According to Lattanzi and Sivakumar (2009) these are the kind of networks where most of the weak ties are generated.

The various issues presented in a given stakeholder network can be used as the events in an affiliation network linking them to the stakeholders (Mahon *et al.*, 2004) highlighting potential new relationships that can be used to explain how issues do became more or less relevant in the stakeholder network overtime (Wasserman & Faust, 1994).

#### **4. DISCUSSION AND A PROPOSAL FOR FURTHER RESEARCH**

Stakeholder management theory should deserve more attention to network structure. First of all for its ability to reconcile the ethical point of view with an instrumental vision of the theory itself. Trough the concept of generalized exchange (Wick & Harrison, 2013) and the studies on stakeholder perception (Clarkson, 1999) this approach helps explain how taking into account stakeholder requests, or failing to do so, can come back to the enterprise with a far greater effect than what would be possible to explain looking only at the dyadic relationship between the enterprise and its direct stakeholders.

Moreover, as the network approach can help managers get a clearer picture of the dynamics driving the evolution of the issues the network, as a whole, will confront the enterprise with (Vanderkerckhove & Dentchev, 2005; Mahon *et al.*, 2004), it will help them in getting a more pro-active stance in dealing with stakeholders. This effect could be even more significant taking into account that the relationships with the various stakeholders take place over time and the their evaluations of the enterprise activities are not only influenced by their previous experiences but even from the other stakeholders' ones.

The second reason is that the network approach can help managers in getting a more realistic picture of the role the various stakeholder have and how they relate to each other (Rowley, 1997; Rusconi, 2007). This more realistic picture is needed if managers want to comprehend how the different stakeholder can act to defend their interests (Frooman, 1999) and which other stakeholders will be called upon to support the specific issues. Another advantage of visualizing



the stakeholder network is in helping managers to understand the enterprise's real position in the network structure letting them get a clearer picture of the real influence power they can use to further the enterprise goals (Rowley, 1997).

Some scholars (Rowley, 1997; Mahon *et al.*, 2004) have proposed to use various tools of Social Network Analysis in order to study the network structure. Social Network Analysis has the advantage of using both graphs and analytic tools (network parameters and other similar measures) to study the structure of the network and the power of the actor within it.

Using social network analysis measure can help crossing the bridge between the first, more traditional, approach to stakeholder management and the network-based one. If compared to the salience model by Mitchell, Agle and Wood (1997) the network approach can be used to complement both legitimacy and power of the actor. Legitimacy can be easily proxied by degree centrality or using affiliation networks while power can be measured with betweenness centrality and closeness centrality.

Moreover Social Network Analysis can help with measuring the very same concept of Influence using another centrality measure: eigenvector. This measure, proposed by Bonacich (1972; 2007), is based upon the premise that a node's importance is determined by how important its neighbors are (Jackson, 2008).

Even if Social Network Analysis has been considered a powerful tool to understand relationships we have to acknowledge that all the various measures presented in the network approach to stakeholder theory derive their effect only from the network structure only without accounting for the specific stakeholder's characteristics, the main point in the dyadic approach. In short these measures fail to explain how these two different sides of the same coin interact with each other and thus they fail to define an holistic analytic framework providing only a partial picture of the stakeholder environment the enterprise operates into.

Still our literature review on stakeholder management theory points out two main needs for future researches in order to match the recent advancements in Stakeholder Management Theory and in Social Network Analysis too.

The network approach to Stakeholder Management Theory have only marginally touched the surface of social relationships' multiplexity using the tool of affiliation networks (Lattanzi & Sivakumar, 2009) but stakeholders are really embedded in several networks mutually influencing and interacting. Scholars in Social Network Analysis field have developed tools to analyze multivariate social networks as exponential random graph models (Frank & Strauss, 1986; Robins *et al.*, 2007; Lusher *et al.*, 2012) a family of statistical tool developed to comprehend how general characteristics of actors are driving structural changes in networks that can take into account multivariate relationships.

There's a need for scholars to develop an analytic framework balancing stakeholder characteristics and network structure. In order to develop this analytic frameworks further research should test how the stakeholder's network evolution is related to network measures and to stakeholder's characteristics; in Social Network the actor-based models (Snijders, 2005; Snijders *et al.*, 2010) have been developed to study how network structure evolves as the result of both the characteristics of the network structure and the actors own characteristics.

Understanding how these two aspects relate each other should be helpful in defining if a given issue has to be studied at a network level or at the actor level, providing a viable tool for managers in defining how to deal with stakeholders (Golinelli & Volpe, 2012).

Finally we think that Stakeholder Management Theory is a meaningful lens to enterprises' relational and systemic nature. This is still a theory in fast evolution enclosing several

approaches. Some of these approaches are focused on managing each single relationship between the enterprise and its stakeholders while some other, more innovative and challenging, are more geared to acknowledge the complex and systemic nature of the relationship network the enterprise is embedded into. Scholars should focus their research on this more holistic approach aiming to develop new analytic frameworks to understand the effects of the network of relationships and, hopefully, new tools to support managers in stakeholder management.

## REFERENCES

- Barabási, A. L. (2003). *Linked: how everything is connected to everything else and what it means for business, science, and everyday life*. USA: Plume.
- Barney, J. B. (1991). Firm resources and sustained competitive advantage. *Journal of management*, 17(1): 99-120.
- Barney, J. B., Della Corte, V., Sciarelli, M., Arikan, A. (2012). The role of resource-based theory in strategic management studies: managerial implications and hints for research. In Dagnino, G. B. (Ed.) *Handbook of Research on Competitive Strategy*, 109-146. USA: Edward Elgar Publishing Inc.
- Beer, S. (1959). *Cybernetics and management*. USA: Wiley.
- Beer, S. (1972). *Brain of the firm: A Development in Management Cybernetics*. New York (USA): Herder and Herder.
- Bonacich, E. (1972). A theory of ethnic antagonism: The split labor market. *American Sociological Review*, 37: 547-559.
- Bonacich, E. (2007). Some unique properties of eigenvector centrality. *Social Networks*, 29(4): 555-564.
- Brass, D. J., Burkhardt, M. E. (1993). Potential power and power use: An investigation of structure and behavior. *Academy of management journal*, 36(3): 441-470.
- Buchholz, R. A. (1991). Corporate responsibility and the good society: From economics to ecology. *Business Horizons*, 34(4): 19-31.
- Burt, R. S., Knez, M. (1995). Kinds of third-party effects on trust. *Rationality and Society*, 7(3): 255-292.
- Burt, R.S. (1992). *Structural Holes*. UK: Cambridge University Press.
- Clarkson Centre for Business Ethics. (1999). *Principles of stakeholder management*. Clarkson Centre for Business Ethics, Joseph L. Rotman School of Management, University of Toronto.
- Clarkson, M. E. (1995). A stakeholder framework for analyzing and evaluating corporate social performance. *Academy of management review*, 20(1): 92-117.
- Cyert, R. M., March, J. G. (1963). *A Behavioral Theory of the Firm*. Englewood Cliffs (USA): Prentice Hall.

- Davenport, K. (2000). Corporate citizenship: a stakeholder approach for defining corporate social performance and identifying measures for assessing it. *Business & Society*, 39(2): 210-219.
- Day, G. S. (1994). The capabilities of market-driven organizations. *Journal of Marketing*, 58(4): 37-52.
- Dill, W. R. (1975). Public participation in corporate planning—strategic management in a Kibitzer's world. *Long Range Planning*, 8(1): 57-63.
- Donaldson, T., Preston, L. E. (1995). The stakeholder theory of the corporation: Concepts, evidence, and implications. *Academy of management Review*, 20(1): 65-91.
- Dyer, J. H., Singh, H. (1998). The relational view: Cooperative strategy and sources of interorganizational competitive advantage. *Academy of management review*, 23(4): 660-679.
- Frank, O., Strauss, D. (1986). Markov graphs. *Journal of the American Statistical Association*, 81(395): 832-842.
- Freeman, R. E. (1984). *Strategic management: A stakeholder approach*, Boston (USA): Pitman.
- Freeman, R. E., Harrison, J. S., Wicks, A. C., Parmar, B. L., De Colle, S. (2010). *Stakeholder theory: The state of the art*. UK: Cambridge University Press.
- Freeman, R. E., Philips, R. (2002). Stakeholder Theory: A Libertarian Defense. *Business Ethics Quarterly*, 12(3): 331-349.
- Freeman, R. E., Velamuri, S. R. (2006). A New Approach to CSR: Company, Stakeholder, Responsibility. In Kakabadse, A., Morsine M. (Eds.). *Corporate Social Responsibility: Reconciling Aspiration with Application*. USA: Palgrave Mc Millan.
- Freeman, R. E., Rusconi, G., Dorigatti, M. (2007). *Teoria degli Stakeholder*. Milan (Italy): FrancoAngeli.
- Freeman, R. E., Evan, W. M. (1990). Corporate governance: A stakeholder interpretation. *Journal of Behavioral Economics*, 19(4): 337-359.
- Freeman, R. E., Harrison, J. S., Wicks, A. C. (2007). *Managing for stakeholders: Survival, reputation, and success*. USA: Yale University Press.
- Frooman, J. (1999). Stakeholder Influence Strategies. *Academy of Management Review*, 24(2): 191-205.
- Golinelli, G. M. (2002). *L'approccio sistemico al governo dell'impresa*, Padua (Italy): Cedam.
- Golinelli, G. M., Gatti, M. (2002). L'impresa sistema vitale. Il governo dei rapporti intersistemici. *Symphonya. Emerging Issues in Management*, 2: 53-81. doi: 10.1400/13026.
- Golinelli, G. M., Volpe, L. (2012). *Consonanza, valore, sostenibilità. Verso l'impresa sostenibile*. Padua (Italy): Cedam.
- Goodpaster, K. E. (1991). Business Ethics and Stakeholder Analysis. *Business Ethics Quarterly*, 1(1): 53-72.
- Granovetter, M. (1985). Economic action and social structure: the problem of embeddedness. *American Journal of Sociology*, 91(3): 481-510.

- Granovetter, M. S. (1973). The strength of weak ties. *American Journal of Sociology*, 78(6): 1360-1380.
- Greis, N. P., Kasarda, J. D. (1997). Enterprise logistics in the information era. *California Management Review*, 39(4): 55-78.
- Gulati, R. (1999). Network location and learning: The influence of network resources and firm capabilities on alliance formation. *Strategic Management Journal*, 20(5): 397-420.
- Hinna, L. (2002). *Il bilancio sociale*. Italy: Ilsole24ore.
- Kochan, T. A., Rubinstein, S. A. (2000). Toward a stakeholder theory of the firm: The Saturn partnership. *Organization science*, 11(4): 367-386.
- Kreps, D. M. (1990). Corporate culture and economic theory. In Alt, J., Shepsle, K. (Eds.). *Perspectives on Positive Political Economy*. UK: Cambridge University Press.
- Lambin, J. J., Chumpitaz, R., Shuiling, I. (2007). *Market-driven Management: strategic and operational marketing*. USA: Palgrave Macmillan.
- Lattanzi, S., Sivakumar, D. (2009). Affiliation networks. In *Proceedings of the 41st annual ACM symposium on Theory of computing*. 427-434. ACM.
- Lorange, P. (1975). Divisional planning: Setting effective direction. *Sloan Management Review*. 17(1): 77-91.
- Lusher, D., Koskinen J. Robins, G. (2012). *Exponential Random Graph Models for Social Networks*. UK: Cambridge University Press.
- Mahon, J. F., Heugens, P. P., Lamertz, K. (2004). Social networks and non-market strategy. *Journal of Public Affairs*. 4(2): 170-189.
- March, J., Simon, H. (1958). *Organizations*. New York (USA): Wiley & Sons.
- Mitchell, R. K., Agle, B. R., Wood, D. J. (1997). Toward a theory of stakeholder identification and salience: defining the principle of who or what really counts. *Academy of Management Review*, 22(4): 853-886.
- Näsi, J. (1995). *Understanding stakeholder thinking*. Lousanne (Switzerland): LSR-Publications.
- Pfeffer, J., Salancik G. R. (1978). *The external control of organizations*. New York (USA): Harper & Row.
- Phillips, R., Freeman, R. E., Wicks, A. C. (2003). What stakeholder theory is not. *Business Ethics Quarterly*, 13(4): 479-502.
- Post, J. E., Preston, L. E., Sachs, S. (2002). Managing the extended enterprise. *California Management Review*, 45(1): 6-28.
- Preble, J. F. (2005). Toward a comprehensive model of stakeholder management. *Business and Society Review*, 110(4): 407-431.
- Prell, C. (2012). *Social Network Analysis. History, Theory & Methodology*. NY (USA): Sage Publications.

- Freeman, R.E., Reed, D. L. (1983). Stockholders and Stakeholders: A New Perspective in Corporate Governance. *California management review*, 25: 88-106.
- Robins, G., Pattison, P., Kalish, Y., Lusher, D. (2007). An introduction to exponential random graph (p\*) models for social networks. *Social networks*, 29(2): 173-191.
- Rowley, T. J. (1997). Moving beyond Dyadic Ties: A Network Theory of Stakeholder Influences. *Academy of Management Review*, 22(4): 887-910.
- Rowley, T. J. (2000). Does Relational Context Matter? An Empirical Test of a Network Theory of Stakeholder Influences. In Logsdon, J. M., Wood, F. J., Benson, L. E. (Eds). *Research in Stakeholder Theory, 1997-1998: The Sloan Foundation Minigrant Project*, 21-35. Toronto (Canada): Clarkson Centre for Business Ethics.
- Rusconi G. (2007). Etica, responsabilità sociale d'impresa e coinvolgimento degli stakeholder. *Impresa Progetto* (DITEA), 1: 1-24.
- Savage, G. T., Nix, T. W., Whitehead, C. J., Blair, J. D. (1991). Strategies for assessing and managing organizational stakeholders. *The executive*, 5(2): 61-75.
- Sciarelli, M. (2008). Resource-Based Theory and Market-Driven Management. *Symphonya. Emerging Issues in Management*, 2: 66-80.
- Sciarelli, M. (2012). *Corporate Social Performance*. Italy: Cedam.
- Scott, S. G., Lane, V. R. (2000). A stakeholder approach to organizational identity. *Academy of Management Review*, 25(1): 43-62.
- Simon, H. A. (1947). *Administrative Behaviour*. New York (USA): Macmillan Press.
- Sirgy, M. J. (2002). Measuring corporate performance by building on the stakeholders model of business ethics. *Journal of Business Ethics*, 35(3): 143-162.
- Snijders, T. A. B. (2005). Models for longitudinal network data. In Carrington, P., Scott, J., Wasserman, S. (Eds.). *Models and Methods in Social Network Analysis*, 215–247. Cambridge University Press.
- Snijders, T. A. B., Van de Bunt, G. G., Steglich, C. E. (2010). Introduction to stochastic actor-based models for network dynamics. *Social networks*, 32(1): 44-60.
- Stout, L. (2012) *The Shareholder Value Myth*. USA: Berrett-Koehler Publishers, Inc.
- Sydow, J., Windeler, A. (1998). Organizing and evaluating interfirm networks: A structurationist perspective on network processes and effectiveness. *Organization science*, 9(3): 265-284.
- Vandekerckhove, W., Dentchev, N. A. (2005). A network perspective on stakeholder management: Facilitating entrepreneurs in the discovery of opportunities. *Journal of Business Ethics*, 60(3): 221-232.
- Wasserman, S., Faust, K. (1994). *Social Network Analysis — Methods and Applications*. UK: Cambridge University Press.
- Wasserman, S., Galaskiewicz, J. (1994). *Advances in social network analysis: Research in the social and behavioral sciences*. USA: Sage Publications.
- Watts, D. J. (2004). The “New” Science of Networks. *Annual Review of Sociology*, 30: 243-270.

- Wernerfelt, B. (1984). A Resource-based View of the Firm. *Strategic Management Journal*, 5(2): 171-180.
- Wicks, A. C., Harrison, J. S. (2013, *forthcoming*). Stakeholder theory, value and firm performance. *Business Ethics Quarterly*, 23(1): 97-124. doi: 10.5840/beq20132314
- Wood, D. J., Jones, R. E. (1995). Stakeholder mismatching: A theoretical problem in empirical research on corporate social performance. *International Journal of Organizational Analysis*, 3: 229-267.

---

## **Endnote**

<sup>i</sup> Rusconi (2007: 17) refers to an interview Freeman has given for an article published in the 2005 in the journal “Non-Profit” by Baldarelli, Santi and Signori.



# Teaching Sustainability Leaders in Systems Thinking

**Ursula Kopp**

*Research Institute for Managing Sustainability, Vienna University of Economics and Business, Vienna, Austria. e-mail: ursula.kopp@wu.ac.at. Corresponding author*

**André Martinuzzi**

*Research Institute for Managing Sustainability, Vienna University of Economics and Business, Vienna, Austria.*

*Published online on April 1, 2013.*

*DOI: 10.7350/BSR.V10.2013 – URL: <http://dx.medra.org/10.7350/BSR.V10.2013>*

## ABSTRACT

*The increasingly required responsibility of enterprises for the environment and society creates new challenges for leaders. They need to be able to deal with multidimensional, complex systems, with different time horizons, ambiguities, and competing stakeholder-interests. In order to convey these competences, new methods are needed in management education. Systemic Constellations is a method that has been used in management consulting to learn about complex systems and to develop problem solutions. It allows cognitive, emotional, and affective learning to occur simultaneously, thus training leaders to grasp the whole complexity of Sustainable Development and CSR, giving them the opportunity to make better and more responsible decisions. At the Vienna University of Economics and Business different forms of constellation work were tested and judged according to their usefulness to teach sustainability competences in graduate and post-graduate education.*

**Keywords:** Sustainability leadership, Competences, Abilities, Sustainable development, Systemic constellations, Responsible leadership, Corporate Social Responsibility, Leadership development, Sustainability education, Leadership.

## 1. LEADERSHIP

Leadership is a central topic in business economics and management theory<sup>i</sup>. It is regarded as a value-, goal- and result-oriented, mutual and deliberate influencing of a person by another in order to fulfil common tasks within sociotechnical systems (Fleishman et al., 1991; Wunderer, 2009). In the past decades successful business management has always been discussed within the context of various management theories and reflects the world view of a specific age.

The so far predominant *trait-theoretical approach* assumes that successful leadership only depends on the qualities of the leader. Therefore, at the beginning of the 20<sup>th</sup> century the ideal leadership qualities were searched, which in the 1920s and 30s referred to physical qualities such as height and age and were later replaced by intellectual virtues like intelligence, ability to work

under pressure, knowledge etc. Today's trait theories of leadership put the focus on social competences, environmental awareness, decisiveness, flexibility, creativity, cultural adaptivity and so on. All these approaches have in common that qualities in leadership were regarded as innate and immutable and that furthermore, the leader was the centre of concern.

The *behavioural approach* shifted the weight from qualities that were innate and independent of time and situation to leadership abilities, which could be learnt and developed (Katz, 1955). On the basis of sociological and psychological knowledge it was perceived that different managerial behaviour triggers different reactions of subordinates<sup>ii</sup>.

The *Fiedler contingency model* or the *Vroom–Yetton situational leadership model* (Fiedler, 1967; Vroom & Yetton, 1973) again broadened the perspective in the way that managerial behaviour was regarded as embedded into economic, political-legal and social frameworks. The conscious taking into account of all these parameters and their modifications was labelled as *situational leadership* and the derivation of objectives for the companies was discussed as *strategic management*.

Since the mid-1970s leadership has been conceptualised as an interactive process between those who lead and those who are led such as in the *Leader-Member-Exchange-Theory* (Dansereau et al. 1975; Graen & Cashman, 1975), which conveys that managerial behaviour applies individually to every one and the specific development of this relationship leads to high loyalty and performance.

*Ethical Leadership* (Brown & Trevino, 2006) sets an example of a normative-appropriate leadership by means of personal behaviour and interhuman relationship. Moreover, it encourages feedback-communication, positive reinforcement and common decision-making. Ethical leadership involves influencing employees through exemplary behaviour and credibility, individually paying attention to them and assisting them, mutual fairness, faith and honesty.

*Responsible Leadership* (Lynham & Chermack, 2006; Maak & Pless, 2006) is a concept that has increasingly been discussed in recent years and can be considered as a reaction to actual cases of ethically dubious leadership behaviour such as falsification of balance sheets (Enron und WorldCom), financial fraud (Parmalat), bribery scandal (Siemens) and the growing discussion of social responsibility of companies (Corporate Social Responsibility, Corporate Governance). It highlights three minimum requirements:

- (1) the absolute integrity on a personal and on an institutional level;
- (2) the moral dealing with conflicting values of the stakeholders;
- (3) the adoption of responsibility for a sustainable society.

The intended ideal-case would be a mutual understanding of the business aims on both sides, the leaders and the stakeholders, thereby interactively encouraging higher motivation and stimulating each other to advocate sustainable and social values.

Still in its infancy is the concept of *Sustainability Leadership* (Ferdig, 2007; Quinn & Dalton, 2009), which urges companies to consider economic, environmental and social matters in equal measure. In the most strategic form, a company accordingly adjusts its business aim in a new manner in order to cause as low a degree of environmental and social damages as possible (D'Amato & Roome, 2009: 422) and to maximise its so-called shared-value, respectively (Porter & Kramer, 2011).

The current discussion of leadership theories covers the following topics:



- Dyadic processes are accepted as fundamental phenomena - instead of a mere focusing on the leading person.
- Participatory elements are increasingly being paid attention to, especially in complex situations and in the context of difficult objectives.
- Mutual values, a shared vision and respectful social intercourse are being thematised as central parameters of the relationship between leaders and subordinates.

## 2. NEW DEMANDS DUE TO SUSTAINABLE DEVELOPMENT

It is now 25 years that „Sustainable Development" has been established as a guiding principle on a political basis (Hauff, 1987; Rio, 1992). It comprises economic, environmental, social and cultural aspects and aims to protect resources for the needs of future generations. Furthermore, it takes local, regional and global impacts of life-styles, patterns of consumption and methods of production into consideration. As companies play a crucial social role by creating products, services, technologies, jobs and added-value, the principles of sustainable development have also been applied to them (Müller-Christ & Hülsmann, 2003)<sup>iii</sup>:

- *Sustainability as an innovational task* assumes that economic and environmental aims are basically compatible. It strives for win-win solutions where technical and social innovations decouple from economic growth and consumption of resources and where the restriction of our needs is not required.
- *Sustainability as a normative corporative concept* puts the focus on fairness and responsibility and forms a contrast to the present economic dictates of microeconomic optimisation. To propose a solution a stricter regulation of the framework conditions of economic activities, a strengthening of social stakeholder groups and an enhanced effort of participatory ways of decision-making are regarded as suitable measures.
- *Sustainability as a rationality* draws on the concept of maintenance of assets and aims at a permanent supply of resources, which can finally only be realised by a complete switch-over to renewable sources of energy and raw materials.
- All these three development paths have in common that they present challenges for leaders facing multi-dimensional and complex systems, different time-horizons, ambiguities and conflicting stakeholder-interests. Therefore, it is now an undisputed fact that sustainable business development belongs to the executive duties (Pless, 2007; Becker et al. 2012) and requires the commitment of the topmost management level (Müller, 2010; UN Global Compact, 2010a; Pfiem, 2012) up to the CEOs and the supervisory boards (UN Global Compact, 2010b). For this, an appropriate competence development is necessary (BMU, 2008; D'amato & Roome, 2009).

### 2.1 Sustainability competences in general

In order to handle complex challenges of a globalised world and a sustainable development, according to the OECD, cognitive, practical, emotional and creative skills are essential that go far beyond the mere reproduction of collected knowledge.

«Sustainable development and social cohesion depend critically on the competencies of all of our population – with competencies understood to cover knowledge, skills, attitudes and values.» (OECD 2005: 4)

Thereby, it is indispensable to reflect on one's own actions and to deal with attitudes, motivation and ideals (OECD, 2005: 10f). The OECD has developed a set of key competences<sup>iv</sup> relevant for all population groups in their different spheres of life.

De Haan further developed these competencies into concrete shaping skills<sup>v</sup> for the field of education. By the term *shaping competence* ('*Gestaltungskompetenz*') he understands the ability to identify problems of a non-sustainable nature and to apply knowledge about sustainable development. (de Haan, 2007 and 2008)

## 2.2 Sustainability competences for executives

Traditional business management was mostly focused on relatively short-term economic targets within a clearly defined scope. Following the general principles of sustainable development, there is now an enhancement of objective, temporal and spatial perspectives on the one hand and, on the other hand, stakeholders and social values have become more relevant:

- **Matter:** According to the concept of the Triple-Bottom-Line (Elkington, 1998) beside business aspects, also environmental and social matters should be taken into account in a balanced way.
- **Time:** Following the principle of justice towards future generations not only short-term optimisation but also medium- and long-term impacts should be considered (Epstein & Roy, 2001).
- **Space:** Entrepreneurial responsibility increasingly comprises liability for the whole supply chain (Mamic, 2005), for working conditions, the consumption of resources and global impacts (Hind et al. 2009:16).
- **Stakeholder:** A vast number of social groups such as clients, employees, suppliers and residents make their ambitions clear towards companies, (Freeman, 1984). Moreover, new organisations based on civil societies, for example environmental NGOs, or even groups soon-to-be should be considered in an appropriate way.
- **Values:** Sustainable development is a value-based concept (Davidson, 2000), in which values do not serve as a control mechanism but act as an orientation pattern for moral and responsible decisions.

If sustainable development is regarded as an assignment for innovation and transformation, leaders have to face some highly complex situations, which go beyond the scope of optimisation-problems. This signifies a big challenge for leaders who are traditionally trained to decide „now-for-now" in order to maximise profit. However, sustainability demands "now-for-then-for-others"-decisions which involve simultaneous control over most diverse parameters:

- (i) the realisation and tolerance of ambiguities;
- (ii) prioritisations;
- (iii) and the negotiation, acceptance and communication of trade-offs (Müller-Christ, 2013).

Table 1. Sustainability competences for executives<sup>1</sup>

TOPIC	Hind et al. 2009	Visser/Courtice 2011	Brown 2012
Advanced comprehension of sustainable development	Honesty and integrity; communicating with credibility	Caring for well-being of all forms of life; morally-driven	Ground sustainability practice in deep meaning
Comprehension of effects, risks and opportunities	Understanding core business activities: creating opportunities for others, contribution to society; knowing social and environmental risks and opportunities	Understanding the organisation's full impact; finding and developing opportunities for value creation and new markets	
Vision, power of persuasion, organisation of transformation	Conviction and courage; the drive to contest resistance; business acumen.	Communicating and sharing visions; bringing inspiration, creativity, optimism and courage to bare in role	Ability to identify opportunities for system changes that are well-received, identify blockages or tensions; hold creative tension/energetic potential
Systemic/holistic thinking	Ability to think strategically, to understand the bigger picture and the interdependency of systems across all actors	Ability to appreciate interdependency and interconnectedness of the whole system at all levels.	Ability to apply systems thinking to better understand sustainability issues and support the development of systems
Handling of complexity		Analysing, synthesising and translating complex issues. Knowing how to promote beneficial change in complex system	Ability to apply complexity-thinking to better understand critical issues and support development of complex adaptive systems
Integrative approach			Ability to use integral theory to diagnose and design interventions
Understanding of interdisciplinary connections		Understanding the relevance and interconnectedness of physical sciences, social sciences, technology, business and other disciplines	
long-term perspectives	Long-term perspective	Envisioning and using strategic, long-thinking and planning, seeing the whole, not discounting the future Global challenges and dilemmas: social and ecological system pressures and the connections to political and economic forces	
Balance between local and global perspectives	Capacity to see and estimate the impact of local decisions on the global stage		
Innovation and creativity	Creativity, innovation and original thinking: capacity to think outside the box	Imagining possible futures or alternatives; bringing creativity into thinking and practice.	
Handling of insecurities, ambiguities and dilemmas	Managing risk beyond the well-known analysis of business issues.	Responding to risk, uncertainties and dilemmas and resolving problems or conflicts	Ability to face the unknown, ambiguities and the unpredictable; no need to push for an immediate answer
Support in decision-making through dialogue and intuition	Making decisions through dialogue. Using right-hand side of the brain; balancing judgement	Making good and determined decisions, including prioritising, making difficult choices and handling dilemmas	Intuitive decision-making: use ways of knowing other than rational analysis; support individuals and groups to do so
Diversity, respect for diverging perspectives	Respecting diversity by acknowledging; managing stakeholder network relationships; addressing competing stakeholder-demands	Incorporating different world views and belief systems; questioning received wisdom; willing to have own opinions challenged	Openness and ability to intellectually and emotionally hold different perspectives; to argue from different viewpoints
Emotional intelligence and self-perception	Capacity to identify the inter-relationship between thoughts, behaviours and emotions	Emotional intelligence, sincerity, reflectiveness; ability to balance passion and idealism with ambition and pragmatism	Being aware of one's own psychological dynamics and being able to get avoid them when engaging with others
Perception of "shadow issues"			Consistently developing oneself; including personality dynamics and shadow issues
Learning and development		Creating conditions that encourage learning from experience	Creating conditions for/ initiating development of individuals and groups

A comprehensive description of different sustainability competences for leaders is offered by the analyses of three current publications (Hind et al. 2009; Visser & Courtice, 2011; Brown, 2012), which are based on interviews of leaders in middle and top-positions. Due to the fact that the authors work with diverse terminology and categorisation and that the studies are not based upon

<sup>1</sup> Areas displayed with a grey background refer to situations where, according to our experience, Systemic Constellations are useful to contribute to education and further training. Thereby, Table 1 anticipates results from chapter 4. This way of presentation, however, was chosen to limit space.

each other, a special categorisation-pattern has been developed for a structured analysis (Table 1). These categories will be used as a reference to find out whether or not Systemic Constellations are suitable for conveying sustainable competences in training and further education of executives (chapter 4).

### 2.3 Teaching sustainability competences for executives

The OECD key competencies are considered to be abilities that can be acquired in an attractive learning environment by students, advanced students as well as adults (OECD, 2005). The imparting of sustainability competences should be effected by means of teaching and learning methods which:

- facilitate the conception of complex issues and system dynamics (Roome, 1994 and 1998; Michelsen, 2010: 563) and the reflection and development, respectively, of one's own value-system (Hind et al. 2009: 18);
- are based on teaching principles routed in knowledge providing rather than instruction and which support processes of self-acting and autonomous gaining of knowledge (Arnold, 1993),
- shape learning as an open search and communication process and create space for the required collaborative learning process (Barth, 2007),
- answer a person's further development and render *experiential learning* (Maak & Ulrich, 2007: 474), and other teaching methods such as "*action learning, experimental learning, peer longitudinal learning, peer assisted learning, and the like*" (Hind et al. 2009: 18).

The insight that institutions of higher education should make a contribution to sustainability education within the scope of science is only growing slowly (Roome, 1998; Michelsen, Adomßent & Godemann, 2007; Michelsen, 2010: 558), although more than 30 existing „Declarations On Sustainability in Higher Education" (Grindsted, 2011) signal plenty of readiness. Whereas initially the point was mainly to embed sustainable development in the overall-strategies of universities, the importance of academic teaching has later on been emphasised, too (e.g. UNESCO, 2005: *Graz Declaration*). Subsequently, the "*Principles of Responsible Management Education*" (PRME, 2007) were included in the UN Global Compact (UN Global Compact, 2007), in order to facilitate universities and other institutions to commit themselves to an adequate further development of their curricula and teaching methods:

«We will create educational frameworks, materials, processes and environments that enable effective learning experiences for responsible leadership.» (PRME 2007, Principle 3).

There have only been few concrete examples of realisation so far (Dawe et al. 2005: 8). Additionally, there has repeatedly been much criticism on the MBA management-education (Mintzberg, 2004; Hühn, 2012).

In comparison, many companies and further-education institutions develop sustainability trainings for leaders (Pless & Schneider, 2006; University of Cambridge Sustainability Leadership Programme, 2011, Gitsham, 2012). Simultaneously, the contribution of human resources development to the transfer of sustainability competences is becoming the focus of attention (Ehnert, 2009; Garavan & McGuire, 2010).

In summary, it can be stated that we still miss out on a comprehensive account on how to convey sustainability competences in education and further training of leaders as well as well-fitting and tested didactic methods. The present paper wants to offer first suggestions and contribute to setup a body of systemic methods for the transfer of sustainability competences.

### 3. PRINCIPLES AND DIFFERENT TYPES OF SYSTEMIC CONSTELLATIONS

Systemic Constellation is a method that simultaneously enables emotional, affective and cognitive experiencing and learning as an individual person and as a group. Systemic Constellation was developed within psycho- and family therapy and in systemic organisational consulting. For the first time, we tested this process in the transfer of sustainability competences in education and further training. Before we present our experiences in chapter 4 and structurally assess this method, the different types of Systemic Constellations and their application within a management-context will be introduced as follows.

#### 3.1 The method

Systemic Constellation is an instrument to display structures in relationships within a system such as an organisation, a team or an abstract system in a spatial and scenical way. Systemic Constellations can be utilised in the analysis as well as in the further development of possible changes of these relationship-structures. Depending on the respective system we differentiate between:

- a) Family Constellations according to Hellinger: Family Systems Theory.
- b) Organizational Constellations according to Weber: Organizational Systems
- c) Systemic Structural Constellations according to Varga von Kibéd: Abstracted Systems

Each of these types has its special characteristics in regard to the operating principles (Baumgartner, 2006, Schneidhofer, 2009), however, they do have significant features in common. In general, the interaction between actors within a system is observed and analysed as to how it works – or does not work (Rosselet, 2003: 48f). The purpose is to uncover the interdependencies between the parts of the system by visualising and externalising the inner picture the client (or seeker) has of the relational, ordinal, hierarchical, conditional and communicational structures within a system (Grochowiak & Castella, 2002: 19). This implicit knowledge is intuitively placed in a room by the client by means of other participants of a group (called representatives) or symbols (such as figurines, building blocks). This part of the session is called "*initial image*" (*Anfangsbild*). Already at this stage important information is revealed due to the placement of the representatives or symbols (especially distance and viewing direction) with respect to the different roles of the representatives within the system. Additionally, working with representatives elicits questions about their feelings. Subsequently, the (trained) facilitator usually<sup>vi</sup> intervenes with gestures, ritual sentences, the rearrangement of representatives or the testing of hypothetical constellations (Sparrer, 2000: 99f). This continues until the situation has improved for everyone and attempts at a solution have become clearly recognisable ("*solution image*" or *Lösungsbild*). In a constellation using representatives the client finally slips into his/her own role in order to perceive the solution himself/herself within the constellation system.

Constellations using real persons as representatives work on the basis of a phenomena called "*systemic resonance*" and "*representative perception*": representatives (being external persons to

the client's system) behave "in resonance" to the relation-structures of a certain constellation-system. A certain position in a constellation causes specific body sensations which change in accordance as soon as the positioning is modified (Varga, von Kibéd & Sparrer, 2011: 99).

### **3.2 History of origin and characteristics**

The three basic types of constellation work (a, b, c) have been developed since the 1980s in this chronological order presented here, starting with Family Constellations by Hellinger (Hellinger, 1994). Thereby, different therapeutic approaches have been borrowed such as Psychodrama (according to Moreno), Hypnotherapy (according to Erickson), development-oriented Family Theory (according to Satir), Transactional analysis (according to Berne) and Husserl's philosophical movement of the Phenomenology (Sparrer 2009b: 23ff; Varga, von Kibéd & Sparrer, 2011: 235). In the 1980s Hellinger made the method very popular in the German-speaking world through his charismatic and publicity-oriented appearance. Due to his dominant and forcing practice and the unreflecting usage of this method by sometimes poorly-trained followers, Family Constellations increasingly came under fire in the 1990s (Deutsche Gesellschaft für Systemische Therapie und Familientherapie, 2003; Goldner, 2003; Systemische Gesellschaft, 2004; Weber, Schmidt & Simon, 2005).

The (b) Organizational Constellation according to Weber (2000, 2001) transferred the guiding principles of Family Constellation to organisations and then added firm-specific principles (Weber, 2000: 56) such as the right of membership-the primacy of a senior, the primacy of leadership roles, the acknowledgement of efforts, innovation, creativity and competence and the stabilisation of organisations through an appropriate balance of give-and-take. The Organizational Constellation is utilised today in diverse forms in the field of systemic organisational consulting (Horn & Brick, 2003; Rosselet & Senoner, 2010).

The (c) Systemic Structural Constellation according to Varga von Kibéd (1998, 2000; Sparrer, 2009b) corresponds in most parts with the Family and the Organizational Constellation. Its main characteristics are;

- the constellation of abstract elements of a system (e.g. „the problem", aims, values);
- the idea that concerns, explanations, interpretations and ideas of a client have a central status and the facilitator strictly avoids his own interpretations or the direction of the constellation according to biased "conceptions";
- the fact that open and hidden constellations are possible where representatives do not know whom they represent and which system is under constellation, respectively;
- the idea that the constellation work is always part of preliminary talk, feedback and consultation processes.

In the English-speaking world constellation work is not very common, but in the USA similar methods have been developed and discussed under different terms: Social Network Analysis (Freeman, 2004) describes actors and their relationships in social networks by means of nodes and ties. This method is quantitative-oriented and does not involve the emotional component of these relational structures. Soft Systems Methodology (Checkland & Scholes, 1990; Checkland, 2000) works with so-called "*Rich Pictures*" in its initial phase, which are graphic illustrations of the analysed system by the actors. This is similar to the initial image of a constellation as it serves to make implicit knowledge and feelings of a group explicit. However, both methods do

not include a scenically-presented solution process and information through representative perception.

### **3.3 Systemic constellation work in a management-context**

Both Organizational and Systemic Structural Constellations have been used since the late 1990s in a multitude of management situations such as:

- diagnosis and development of the organisational culture (Baumgartner, 2006);
- team development (Sachs-Schaffer et al. 2007; Sachs-Schaffer, 2009);
- encouragement of entrepreneurial innovation (Berreth 2009);
- project-management (Gehlert et al. 2011; Huemann, 2013);
- the positioning of brands (Jurg et al. 2008);
- the realisation of sustainability strategies (Gminder, 2006);
- the analysis of managerial functions and roles and of informal power structures (Horn & Brick, 2001);
- business mediation (Fleischner et al. 2011);
- topics in adult education (Renoldner, 2012).

The spectrum of constellation-practice ranges from individual coaching by means of figurines or persons as representatives to sessions of whole groups in the form of so-called "*In-house-Constellations*". In these constellations all the participants are also representatives of their own system. Moreover, the constellation is part of a superior intervention- and reflection process (Rosselet & Senoner, 2010). Constellation programmes for leaders are offered in large numbers and aim at different orientations such as personal progress, getting systemic leadership competences and the usage in strategic planning, organisational development or conflict resolution. The application as a training method in university education is new<sup>vii</sup> and there are only few corresponding studies (Müller-Christ, 2013).

## **4. APPLICATION OF SYSTEMIC CONSTELLATIONS IN MANAGEMENT TRAINING**

The first part of chapter 4 is dedicated to the description of the study design. The second part deals with the findings. Chapter 4.2.1 is concerned with the question how well Systemic Constellations in all different forms are suitable as a didactic teaching approach for students. Chapter 4.2.2 dwells on the subject of Systemic Constellations as a teaching and learning method and achievable learning objectives. Chapter 4.2.3 analyses which sustainability competences can be conveyed by Systemic Constellations.

### **4.1 Study design**

Since 2004 the Research Institute for Managing Sustainability (RIMAS) at the Vienna University of Economics and Business does not only make use of constellation work in various research-

and practice-based projects<sup>viii</sup> but also in university courses regarding environmental management, participation methods and business ethics. The aim of these constellations was to give the students an understanding of the subject matters of the particular courses, but not, however, to train them in constellation-related techniques.

All in all, we could collect and process experience from 14 Constellations which comprise active contributions of about 120 students. We tested different forms of constellations: individual and group constellations, using real persons as representatives and by means of figurines, in an open and a hidden way.

The constellations were frequently realised together with a professional facilitator by which means the authors of this study were enabled to concentrate on the monitoring and the documentation of the particular session. If possible, the constellations were logged by camera, both video and photo. In the majority of cases students were actively involved as observers and reflected the process and the results. Additionally, in each case the authors produced a graphic description of the constellation and wrote minutes from memory. All these resources then underwent a comparative analysis. On this basis the authors assessed which method and setting, respectively, is didactically suitable for dealing with sustainability topics in the context of university courses (for a summary see Table 2). The analysis followed the principles of interpretative methods of qualitative social research (Lamnek, 2005, Bohnsack, 2008) and was carried out by an assessment team comprising the authors, and Peter Kornfeind. The study was undertaken in four steps:

- ++ very well-suitable;
- + well-suitable under certain conditions
- 0 possible, but not ideal
- not suitable for management education and further training

Thereby, we primarily took aspects of practicability and didactic applicability into account. The usefulness for conveying sustainability competences will be treated in chapter 4.2 in more detail.

## 4.2 Results

This chapter first deals with the question to what extent the different types of constellations are didactically suitable to convey sustainability competences. The second part, chapter 4.2.2 dwells on the subject of Systemic Constellations as a teaching and learning method and achievable learning objectives. Chapter 4.2.3 is dedicated to the question which competences can be transferred through constellation work.

### 4.2.1 Constellation work as a teaching method

The following four methods are very well-suitable (++) or well-suitable under certain conditions (+) for conveying sustainable competences to leaders.

#### 4.2.1.1 Constellation on marked spaces in the constellation room

On the floor a number of areas is marked and defined for the different aspects of a system, for example sustainability as a social topic (being the system) and economy, environment, consumers, politics and the media (being the marked areas). The students place themselves on an



area and try to perceive themselves and their relationships towards the other aspects. This method is low-threshold in nature and therefore very well-suitable as a first step into constellation work. It is applicable at any time because there is no person needed who wishes to have a specific request constellated. The students are able to sense the relationships between the various elements of the system from different positions without revealing their emotions since there is no direct feedback to the facilitator like in a constellation using representatives. Usually, the participants are asked about their perceptions, which can be captured on a poster for further reflection. Rating: ++.

#### 4.2.1.2 *Constellation using figurines in the constellation space*

This type is equivalent to a constellation using ground anchors (Sparrer, 2009a: 111). A person places figurines or symbols (usually 20 to 40 centimetres in size) on the floor. Normally, neutral figurines (e.g. made from wood) are used which do not have facial expressions but front marks in order to specify the viewing direction. This method is also very well-suitable as a start because, for the moment, every participant is just an observer. Volunteers may position themselves next to the figurines in order to slip into the different roles and experience them. In contrast to the constellation on defined areas it is also possible to perceive (physical) closeness in the shape of distance and viewing direction. Moreover, the arrangement of the figurines may be changed, which facilitates the sensing and testing of ideas for solutions (for example: "What is going to happen if we place "the economy" closer to "the environment NGOs?" Rating: ++.

#### 4.2.1.3 *Constellation using representatives - hidden*

A person performs a constellation with representatives who do not know whom or what they represent (Varga von Kibéd & Sparrer, 2011). Optionally, the observers may not be informed. This approach requires some persons who are willing to embark on the experiment of representing part of a system. If this method succeeds, the participants as well as the observers usually show a surprisingly high attention and sensitisation for system structures. This method is well-fitted to make those who view constellations sceptically familiar with constellation work since the cognitive (prejudiced) thinking will be deactivated or at least confused to such an extent that an opening up to new processes becomes possible. Rating: ++.

#### 4.2.1.4 *Constellation using representatives - open*

In this popular type of constellation a client performs a session with representatives who are informed about whom or what they represent. This method has great potential to handle an actual problem within the scope of a university course, for instance to analyse the significance of CSR for a company with a group of students functioning as representatives. However, this open approach requires some adequate pre-experience in constellation work (e.g. low-threshold versions), psychological background knowledge and/or openness of the students and sufficient familiarity within the group. Rating: +

The two following methods are only suitable to a limited extent:

#### 4.2.1.5 *Constellation using figurines on a table*

This approach works like the *constellation with figurines in the room* but uses small figurines (of 5 to 10 centimetres in size) on a table. It allows a good general view on the whole system

because all the elements of the system can be overlooked simultaneously. However, the figurines are too small for the students to "*slip into a particular role*". This method would only be useful if the constellation continued working with a photo of the whole system. Rating: 0.

#### 4.2.1.6 *Constellation with the persons involved (according to Virginia Satir)*

According to Satir et al. (2000) persons who are involved in an actual problem are positioned in the room through the facilitator. Additionally, he/she changes these positions while the solution-finding process for the problem is in progress. This method implies that it is only possible to constellate dynamics of a relationship between actual persons. The participants cannot function as representatives for e.g. a whole department or social group. This method is only useful if a company provides the session with an actual case including all the persons involved in this affair. The students might then function as observers. A constellation of this type using students as participants would be too personal within the context of a university course. Rating: 0

Finally, the following two methods are not suitable for the handling of sustainability-topics within the framework of university education:

#### 4.2.1.7 *Individual constellation on the wooden-board with a facilitator*

A client constellates his problem using small figurines on a wooden board (similar to the family-board of Ludewig & Wilken, 2000). This method is only useful for personal concerns within a two-part setting together with the facilitator. Rating: -

#### 4.2.1.8 *Individual constellation using objects without facilitator*

Each client places his/her problem on a table using small figurines or objects or post-its and works on the problem all by himself/herself (with only some general instruction by the facilitator for the whole group). This approach is suitable to conceive a personal matter as a whole. Within the frame of a university course this might get too personal with inexperienced participants. In addition, it is more difficult to concentrate on one's own issue in a bigger group of people. Rating: -

#### 4.2.2 *Systemic Constellations as a teaching and learning method*

Systemic Constellations as a didactic method can be associated with the constructivist learning theory as for example advocated by Piaget, Wygotzky and Dewey. Learning is thereby regarded as an active process which to a great extent is controlled by the learner and not by the teacher. By means of stimuli from the outside individual, new knowledge can be constructed on condition that these stimuli offer solutions to problems or questions a person is concerned with. The essential learning stimuli originate from the learner himself and new knowledge will be generated if it is linkable to constructs already existing.

Today neurobiology is able to verify that these subconsciously working processes of constructing meaning and knowledge are mostly regulated via the limbic system by affects, emotions and motivation (Roth, 2003). Thus, learning most likely takes place in the moment the provided stimuli appeal to the learner (Entwistle, 2005). These stimuli confuse his internal construct of the world and the processing of these stimuli causes a "change in conception" (Dahlgren, 2005: 34). According to the constructive learning theory it is therefore necessary that teachers create

situations that stimulate learners to question things. The learning process automatically gets started once the respective questions arise within the learner's mind.

Systemic Constellation work can be characterised as a method of experiential learning or experience-based learning. Several authors have critised and expanded the original and widely-spread concept of the Experiential Learning Cycle by Kolb (1984) with its elements Concrete Experience – Reflective Observation – Abstract Conceptualization – Active Experimentation.

*Table 2. Usefulness of various types of constellation work in the context of management education and further training.*

Type of constellation	Characteristics	Suitability to convey sustainability competences in management education and further training	
		++ / + / 0 / -	Reasons why
<b>Constellation on marked areas in the constellation space</b>	Marked areas on the floor are defined for the various aspects of the problem (mostly social). Each student places himself* on a particular space and perceives himself and his relationship to the other aspects.	++	very well-suitable for beginners; no client needed; students are able to sense relationships between the various elements of the system from different positions without having to reveal their emotions.
<b>Constellation using figurines in the constellation space</b>	A person performs a constellation of a specific topic or problem in the room using figurines (of 20-40 centimetres in size).	++	well-suitable to constellate problems where all participants are only observers; volunteers are welcome to position themselves next to figurines.
<b>Constellation using representatives - hidden</b>	A person performs a constellation of a personal or a general social issue using other participants (called representatives) who do not know whom or what they represent. Optionally, the observers are/are not informed.	++	supplies participants as well as observers with surprisingly high attention and sensitisation for system structures; well-suitable to make sceptical persons familiar with constellation work since cognitive (prejudiced) thinking will be reduced.
<b>Constellation using representatives - open</b>	In the most popular type of constellation a person performs a session using representatives who know whom or what they represent.	+	well-suitable, but only for constellation-experienced persons or people with psychological pre-knowledge; requires openness of students.
<b>Constellation using figurines on a table</b>	Similar to <i>Constellation using figurines in a room</i> , but using smaller figurines (5 to 10 centimetres in size) on a table.	0	offers a good view on a system, but figurines are too small to "slip into specific roles"; useful if photo of the whole system is used.
<b>Constellation with the persons involved</b>	According to Virginia Satir: the persons involved in the problem are positioned to one another through the facilitator who then changes these positions.	0	only helpful, if a company provides an actual problem and if students may act as observers. Apart from that, not suitable; too personal.
<b>Individual constellation on the wooden-board</b>	A person constellates his issue on a board or table using small (wooden) figurines.	-	more suitable for personal matters within a two-part setting with the facilitator.
<b>Individual constellation using objects without facilitator</b>	A person constellates his issue completely on his own using small figurines or objects on a table and works on the problem without direction from a facilitator.	-	suitable to conceive a personal matter as a whole; might get too personal with inexperienced students.

\* Due to reduced space we generally consider pronouns as gendered.

Boud and Walker (1992; Boud, 1994), for instance, claimed that the emotions and feelings involved must be integrated into this model.

From the authors' point of view Systemic Constellation work as a teaching method has to be embedded into substantial preparation, thematic attunement as well as an intensive reflection and

post-calibration process and thus offers the elements of experiential learning mentioned above. Systemic Constellations generate impulses on all levels of perception particularly intensively responding to emotions and feelings.

The study at hand has shown that the learning objectives achievable through Systemic Constellations according to taxonomic classifications mainly cover the areas of the identification, evaluation and processing of a problem: to be able to analyse and judge an issue in a comprehensive and systematic way (Metzger & Nüesch, 2004), to explore complex relations as well as to develop problem solving strategies on one's own (Bloom, 1973). Strictly speaking, these learning objectives can be achieved by means of Systemic Constellations as a didactic method on the following levels (Table 3).

Table 3: Achievable learning objectives by means of Systemic Constellations.

LEVEL OF LEARNING	LEARNING OBJECTIVE
<b>System</b>	To be able to identify a system, its elements and their interactions and dependencies
	To be able to identify additional system-elements (beyond the obvious ones) such as future generations, far distant stakeholders etc. as relevant parts of the system and understand their roles within the system
<b>Perception and solving of a problem</b>	To be able to perceive a problem or a difficult situation in its entirety and complexity
	To be able to perceive the elements of a problem or a difficult situation and their interdependencies
	To develop ideas for solutions and become acquainted with different solution possibilities and their repercussions
<b>Values</b>	To be able to perceive, reflect on and discuss one's own values and those of others
<b>Person</b>	To be able to perceive oneself in a cognitive, affective and emotional way as part of a system and in relation to other elements of this system
	To be able to perceive and articulate one's own state of being
	To be able to perceive the conditions and needs of others in a cognitive, affective and emotional way

The attainability of these learning objectives on the one hand depends on the professionalism of the facilitator (*infosyon e.V.* 2012), for instance on appropriate preparation- and reflection processes. In this case the cooperation of Systemic Constellations' experts and sustainable development teachers has turned out to be fertile. On the other hand, the students' pre-knowledge in systemic thinking and their willingness to get involved are important factors in order to secure success. The constellations already implemented have shown that also the form of the constellation influences the student's readiness to get involved, which has already been discussed in detail in chapter 4.2.1.

#### 4.2.3 Teaching sustainability competences using Systemic Constellations

Table 1 (chapter 2.2) shows a summary of sustainability competences for leaders from the current literature. This summary is used as a reference for the summative assessment of an objective and a didactic suitability of Systemic Constellations in general (the various types and settings have already been discussed in the previous chapter). As illustrated in Figure 1<sup>11</sup>, 12 out

of 16 groups of competences are well-communicable. The following aspects shall be emphasised strongly:

According to Hind et al. (2009: 16) leaders need:

*«[...] a new form of complex reasoning which moves beyond the consideration of individual components and involves an analysis of the interrelations across the whole system, understand how things interact with one another at the broadest possible level.»*

Systemic Constellations make this view from the outside onto the whole system possible. The complexity of a situation and a system, respectively, can be captured at a glance, which is much more difficult to achieve through verbal communication. The links and interdependences between the system elements become visible and experienceable:

Simultaneously, the focus is put on one or a few elements of the system which can also be modified as well as the effect on the other parts of the system can be observed. Consequently, various future scenarios and feasible interventions can be rendered possible since these scenarios are experienced in an emotional, affective and cognitive way at the same time thus enabling an “*other than rational analysis*” (Brown, 2012: 570). Quite often, entirely new ideas for a solution emerge because a certain “*outside the box*” (Hind et al. 2009: 15) thinking will be stimulated. Concentrating on the relevant system elements helps to focus on the basics (“*go with the energy*” (Brown, 2012: 570) and to clearly identify the immediately needed next steps.

Long-term and global perspectives can also be included in constellations since constellation work does not only involve real persons and groups but also abstract concepts.

Through a constellation of generations to come, for instance, it is possible to include future generations into actual problems in at least a symbolic way. Thus, the reference point of sustainable development which is often rather abstract and difficult to imagine can be taken into consideration in an almost vivid or animated way since this point actually can formulate its own concernment by using the voice of a representative.

Insecurities of executives, which may occur due to incomplete information, conflicting stakeholder-interests and ambiguities of decision-makers, can be made explicit in Systemic Constellations. The effects of these situations can be sensed in a physical way by the client and the other participants. As a result, tensions can be handled more easily and new ideas for solutions can emerge.

Constellation work mostly causes an increased attention by emotional involvement and feedback from the parts of the system and accomplishes an intensification of the ability to empathise. This is the basis for the acceptance of diversity and conflicting stakeholder-interests.

Systemic Constellations encourage the self-perception and quite often also the realisation and comprehension of difficult aspects of one’s own personality (Brown, 2012: 571: “*shadow issues*”) and, consequently, what is called emotional intelligence. Embedded into a professional reflection-process, the abilities to reflect on oneself and to discuss complex and difficult topics will be increased (Rosselet & Senoner, 2010: 75).

## 5. CONCLUSION

The actual CSR communication from the European Commission (2011) once more highlights the social responsibility of companies. CSR is not merely regarded as a voluntary action of a company beyond minimum regulations by law. But it is emphasised that each company is

responsible for its impacts and that responsibility is part of the executive functions (Martinuzzi et al. 2011).

More recent managerial approaches such as Responsible Leadership and Sustainability Leadership show the new tasks leaders have to face: multi-dimensional and complex systems; diverse time horizons; ambiguities, conflicting stakeholder interests; and the needs to reflect on one's own values and to constantly develop oneself on a personal level. Accordingly, leaders should have a deep understanding of sustainable development and grasp the impacts of their companies on all stakeholders including global and future impacts. Leaders are supposed to think systematically and holistically, respect different perspectives and take innovative and creative decisions on a long-term and responsible basis.

With that said, the necessary competences are quite clearly described. However, concrete approaches how leaders can obtain these skills are still missing. For this purpose, new teaching and learning methods in management education and further training are needed. A good many universities have already owned up to this responsibility, but there is still a lack of specific methods.

Substantial experience at the Vienna University of Economics and Business has shown that didactically appropriate types of Systemic Constellations are well-suited as teaching methods for a large amount of sustainability competences. This approach offers an exterior view on a system and simultaneously encourages cognitive, emotional and affective learning, which facilitates the conception of complex system-correlations and CSR. This comprehension of the overall system and the testing of interventions support the developing of new problem solving strategies. At the same time, the perception of one's own needs as well as the ability to empathise with other parts of the system (stakeholders) will be trained. This makes it easier to handle conflicting interests and offers a basis for better decisions in terms of sustainable development.

Systemic Constellations are particularly well-suited as a didactic method since they, as opposed to the traditional, cognition-focused theory, encourage emotional and affective perception. Hence, new insights gain specific depth as they question already established inner constructs. Systemic Constellations can be utilised in university education, in educating students with low work experience as well as in further leadership-training due to the fact that this method allows to build on the already existing knowledge of the specific system. Among the established types of Systemic Constellations some are well-suitable to convey sustainability competences. However, it would make sense to develop some more and entirely specific types of constellations for this context and integrate them into the didactic overall-concept of a training course or a lecture.

## **ACKNOWLEDGMENTS**

The authors would like to thank Professor Georg Müller-Christ and Peter Kornfeind for valuable inputs and discussion.

## **REFERENCES**

- Arnold, R. (1993). - *dagogik. Reihe*  
"Wissenschaft in gesellschaftlicher Verantwortung". Frankfurt a. M.: r  
Akademische Schriften.

- Barth, M. (2007). *Gestaltungskompetenz durch Neue Medien? Die Rolle des Lernens mit Neuen Medien in der Bildung für eine nachhaltige Entwicklung*, Berlin: Berliner Wissenschafts-Verlag.
- Baumgartner, M. (2006). *Gestaltung einer gemeinsamen Organisationswirklichkeit. Systemische Strukturaufstellungen und Mitarbeiterbefragungen zur Diagnose von Organisationskultur*, Heidelberg: Carl-Auer.
- Becker, L., Hakensohn, H., Witt, F. H. (Eds.). *Unternehmen nachhaltig führen*, Düsseldorf: Symposion.
- Berreth, A. (2009). *Organisationsaufstellung und Management. Lesarten einer beratenden Praxis*, Heidelberg: Carl-Auer.
- Bloom, B. S. (Ed.) (1973). *Taxonomie von Lernzielen im kognitiven Bereich*, 3rd edition, Weinheim: Beltz.
- BMU Deutschland (2008). *Nachhaltigkeit braucht Führung*, Berlin, retrieved September 4, 2012 from: [http://www.bmu.de/files/pdfs/allgemein/application/pdf/broschuere\\_csr\\_nachhaltigkeit\\_fuehrung.pdf](http://www.bmu.de/files/pdfs/allgemein/application/pdf/broschuere_csr_nachhaltigkeit_fuehrung.pdf).
- Bohnsack, R. (2008). *Rekonstruktive Sozialforschung – Einführung in qualitative Methoden*, 7th edition, Opladen: Barbara Budrich.
- Boud, D., Walker, D. (1992). In the midst of experience: Developing a model to aid learners and facilitators. In Mulligan, J., Griffin, C. (Eds.), *Empowerment through experiential learning: Explorations of good practice*, 163-169. London (UK): Kogan Page Ltd.
- Boud, D. (1994). Conceptualizing Learning from Experience: Developing a Model for Facilitation. In Hymans, M., Armstrong, J., Anderson, E. (Eds.), *Proceedings of the thirty fifth Annual Adult Education Research Conference*, Knoxville, 49-54.
- Brown, M. E., Trevino, L. K. (2006). Ethical leadership: A review and future directions. *The Leadership Quarterly*, 17(6): 595-616.
- Brown, B.C. (2012). Leading complex change with post-conventional consciousness. *Journal of Organizational Change Management*, 25(4): 560 – 575.
- Carroll, A. B. (1991). The pyramid of corporate social responsibility: Toward the moral management of organizational stakeholders. *Business Horizons*, 34(4): 39-48.
- Checkland, P., Scholes, J. (1990). *Soft Systems Methodology in Action*. UK: John Wiley&Sons.
- Checkland, P. (2000). Soft Systems Methodology: A Thirty Year Retrospective. *Systems Research and Behavioral Science*, 17(S1): 11-58.
- Crane, A., Matten, D. (2007). *Business Ethics. Managing Corporate Citizenship and Sustainability in the Age of Globalization*. 2nd edition. Oxford (UK): Oxford University Press.
- Dahlgren, L. O. (2005). Learning conceptions and outcomes. In Marton, F., Hounsell, D., Entwistle, N., (Eds.) *The Experience of Learning: Implications for teaching and studying in higher education*. 3rd (Internet) edition, 23-38 Edinburgh: University of Edinburgh, Centre for Teaching, Learning and Assessment.

- D'Amato, A., Roome, N. (2009). Leadership of organizational change. Toward an integrated model of leadership for corporate responsibility and sustainable development: a process model of corporate responsibility beyond management innovation. *Corporate Governance*, 9(4): 421-434.
- Danserau, F., Graen, G., Haga, W. (1975). A vertical dyad linkage approach to leadership within formal organizations. *Organizational Behavior and Human Performance*, 13: 46-78.
- Davidson, J., (2000). Sustainable development: business as usual or a new way of living? *Environmental Ethics*, 22(1): 45-71.
- Dawe, G., Jucker, R., Martin, S. (2005). Sustainable Development in Higher Education: Current Practice and Future Developments. York (UK): A report for The Higher Education Academy.
- Day, D. (2001). Leadership Development: A Review in Context. *Leadership Quarterly*, 11(4), 581-613.
- De Haan, G., Harenberg, D. (1999). Bildung für eine nachhaltige Entwicklung. Gutachten zum Programm. Materialien zur Bildungsplanung und Forschungsförderung, Heft 72, Bonn.
- De Haan, G. (2006). The BLK ‚21‘ programme in Germany: a ‚Gestaltungskompetenz‘- based model for Education for Sustainable Development. *Environmental Education Research*, 12(1): 19-32.
- De Haan, G. (2007). Gestaltungskompetenz als Kompetenzkonzept für Bildung für nachhaltige Entwicklung. Vortrag auf der Tagung: Operationalisierung und Messung von Kompetenzen der Bildung für nachhaltige Entwicklung. Berlin, 1. - 2. Februar 2007.
- De Haan, G. (2008). Gestaltungskompetenzen als Kompetenzkonzept der Bildung für nachhaltige Entwicklung. In: Bormann, I.; Haan, G. de (Ed.). *Kompetenzen der Bildung für nachhaltige Entwicklung. Operationalisierung, Messung, Rahmenbedingungen, Befunde*. Wiesbaden, 23-43.
- Deutsche Gesellschaft für Systemische Therapie und Familientherapie (2003). Stellungnahme der DGSF zum Thema Familienaufstellungen, retrieved August 2, 2012 from: <http://www.dgsf.org/themen/berufspolitik/hellinger.htm>
- Dhillon, G. S. (2002). Understanding social responsibility issues in the information age. In *Social Responsibility in the Information Age: Issues and Controversies*, 1-11. Hershey, PA (USA): Idea Group Publishing.
- Ehnert, I. (2009). *Sustainability issues in human resource management*. Heidelberg (Germany): Physica-Verlag.
- Elkington, J. (1998). Partnerships from cannibals with forks: The triple bottom line of 21st-century business. *Environmental Quality Management*, 8: 37-51.
- Entwistle, N. (2005). Contrasting perspectives on learning. In Marton, F., Hounsell, D., Entwistle, N., (Eds.) *The Experience of Learning: Implications for teaching and studying in higher education. 3rd (Internet) edition*, 3-21. Edinburgh: University of Edinburgh, Centre for Teaching, Learning and Assessment.
- Epstein, M. J., Roy, M.J., (2001). Sustainability in Action: Identifying and Measuring the Key Performance Drivers. *Long Range Planning*, 34(5): 585-604.



- European Commission (2011) COM (2011) 681: A renewed EU strategy 2011-14 for Corporate Social Responsibility.
- Ferdig, M. A. (2007). Sustainability Leadership: Co-creating a Sustainable Future. *Journal of Change Management*, 7(1): 25–35.
- Fiedler, F. E. (1967). *A Theory of Leadership Effectiveness*. New York (USA): McGraw-Hill.
- Fleischner, K.; Hargassner, U.; Wurz, B. (2011). Wirtschaftsmediation und Systemaufstellung. ProFi Workshop auf der International infosyon Conference, 15.–17. April 2011, Vienna.
- Fleishman, E. A., Mumford, M. D., Zaccaro, S. J., Levin, K. Y., Korotkin, A. L., Hein, M. B. (1991). Taxonomic efforts in the description of leader behavior: A synthesis and functional interpretation. *Leadership Quarterly*, 2(4): 245-287.
- Freeman, E. R. (1984). *Strategic management: a stakeholder approach*. Boston (USA): Pitman.
- Freeman, L. C. (2004). *The Development of Social Network Analysis: A Study in the Sociology of Science*. South Carolina (USA): Book Surge LLC.
- Galla, J., Kopp, U., Martinuzzi, A., Störmer, E. (2008). Programmakteursaufstellungen – erste Erfahrungen mit Systemaufstellungen in Theoriebasierten Evaluationen. *Zeitschrift für Evaluation*, 1/2008, 35-73.
- Garavan, T. N., McGuire, D. (2010). Human Resource Development and Society: Human Resource Development's Role in Embedding Corporate Social Responsibility, Sustainability, and Ethics in Organizations. *Advances in Developing Human Resources*, 12 (6): 487-507.
- Garriga, E., Melé, D. (2004). Corporate Social Responsibility Theories: Mapping the Territory. *Journal of Business Ethics*, 53(1/2): 51-71.
- Gareis, R., Huemann, M., Martinuzzi, A. (2012). Re-thinking Project Management by considering sustainability principles, Newtown Square, Pa.: Project Management Institute.
- Gehlert, T., Sachs-Schaffer, B., Rothgänger F. (2011). Aufstellungen im Projektmanagement – kleiner Aufwand - große Wirkung? Vortrag auf der International infosyon Conference, 15.–17. April 2011, Vienna.
- Gitsham, M. (2012). Experiential Learning for leadership and sustainability at IBM and HSBC. *Journal of Management Development*, 31(3): 298-307.
- Gminder, H. U. (2005). Nachhaltigkeitsstrategien systemisch umsetzen: Eine qualitative Exploration der Organisationsaufstellung als Managementmethode. Dissertation Nr. 3079, Universität St. Gallen.
- Goldner, C. (2003). Esoterischer Firlefanz: Die Szene der Hellingerianer. In Goldner, C. (Ed.). *Der Wille zum Schicksal: Die Heilslehre des Bert Hellinger*, 66-132, Wien: Ueberreuter.
- Graen, G., Cashman, J. (1975). A role making model of leadership in formal organizations: A developmental approach. In Hunt, J. Larson, L. (Eds.). *Leadership Frontiers*, 143-165. Kent, OH (USA): Comparative Administration Research Institute, Kent State University.
- Grindsted, T. S. (2011). Sustainable universities – from declarations on sustainability in higher education to national law. *Environmental Economics*, 2(2): 29-36.

- Grochowiak, K.; Castella, J. (2002). *Systemdynamische Organisationsberatung: Die Übertragung der Methode Hellingers auf Organisationen und Unternehmen*. 2nd edition, Heidelberg: Carl-Auer.
- Hauff, V. (1987). *Unsere gemeinsame Zukunft. Der Bericht der Weltkommission für Umwelt und Entwicklung (Brundtland-Bericht)*, Greven.
- Hellinger, B. (1994). *Ordnungen der Liebe. Ein Kursbuch*, Heidelberg: Carl-Auer.
- Hind, P.; Wilson, A.; Lenssen, G. (2009). Developing leaders for sustainable business. *Corporate Governance*, 9(1): 7-20.
- Horn, K. P., Brick, R. (2001). *Das verborgene Netzwerk der Macht. Systemische Aufstellung in Unternehmen und Organisation*, Offenbach: Gabal.
- Horn, K. P., Brick, R. (2003). *Organisationsaufstellung und systemisches Coaching*. Offenbach: Gabal.
- Hühn, M. (2012). MBA Programmes and Sustainable Leadership. In Becker, L., Hakensohn, H., Witt, F. H. (Eds.). *Unternehmen nachhaltig führen*, 153-176. Düsseldorf (Germany): Symposion.
- Huemann, M., (2013). Conducting audits. In Turner, J.R. (Ed.) *The Gower Handbook of Project Management, 5th edition*. Aldershot: Gower, forthcoming.
- Huemann, M., Weninger, C., Cardoso de Oliveira, J., Fernando Mendonça Barros, L., Weitlaner, E., (2013). Experimenting with project stakeholder analysis: A case study. In Silvius, G., Tharp, J. (Eds.), *Sustainability Integration for effective Project Management*. IGI Global, forthcoming.
- Infosyon e.V. (2012). infosyon-Qualitätsstandard für LeiterInnen von System-Aufstellungen in Organisationen und Arbeitskontexten, Das Internationale Forum für Systemaufstellungen in Organisationen und Arbeitskontexten, Haimhausen, retrieved February, 2, 2013 from: [http://infosyon.com/uploads/media/Qualitaetsstandards\\_fuer\\_Aufsteller\\_2012.10.pdf](http://infosyon.com/uploads/media/Qualitaetsstandards_fuer_Aufsteller_2012.10.pdf)
- Jurg, W., Bloemer, J., Doorewaard, H., Peelen, E., Simons, R. (2008). Systems constellations: A better way to identify branding opportunities? *Journal of Brand Management*, 15(4): 239-257.
- Katz, R. L. (1955). Skills of an effective administrator. *Harvard Business Review*, 33(1): 33-42.
- Kolb, D. A. (1984). *Experiential Learning: Experience as a source of learning and development*. New York: UpperSaddle River.
- Krizanits, J. (2005). Organisationsaufstellungen als Beratungsansatz? Der Beitrag von Organisationsaufstellungen zur Unterstützung von Veränderungs- und Entwicklungsprozessen in Organisationen, In Fatzer, G. (Ed.). *Gute Beratung von Organisationen – auf dem Weg zu einer Beratungswissenschaft*, EHP In.
- Lamnek, S. (2005). *Qualitative Sozialforschung, 4th edition*. Weinheim: Beltz.
- Ludewig, K., Wilken, U. (2000). *Das Familienbrett*, Göttingen: Hogrefe.
- Lynham, S. A.; Chermack, T. J. (2006). Responsible Leadership for Performance: A Theoretical Model and Hypotheses. *Journal of Leadership and Organizational Studies*, 12(4): 73-88.

- Maak, T., Ulrich, P. (2007). *Integre Unternehmensführung. Ethisches Orientierungswissen für die Wirtschaftspraxis*. Stuttgart: Schäffer-Poeschel.
- Maak, T.; Pless, N. M. (2006). Responsible Leadership in a Stakeholder Society – A Relational Perspective. *Journal of Business Ethics*, 66(1): 99–115.
- Martínez, J. (2008). The Why, When, and How of Corporate Social Responsibility. *Journal of Strategic Management Education*, 4: 117-133.
- Martinuzzi, A, Krumay, B, Pisano, U. (2011). Focus CSR: The New Communication of the EU Commission on CSR and National CSR Strategies and Action Plans. *European Sustainable Development Network (ESDN), Quarterly Report No. 23*, retrieved January 20, 2013 from: [http://www.sd-network.eu/quarterly%20reports/report%20files/pdf/2011-December-The\\_New\\_Communication\\_of\\_the\\_EU\\_Commission\\_on\\_CSR\\_and\\_National\\_CSR\\_strategies.pdf](http://www.sd-network.eu/quarterly%20reports/report%20files/pdf/2011-December-The_New_Communication_of_the_EU_Commission_on_CSR_and_National_CSR_strategies.pdf)
- Matten, D., Crane, A. (2005). Corporate citizenship: Toward an extended theoretical conceptualization. *The Academy of Management Review*, 30(1): 166-179.
- Metzger, C., Nüesch, C. (2004). *Fair prüfen: Ein Qualitätsleitfaden für Prüfende an Hochschulen*, St. Gallen.
- Michelsen, G. (2010). *Innovationen in der Hochschule: Nachhaltige Entwicklung und universitäre Bildung* In Hagemann, H., von Hauff, M. (Eds.) *Nachhaltige Entwicklung – das neue Paradigma in der Ökonomie*, 557-569. Marburg (Germany): Metropolis.
- Michelsen, G., Adomßent, M., Godemann, J. (Eds.) (2007). *Sustainable University*. Frankfurt a. Main. VAS Verlag für Akademische Schriften.
- Müller, U. (2010). Nachhaltigkeit – (k)ein Thema für die betriebliche Führungskräfte- und Personalentwicklung? In Schweizer, G.; Müller, U.; Adam, Th. (Eds.). *Wert und Werte im Bildungsmanagement*, 327-336. Bielefeld (Germany): Bertelsmann.
- Müller-Christ, G. (2013). Wo stehen Nachhaltigkeit und Ressourcenorientierung im Unternehmen? Ordnungsangebote im Prämissengerangel durch Systemaufstellungen, In Klinke, S.; Rohn, H. (Eds.). *RessourcenKultur. Vertrauenskulturen und Innovationen für Ressourceneffizienz im Spannungsfeld normativer Orientierung und betrieblicher Praxis*, Baden-Baden: Nomos. Forthcoming.
- Müller-Christ, G., Hülsmann, M. (2003). Quo vadis Umweltmanagement. Entwicklungsperspektiven einer nachhaltigkeitsorientierten Managementlehre, In *Die Betriebswirtschaft*, 3(3): 257-277.
- Nienaber, H. (2010). Conceptualisation of management and leadership. *Management Decision*, 48(5): 661-675.
- OECD (2005). Definition und Auswahl von Schlüsselkompetenzen, retrieved September 3, 2012 from: <http://www.oecd.org/pisa/35693281.pdf>
- Pfriem, R. (2012). Unternehmen Nachhaltigkeit – eine neue Führungsaufgabe In Becker, L.; Hakensohn, H., Witt, F. H. (Eds.). *Unternehmen nachhaltig führen*, 93-116. Düsseldorf: Symposium.

- Pless, N. M., Schneider, R. (2006). Towards developing responsible global leaders: The Ulysses experience. in Maak T., Pless N. M. (Eds.). *Responsible Leadership*, 213-226. New York (USA): Routledge.
- Pless, N. M. (2007). Understanding Responsible Leadership: Role Identity and Motivational Drivers. *Journal of Business Ethics*, 74(4): 437–456.
- Porter, M. E., Kramer, M. R. (2011). Creating shared value. *Harvard Business Review*, 89(1-2): 62-77.
- Quinn, L., Dalton, M. (2009). Leading for sustainability: implementing the tasks of leadership. *Corporate Governance*, 9(1): 21-38.
- Renoldner, C. (2012). Komplexe Inhalte sichtbar und spürbar werden lassen. Aufstellungen zu globalen und politischen Themen als Methode der Erwachsenenbildung, In *Magazin erwachsenenbildung.at. Das Fachmedium für Forschung, Praxis und Diskurs*. Ausgabe 16: 80-88. Books on demand.
- Rio Declaration on Environment and Development (1992). United Nations "Conference on Environment and Development" (UNCED), Earth Summit.
- Roome, N. (1994) *Environmental Responsibility: An Agenda for Higher and Further Education - Management and Business*. London (UK): Pluto Press.
- Roome, N. (1998). Management Education for Sustainable Development. Paper presented at the Greening of Industry Network Conference: Partnership and Leadership Building Alliances for a Sustainable Future. November 15-18, Rome (IT).
- Rondinelli, D. A., Berry, A. (2000). Environmental citizenship in multinational corporations: social responsibility and sustainable development. *European Management Journal* 18(1): 49-70.
- Rosselet, C. (2003). Mit der Organisationsaufstellung die Firma durchleuchten. *io management*, 12: 47-51.
- Rosselet, C.; Senoner, G. (2010). *Management macht Sinn. Organisationsaufstellungen in Managementkontexten*. Heidelberg: Carl-Auer.
- Roth, G. (2003). Warum sind Lehren und Lernen so schwierig? Presentation. Retrieved January 16, 2013 from: <http://www.die-bonn.de/doks/roth0301.pdf>
- Satir, V., Banmen, J., Gerber, J., Gomori, M. (2000). *Das Satir Modell. Familientherapie und ihre Erweiterung*. Paderborn: Junferman.
- Sachs-Schaffer, B. (2009). High-Performance Teams unter der Lupe: "durchwegs gut aufgestellt!" In Kaegi, U., Müller, S. (Eds.). *Change auf Teamebene. Multiperspektivische Betrachtungen zu Teams in organisationalen Veränderungsprozessen*, 165-183. Zürich (Switzerland): NZZ Libro.
- Sachs-Schaffer, B., Gschwend, I., Sachs, A. (2007). Erfolgsteams sind ... durchwegs gut aufgestellt. *Fachzeitschrift Lernende Organisation*, 37: 15-29.

- Schaltegger, S., Burrit, R. (2005). Corporate Sustainability. In Folmer, J., Cheltenham, T. T. (Eds.). *The International Yearbook of Environmental and Resource Economics 2005/2006, A Survey of Current Issues*, 185-222. UK: Edward Elgar.
- Schneidhofer, T. M.; Fasching, C. (2009). Phänomen, Konstruktion, oder einfach egal? Theorie und Praxis der Aufstellungsarbeit in Österreich. *Praxis der Systemaufstellung*, 10(1): 64-71.
- Seelos, C., Mair, J. (2005). Social entrepreneurship: Creating new business models to serve the poor. *Business Horizons*, 48(3), 241-246.
- Sparrer, I. (2000). Vom Familienstellen zur Organisationsaufstellung - Zur Anwendung systemischer Strukturaufstellungen im Organisationsbereich. In Weber, G. (Ed.). *Praxis der Organisationsaufstellungen*, 91-126. Heidelberg (Germany): Carl-Auer.
- Sparrer, I. (2009a). Wunder, Lösung und System: Lösungsfokussierte Systemische Strukturaufstellungen für Therapie und Organisationsberatung. 5th edition. Heidelberg (Germany): Carl-Auer.
- Sparrer, I. (2009b). Systemische Strukturaufstellungen. Theorie und Praxis. 2nd edition. Heidelberg (Germany): Carl-Auer.
- Spurgeon, P., Cragg, R. (2007). Is it management or leadership? *Clinician in Management*, 15(3-4): 123-125.
- Steurer, R., Langer, M. E., Konrad, A., Martinuzzi, A. (2005). Corporations, stakeholders and sustainable development I: a theoretical exploration of business-society relations. *Journal of Business Ethics*, 61(3), 263-281.
- Systemische Gesellschaft (2004). Potsdamer Erklärung zur systemischen Aufstellungsarbeit - überarbeitet. Verabschiedet auf der Mitgliederversammlung der Systemischen Gesellschaft am 28.9.2004. retrieved August 2, 2012 from: <http://www.syhom.de/dokumente/potsdamererklarung.pdf>
- Toor, S., Ofori, G. (2008). Leadership versus management: how they are different and why. *Leadership and Management in Engineering*, 8, special issue introduction, 61–71. doi: 10.1061/(ASCE)1532-6748(2008)8:2(61)
- UNESCO (2005). Graz Declaration on Committing Universities to Sustainable Development. Retrieved September 4, 2012 from: [http://www-classic.uni-graz.at/geo2www/Graz\\_Declaration.pdf](http://www-classic.uni-graz.at/geo2www/Graz_Declaration.pdf)
- UN Global Compact (2007). Principles of Responsible Management Education (PRME). retrieved September 9, 2012 from: <http://www.unprme.org/>
- UN Global Compact (2010a). Blueprint For Corporate Sustainability Leadership retrieved July 3, 2012 from: [http://www.unglobalcompact.org/docs/news\\_events/8.1/Blueprint.pdf](http://www.unglobalcompact.org/docs/news_events/8.1/Blueprint.pdf)
- UN Global Compact (2010b). Moving Upwards: The Involvement of Boards of Directors in the UN Global Compact. retrieved July 3, 2012 from: [http://www.unglobalcompact.org/docs/news\\_events/8.1/Moving%20Upwards.pdf](http://www.unglobalcompact.org/docs/news_events/8.1/Moving%20Upwards.pdf)
- University of Cambridge Sustainability Leadership Programme (2011). retrieved September 5, 2012 from: <http://www.cpsl.cam.ac.uk>

- Vallentin, S. (2009). Private Management and Public Opinion: Corporate Social Responsiveness Revisited. *Business and Society Review*, 48(1): 60-87.
- Varga von Kibéd, M. (1998). Bemerkungen über philosophische Grundlagen und methodische Voraussetzungen der systemischen Aufstellungsarbeit. In Weber, G. (Ed.). *Praxis des Familien-Stellens*, 51-60. Heidelberg (Germany): Carl-Auer.
- Varga von Kibéd, M. (2000). Unterschiede und tiefere Gemeinsamkeiten der Aufstellungsarbeit mit Organisationen und der systemischen Familienaufstellung. In: Weber, G. (Ed.). *Praxis der Organisationsaufstellungen*, 11-33. Heidelberg (Germany): Carl-Auer.
- Varga von Kibéd, M. Sparrer, I. (2011). Ganz im Gegenteil. Tetralemmaarbeit und andere Grundformen systemischer Strukturaufstellungen - für Querdenker und solche die es werden wollen. 7th edition, Heidelberg (Germany): Carl-Auer.
- Vroom, V.H., Yetton, P.W. (1973). *Leadership and decision-making*, Pittsburgh, PA (USA): University of Pittsburgh Press.
- Wartick, S. L., Cochran, P. L. (1985). The evolution of the corporate social performance model. *Academy of management review*, 10(4): 758-769.
- Weber, G. (2000). Organisationsaufstellungen: Basics und Besonderheiten, in: Weber, G. (Ed.). *Praxis der Organisationsaufstellungen*, , 34-90. Heidelberg (Germany): Carl-Auer.
- Weber, G. (2001). *Derselbe Wind lässt viele Drachen steigen*. Heidelberg (Germany): Carl-Auer.
- Weber, G.; Schmidt, G.; Simon, F. B. (2005). Aufstellungsarbeit revisited...nach Hellinger? Mit einem Metakommentar von Matthias Varga von Kibéd. Heidelberg (Germany): Carl-Auer.
- Wood, D. J. (1991). Corporate social performance revisited. *Academy of management review*. 16(4): 691-718.
- Wunderer, R. (2009). *Führung und Zusammenarbeit – eine unternehmerische Führungslehre*: 8th extended edition. Köln: Luchterhand.
- Yoshikawa, T., Rasheed, A. (2009). Convergence of Corporate Governance: Critical Review and Future Directions. *Corporate Governance: An International Review* 17(3), 388-404.

---

## Endnotes

<sup>i</sup> In this paper we do not dwell on the debate "Leader vs. Manager" (Cfr. Day 2001; Mintzberg 2004, Spurgeon/Cragg 2007; Toor/Ofori 2008; Nienaber 2010). The teaching and learning method presented here is suitable for both, leaders and managers likewise. In the following they will be referred to as leaders. However, with respect to the effect of the gained competences it can be stated that the more scope for growing a leader is granted, the more he gains in significance as initiator, designer and driver of a sustainable development. In addition, his actions will have far more impact if he has adequate sustainability competences at command.

<sup>ii</sup> Cfr. Lewin 1939 "Iowa Studies"; Roethlisberger & Dickson 1939, "Hawthorne-Experiments"

<sup>iii</sup> Due to the focus of the paper we cannot elaborate on the differences between the various concepts that have emerged within this context. The author is familiar with the different discourses and definitions and refers for more details to:

- Corporate Social Performance (Wood, 1991, Carroll, 1999; Martinez, 2008),
- Corporate Sustainability (Schaltegger & Burrit, 2005; Steurer et al., 2005)

- Social Responsibility (Dhillon, 2002)
- Social Entrepreneurship (Seelos & Mair, 2005)
- Business Ethics (Crane & Matten, 2007)
- Corporate Philanthropy (Seelos & Mair, 2005)
- Corporate Citizenship (Rondinelli & Berry, 2000; Matten & Crane, 2005)
- Corporate Social Responsiveness (Vallentin, 2009)
- Corporate Governance (Yoshikawa & Rasheed, 2009)

<sup>iv</sup> The term *key qualification* was replaced by *key competence* in the 1970s. Key qualifications were primarily regarded as the ability to master situations in life. Key competences feature individuals and their autonomy.

<sup>v</sup> The concept of *shaping competence* was presented in 1999 by de Haan and Harenberg for the school-model program of the "*Bund-Länder-Kommission für Bildungsplanung und Forschungsförderung (BLK) 21*" and the following project Transfer-21 and has subsequently been further developed.

<sup>vi</sup> There are also approaches in which the analysis of the initial image is satisfactory and will not be continued up to a solution image (Galla et al. 2008).

<sup>vii</sup> e.g. <http://www.uni-koeln.de/hf/konstrukt/didaktik/> (date of access: September 5, 2012)

<sup>viii</sup> e.g. in the course of the participatory development of the Austrian Corporate Social Responsibility-guiding principles, and in the theory-based assessment of environmental programmes ( Galla et al. 2008).



# Systemic value and corporate governance. Exploring the case of professional football teams

**Arturo Capasso, Ph.D.**

*Full Professor of Corporate Governance. University of Sannio, Italy.  
e-mail: capasso@unisannio.it. Corresponding author*

**Matteo Rossi, Ph.D.**

*Assistant Professor of Corporate Finance. University of Sannio, Italy.  
e-mail: mrossi@unisannio.it*

*Published online on April 1, 2013.*

*DOI: 10.7350/BSR.V11.2013 – URL: <http://dx.medra.org/10.7350/BSR.V11.2013>*

## ABSTRACT

*This paper aims to analyze how systemic thinking might contribute to investigate the interaction between company internal organization, financial structure and corporate governance. We focus our analysis on professional football teams as this special business combination provides an evident example of companies whose performance cannot be evaluated considering only financial returns or shareholder value. The investments of a professional football team are mainly in intangible resources, first and foremost in the skills and the competences of players, coaches, the general manager, and the medical staff. At the same time, the final outcome will include, both financial income, and intangible assets, like experience, popularity, reputation. The latter will pertain not only to the shareholders but to all the professionals involved, who will benefit of a higher market value for their services. Furthermore the supporters are an important component of the firm's value too, because a substantial portion of future cashflows depends on the presence of a loyal customer base, whose claims cannot be disregarded without consequences on the economic value created by the organization. The traditional economic approach, correlating residual claimants with residual control rights and therein corporate governance, cannot be applied in presence of residual claimants who are different from shareholders. A professional football team strategy requires a multi-constituency systemic approach to be effectively implemented and to correctly evaluate its performances. Nowadays football is a business and several professional football teams are listed companies. Nonetheless many of them are experiencing financial losses, high debt and difficulties in funding their investments. Are these symptoms of a failure in creating economic value? Financial statements only give a true and fair assessment of value reporting assets and liabilities at their historical value, but where is the real value? How can we reliably assess the economic value of a football team? And who really owns those intangible assets that represent the largest fraction of its economic value? Moving from these considerations, can we reasonably imagine that a good corporate governance model should take into account only shareholders' interests? According to*



*our conclusions this is not the case, not only for professional football teams but also for many other businesses whose underlying logic cannot be understood without the lens of a systemic approach.*

**Keywords:** Corporate Governance, Football Teams, Systemic Value.

## 1. INTRODUCTION

In line with the mainstream business economics analysis, firm financial structure determines not only the allocation of legitimate claims on its future cashflows but also the distribution of governance prerogatives. In a simplified perspective, the unlevered enterprise value belongs to equityholders and debtholders. Debtholders, on one side, have a seniority in cash-flows but their inflows are limited to the face value of debt and interest payments, all the value exceeding that amount pertains to equityholders that, for this reason, are considered as residual claimants.

Since firms' value maximization is generally regarded as a suitable goal for the economic system as a whole, the company law typically assigns to shareholders the residual decision rights (the right to take all those decisions that are not already settled on in the contracts signed by the firm). The underlying rationale is quite evident, shareholders, being the residual claimants, have the most substantial interest in pursuing firms' economic value maximization. This way of thinking was quite obvious, assuming a simplified model of the firm but, in the last decades, business combinations have become more and more complex. The growing importance given by the evolution of competitive scenarios to intangible assets demand a different approach to the analysis of the economic essence of the firm. If the economic cycle of a firm is based not only on providing goods and services but also on building intangible assets - like knowledge, relational capital, customer appreciation - that are the basis of a sustainable competitive advantage, attainable results will no longer be so appropriable and transferable as either monetary or monetary-measurable quantities are, and their allocation will not be so straightforward.

Business scholars have traditionally focused their attention on the shareholder value and the most popular profitability indicators - such as net income, operating margin, ROE - measure the company performance in this perspective. Even if it is not fully appropriate to claim that these approaches belong to an obsolete stage of the industrial development, we cannot ignore that, in many industries, intangible assets are not only critical factors for success but also, to a certain extent, a relevant result of the firm's economic activity. In some industries the skills accrued as a consequence of the learning curve (internal knowledge) or the relations developed with clients, suppliers or financial markets (external knowledge) represent a significant component of the economic value created. Problems arise when the economic value of the intangible assets does not pertain entirely to the firm; in many cases it is shared with other relevant stakeholders. Quite often intangible assets are embedded in managers, personnel, partners, clients or suppliers and it is not possible to consider them as the tangible assets that can be, without restraint, bought or sold in efficient markets. As some stakeholders participate to the results of the firm production process and their returns depend on the success of the firm strategy, we can conclude that there could be residual claimants different from the shareholders. This conclusion has important implications, in terms of firm value and corporate governance, and systemic thinking could provide a suitable framework to analyze them. Ideally we could imagine, beyond the shareholders equity, a systemic equity that includes the capitalization of those advantages

obtained by major shareholders, executives or employees such as: managerial perquisites, fringe benefits, above-market wages, overstaffing, but also those benefits provided to customers and suppliers, in terms of reduced transaction costs, as a consequence of a reliable and trustworthy cooperation. Under this point of view, the main stakeholders can be described as a virtual shareholder, contributing the most part of the systemic equity and getting a share of the economic value created by the company as a consequence of their being, to a certain extent, residual claimants (Capasso, 1996).

In our paper we focus on professional football teams as this special business concern provides an excellent example of a production cycle whose results cannot be reduced to mere net income or shareholder value. A successful season for a football team certainly implies high revenues due to prizes, broadcasting rights, and tickets. The net profit deriving from these revenues pertains typically to shareholders, but there are also significant intangible assets whose economic effects will increase the wealth of other stakeholders. The players, the coach, the general manager will benefit, in the near future, of a higher market value for their professional services. Furthermore the supporters are an important component of the firm value too, and their satisfaction is linked to the performance of the team. Their legitimate expectation cannot be disregarded because a substantial share of future cash flows depends on the loyal customer base formed by the supporters.

Nowadays football is a business and sometimes professional football teams are listed companies. But how can we assess the economic value created by a football team? Financial statements only give a true and fair assessment of value relative to accounting rules. Where is the real value? Who does really own those intangible assets that represent a significant fraction of value created? Can we reasonably state that a good corporate governance should take into account only shareholders' interests? According to our conclusions this is not the case, not only for a professional football team but also for many other businesses whose rationale cannot be understood without the lens of a systemic approach.

In the following chapters, after a review of the existing business literature, we will describe the football industry, the main managerial models of football teams, the critical factor for success in several success histories, and we will eventually conclude with some considerations to achieve an higher coherence between football business, governance and organization of professional teams.

## **2. GOVERNANCE AND PERFORMANCE IN PROFESSIONAL SPORT TEAMS: A LITERATURE REVIEW**

The corporate governance literature traditionally focused on the managers-shareholders relationship; only in recent years, corporate governance scholars explored a broader set of relationships to embrace the main agents involved with the organization (employees, executives, suppliers, shareholders) and stakeholders served or affected by the organization (customers and local communities). Therefore, more recent definitions of “good governance” emphasize the potential contribution to improved organizational performance<sup>1</sup>. The question arises then: what are the governance elements that add value to organizational performance and how can these be measured?

Evaluation of various governance elements, including board structure, composition, roles and relationships inevitably leads to attempts to link those elements considered as the most significant to company performance.

Switching the attention from ordinary businesses to professional sport teams the problem becomes tougher being even more difficult to establish a hierarchy among financial objectives and sporting performances. Football teams could have different approaches to strategic planning, considering sporting competitiveness rather than shareholder value as their main goal. Even if the increased commercialization of the sport suggest that not for profit organization isn't the realistic view to study these teams, in many cases, sporting organizations don't seem to operate on a basis of maximizing value for their owners.

Cousens (1997) compared 'traditional' sport organisations and business-centred sport organizations. Traditional organisation focused on team performance whereas business-centred organization were profit oriented. While Cousens recognized other differences, this highlighted one important performance issue. However, it is too simplistic to assume that traditional sporting organisations focus solely on team or athletic performance. Shilbury (2000) suggested that the sports environment has changed and the challenge has to be financially sustainable. For those sport organisations without a value maximising objective, financial considerations still have some priority and may well determine the sporting performance outcomes. Sport organisations therefore, share some of the multi-dimensional success criteria prevalent in the increasingly commercialised non-profits. A further similarity is the integrative and participatory nature of the services provided. The customer, supporter or service recipient all participate directly in the main 'product' or service provided and indeed in most cases, this participation is the reason for the existence of the organization. On these statements it is possible to describe the potential trade-off between profit and utility maximisation.

Smart and Wolfe (2000) and Gerrard (2005) focus their attention on sport organisations' effectiveness. Both papers were theoretically rooted in the resource based view (RBV) which gives insight into an organisation's likely competitive advantage and performance.

Smart and Wolfe (2000) considered the sources of competitive advantage of a college Athletic program in line with RBV<sup>ii</sup>. They suggested that sources of competitive advantage were often tied to intangible resources such as reputation, customer loyalty, culture since these resources are hard to imitate exactly. Their study examined any link between RBV and the athletic program success. This was of interest to this thesis with regard to the potential definition of the boards as a resource and their ability to protect intangible resources such as club culture, image and reputation. It was also of interest in offering some examples of success measures albeit in a different sport context. Smart and Wolfe (2000) underline four outcomes that could be perceived as program success:

- success on the field (win/loss records);
- student athlete graduation rates;
- athletic program ethics (absence of league violations); and
- financial performance (surplus or deficit).

Their study was based on analysis of a college football program and they measured outcomes over a period of ten years. They identified the percentage of games won, established the graduation rate, determined the number of league sanctions and violations and used a proxy of attendances for financial performance, as the program itself did not record revenues.

They identified – in terms of RBV – physical resources (stadium, training facilities and equipment), human resources (players, managers, coaches), organizational resources (history, culture, relationships possessed by a group of individuals). Tenure of the coach was important for strategic advantage. Their findings argued that the physical and human resources were replicable by other teams, so the actual source of competitive advantage was organizational resource. They undertook a comparison of outcome measures for three teams to illustrate this point.

Using RBV, Gerard (2005) addressed not only resources which potentially achieve competitive advantage, but the efficiency with which these resources are used. Starting from Amis, Pant and Slack (1997) and Smart and Wolfe (2000), he carried out a study of English Premier League teams. Gerrard (2005) presented the argument that professional sport teams must potentially negotiate trade-offs between financial and sporting performance. He extended previous studies by Sloane (1971) and Noll (1982): teams should have objectives to maximise number of games won and profit, subject to a minimum profit constraint. He noted that while instructive, these studies did not address owners' preferences for sporting success over financial performance, but merely recognised the validity of both. Gerrard conducted his study using two methodologies. First, he developed a resource utilisation model for professional teams which could highlight resource allocation differences between profit maximisation teams (the implication is that this consisted of listed teams) and those which placed more emphasis on sporting performance. This was developed using complex mathematical relationships and is not discussed here. Second, using financial ratio analysis and regression analysis, he examined links between owner status and performance. The regression analysis used several key variables: current sporting performance, previous sporting performance, profitability, wage costs, revenue, team playing quality, team fan base and team ownership status. The two financial ratios considered were:

- Revenue efficiency = Total revenue/average league gate
- Wage efficiency = Total wage costs/league points.

Gerrard then empirically studied performance within the Premier League, using data on playing records and player rankings together with published financial results, to determine whether ownership status (listing) had an impact on effectiveness. In terms of the financial ratios, the results showed that listed teams had higher revenue efficiency than non-listed teams. In terms of wage efficiency there was no significant difference. Overall, he concluded that there was strong evidence of a relationship between ownership status (listing) and financial performance. Listed teams had lower wages, higher revenues and higher profits.

*«Financial efficiency gained allowed the listed teams to improve financial performance without any significant impact on the accumulated stock of playing talent and sporting performance.»* (Gerrard, 2005: 167).

Haas (2003), using a mathematical methodology similar to Gerrard, focused on production efficiency of English Premier League clubs in terms of meeting the expectations of supporters and sponsors. The study used two variables as inputs to the 'production' process (that is the process of engaging in football competition) and defined two key outputs from that process. The methodology involved calculating an efficiency score, based on outputs divided by inputs, and a comparison to other teams' efficiencies scores, creating an efficiency frontier. They then could establish which clubs operated outside the efficient frontier. Again, this study is a useful input to this thesis by discussing appropriate performance measures. It is instructive to consider how the

author determined effective measures for the inputs to the production process and the outputs from that process. Haas determined two input variables as playing talent and coaching expertise. He operationalized these inputs with proxy measures in total wages and salaries less the salary of the head coach, which he set as the second proxy measure. The two key outputs from the production process were deemed to be commercial success, as measured by total revenue, and football success, calculated by league points won. He recognized the limitations of the use of proxies. Haas included both total revenue and premiership points as measures to allow for the fact that several teams participate in European competitions which generate revenue but do not earn competition points. He found that only two teams were efficient under all versions of the model, and he noted that the results of these teams were good relative to the moderate expenditures on players and coaches. He also noted that several of the more prominent teams were found to be inefficient, in that the wages and salaries were high relative to their success.

Organizational effectiveness in sport was further considered by Papadimitriou and Taylor (2000) using multiple constituency theory (Miles, 1980). They studied 20 Hellenic National Sporting Organizations (NSOs) to determine their effectiveness. The authors justified their use of the multiple constituency approach to determining effectiveness rather than the more rigorous competing values approach (Quinn, Rohrbaugh, 1983) by asserting it was difficult to operationalize the latter model without a definitive knowledge of the values of each constituency group and the relative weighting of those values. The authors also suggested that the four perspectives of the competing values model limited the effectiveness criteria, whereas a focus on constituents allowed the criteria to be unrestrained. Papadimitriou and Taylor presented contradictory evidence relating to the usefulness of the multiple constituency approach as a means of determining effectiveness in a sporting context and avoided continuance of the debate by deferring that consideration for further research.

Other scholars (Slack, 1997; Robbins, 1998) had analyzed Sport Organizations with a Strategic Constituencies Approach. Slack (1997) described a variation of the systems approach through identification of key internal processes underlying effectiveness: the human resource processes and the efficient use of economic resources. The human resource focus was on the quality of the human resource processes such as teaming, sharing information, reward and recognition policies, and staff development. There are two aspects to the economic efficiency approach. Firstly, it can represent financial health in terms of earnings and sales while also evaluating fiscal policies. The second aspect related to effectiveness based on ratios of inputs to outputs and throughputs.

A focus on internal process enabled comparisons of similar organizations which have different inputs or outputs, while also providing a focus on the important factor of human relations. However many of the measures would be difficult to operationalize. Robbins (1998) discussed two problems with the systems approach, firstly, the problem of measurement of the process and secondly, whether the processes (or means) really matters. In a sport context, a further complication was discussed by Slack (1997) who reiterated that it was too simplistic to concentrate only on inputs and that inputs in terms of gate receipts, sponsorship for example were often dependent upon outputs like team success.

Robbins (1998) suggested that as both the goal attainment approach (focus on ends) and the systems approach (focus on means) have goals, it was perhaps preferable to use a method where the goals are more meaningful, that is the goal attainment approach. Although the validity of the systems approach has been questioned, it has some resonance with governance in that, providing resources is an identified role of the board, particularly in the non-profit and sports context. It is

consistent with stewardship theory which focuses the role of the board on the provision of structures and processes (Davis et al., 1997).

Slack (1997) considers the strategic constituencies approach as more integrative because it considers the requirements of key stakeholders and evaluates performance against each of these stakeholders' criteria (Table1).

The extent to which the sport organization meets the specified criteria is the measure of effectiveness.

Table 1. Strategic Constituents Approach (*adapted from Slack, 1997*).

<i>Stakeholder</i>	Criteria
<i>Owners</i>	Profit, increased value of team
<i>Players</i>	Adequate salary, good working conditions
<i>Supporters</i>	Entertaining games, reasonable priced tickets, concessions
<i>Community</i>	Visibility through team activities, economic benefits for local businesses
<i>Media</i>	Newsworthy coaches and players
<i>National Association</i>	Compliance with rules, effort to promote a positive image of the game
<i>Sponsor</i>	Media exposure, high attendance

Slack indicated that the advantage of this approach is the recognition of the complexity of multiple dimensions of an organization. The problems associated with this approach include the difficulty of identifying the constituents; the difficulty of establishing their expectations; the importance of constituents changing over time; and the measurement of constituent criteria. He did suggest however, that this approach is becoming more popular and recommended it as a superior approach to determining organizational effectiveness.

Shilbury & Moore (2006) conducted an empirical study of the effectiveness of 28 Australian National Olympic Sporting Organisations using the competing values approach. They firstly noted the confusion over a definition of effectiveness but did little to clarify the issue. They also noted that the focus on effectiveness was largely driven by increased government funding and the implied requirement for accountability.

They discussed the inherent tensions within the competing values model and described these as:

« [...] *tensions between professional staff and volunteers, support for elite athletes versus promoting mass participatory programs, the need for both government support and private funding, and the contradictions between nonprofit and commercial cultures.*» (Shilbury, Moore, 2006: 16).

Their findings indicated that flexibility was important in the determination of effectiveness. The results also indicated the importance of organizational processes through the rational goal and open systems quadrants, with the factors contained in the rational goal quadrant the dominant factor for effectiveness.

The study operationalized the competing values model which was thought to be fraught with operational constraints (Papadimitriou, Taylor, 2000), however, the performance measures were again compromised through lack of objectively derived data.

### **3. THE FOOTBALL INDUSTRY: COMPETITIVE DYNAMICS AND FINANCIAL PERFORMANCE**

In the last decades, football has undergone significant changes that modified its structure and nature. Football teams became competitive businesses, football players became professional athletes and their costs and media attention grew substantially, increasingly impacting on the total revenues of football teams. More importantly, the ultimate element shaping football, the consumer-spectator-fan, has also gradually but significantly changed to fit the context of the times (Vrontis, Thrassou, 2007; Thrassou, Vrontis, 2009). Nowadays football is characterized by a huge turnover and, despite a period of economic downturn, revenues continue to rise – in 2010, total revenues for top-flight clubs increased a further 6.6% to reach a record €12.8bn (UEFA, 2013). However data show that production costs are higher than the total revenues. The statistics indicate that the most important teams, with rare exceptions, aren't yet able to implement an effective business model.

Economic and financial analyses of European football industry show a structural disequilibrium between costs and revenues. Although clubs are perceived like firms capable of generating increasing cash-flows and sustaining higher labour costs (especially athlete costs), net losses are recurrent in their income statements. Baroncelli et al. (2004) identify six typical costs: wages and salaries, intangible assets depreciation, financial costs, extraordinary expenses, other production costs, other depreciation. The largest cost relates to the salaries of football players, coaches, and coaching staff; these labour costs grew, in recent years, at a higher rate compared to revenues.

Revenues can be categorised as follows: tickets and ticket-season, stadium management, sponsorships, merchandising, broadcasting revenues, other revenues. In the past, box office and season tickets accounted for the largest share of clubs' inflows. These revenues were characterized by an inelastic demand that differentiated itself from corresponding consumer behaviours in other types of entertainment. This is largely linked to clubs' success in athletic terms (Baroncelli et al., 2004).

Stadium operation and management is potentially a significant revenue source (Kartakoullis et al., 2012b) but only a relative small number of teams own and operate a stadium. This occurs mostly in Great Britain, where stadium management represents a significant source of revenue for teams. In fact, the clubs can get economic benefits from these structures every day, and not only on matches days. Over ten years ago the Deloitte football money league (2001) identified the development of european football stadiums to be the first step in implementing an effective business model.

Sponsorship is another significant source of revenue for football clubs. Many companies wish to associate their brand names to a football team, to enhance their market communication and customer awareness.

Merchandising (shirts, scarves and many other products carrying the football team brand) also could represents a significant revenue source for teams, even if, due to management system peculiarities, merchandising revenues are still underdeveloped in some countries.

Broadcasting revenues on the other hand, are the most relevant source of revenue for clubs: the introduction of pay-TV and pay-per-view in the mid nineties, has increased this type of revenue. This innovation has reshaped the football model, creating a notable ‘genetic’ mutation: from sport to television show. A change that also indicates the potential of innovation (Bresciani et al., 2012; Rossi et al., 2012).

Annually the UEFA analyzes governance and financial development of European football, both at micro (individual clubs) and macro (federation) levels. Federations are divided in five clusters of turnover from Top to Micro (Figure 3):

*«This year, the financial analysis includes pan-European year-on-year and five-year trends (aggregate and by number of clubs), country by country data and a split of clubs within each country across a range of important financial measures.» (UEFA, 2013: 10).*

To validate a possible correlation between UEFA ranking and turnover is not easy, because clusters differ in ranges and numerosness. A strong correlation can be verified only for the top group: in fact the first important conclusion is that the top five federations in UEFA ranking occupy the same positions for total revenues. In this first cluster, three countries (Italy, Germany and Spain) are in the medium-high level (between 90 and 110 million euros), England is close to maximum (135 million euros) and France is near the low level of 50 million euros. Therefore, for the first five federations, sports performance is correlated with financial performance, so that the positions in terms of sports scores and in terms of turnover are essentially the same.

Additional conclusions may be drawn by correlating these results with operating results achieved by different federations. For the third consecutive year, England, Spain and Germany have made an aggregate operating profit (Figure 2). This result was achieved only by Belgium, among the other top twenty federations, while the other two federations included in the top 5 of the UEFA rankings (Italy and France) had aggregate net losses.

Federations performance analysis can be achieved also considering the number of clubs included in the categories of profit, balance or very low loss levels. English, Spanish and German federations perform significantly better compared to the other top 20 federations. Specifically, Germany appears as the virtuous federation, while Italy AS the unbalanced federation among the top 5 (Uefa, 2011: 76).

Another set of important data is the proliferation of associations that have a net loss: 2010 marked record low losses of 1.641 million (+36% compared to 2009 and +153% compared to 2008). Also, a micro analysis does not improve the situation: all major federations realize losses. The situation is somewhat better for Spain and Germany whose losses are below 10% of revenues. Interesting, at federation level, is also the analysis of total debt, measured as ratio between equity and total assets (Figure 3).

*Figure 1. UEFA peer group (UEFA, 2013).*



PEER GROUP		Peer Group Member – by national licensor									
TOP	€ 50 m	FRA ITA GER ESP ENG									
		€ 135 m									
LARGE	€ 5 m	POL SVE NOR GRE DEN AUT SUI BEL UKR POR SCO NED TUR RUS									
		€ 50 m									
MED	€ 1.25 m	BLR HUN CRO SVK SRB CYP CZE KAZ ROU ISR									
		€ 5 m									
SMALL	€ 350,000	GEO FRO MNE LUX BIH LIU LVA ISL NIR AZE MDA IRL LIE BIL FIN SVN									
		€ 1.25 m									
MICRO	€ 80,000	SMR ALB AND ARM MLT EST WAL MKD									
		€ 350,000									

Figure 2. Federations' profit and loss, 2011. (UEFA, 2013).

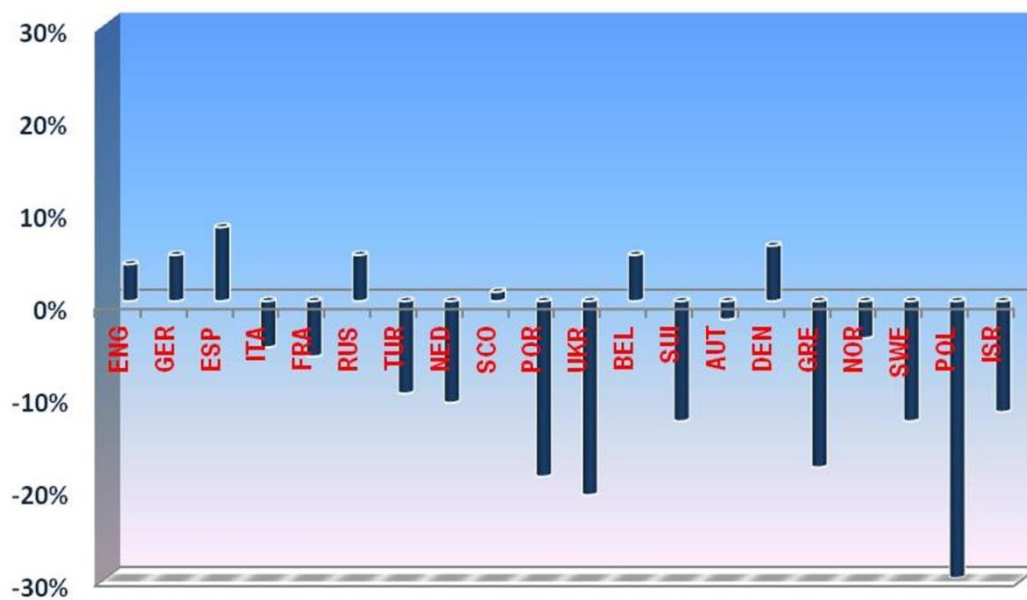
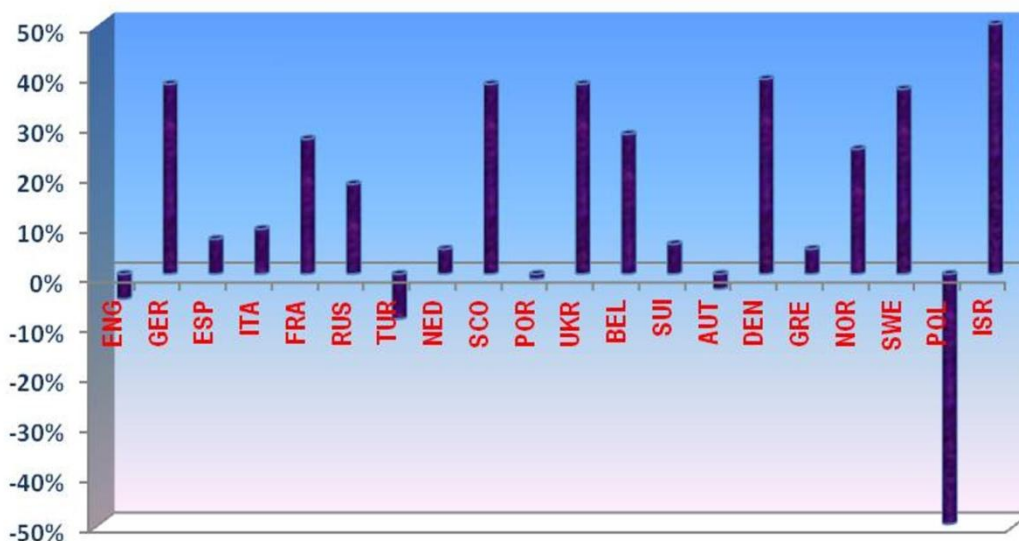


Figure 3. Federations' equity (in % of total assets) (UEFA, 2013).



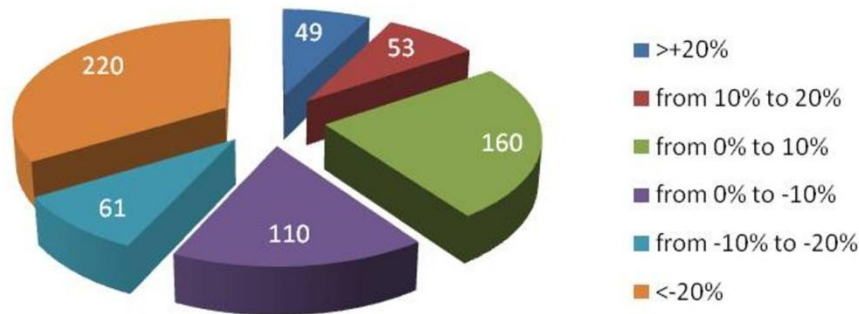
The general situation is almost disastrous. There are cases who are out of control (e.g. Poland), but half of the top 20 have a level of equity below the 20% of total assets. Among the top 5, only Germany and France have values greater than 25%, while England has a negative value of this index. This result is confirmed by the micro analysis: this is an index of high indebtedness of the main football teams in almost all federations.

This analysis can also be conducted at the individual football club level. First of all it's important to analyse sport performances (EuroTopFoot, 2012). The top twenty teams represent eight countries. Spain is the most represented federation (five teams) and Barcelona FC has confirmed its first place in this ranking, winning two of the last three Champions Leagues. Spain is followed by England, Italy (four teams each, but the English clubs are all in the top ten), and Portugal (two).

The top 20 are completed by Germany, France, Scotland and Russia, all represented by one team. Also at micro level, it is interesting to investigate if sport success is linked to good financial performance. The first figure to consider is total turnover, according to Deloitte Football Money League 2012 (EuroTopFoot, 2012). In this special ranking, the top 20 teams are again representing only five countries. In fact there are: six English, five Italian, four German, three Spanish and two French teams. This survey underlines the economic importance of football business and emphasizes the football teams' power, with a turnover of 4.4 billion euros (+3% over last year). The comparison between sport results and turnover shows some discrepancies, though.

First of all, not all top 20 teams, in terms of sport performance, are included in the top 20, in terms of turnover. Seven clubs of the turnover ranking are not present in the sports performance ranking. This indicates a negative correlation between sport performance and total turnover. Another important observation is made based on the operating results achieved by teams of different federations. In this case there are no disaggregated data<sup>iii</sup>, but it is possible to show that a large number of European clubs (over 33%) realized losses in excess of 20% of total revenues; and about 60% realized operating loss or balance (UEFA, 2013).

*Figure 4. Clubs' operating profit result as % revenue FY2010 (UEFA, 2013).*



Additional conclusions may be drawn from net income and indebtedness analysis. Out of the 665 teams, representing 53 European federations, nearly 56% have closed their accounts with a net loss and about 30% with a loss greater than 20% of revenues. Comparing the leagues, Spain has the highest number of teams (5) who have made a net profit, while England is the federation that has the largest number of teams (7) with the largest losses (UEFA, 2013).

Restricting the analysis to the eighty teams that participated in the final stages of the Champions and Europa Leagues, the results are even more disturbing: 65% have a net loss and 36% have losses above 20% of revenues. This data confirm a negative correlation between sport success and financial performance: to compete at the highest levels it is necessary to spend huge amounts of resources that often do not generate a positive income. These data also confirm the difficult economic situation that is influencing the major European clubs. The UEFA (2013) survey highlights the great difficulties of the major European clubs: the ten most indebted clubs had a deficit of 5 billion euros, with the findings highlighting some interesting trends):

1. the most indebted clubs are of three federations, Spain and England (4 each) and Italy (2),
2. the most of the deficits by these teams is caused by players' salaries (only for Arsenal FC – in 2008 – expenses were primarily for a new stadium).

Further considerations on the financial condition of European football teams arise from the analysis on debt: 36% of all teams of the 53 European federations present a dramatic financial situation (Rossi et al., 2013). The data highlights excessive debts for more than one third of the European football. For 23% of teams the value of this index is higher than -50%. It is finally important to understand how leading football firms finance their investments and how they invest their resources. Regarding the first point, data show that the major European teams participating in continental competitions are characterized by a clear preponderance of bank loans and capital injection by the owners, representing 45% of liabilities. Regarding investment, 25% are represented by players.

#### **4. OWNERSHIP AND ORGANIZATION OF THE EUROPEAN PROFESSIONAL TEAMS**

Several different actors are involved in the execution, regulation and management of football activities. The business indeed is regulated by a multi-level organization system. Like in most professional sports, football teams represent firms that operate in the industry, but they are subordinated to the associations of the teams, called Leagues. Each national League is responsible for championships' organization. Both football teams and Leagues are subject to the rules established by the national and international federations. The national leagues are part of a wider complex Federation. All the european national federations are associated to the Union European Football Association (UEFA). This is the administrative, organizational and controller organism of European football, in its turn one of six continental associations that adhere to the Fédération Internationale de Football Association (FIFA).

Each league is characterized by a specific organization and management model that is the result of historical, cultural and managerial attitudes of the professional teams. Italian football industry is influenced by the general governance model: the insider system (or network-oriented) and, more specifically, the Latin model. This governance model adopted from football teams whose main characteristic is having one or few shareholders and no link with other clubs of other sports. In terms of legal status, according to law 81/1981 (Table 2) Italian professional teams have to be incorporated limited liability companies (S.p.A. or S.r.l.).

*Table 2. Evolution of legal framework for Italian soccer teams. (data processed by Braghero et al, 1999).*

	<b>1960-1981</b>	<b>1981-1996</b>	<b>From 1996</b>
Law	Sports Federations Statute	Law n. 81/1981	Law 5867/1996
Club legal status	No Recognized Association	S.p.A. o S.r.l.	S.p.A. o S.r.l.
Aim	Sportive	No Profit	Profit
Team Orientation	Social Oriented	No Profit Oriented	Business Oriented
Organisational structure	Informal	Simple	Matrix

Italian teams are typically controlled by an entrepreneur (single or family) who is also the club chairman or has an indirect control over it (Rossi et al., 2013). In this context it is possible to identify at least three organizational-managerial models (Rossi et al., 2013). The first one, the osmotic model, is characterized by a strong link between the football club and its owner. Osmosis rests on the fact that entrepreneurial activities are by nature associated with football teams. From a managerial point of view, a club has a high marketing value through the increased and improved public exposure of the owner. The club thus becomes a vehicle for business and other objectives. For these reason, such owners finance football teams through and with large financial resources. Examples of the osmotic model are Juventus FC, AC Milan, ACF Fiorentina and SSC Napoli. The second model, that can be classified as dissociated, is characterized by a relation between a business group and the club, largely for tax consolidation. Compared to the previous model, in this case the identification between entrepreneur-president and team is weaker. Examples of the dissociated model are FC Internazionale Milano, SS Lazio, Genoa CFC and US Città di Palermo. The last model is the

residual-atypical model. It is labelled as atypical, exactly because there is no link between the football club and the controlling group, but it is also residual because this is a model adopted from football teams in the past, when teams did not have a business orientation. It is difficult to find football teams that compete at the highest levels adopting a similar model. It is an apparently anachronistic model since it bears few benefits.

The complexity of football firms research is largely related to particular parameters used for measuring the performance: not only financial performance, but also sport performance. Using simultaneously economic and sport performance makes it possible to define different behaviours that generate four groups of teams (Rossi et al., 2013):

- sports winners - performance losers, these are teams that have high national and international sportive results, even though these are incompatible with their economic-financial results. Operating balance is pursued, but it remains secondary to sport success and for this reason it is almost never achieved. The losses' compensation – sometimes significant – is guaranteed by the entrepreneurial group owner. Examples of this group are Juventus FC, AC Milan and FC Internazionale Milano.
- mixed sports - performance, includes those teams with moderate national and international sport success (Coppa Italia, UEFA Europe League) with a balance sheet in equilibrium. Examples of this model are AS Roma, SS Lazio, ACF Fiorentina and SSC Napoli.
- performance winners, these are teams that consider economic and financial equilibrium as their principal objective. Sport performances are instrumental to improving the nursery of young talented football players: these clubs sell their players, but they are always able to replace them. The championship results are necessary to valorise the football players and to realise significant gains. Examples of this system are Udinese Calcio, Atalanta Bergamasca Calcio and US Città di Palermo.
- survivors, this group includes all teams that care about their financial equilibrium and they have no relegation target (from Serie A). These clubs are more interested in their cost-benefit performance than in the football one; and desire to close their balance sheet with profit or a minimum loss. Examples of this group are AC Chievo Verona, AC Siena and Bologna FC.

The English Premier League is an international benchmark in terms of professional teams capability to achieve sport success in combination with excellent financial performance. In recent years however, other countries also present cases of a few clubs implementing innovative and successful business models.

Starting with the English model, it is characterized by a peculiar element: all the top teams own their stadium. The stadium itself is not simply a venue for football matches, but a social epicentre with museums, shops, pubs and restaurants. The English model is well represented by Manchester United FC., that, since 1991, is a listed company. The Manchester United team has been listed on the stock market with the free float reaching one billion pounds. In May 2005, Malcolm Glazer completed a hostile takeover and delisted the title from the London Stock Exchange. Manchester United represents the typical expression of the English model and it is the football team with the highest average attendance (67,000 spectators per match) and a stadium capacity utilization of 99.5%. This model allows the so-called 'Red Devils' to generate the financial resources necessary to continuously reinforce team. For many years in fact, it is a top

club on continental competition and it has had large success in both national and international competitions (Rossi et al. 2013).

Another good example of English club managerial model example is Arsenal FC. Two common characteristics among these two clubs are the presence of a coach-manager for over fifteen years and stadium ownership. Beyond these though, there are significant differences. Arsenal has never met the athletic achievements of Manchester United, and it has a different philosophy regarding the management of the team. The so-called ‘Gunners’ consider the nursery of young talented football players to be very important. These players are ‘grown’ and sold at high prices once they have established themselves at national and international level (e.g. Fabregas from Arsenal to Barcelona in the summer of 2011); thus securing substantial capital gains that allow solid business and athletic improvements.

A different model, but unquestionably a successful one, is FC Barcelona. The Catalan team is the most successful club in recent years. The governance model adopted is participatory (a special kind of co-operative), with the greatest possible participation by citizen-members. Management is functionally carried out by the top management, but each member may participate in important decisions<sup>iv</sup>. With this organization, Catalans have achieved sport success and a strong link with the (large) local community: the Catalan identity is an integral part of the club image and a key element in competitive strategies and marketing choices. Barcelona is a particular case in which relationships with the locality represent a resource and not a constraint. The participatory model adopted demonstrates how these factors can be used strategically to enter new markets, to create new business opportunities, to increase revenue sources, to create partnerships with firms of other sectors and other countries (Bof et al ., 2007).

Another particular Spanish model, but diachronically equally successful, is Real Madrid CF. This is a real sports group that includes a plurality of disciplines. In the past it has encompassed men's volleyball, handball, baseball, athletics, rugby, tennis, swimming, in addition to football and basketball. Real Madrid is the only professional sports club in the world that has established, in 2006, a post-graduate university school, which specializes in sports, sports management, communication and health, at the Universidad Europea de Madrid. Recognized by many as a successful model, the so-called ‘Blancos’ of Madrid resemble the big Italian clubs’ model, but with different financial results and a different costs-revenues structure. The financial resources invested by the club are not from the president’s personal wealth, but from operating revenues: income from broadcasting rights, merchandising and stadium-generated inflows.

Over the past few years, another football model has attracted the attention of sports management scholars: FC Bayern München AG. This is a German multisport club based in Munich, and FC Bayern shares are controlled by the sport association FC Bayern. It holds the absolute majority (as much as 80%) and a residual part (20%) is in the hands of two major sponsors: Adidas and Audi. Bayern has an excellent costs-revenues rapport and there is a perfect assets control. Governance responsible has imitated the classic English model and Bayern is the owner of stadium: the technologically advanced Allianz Arena stadium with 69,000 seats. Its total expense was 340 million euros in 2005, but after only five years the Bavarian club has already paid half of it. The critical factor for success is the ‘sold out’ in every match and the consequent guarantee of 60 million a year of match-days revenue. Merchandising is also very well developed and there are important sponsors’ contributions, with Audi and Adidas being also club shareholders. The sponsorship logic used is innovative, because it aims to create synergy between football team and sponsor: for example, HypoVereinsbank has provided its customers’ savings accounts, credit cards and checking accounts, signed by FC Bayern with attractive

interest rates that increase with each goal and cup win. 150 thousand booklets were issued, with an average of one thousand euro.

## **5. CONCLUSIONS**

Considering the above mentioned literature and the analyses carried out in the previous paragraphs, we can try to develop some logical considerations on the economic nature of professional football teams, generating some insights on the governance of this special kind of business. Firstly, it is quite evident that professional football team management requires a good sport performance to be sustained by a corresponding financial performance. It is not possible to assume shareholder value maximization as the ultimate goal of the firm. Indeed there are some crucial stakeholders who share with the firm essential resources that cannot be easily replicate. To a certain extent, these stakeholders can be considered as firm suppliers, because they have the benefit of a riskless income granted by contractual agreements with the firm, in exchange for their professional activities, but they are also residual claimants, since they might obtain considerable economic advantages from a successful season. This further aspect entitles some prominent stakeholders to have some informal influence on management decisions and sometimes in corporate governance too. Looking at the whole business system these stakeholders could be regarded as virtual shareholders (Capasso, 1996) and the ultimate goal becomes a negotiated system of objectives directed towards the value maximization of the business system as a whole subject to some specific constraints. Reasoning on the financial data, we observe how net losses are recurrent in the income statements of many teams, mainly due to the high costs of players and coaches. Also in this case, the systemic approach could help. If we consider the value added (gross operating margin plus labour costs), rather than net income, the analysis of the economic equilibrium of professional football team would lead to different conclusions. Under a systemic perspective, the football teams actually create economic value, the problem lies in the distribution of the value created between profit and wages, but moreover in the allocation of the risk among the multiple stakeholders. Some residual claimants (players and coaches) obtain considerable benefits from successful sporting performances but can also count on a significant floor to their economic returns in the adverse scenarios. In addition it is possible to consider that when a player performs particularly well, and many competing teams try to hire him, normally his agent manages to get relevant salary increases, notwithstanding the existing contract, but if a well paid player performs badly, the team's management cannot reduce his base salary. In this perspective risk allocation is definitely asymmetric.

To correct, at least in some measure, this situation a viable solution could be a stronger correlation between salary and performance, either individual or team performance. Not casually there is a general trend to introduce risk mitigating covenants in the contracts between teams and top players (or top-coaches) and also between teams when a player contract is transferred to another team (part of the payment can be indexed to future performances of the transferred player). The underlying rationale is to redefine the risk-reward profile of the main stakeholders in a way more suitable for their being residual claimants (i.e. paying a significant share of salaries in stock options).

A further consideration stems from the circumstance that teams endowed of their own stadium enjoy a more stable revenue stream and are, *ceteribus paribus*, in better financial conditions. In point of fact, the stadium management, where possible, plays an important function in mitigating



the problems raised by the role of critical stakeholder, since the stadium-generated revenues are related to a physical resource, wholly controlled by the firm, and their amount has limited relations with sporting performances.

Finally, also sponsors and supporters could be called to a more active involvement in the comprehensive business system. As seen in the previous survey, some successful case-histories (FC Bayern Muchen) show that the main sponsors can consolidate their position as significant shareholders of the team, transforming themselves from virtual to actual equity-holders. Supporters have several ways to strengthen their link with the beloved team. Especially in the English Premier League experience, we observed as several teams became listed companies, raising equity finance from their supporters thanks to the widespread practice of supporters trusts. These are vehicles for fans to influence the running of their team, fundraising to finance the acquisition of shares in the club. In many cases supporter trusts gain direct board representation<sup>v</sup>. In Spain, Barcelona and Real Madrid, even if with a different institutional and legal framework, experience a direct supporters' participation in the governance of the team. Supporters' commitment is granted not only through share ownership but also as a result of long term advance season ticket payments. This entitles the supporters to voting rights in general assembly and presidential elections.

This article has hopefully developed a new approach toward the economic analysis and the corporate governance of professional football teams. The discussion here could not be exhaustive. Hopefully, it will lead to further researching that area. The main reflection stemming from an analysis that is still in progress relates to the complexity of the relation between corporate governance and strategic management in professional football team<sup>vi</sup>. It is board responsibility to understand and balance the different stakeholder's claims on the firm, taking into account not only the current claims but also that the satisfaction of today's claims will affect the sustainability of the competitive advantage in the long run.

## REFERENCES

- Amis, J., Pant, N., Slack, T. (1997). Achieving a sustainable competitive advantage: A resource-based view of sport sponsorship. *Journal of Sport Management*, 11(1): 80-96.
- Amis, J., Slack, T., Hinings, C. R. (2004). Strategic Change and Role of Interests, Power, and Organisational Capacity. *Journal of Sport Management*, 18(3): 158-198.
- AREL (2012), *Report Calcio 2011*. Retrieved 12/12/2012 from: [http://www.figc.it/other/RC2012\\_Completo\\_LowRes.pdf](http://www.figc.it/other/RC2012_Completo_LowRes.pdf)
- Barney, J. B. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 7(1): 49-64.
- Barnhart, S., Rosenstein, S. (1998). Board Composition, managerial ownership and firm performance: An empirical analysis. *Financial Review*, 33(4): 1-17.
- Baroncelli, A., Lago, U., Szymanski, S. (2004). *Il business del calcio: successi sportivi e rovesci finanziari*. Milano: EGEA.
- Bof, F., Montanari, F., Baglioni, S. (2007). Il calcio tra contest locale ed opportunità globali. Il caso del Barcellona FC, més que un club. *Rivista di Diritto ed Economia dello Sport*, 3(2): 27-44.



- Braghero, M., Perfumo, S., Ravano, F. (1999). *Per sport e per business: è tutto parte del gioco*. Milano: Franco Angeli.
- Bresciani, S., Thrassou, A., Vrontis, D. (2012). Innovation in Italian Family Business. *World Review of Entrepreneurship, Management and Sustainable Development*, 9(1): 195-215.
- Brown, W. A. (2005). Exploring the Association between Board and Organisational Performance in Nonprofit Organisations. *Nonprofit Management & Leadership*, 15(3): 317-339.
- Capasso, A. (1996). Stakeholders or Virtual Shareholders? Exploring the Border between Business and Ethics. Retrieved 10/11/2012 from SSRN: <http://ssrn.com/abstract=11371>
- Capasso, A., Dagnino, G. B. (2012). Beyond the ‘Silo View’ of Corporate Governance and Strategic Management: Evidence from Fiat, Telecom Italia and Unicredit. *Journal of Management and Governance*, December, doi: 10.1007/s10997-012-9247-0.
- Coles, J., Hesterly, W. (2000). Independence of the Chairman and Board Composition: Firm choices and Shareholder Value. *Journal of Management*, 26(2): 195-215.
- Cousens, L. (1997). From Diamonds to Dollars: the Dynamics of Change in AAA Baseball Franchises. *Journal of Sport Management*, 11(3): 316-334.
- Davis, J. H., Schoorman, F. D., Donaldson, L. (1997). Toward a Stewardship Theory of Management. *The Academy of Management Review*, 22(1): 20-47.
- Deloitte (2012), *Football Money League*. Retrieved 05/01/2013 from Deloitte: [http://www.deloitte.com/view/en\\_GB/uk/industries/sportsbusinessgroup/sports/football/deloitte-football-money-league/9db981f2bd415310VgnVCM1000001a56f00aRCRD.htm](http://www.deloitte.com/view/en_GB/uk/industries/sportsbusinessgroup/sports/football/deloitte-football-money-league/9db981f2bd415310VgnVCM1000001a56f00aRCRD.htm)
- Forbes, D. P., Milliken, F. J. (1999). Cognition And Corporate Governance: Understanding Boards of Directors As Strategic Decision-Making Groups. *Academy of Management Review*, 24(3): 489-506.
- Friedman, A., Phillips, M. (2004). Balancing Strategy and Accountability: A Model for the Governance of Professional Associations. *Nonprofit Management & Leadership*, 15(2): 187-204.
- Gerrard, W. (2005). A Resource-Utilization Model of Organizational Efficiency in Professional Sports Teams. *Journal of Sport Management*, 19(2): 143-169.
- Haas, D. J. (2003). Productive Efficiency of English Football Teams-A Data Envelopment Analysis Approach. *Managerial and Decision Economics*, 24(4): 403-410.
- Kartakoullis, N. L., Thrassou, A., Vrontis, D., Kriemadis, T. (2012). Strategic resource planning for football clubs, *Journal for International Business and Entrepreneurship Development*. 7(1): 1-20.
- Miles, R. H. (1980). *Macro organizational behaviour*, Santa Monica, Goodyear.
- Nicholson, G. J., Kiel, G. C. (2004). A Framework for Diagnosing Board Effectiveness. *Corporate Governance*. 12(4): 442-460
- Noll, R. G. (1974). *Government and the Sports Business*, Brookings Institution. Washington DC: Brookings Institution.

- OECD (1999). *OECD Principles of Corporate Governance*. Retrieved 21/12/2012 from OECD: <http://www.oecd.org/corporate/oecdprinciplesofcorporategovernance.htm>
- Papadimitriou, D., Taylor, P. (2000). Organisational Effectiveness of Hellenic National Sports Organisations: A Multiple Constituency Approach. *Sport Management Review*, 2000, 1(1): 1-22.
- Psaros, J., Seamer, M. (2002). *Horwarth 2002 Corporate Governance Report*. Retrieved 30/11/2012 from: [www.ecgi.org/codes/documents/horwath\\_cg\\_02.pdf](http://www.ecgi.org/codes/documents/horwath_cg_02.pdf)
- Quinn, R. E., Rohrbaugh, J. (1983). A spatial model of effectiveness criteria: towards a competing values approach to organizational analysis. *Management Science*, 29(3): 363-377.
- Robbins, S. R. (1998). *Organization Theory: concepts and cases*. 3rd Edition, New York, Prentice Hall.
- Roberts, J. (2002). Building a Complementary Board: The Work of the Plc Chairman, *Longrange Planning Journal*, 35(5): 493-520.
- Rossi, M., Vrontis, D. And Thraossu, A. (2013) Football Performance and Strategic Choices in Italy and Beyond. *International Journal of Organizational Analysis* (forthcoming).
- Rossi, M., Vrontis, D., Thrassou, A. (2012). Wine Business in a Changing Competitive Environment - Strategic and Financial Choices of Campania Wine Firms. *International Journal of Business and Globalisation*, 8(1): 112-130.
- Shields, J., O'Donnell, M., O'Brien, J. (Eds.). *The Bucks Stop Here: Private Sector Executive Remuneration in Australia*. Retrieved 11/01/2013 from Labor Council of New South Wales: <http://trove.nla.gov.au/work/10687275?versionId=46687548>
- Shilbury, D., Moore, K. (2006). A Study of Organizational Effectiveness for National Olympic Sporting Organizations. *Nonprofit and Voluntary Sector Quarterly*, 35(1): 5-38.
- Skelcher, C., Mahtur, N., Smith M. (2004). *Effective Partnership and Good Governance: Lessons for Policy and Practice*. Retrieved 25/11/2012 from The School of Public Policy, The University of Birmingham: <http://www.esrc.ac.uk/my-esrc/grants/R000239610/read>
- Slack, T. (1997). *Understanding Sport Organisations: The application of organisation theory*. Champaign: Human Kinetics.
- Sloane, P. J. (1971). The Economics of Professional Football: the Football Club as a Utility Maximiser. *Scottish Journal of Political Economy*, 18(2): 121-146.
- Smallman, C. (2004). Exploring Theoretical Paradigms in Corporate Governance. *International Journal Of Business Governance and Ethics*, 1(1): 78-94.
- Smart, D. L., Wolfe, R. A. (2000). Examining Sustainable Competitive Advantage in Intercollegiate Athletics: A Resource-Based View. *Journal of Sport Management*, 14(2): 133-155.
- Sonnenfeld, J. A. (2002). What Makes Great Boards Great. *Harvard Business Review*, 8(9): 106-113.
- Stewart, J. (2004). Evaluating Governance. Paper presented to the Public Policy Network Conference, Queensland University of Technology, January.

- Thrassou, A. Vrontis, D. (2009). A New Consumer Relationship Model: The Marketing Communications Application. *Journal of Promotion Management*, 15(4): 499-521.
- UEFA (2013). *The European Club Footballing Landscape. Club Licensing Benchmarking Report Financial Year 2010*. Retrieved 15/01/2013 from UEFA: [http://www.uefa.com/MultimediaFiles/Download/Tech/uefaorg/General/01/74/41/25/1744125\\_DOWNLOAD.pdf](http://www.uefa.com/MultimediaFiles/Download/Tech/uefaorg/General/01/74/41/25/1744125_DOWNLOAD.pdf)
- Uhrig, J. (2003). *Review of the Corporate Governance Arrangements of Statutory Authorities and Office Holders*. Retrieved 10/12/2012 from Commonwealth of Australia: <http://www.finance.gov.au/financial-framework/governance/docs/Uhrig-Report.pdf>
- United Nations (1997). *Reconceptualising Governance*. Retrieved 11/11/2012 from UNDP: <http://mirror.undp.org/magnet/Docs/!UN98-21.PDF/!RECONCE.PTU/!front.pdf>
- Van den Berghe, L. A. A., Levrau, A. (2003). Measuring the Quality of Corporate Governance: In Search of a Tailormade Approach?. *Journal Of General Management*, 28(3): 71-86.
- Vrontis D., Thrassou A. (2007). A new conceptual framework for business-consumer relation. *Marketing Intelligence & Planning*, 25(7): 789-806.
- Westphal, J. D. (2002). Second Thoughts on Board Independence: Why do so many demand Board Independence when it does so little Good?. *The Corporate Board*, 23(136): 6-10.

---

## Endnotes

<sup>i</sup> Several studies examined links between the boards of directors for profit businesses and company performance, focusing on board composition and specifically, the separation of Chairman and Chief Executive (Coles and Hesterly, 2000; Barnhart and Rosenstein, 1998). Using well established financial measures as the measure of company performance, there was no conclusive evidence that linked a specific board structure to improved organization performance. Several of the governance models (Forbes and Milliken, 1999; Friedman and Phillips, 2004; Nicholson and Kiel, 2004; Brown, 2005) linked governance to an organization's performance, but without any consideration of how that performance was determined.

<sup>ii</sup> Smart and Wolfe (2000) quote several leading scholars on RBV (Barney, 1991; Grant, 1991) and RBV within a sports context (Amis, Pant, and Slack, 1997). Essentially, RBV focuses on internal tangible and intangible resources, as a source of competitive advantage. in order for a resource to provide competitive advantage, it must possess the following attributes: i) it must be valuable, ii) it must be rare among current and potential competitors; iii) it must be imperfectly imitable.

<sup>iii</sup> The European Club Footballing Landscape – an UEFA survey – has considerate 653 teams of 52 European Federations.

<sup>iv</sup> Barcelona FC shareholders have several important rights: (i) active and passive voting; (ii) attendance at general shareholders' meetings; (iii) expression of their opinions.

<sup>v</sup> In British sports, a supporters' trust is a formal, democratic and not-for-profit organisation of fans who attempt to strengthen the influence of supporters over the running of the club they support. With government and with cross-party support, Supporters Direct was established to encourage the formation of supporters' trusts to promote democratic supporter ownership. Supporters Direct encourages these bodies to be formed as Industrial and Provident Societies (IPSSs) and assists with their formation, legal and start-up costs. Supporters' trusts are The first trust established was at Northampton Town in January 1992. The largest is the Manchester United Supporters Trust, which used to be known as Shareholders United and currently has over 163,000 members. More than 110 supporters' trusts currently hold equity within their football clubs while supporters' trusts have outright or majority

ownership or control at two Football League and others. About 100 football trusts currently have shares in their clubs. Over 40 football clubs currently have supporter representation within the boards of their football clubs (source: Wikipedia).

<sup>vi</sup> On the relation between corporate governance and strategic management see also Capasso, Dagnino (2012).



# New Challenges Beyond Private Investment and Risk Evaluation

Petr Pavlík

University of Economics, Prague, Czech Republic. e-mail: xpavp14@vse.cz

Published online on April 1, 2013

DOI: 10.7350/BSR.V12.2013 – URL: <http://dx.medra.org/10.7350/BSR.V12.2013>

## ABSTRACT

*A study of the causes of the 2007-2012 global economic crisis deals with monetary phenomena putting special emphasis on the supply side. A multiple focused approach is intended to address recent changes associated with corporate culture, business strategy and risk appetite and estimate their impacts on the company growth path. In particular, the aim of the study is to suggest possible consequences of the new risk management rules as for the industrial growth. The author points out that the relevance of the industrial life cycle within the supply side is obvious and describes recent economic crisis as a discrepancy between increasingly risk-sensitive supply side and less transparent preferences changes on the demand side. He argues that such a significant changes in consumer preferences call for innovation-driven response that needs much higher corporate structure flexibility. As a growing market regularization contributes to a more rigid company structure the author argues that „de-socialization“ of labor market is important part of the innovation support policy. Without any significant market barriers, as the evolutionary economics postulates, the unsuccessful routines within the companies are being abandoned meanwhile the successful ones are being replicated. Talking about adverse financing conditions, the author states that across nearly all industrial sectors net profit margin has been reduced significantly while gross margins maintain high usually only in segments with heavy investments. Thus there seems to be a fundamental challenge of decreasing return on capital throughout the EU economy. The author builds on the Harberger model and points out that tax burden shifts from capital to labor implies widespread changes in the tertiary sector. Thus the labor intensive sectors are no longer able to absorb excess of labor force that is being gradually pushed out from the industrial sectors. Competition within the market driven service sector has been growing as technology removes barriers and intermediation while increases transparency and benefits agility. As a consequence of the market concentration in B2B as well as B2C segments, the businesses are now more obsessed with the external growth, seeking to increase the market share not necessarily achieving synergistic gains. The internal qualitative development is at the bottom of the list of the company development strategies as it is more risky and time consuming alternative.*

*The author reveals these new tendencies throughout investigation of such financial phenomenon as evaluation of investment efficiency and banking risk management. In the light of the economic crisis 2007-2012 the author questions the incoming banking regulation based on Basel III. He points out that the regulatory requirements are driving fundamental changes to the business as more stringent liquidity and capital requirements will have a significant impact on the firms’*

*financing costs. New rules are placing enormous pressure on the industry, especially on the innovation-sensitive branches. Decreasing returns on equity and deleveraging suppose important investment in people, technology and adjustment of processes throughout banking industry.*

*This study suggests that there will be an important impact of short-term and mid-term loan financing as banks will progressively search to encourage longer-term funding. These changes in business model, funding and capital will have a procyclical rather than countercyclical effect exiting certain businesses and countries based upon local regulations to avoid trapped liquidity and focusing more strictly on risk-return basis profit of the business to cover higher capital cost. Instead of additional capital and liquidity cushion, this study suggests a better alignment of performance metrics with business strategy and compensation, more transparent liquidity management and a better warning lights approach in credit risk policy. The author states that a more stable financial system can be reached through better stress testing as new a strategic management tool even without such a significant raise in the price of capital.*

**Keywords:** Financial market, Private investment, Public debt, Corporate culture, Risk management, Liquidity rules, Basel III.

## 1. INTRODUCTION

In spite of a general consensus about main characteristics of economic crisis it becomes quite hard task to determine its causes. It is partly owed to the complex and interlinked nature of the world economy. There is a wide debate about origins of economic slowdown, spill-offs and contagion effects all over the scientific community. A stochastic nature of economic phenomena results in different impact of marginal effects of some parameters on the other ones depending on broader context of the economic situation. In this paper we advocate for recent economic crisis are caused by shocks on the financial markets. This implies a need of prudent monetary and public debt policy. We consider macroeconomic policy as predominantly accommodative and show how different factors like enhanced bank regulation, public debt or sound entrepreneurship ecosystem matter.

## 2. GENERAL ECONOMIC BACKGROUND OF THE CRISIS

Whenever we want to properly analyze the economic crisis background we should adopt a multi-focus approach as there is huge number of natural, technological and social economics factors that interfere in an economy. We advocate for predominant role of financial economics we pay special attention to the financial sector evolution before and during the world economy slowdown in 2007. We suggest that there are evident discrepancies between still more risk sensitive supply side and still worse predictable demand caused basically by faster information flows. We also consider corporate culture changes as consumer preferences shifts are subject of a great number of actual studies.

Whilst the society is in constant evolution there is no permanent solution to the crisis. Meanwhile we have to use each lesson learned in order to make smoother the forthcoming recession within the economic cycle. Talking about economic crisis of the past century we can observe the importance of the supply side factors. When comparing evolution of economic crisis of the 20th

century it becomes evident that almost in each case the sharp economic slowdown was preceded by troubles on the financial markets. Such was the case of Great Depression of 30', Latin America debt crisis in the 80', South Asia crisis in 90' as well as the 2007-2012 crisis (Krugman, 2000). Even though there can be other causes of economic crisis, like geopolitical tensions provoking world oil crisis during the 70', financial instability seems to be the most frequent detonator of recent economic difficulties in the developed countries. *We suggest that in particular loose monetary conditions, overheating the economy and facilitating assets price bubbles, are of key importance within the mix of the causes of economic crisis.* Thus we focus on the most common early signals, original shocks and contagion channels of a financial crisis that are revealed on figure 1.

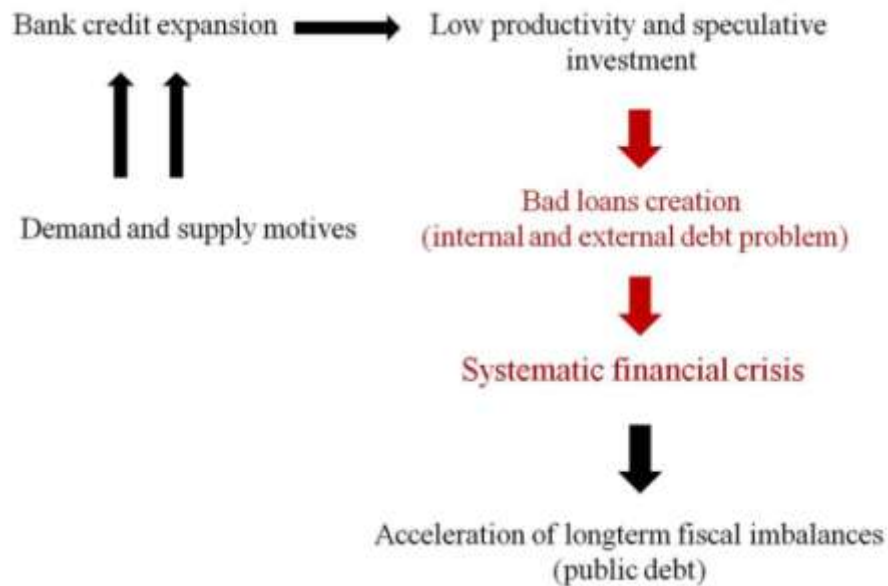
Figure 1. Causes of financial crisis

Signals	Shocks	Direct consequences
▪ New financial instruments based on increasing information asymmetry	❖ Derivatives market crash	➤ Growing uncertainty and risk precaution on the wholesale financial market ➤ Liquidity strains ➤ Across the board decline of prices in stock market ➤ Global credit restrictions
▪ Long period of decreasing interest rates and a limited or no increase of risk premium on lending	❖ Credit and mortgage market failure	
▪ Price bubbles on the stock market	❖ Stock exchange collapse	
▪ Huge capital inflows in search of low labour costs	❖ Currency breakdown	
▪ Expanding public debt	❖ Government default	

We are aware that economic consequences of financial shocks can have a different form, albeit liquidity strains, credit restrictions, equity market decline are almost always present. Financial tensions normally hit first real estate and construction companies as difficult access to credits have direct impact on the housing market and companies' long-term investment. Subsequently manufacturing industry, retail trade and the whole tertiary sector face a huge demand slump generating a negative spiral effect. This imposes more difficulties on financial markets and the systematic financial arise, as shown in figure 2.

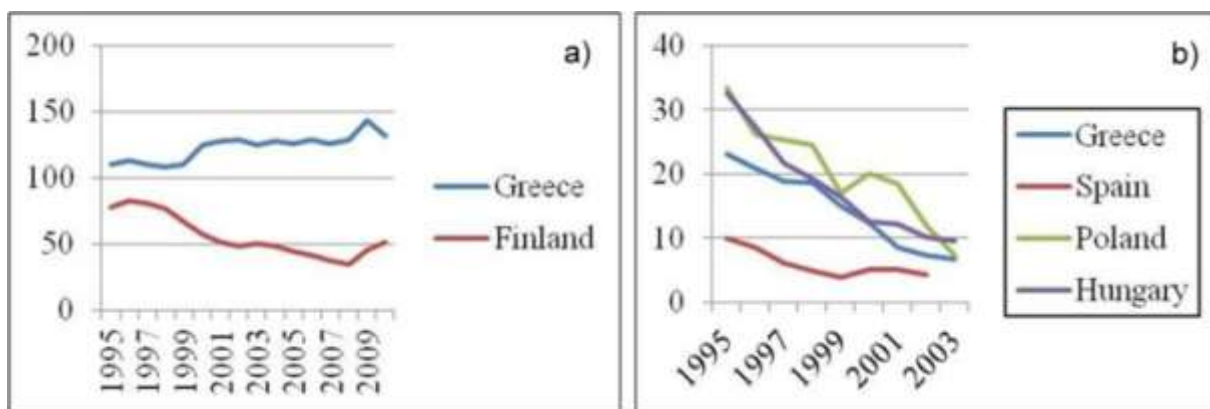
This paper adverts that loose monetary policy can be the starting point of mortgage market failure. Accommodative monetary policy postulated by Post-keynesian economists is based on theorem of money creation through banks' credit expansion. In times of low interest rates this market-driven demand leads to real estate boom and growing governments (as a consequence of progressive taxation). Prior to the current economic crisis a majority of hardly affected EU countries had passed through a long period of lending interest rate decline.

Figure 2. Development of systematic financial crisis



As shown on the diagrams in Figure 3, surprisingly, countries that did not experience long period of low interest rates, like Finland or Czech Republic, faced lower financial pressure during the economic recession. The paper advocates for the importance of interest rates as for the private investment and industrial cycle. A low lending interest rate during the periods of bonanza has a strong influence over the market confidence and business and households investment planning. *More risky projects are likely to be undertaken during the times of loose monetary policy with long periods of reduced interest rates.*

Figure 3. a) Central government debt, total (% of GDP). and b) Lending interest rate charged by banks on loans to prime customers (%). (Data source: WB, data.worldbank.org).



In heavily hit countries, like Hungary, Poland or Greece, not only the lending interest rates but also a risk premium on lending<sup>1</sup> were going downwards prior to crisis. Whereas in other

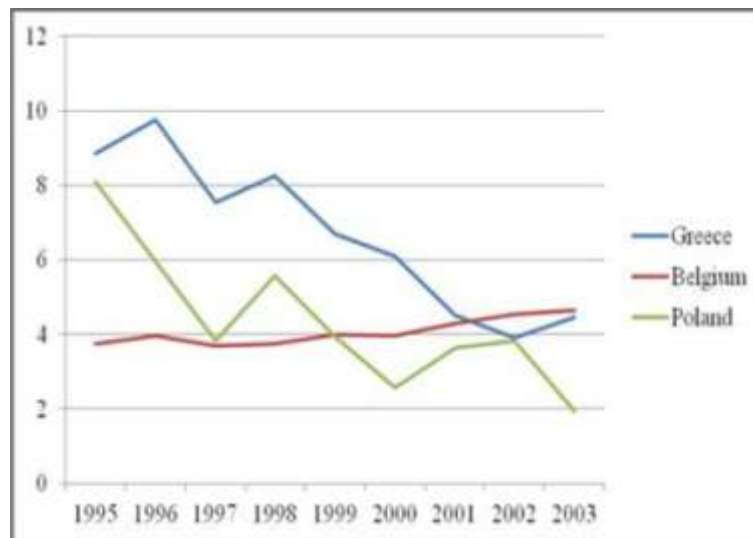
<sup>1</sup> Prime rate minus treasury bill rate.



countries, like Belgium or Czech Republic, risk premium on lending was higher as banks were taking more precautions in terms of credit risk management. Low lending interest rate in the countries that subsequently faced troubles of extreme credit restriction can be consequence of both loose monetary policy and higher risk appetite of banks' strategic management.

As regards the relationship between interest rates and output, there are several empirical studies that confirm this basic evidence. Using vector auto-regressions in order to uncover the impact of monetary phenomena on the real economy the study of Tomšík examines the Granger causality between the real money supply and the real output in the Czech Republic between 1996 and 2004. It finds out evidence that the real output has a significant influence on the real money supply. This implies an accommodative monetary policy. As for different real monetary shock (money supply, interest rate, depreciation shocks) by means of VAR analysis the authors find out most significant and long-standing response of the real output to the real interest rate shock. The study reveals that the real interest rate rather than real money supply is a leading power behind the real GDP growth (Tomšík et al., 2005).

Figure 4. Risk premium on lending (%).(Data source: WB, data.worldbank.org).



Contagion effects of financial crisis increase as markets are now working in much closer interaction than ever before. Some economists argue that globalization is the principle cause of growing instability all over the world economy because of risk contagion and information asymmetry. Globalization may induce import of vulnerabilities that creates unsustainable imbalances (Donath, Cismas, 2009). In contrast to that, we argue that globalization can produce these damaging effects only if the country in question suffers from internal imbalances. *A sharp stock price growth or interest rates drop can be interpreted as a warning signal however the roots of any financial crisis can be better explained by the microeconomic approach.* Aggressive pricing and market share strategies as well as a frivolous behavior of managers can make banks and businesses underestimate market risks. Such managing practice, induced by a long period of cheap money and easy credit access, derives from corporate culture and entrepreneurship ecosystem based on external growth orientation and rigid organizational structure. There are obvious differences in risk appetite intensity among different businesses, regions or countries. As

a capital inflows and outflows among the developed countries face no barriers, in order to avoid market risk spillover, there is a need for increased market disclosure and more robust internal risk management within the financial sector.

### 3. THE ROLE OF PRIVATE INVESTMENT

Private investment determines country's productive capacity as well as its future levels of consumption. In difference to bureaucratically-driven public investment, private investment is more sensitive to the actual lending market conditions. *The volume of private investment is likely to be closely related to the lending interest rate when the economy is on a positive economic trajectory, yet during the times of economic recessions investment depends more on other factors than interest rates.* Uncertainty has a damaging effect on the markets as it destroys the relationship between investment and interest rates. As we show further, under these circumstances the inverse relationship postulated by the neoclassical investment function can shift to the positive one. A current mainstream of economic theory based on the Keynesian and the Neoclassical synthesis suggests that in the long-term period market tends to Pareto-optimal allocation. There is a consensus about the neutrality of money in the long-term period all across the modern economic theory but on the contrary a short-term fluctuation of the real output are rather polemic. Especially as regards real aggregate supply and demand side shocks. Main theoretical differences as for monetary policy concern stability of the demand for money and its sensitivity on the real interest rate. This fact induces the combined approach based on the aggregate supply effects (capacity of application of accessible technology, corporate structure evolution, real depreciation shocks, etc.) prevalence in the long-term period whilst paying more attention to the demand side drivers of the real output (lack of private investment, shifts in consumer preferences and aggregate demand structure, etc.) in the short-term perspective.

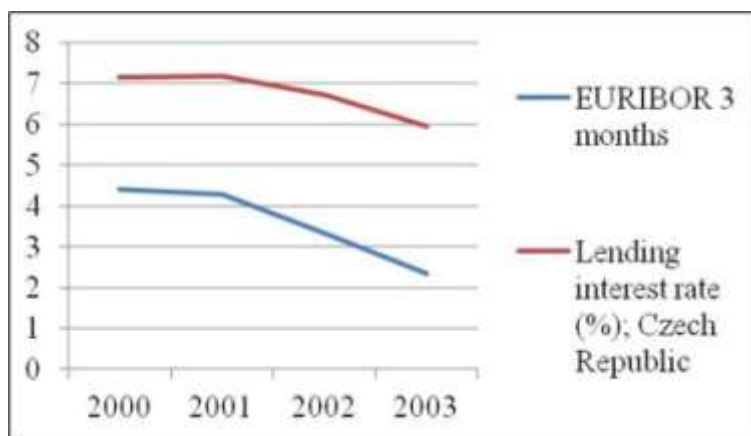
Although it is possible to find numerous causes of the market failure, in case of financial markets within short-term period the asymmetrical information (herd behavior) and imperfect competition are usually considered as principal. A typical oligopoly structure of the banking sector with presence of inherent moral hazard and adverse selection are likely to introduce the money illusion phenomenon. As a consequence, interest rate cannot produce efficient market-clearing. Instead the Nash equilibrium with a deadweight lost appears. Further on we address the private investment and related issues like access to credit and capitals inflows and outflows.

As for the private investments and lending interest rate relation we assume that low interest rates make viable even the above-average risk investment. Some investment cannot be performed in times of high interest rates. When high market risk is incorporated into bank's credit risk banks increase its risk premium and interest rates spread. Under the condition that the credit risk is subject to particular evaluation for each and every project, the level of prime lending rate (based mainly on systematic risk) determines the limits of cost of financing and thus the profitability of a project. We assume that in times of economic prosperity the elasticity of above-average risky investment in respect to the interest rate is less than  $-1$ . *Thus a decrease in prime interest rate generates more than proportional rise of new above-average risky loans that enter the banks' portfolio.* Therefore in times of low interest rates banks tend to accumulate larger number of bad loans.

During the last decade there was an important disproportion between the interbank interest rates and banks lending interest rates. However, in short periods of tensions these two rates seemed to

be quite linked. This is the case of 2000-2003 period during which the EURIBOR (3 months) and the lending interest rate in the Czech Republic were strongly connected (with correlation coefficient value of 0,986). In the following years the lending interest rate oscillated significantly less than the rate of wholesale market. Whilst interbank interest rate reflects predominantly systematic risk, lending interest rate is driven mostly by specific credit risks. *In periods of low interbank interest rates the banks pursuing market share objectives resort to aggressive pricing, thus a specific credit risk corresponding to the new banking loans tends to increase. However, this is not always reflected within the banks risk management.*

Figure 5. Czech Republic: EURIBOR and lending interest rate (%). (Data source: WB, data.worldbank.org).



The relationship between lending interest rate and volume of new banking loans is not very tight as interest rates use to oscillate quite high and the investment decisions have certain inertia because of time-consuming investment planning. Therefore from the long-term point of view the evolution compatible with the neoclassical microeconomics can be observed. Nevertheless, in short-term it is possible to find quite opposite tendency. For example, between 2005 and 2008 both interest rates and investment volume in most European countries grew. In the years prior to the crisis the increments of interest rate had none or only limited effect upon the growing volume of bank loans in Euro Area. During the periods of low systematic risk the banks' balances are naturally more vulnerable to credit risks. Paradoxically, in periods of economic stability banks are less risk sensitive as a consequence of higher risk appetite throughout the economy.

The concept of demand-driven credit expansion is based on the Post-Keynesian theorem of accommodative monetary policy. As commercial banks concede new loans in function of the credit demand, central banks cannot affect direct control of the monetary base. *Therefore the minimum capital requirements are nowadays perceived as a risk management instrument rather than a monetary base control instrument.* Low risk premium on lending permit to obtain relatively high risk-adjusted benefits even in case of risky projects. Because of a strong inertia on the bank loans market the equilibrium is likely to be reached in a broader time span. Severe ups and downs of interest rates are probable to occur before the correct level of systematic risk is incorporated.

The current economic crisis has severely affected some of the Central and Eastern European countries. Financial strain handicapped investment and consumption especially in the countries with less equilibrated financial systems in terms of large capital inflows prior to the crisis.

Hungary and Poland suffered from extremely high bond spreads and currency depreciation whilst other countries in the region were not hit as hard. Observing the relationship between gross capital formation and domestic savings (both relative to GDP) across the EU countries we discovered a tendency of intensification after the 2007. This reflects in particular a speculative capital outflows. Private investment nowadays depends much more on the level of domestic savings than before 2007. *The capital outflows shocks hit EU countries with different intensity, shifting the EU average correlation between domestic savings and gross capital formation rate from 0,64 to 0,98 between 2007 and 2011. A lower correlation along with a relative stability of relationship between domestic savings and gross capital formation can indicate higher competitiveness level of the country.* In this context, there are several lessons to learn. Opening capital accounts makes country more vulnerable to external shocks thus common capital market should be preceded by long term current account equilibrium. Prudential banking regulation is a global concern (Shimelse et al., 2009).

For many years economists have been convinced that comparative advantage stands behind the invisible hand of international trade. At the time of origins of the mercantilist theory, technology was possession of a few and production limits were mostly given by the climate and natural conditions. Thus the comparative advantages among regions and countries were relatively stable and could be interpreted as a leading force behind the international exchange. In 21st century this argument apparently lost its weight as there is a world-wide access to the technology and its operation costs are nearly the same, independently of natural conditions in which it is used. *What matters more than ever is the knowledge in terms of capacity to employ the existing technology to the benefit of more efficient production and higher living standard. This is the key to the country's sustainable competitiveness that can be no more defended simply by a relatively low wage.* The current economic crisis shows that low-cost countries suffer from abnormal volatility of economic output as capital inflows prior to crisis were motivated mainly by the low-cost labor. In contrast, stable long-term capital inflows or outflows usually confirm country's overall production competitiveness. During the periods of financial stress capital flows are driven mainly by the low risk appetite and thus search for minimizing the level of uncertainty. Thus elevated capital outflows usually take place in countries with a short-term labor cost advantage. On the contrary, large-scale capital inflows in periods of bonanza throw doubts on country's real competitiveness. The central issue thus should be the country's multi-factor productivity as a gradual and sustainable growth is achievable by means of technological knowledge supported by the applied research.

#### **4. CHALLENGES BEYOND THE ACTUAL ECONOMIC CRISIS**

In this study we have analyzed shocks on the financial market and its impacts on the present economic crisis. Neoclassical economic theory cannot explain the slow and gradual accommodation on the investment market. Instead there are several market inefficiencies that explain why the interest rate fails to clear the markets in the short period. Some of them may arise from the fact that a rapid shifts on demand side are hard to predict. Too rigid and out-of-date corporate structure also plays an important role. Further on we analyze these obstacles on the microeconomic level and propose some ways to make companies more resistant to the market risk. These conclusions are intended mainly for the banks and financial institutions although most of them are valid also for other kind of businesses. Consequently, we point out

some proposals as for a relation between economic growth, equilibrated public finance and prudential financial risks management.

#### **4.1 Sound entrepreneurship ecosystem**

There is no doubt about a large proportion of SMEs in the world economy (see figures 1a, 2a, 3c in the appendix). However, it is not clear whether these companies are prone to seek new market equilibrium more efficiently than bigger ones, nor whether the company's size and hierarchy can influence its innovation capacity.

We try to address these questions to unclear some important microeconomic aspects of the actual economic recession. We mainly consider decision making, allocation of resources and the attitude towards risks. Internal management procedures and strict social hierarchy of large companies makes a decision process quite longer and complex with less predictable results. This can have fatal consequences in times of rapid change on the demand side. Any costs linked to the changes are prone to be much higher in a big company as there is less cost transparency and managers tends to be relatively free spenders. SMEs are more like to accept risks as a basic market rule whilst large corporations show resistance to any potentially risky alternative. In this paper we argue that SMEs has higher innovation capacity in terms of internal growth meanwhile big companies tends to innovate through fusions or divestment. In the increasingly globalized world economy big companies usually seek for horizontal or vertical expansion which is expected to expand market share, cut down costs of production or boost margins through returns to scale. SMEs are more flexible in terms of employment regulation thus they are expected to transmit a more quickly and precisely signals from the goods market to the labor market. Because of relatively straight company hierarchy they are also expected to adapt more rapidly to the new demand. This may be especially important in times of economic crisis as long-term economic progress is driven by those entrepreneurs that are able of creative destruction (Schumpeter, 1942). Some EU countries consider SMEs as pioneers in creating the environment that facilitates the productivity growth (Ecorys, 2012). This consideration usually is based on the fact that small firms have introduced more innovations per thousand employees than the larger companies. However, there are also other studies that throw into doubt the presumption of more efficient innovators capacity of SMEs showing that the value of innovations introduced is probable to increase systematically with the size of the innovating firms (Tether, 1998). We advocate for that SMEs can lead sectors focused on human capital innovations thanks to their flexible hierarchy, whereas their larger counterparts achieve higher industrial innovation value because of higher level of capitalization. SMEs more oriented on the internal growth. On the contrary, large companies opt for vertical fusions searching stable access to raw materials or new markets. Recently, SMEs proved to be able to enter a number of high-tech sectors. In 2009-2011 nine EU countries had relatively high proportion of SME employment in high-tech manufacturing. The majority of these countries experienced in 2011 growth in both SME real value added and employment. Germany, Sweden and Netherlands were European leaders in terms of SMEs real productivity in the last year (Ecorys, 2012).

Economic literature often addresses the role of company culture and hierarchy in the context of management of change. The combination of corporative culture of discipline with entrepreneurial ethics creates good climate for growth. As persons become key value of a company, the most successful firms rely on rather flexible hierarchy based on open-minded culture and low human resources fluctuation. Within strongly result-oriented companies

organizational life ceaseless activity automatically adapts to the market changes. Surprisingly, these firms are found to be usually managed by experienced leaders who proceeding from within the company (Collins, 2000). Open-minded and flexible company structure make innovation easier as it contributes to better risk identification and management (Borge, 2001; Martínez García, 2011). Flatter organization structure also benefits internal growth and company's stability as it helps reconcile the interests and benefits of its employees (Sigismund Huff, Oran Huff, 2002).

Many economists point out the effect of corporate fusions on the business growth. It is possible to observe a concentration of mergers during certain periods starting by the beginning of 20th century. However there is no empirical evidence of the relations between fusions and economic cycle nor the GDP evolution. On the other hand, there can be relation between loose monetary policy and the overall volume of company fusions. We can identify coincidence in the peak period of 1999, 2007 and 2010 as for the extremely low interest rates and extremely high volume of company mergers. Some economists adverts that the lower net risk-adjusted value of such fusion projects permitted to go on with investment hardly feasible in times of „normal“ interest rates levels. Surprisingly, almost two-thirds of acquisitions realized during the recent years faced economic breakdown (Plíva, 2011). Some economic research concludes that during the last decades almost in 75 percent of company takeovers were driven by the need to conquer new markets. Only one percent of mergers were motivated principally by restructuring and only four percent by creating industrial synergies (García Estévez, 2006). A high concentration of mergers can be thus seen as a sign of frustration caused by lower than expected profits and sales volumes. This may be the reason why in periods of low interest rates managers frequently opt for company expansion by means of takeover and why a vast majority of mergers never achieve planned costs synergy. In this context and with the aim of fostering local management, many large companies independently of their scope of activity tend to pass more competences on the operative management level and legally separate various operative units. This enables to reduce market risks and enhance cost-benefit management. Better results can be also expected in terms of clients satisfaction and innovation-friendly environment. This trend also confirms the defects of rigid organization structure and presumption of unlimited economy of scale. In this context some authors claim that the probability of company fusion failure depends mainly on the compatibility between the management and employees expectations (Kermally, 2000). *Internal company growth seems to be more sustainable alternative than external growth because of higher human resources implication and commitment.*

The company growth potential seems to be more than before determined by its portfolio of clients and its know-how that cannot be considered a property of any country. In contrast to the traditional comparative advantage the competitive advantage is nowadays considered as a principal drive of international exchange. This does not mean a simple change of the rules of the game. Many economists consider actual international trade as a zero-sum game because there is no more market share defined by the comparative advantage. Instead, market power based on competitive advantages is achievable to all companies on the globalized market (Kermally, 2000; Havlicek, 2012). In this context, innovation oriented corporate hierarchy seem to be key issues as for the company's competitiveness abilities. There is a need for staff with multiple expertise and capacity to deliver solution of diverse nature in a short time rather than highly segmented rigid company hierarchy based on narrow specialization. Whilst costs and technologies changes increase the competitive pressure, firms face the need to adapt their business practices. This change can be sourced to either from collective behavior in a market or from the creative

qualities of firm's workforce. External competitive pressures are caused by the growing number of rival firms and substitute products. Exogenous changes, as lower costs of transportation or falling aggregate profits, alter the barriers between markets and permits the entry of new competitors. In contrast, internal drive reflects personal qualities and is usually nourished by the cultural environment. Motivation of personal is usually promoted by the cultural forces within a company. These forces permit to perceive new opportunities and to recombine knowledge of individuals in order to gain synergy. Whilst firms are forced to modify their current competitive behavior the risk of bankruptcy increases. Behind these circumstances owners prefer to finance new investment with a debt rather than equity in order to maintain control over the firm paying, little attention to the fact that with a fixed debt commitment a bankruptcy is more immediate (Webster, 1999). The competitive advantage of a firm normally stems from its innovation capacity rather than just production costs. *Innovation fostering hierarchy and a human resources quality becomes more important than a possession of an exclusive rights or patent.*

Besides the importance of venture capital also the de-socialization of labour market should be considered as an integral part of corporate innovation policy. As for the European SMEs there is a great potential for better market risk management by means of higher use of venture capital. Recent studies advert quite a positive impact of this kind of external financing on company growth because of positive contribution of investors on the company's development (Zieling, 2008). Temporary owner usually introduce an efficient management rules providing more transparency and better risk control creating a value for new investors. *Whereas there is now clear influence of venture capital on the human capital, its contribution in terms of positive corporate governance is evident.* In the light of bank credit restriction the role of venture capital in high-tech oriented European SMEs is of growing importance. In the USA, which accounts for almost a half of venture capital invested in OECD countries, there is no doubt about its decisive impact on the development of innovation oriented companies in branches like ICT, biotechnology or nanotechnology. *Technologically oriented SMEs usually do not have a long entrepreneur history and the inherent risks of their financing are higher and the risk management is more complex, thus banks tends to discriminate such projects.* Because of information asymmetry these risks can be better evaluated and controlled from within the company. In order to achieve this, implementation of management structure and procedures that enhance market risk control is necessary. Venture capital plays a key role in terms of investment efficiency within the high-tech SMEs. In spite of its limited use in comparison to other forms of external financing (0,2 % of GDP in the USA between 2008 and 2010) the effect on the economic output is significant (a total turnover of the US venture capital financed companies in the same period reached an 21 % of GDP) (www.nvca.org). More than three-thirds of US software and biotechnology industries (i.e. Google, Intel, Microsoft, Cisco, just to cite some of them) was supported by venture capital funding. In contrast to the USA, in the EU economy there seems to be a fundamental challenge of decreasing yields on capital. This is common mainly to labor intensive sectors. Banks and insurance companies are reducing their margins and operation costs while they face important business model shifts caused by demand side. *Sound entrepreneurship ecosystem based on more venture capital use could be a good way to increase total factor productivity.*

## 4.2 Strict control of public debt

There is no clear relation between interest rates and public debt in short-time period. Nonetheless, several studies have demonstrated negative long-term effects of public deficits on

taxation and economic growth. Whereas government debt of most EU countries increased between 2007 and 2010 there was a sharp decrease of private investment destined to capital formation. This trade-off (showed on the figure 7) demonstrates the push-out effect of public debt which indirectly – via interest rates – damages private capital formation. *Along with distortion effects of taxation this is main reason for reduction of public finance presence in the economy.*

Tax incidence is often explored by means of the Harberger General Equilibrium model. Its main advantage is relatively easy methodological approach based on price and substitution elasticity and marginal productivity of factors. If a product X is labor intensive than the impact of a tax on capital in sector X can be decomposed into a substitution effect and an output effect. The magnitude of the substitution effect depends on the degree of factor substitution in the taxed industry. Tax on capital applied in one industry raises the price of that good produced by this industry and thereby induces a shift in demand from X to Y. In case of minimum capital requirements a tax on capital rise of price of banking services and thus induces shift to the services of nonbanking intermediation. As capital and labor are shed by the taxed sector, they must be absorbed by the other sector. Supposing that the banking sector is labor intensive, the wage rate must fall in order to make nonbanking sector interested in hire the excess labor. The magnitude of this output effect depends on the elasticity of substitution in demand. The real offset between the output and substitution effect determines whether relation between the wage and interest rate will rise or fall in response to a tax on capital in banking sector.

Based on this scenario we expect that higher requirements on banking capital will provoke shifts of that part of financial services that suppose higher risks to the outside of banking sector. Moreover, as a tax is proportioned to risk weighted assets, banks become more risk sensitive so there will be less quantity of bank loans for private investment destined to innovation projects with inherent higher level of risk. As a result banks' total costs will increase and banks will try to reduce their portfolio of services as well as their staff. At the same time financial costs of credit for less risky companies which seek for banks loans, currency swaps and other financial instruments will rise. As they are mostly international companies with big negotiation power on their respective markets, it is likely that they will be able to transmit their higher financial costs to the price of their goods and services. This model helps illustrate consequences of effective burden shift in case of a direct taxation of companies. The incidence of the corporate tax falls not only on bank but also on non financial companies as the price of capital rise and wage in financial sector will be negatively affected. These changes will be subsequently reflected on in prices of goods market. Government's intention to reduce public debt usually entails both tax distortion and procyclical effect. It always implies future costs for the households and industries and thus reduces their long-term competitiveness. Further on, we show a gradual increase of government debt within the Euro Area (figure 6) and the evolution of debt and capital formation in Spain (figure 7). In reference to Maastricht criteria we advocate for stricter control of public debt within the EU in order to prevent aggravation of the current economic crisis.

Recent situation of Spanish economy clearly demonstrates push-out effects and limits of growing public deficit on the long-term economic performance. There is an evident inverse relation between debt and gross capital formation. Huge allocation of public funds within the demand side oriented subvention programs such as Plan E negatively impacted private investments and worsened the public budget sustainability. Credit access of SME did not improve while taxation has grown significantly affecting seriously consumption and private investments. The allocation of public funds has proven to be less effective in terms of stable employment creation and long-



term growth than respective volume of the private investment sacrificed as a consequence of the trade-off. At present the importance of stimulation of supply side seems to regain its importance.

Figure 6. Central government debt, total (% of GDP). (Data source: World Bank, data.worldbank.org)

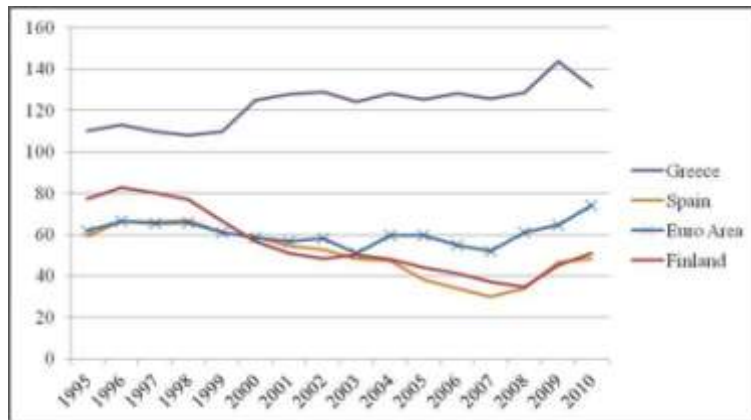
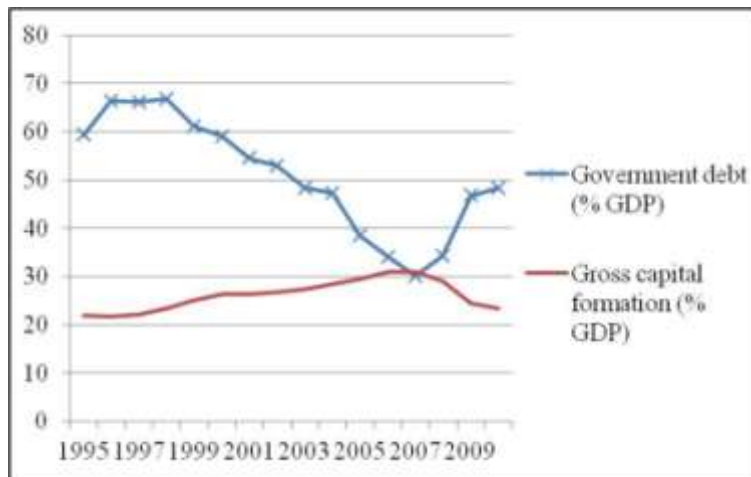


Figure 7. Government debt and gross capital formation in Spain (% GDP). (Data source: World Bank, data.worldbank.org)



As recent studies reveal, government budget deficits are negatively associated with the real output growth. These studies confirm that in case of private investment the negative debt impact comes mainly through the channel of long-term interest rates. This shows a potential harmful impact of the growing public debt which is bound to increase more than proportionally the greater the ration of debt/GDP will be. Main contemplated transmission channels between government debt and economic growth rate are private saving and investment (gross capital formation), public investment, total factor productivity and real interest rates. *Unpopular fiscal consolidation is of vital importance for Europe where government size expansion over the past decades nourished the government debt growth.* At the present, average public debt-to-GDP ratio was 79% for the big governments with public expenditure higher than 50 % of GDP, and 60%

for medium-seized governments with public expenditure between 40 – 50 % of GDP. The euro area government deficit GDP ratio raised nearly ten times between 2007 and 2009 and long-term fiscal sustainability deteriorated extremely in thirteen EU countries with high debt levels and sharp increases in sovereign yields spreads. Although the turning point beyond government debt-to-GDP ration is particular for each country, starting from level of 70 - 80 % of GDP the public debt is probable to significantly deteriorate growth prospects (Checherita C., Rother P., 2010). The impacts on the relationship between debt and growth rate postulated by the empirical studies are supposed to be similar when external debt is to be considered, albeit transmission channel of sovereign long-term nominal rates is considered.

### **4.3 Enhanced bank regulation**

The current economic crisis had several consequences on the risk management. Banking sector face new rules imposed by the Bank for International Settlements. These quite comprehensive rules modify mainly risk appetite which is the key element of the private investment allocation process. By means of deleveraging of banks through strengthened banks' liquidity and solvency, regulators aim at lower systematic risk. Basel III requires Tier 1 capital of higher quality, focusing on common equity, and introduces internationally-harmonized liquidity standards (Liquidity Coverage Ratio and Net Stable Funding Ratio).

Real economic and stability goals of Basel III regulation are quite ambiguous. Recent studies predict negative short and mid-term impact on GDP while the long-term positive contribution is not clear (IIF, 2010; Slovik, Cournède, 2011). Critical reviews are based mainly on the following objections:

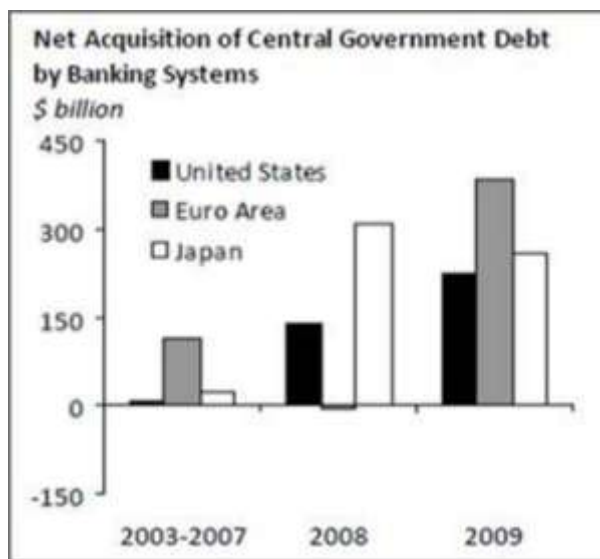
- more stringent rules cannot guarantee future bankrupt;
- previous goals at international banking regulation have not been achieved;
- negative impact on each banks capital costs is evident, whatever their business model and risk management quality is;
- long-term benefits are difficult to predict and total costs of reform are hard to quantify;
- the severe credit boom costs itself have initiated changes in banking practices yet (e.g. IIF improved industry-wide market practices);
- improvements in supervisory practices are of most importance than enhanced regulation;
- greater regulation shifts credit flows from the regulated bank sector to the non-bank sector thus shifting rather than reducing systemic risk;
- as under new regulation banks need to meet higher liquidity requirements, they are likely to purchase much higher amounts of low risk government debt increasing sovereign risks and unbalanced liability structure.

Implementation of new regulation can have numerous undesirable consequences, mainly as for cost of capital and risk migration. Increasing costs of global banks is expected to cut down credit and financial market liquidity. This is likely to have a disproportionate impact in emerging markets. Nonetheless, we consider of vital importance that new regulation enduces banks to purchase government debt. As we have argued in the previous chapter, increasing public debt affects private investments and public capital formativ, thus the real output growth is put in

danger. Hence, the debt-equity swap envisaged by Basel III (as it implies a built-in mechanism that stimulates fiscal deficits) puts serious doubts on the long-term stability effects of the new banking regulation.

Further on we advert on economic costs of Basel III. We claim that deleveraging of banks has extensive consequences on private investment and thus on output and employment. As banks defend their profit margins which they raise lending rates. Banks face pressures on the capital markets as investors demand a target risk-adjusted return on bank equity. Because of firms under the new banking regulation face higher credit restrictions they hire less labor and realize less investment projects. The Institute of International Finance (IIF) as well as Organisation for Economic Cooperation and Development (OECD) share their estimation as for short-time negative impact on the real lending rate charged to the private sector, in particular during the first years of implementation. Albeit the estimated shape of curve of decelerated GDP differs in function of adopted methodology, both OECD and IIF alert on relatively decreasing competitiveness of EU banks compared to their US and Japanese counterparts. *Europe is more vulnerable as for the negative impacts of new regulation because its banking system is less equity oriented and has larger proportion on the size of economy and total debt financing.*

Figure 8. Net Acquisition of Central Government Debt by Banking Systems. (Source: IIF, 2010; Slovik, Cournède, 2011).



The logic of OECD model is based on the accounting identities applied to aggregated banking sector balance sheets. Thus the effect of increase in bank capital relative to risk-weighted assets on the overall bank funding cost is considered. Banks are supposed to adjust their lending spreads in order to maintain their costs of equity and debt financing. IIF model use different methodology but builds on the similar logic, considering the interest rates spread as a main transmission channel. As banks are required to raise capital, with increasing funding costs they can opt either for more quantity of low yielding liquid assets or more long-term debt. Either way, banks are supposed to partly compensate such negative effects on their net interest margin with higher lending rates to the private sector. Hence decreasing aggregate supply of credit has a negative impact on GDP and employment.

Figure 9. Estimated impact of Basel III on GDP growth in Euro Area (%). (Source: IIF, 2010; Slovik, Cournède, 2011).

	Average	Expected peaks	Cumulative effects on real GDP growth difference	Theoretical framework of the model
<b>IIF</b>	0.6 percentage points between 2011 - 2015 0.3 percentage points between 2011 - 2020	2013 - 2014	-0.9 percentage points between 2011 - 2015 -0.5 percentage points between 2011 - 2020	aggregate profit and loss models of banks linked to the evolution of nominal aggregate credit growth to GDP and employment
<b>OECD</b>	0.15 percentage points between 2011 - 2015	2014 - 2015	-0.23 percentage points between 2011 - 2015	elasticities of the level of GDP to increase in bank lending rates

Not all risk are covered under Basel III but they are addressed to by the best practice of financial risk management. New rules contemplate risk weighted assets established by Basel II in order to increase capital requirements. Nevertheless, it leaves apart risks arising from the liability side (including liquidity risk or interest rate risk of the banking book, etc.). This concept derives from the assumption that bank's stability - in terms of access to financing at fair price - is based on the quality of its assets. However, when liquidity channels are restricted by general uncertainty as a consequence of economic crisis, systematic crisis occurs and banks are facing troubles independently of a quality of their assets.

The role enhanced supervision rules seems to be as much important as more regulation. Better risk management postulated by Basel II had been considered sufficient to cope with financial crisis without need of bank's capital increments. *Deleveraging does not always mean better system stability, unless the system is lacking in financial supervision.* New regulation tries to ensure banks' higher persistency in abnormal situations of cash imbalances. Because of interdependence between liquidity and capital requirements under the Basel III rules banks are induced to first increase new capital and then to invest it constructing liquid asset buffer. The decision making process is rather complex as banks need to examine incremental impacts on regulatory and economic capital as well as on liquidity and leverage ratios and liquidity buffers. *Capital optimization is likely to induce fine tuning of risk weighted assets. Banks will be also encouraged to modify their business model in order to leave capital heavy sectors and products, hence retail mortgages will be preferred to commercial ones.* Such a procyclical behavior imperils industrial growth. (Barua et al., 2010).

Basel III should build on the interconnection of liquidity, credit and market risk in order to establish an integrated framework. New regulation should treat the risk with more consistency, recognizing the relation between market and credit risk (and its dependence on liquidity access) as well as the influence of risk appetite on the determination of value of company's capital. Also the timing becomes the issue of importance. A high speed implementation - in particular decreasing of banks' risk weighted assets during the feeble economic growth - can put huge

pressure over the corporative financing. Hence, mainly european SMEs would be affected as, in contrast to their US counterparts, they cannot easily resort to share stock financing. With too fast disintermediation of the banking sector more undesirable consequences may occur. Further on, we adverts to better alignment of performance metrics with business strategy and better stress testing as possible ways of increasing stability of banking sector. Disclosure of stress test results benefits overall financial stability yet it may harmful for a particular bank suffering from a specific risk exposure. We think that enhanced stress testing on supervisory level contributes to both system's transparency and exchange of best practices. Harmonization of methodology at the international level, initiated by the Basel III liquidity standards, is of cardinal importance.

*Integrated performance management fostering information flow and visibility is a key factor of bank's stability. Hence, the main challenge is to find appropriate financial metrics to align performance with benefits on each corporate level.* Such metrics should be easily understood and controlled. Moreover, a strong risk culture is inevitable for a good performance of risk and liquidity management. Improving measuring and oversight of liquidity risk within a bank envisage, among other, the following steps:

- build up a company-wide stress testing infrastructure that covers at least liquidity, operational, market and credit risks;
- develop comprehensive testing models that consider key risk drivers on assets as well as funding sources side;
- integrate stress testing into strategic management as it is closely linked with bank's market strategy and risk appetite;

*Encouraging risk management culture by best practice and enhanced banking supervision on stress testing seems to be a cost-efficient alternative to enhanced capital requirements. Moreover, some negative consequences of regulation - as a procyclical effect of liquidity buffers - could be avoided.*

## 5. CONCLUSION

Growing market deregulation and continuous technological developments have revolutionized the marketplace during the last two decades. A side-effect of this is increased market volatility leading to a need of enhanced risk management. Certain risks, such as liquidity risk, can be difficult to quantify since they vary with economic and market conditions. Unified supervision as well as integrated approach within the bank-wide risk management system is needed. This paper adverts on causes of the recent economic crisis from the perspective of the financial market. It emphasizes the importance of warning signals that reflect partial imbalances or unsustainable tendencies within various market segments. Private investment is a key market-driven factor of economic growth because of high contribution and allocation efficiency. Interest rate, uncertainty, higher capital costs, fiscal imbalances or changes in risk appetite are exogenous factors with proven impact on the private investment. In order to cope with these external changes companies should be more oriented on flexible hierarchy and internal growth.

Public debt and new banking regulation has some points in common. Besides its tax incidence effect (relative price distortion) both have proven to be damaging for employment and output growth. Whereas Basel III impact is basically short-term, public debt puts in danger country's

long-term growth potential. Although the expected positive effects prevail, new banking regulation will negatively hit European banks worsening their competitiveness in respect to their US and Asian rivals. Moreover, the new banking rules have various undesirable consequences such as preference of public debt financing to market liabilities. This could have destructive effects in terms of public debt accumulation.

## ACKNOWLEDGMENTS

I would like to express my gratitude to Professor Ing. Zbyněk Revenda, CSc. from the University of Economics in Prague whose help and stimulating suggestions encouraged me in all the time of research. I also thank to the staff of the library of the Universidad Complutense Madrid for the helpful and friendly service.

## REFERENCES

- Alexander, C., Sheedy, E. (2008). *The professional risk managers' guide to finance theory and application*. New York (USA): McGraw-Hill.
- Australia / Industry and Small Business Policy Division; Australia / Industry Policy and Economic Analysis Branch, Clark, M. (2011). *Key statistics: Australian small business*. Canberra: Dept. of Innovation, Industry, Science and Research. Retrieved January 2013 from <http://www.innovation.gov.au/SmallBusiness/KeyFacts/Documents/SmallBusinessPublication.pdf>
- Barua, R., Battaglia, F., Jagannathan, R., Mendis, J., Onorato, M. (2010). *Basel III: What's new? Business and technological challenges*. Algorithmics.
- Borge, D. (2001). *El pequeño gran libro del riesgo*. Barcelona, (Spain): Edición Paidós Ibérica.
- Carrier, J. G. (2005). *A Handbook of Economic Anthropology*. Cheltenham (UK): Edward Elgar.
- Checherita-Westphal, C., Rother, P. (2010). The impact of high and growing government debt on economic growth: an empirical investigation for the euro area. *Working paper series no. 1237, European Central Bank*. Retrieved January 2013 from [www.ecb.int/pub/pdf/scpwps/ecbwp1237.pdf](http://www.ecb.int/pub/pdf/scpwps/ecbwp1237.pdf)
- Collins, J. (2000). *Empresas que sobresalen*. Barcelona (Spain): Gestión 2000.
- Donath, L. E., Cismas, L. M. (2009). The current financial crisis revisited. Causes and remedies. *The Romanian Economic Journal*, 12 (31): 85–98.
- Dvořák, P. (2008). *Dluhový problém a finanční krize*. Prague, Czech Republic. Ministry of Finance. Retrieved January 2013 from [www.mfcr.cz/cps/rde/xbcr/mfcr/Dluhovy\\_problem\\_fin\\_krize.ppt](http://www.mfcr.cz/cps/rde/xbcr/mfcr/Dluhovy_problem_fin_krize.ppt)
- Ecorys (2012). *EU SMEs in 2012: at the crossroad. Annual report on small and medium-sized enterprises in the EU, 2011/12*. Rotterdam. Retrieved January 2013 from [http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/performance-review/files/supporting-documents/2012/annual-report\\_en.pdf](http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/performance-review/files/supporting-documents/2012/annual-report_en.pdf)

- Fourd, J., Johal, S., Leaver, A., Williams, K. (2006). *Financialization and strategy*. New York, (USA): Routledge.
- García Estévez, P. (2006). *Fusiones comentadas. Análisis de las fusiones más importantes de los últimos años*. Madrid (Spain): Pearson Educación.
- Goldstein, I., Sapra, H. (2012). Should Banks' Stress Test Results be Disclosed? An Analysis of the Costs and Benefits. *Working Paper, Booth School of Business, University of Chicago*. Retrieved on January 2013 from: [http://faculty.chicagobooth.edu/Haresh.Sapra/docs\\_WP/stresstests\\_goldstein\\_sapra\\_april\\_2.pdf](http://faculty.chicagobooth.edu/Haresh.Sapra/docs_WP/stresstests_goldstein_sapra_april_2.pdf)
- Gollier, C. (2001). *The Economics of Risk and Time*. Boston, MA (USA): MIT Press.
- Havlíček, K. (2012). *Marketing při utváření podnikové strategie*. Prague (Czech Republic): Eupress.
- Huff S. A., Huff, O. J. (2002). *El cambio estratégico*. UK: Oxford University Press.
- Institute of International Finance (IIF) (2010). *Interim Report on the Cumulative Impact on the Global Economy of Proposed Changes in the Banking Regulatory Framework*. Retrieved on January 2013 from [http://www.ebf-fbe.eu/uploads/10-Interim%20NCI\\_June2010\\_Web.pdf](http://www.ebf-fbe.eu/uploads/10-Interim%20NCI_June2010_Web.pdf)
- Kermally, S. (2000). *Cuando economía significa oportunidad*. Madrid (Spain): Pearson Educación.
- Krugman, P. (2000). *El retorno de la economía de depresión*. Barcelona (Spain): Editorial Crítica.
- Le Leslé, V., Avramova, S. (2012). Revisiting Risk-Weighted Assets. "Why Do RWAs Differ Across Countries and What Can Be Done About It?". *Working paper no. 12/90, International Monetary Fund*. Retrieved on January 2013 from: <http://www.imf.org/external/pubs/ft/wp/2012/wp1290.pdf>
- Marrison, C. (2002). *The Fundamentals of Risk Measurement*. New York (USA): McGraw-Hill.
- Martínez García, P. (2011). *En busca de financiación*. La Coruña (Spain): Netbiblo S.L.
- Plíva, R. (2011). Rok fúzí bývá následován stagnací. Prague, Czech Republic: Patria Direct. Retrieved on January 2013 from: <http://www.patria.cz/zpravodajstvi/1785067/rok-fuzi-byva-nasledovan-stagnaci.html>
- Schumpeter, J. (1942): *Capitalism, Socialism and Democracy*. New York (USA): Taylor & Francis.
- Shimelse, A., Uri, D., Lauren, F. (2009). *Financial Transmission of the Crisis: What's the Lesson?* International Economic Bulletin. June 2009. Retrieved on January 2013 from: <http://www.carnegieendowment.org/2009/06/17/financial-transmission-of-crisis-what-s-lesson/9rj>
- Slovik, P., Cournède, B. (2011). Macroeconomic Impact of Basel III. *OECD Economics Department Working Papers no. 844, OECD Publishing*. Retrieved on January 2013 from: <http://dx.doi.org/10.1787/5kghwnhkkjs8-en>

- Tether, B. S. (1998). Small and large firms: sources of unequal innovations? *Research Policy*, 27(7): 725–745.
- Tomšík, V., Newton, C., Viktorová, D. (2005). *Peníze a hospodářský růst v České republice*. Statistika č. 3/2005, VŠE Praha.
- Toporowski, J. (2005). *Theories of Financial Disturbance*. Cheltenham (UK): Edward Elgar.
- Webster, E. (1999). *The Economics of Intangible Investment*. Cheltenham (UK): Edward Elgar.
- Zieling, N. (2008). *Factores determinantes del impacto del capital riesgo sobre las empresas*. Madrid (Spain): Consejo Económico y Social.

## **APPENDIX**

*Figure 1a. European SMEs evolution: number, employment and value added. (Source: Ecorys, 2012).*



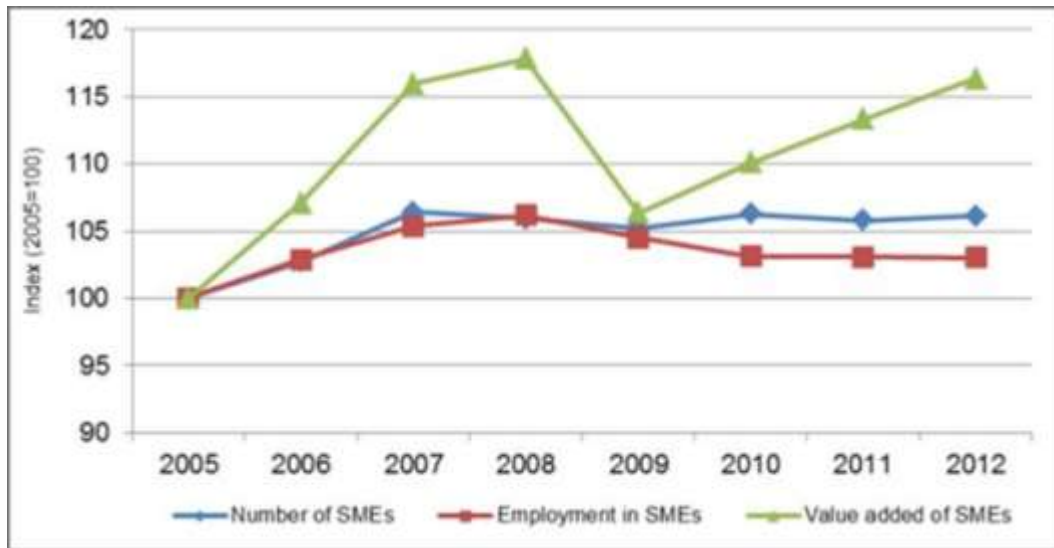


Figure 2a. European SMEs evolution: real value added and employment growth. (Source: Ecorys, 2012).

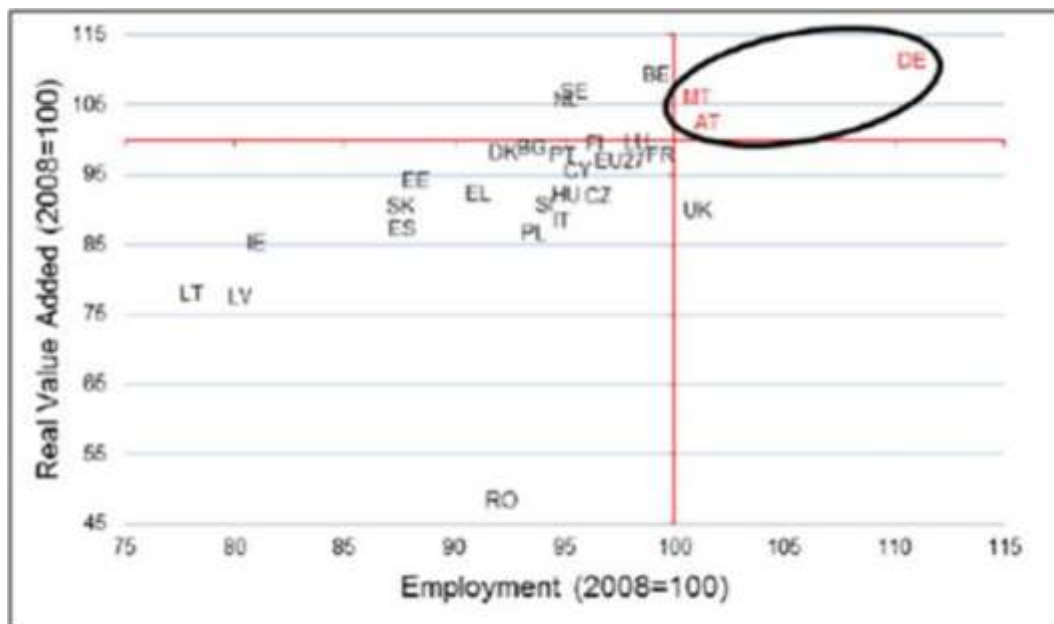
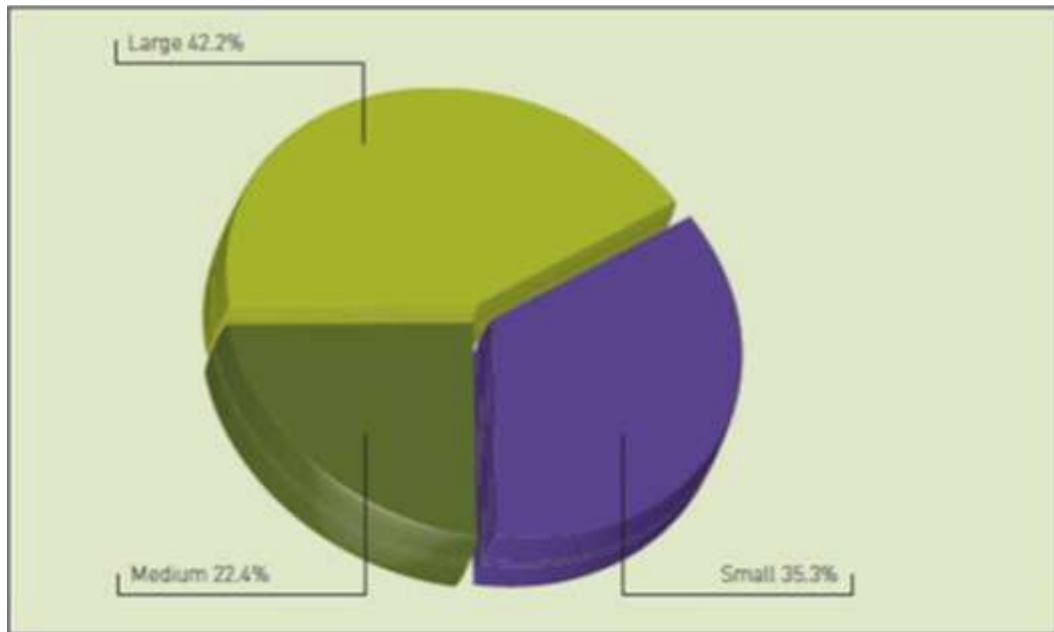


Figure 3c. Contribution to industry value added by business size in Australia (2009-2010). (Source: Australia / Industry and Small Business Policy Division; Australia / Industry Policy and Economic Analysis Branch, Clark, M., 2011).





# Leadership style and socio-organo complexity. Managing its effects

Dimitris Antoniadis

UK Power Networks, London, UK. e-mail: [dnanton00@gmail.com](mailto:dnanton00@gmail.com).

Published online on April 1, 2013.

DOI: 10.7350/BSR.V13.2013 – URL: <http://dx.medra.org/10.7350/BSR.V13.2013>

## ABSTRACT

*Working practices revolve around individuals/‘systems’ coming together to form teams that are expected to deliver a required outcome. As ‘systems’ are led to form teams interconnections are generated which result in behaviours that cause complexity. Results from research conducted by the author, on the effects of socio-organo complexity through the attribute of leadership style adopted, indicate that although this is identified as a cause, the attribute is not considered as a means to manage the effects of complexity. The author postulates that the application of complexity theory, and particularly the use of the characteristics, can enable the systematic consideration of the conditions that give rise to socio-organo complexity. To that effect, a framework was developed with and validated by practitioners that enables the management of the effects of socio-organo complexity through the leadership style. In particular, by measuring the effect of the current level of actions taken it allows the user to select and implement appropriate responses that will lead to the management of the effect of complexity.*

**Keywords:** Complexity, Leadership, Interconnections.

## 1. INTRODUCTION

To paraphrase what Kotter (1999) said in his book ‘What Leaders Really Do’, we have not yet figured out how to lead people in the everyday battles as we do not know how to help them manage change. Also, we know that leaders interconnect people, otherwise known as dynamic systems.

In the four lines above, without even making any particular effort, we have linked leadership with the most widely accepted definition of complexity: *"the dealing with interconnections between dynamic systems and the change."*

From research conducted between 2007 and 2009 in the topic of leadership style in construction project management, which can be extrapolated into the general management field, it was shown that although as an attribute the leadership style is considered very highly, very little is done in terms of using it to manage the effects of complexity.

Projects ‘live’ in an evanescent and complex environment and therefore applying complexity theory will enable the systemic consideration of the sources of complexity. Even further by understanding complexity characteristics and how these affect processes, or act through

processes, will enable the development of tools that will support practitioners in their day-to-day activities.

As is well known from the project as well as general management theory (Baccarini, 1996; Lucas, 2000a; Williams, 2002; Mitchell, 2009) interfaces generate complexity, which is associated with the interconnection structures between the objects rather than the objects themselves (Lucas, 2000a). Also, complexity has defined characteristics (Lucas, 2000b). Understanding the complexity characteristics, particularly those in the socio-organisational side, and how these affect the various processes, can contribute to the design of more efficient decision making and delivery systems. In particular, it will enable managers and project managers to respond with the necessary actions through the leadership style adopted.

In this paper the author will present results from a multi-method research investigating socio-organo complexity and the leadership style adopted. The reader should note that throughout this paper the words leadership and management style will be used interchangeably. The research was conducted in the UK with major organisations - clients and contractors – involved in construction projects.

Considering the above and the basic principle highlighted earlier, that if we know the characteristics of complexity then it is possible to establish means to manage its effects, a tool (the framework) and decision process was developed and validated by project practitioners. The framework measures the level of implementation of actions, through the management style adopted, against each complexity characteristic and by providing a set of actions it enables managers and other leaders to manage the effects of socio-organo complexity. It also provides the basis for educating leaders, of various levels, on complexity and the application of its characteristics in day-to-day activities.

In the following sections a brief literature review of leadership and complexity theory will be conducted. Then the research approach and the results will be presented followed by analysis and discussion. The paper will close with the proposal, the validation of the framework and the conclusion reached.

## 2. LEADERSHIP STYLE

The leadership style followed cannot be ignored when considering complexity in or through management. Additionally management and leadership in projects, as well as other circumstances, cannot be separated (Walker, 1996) and its importance in managing teams and outcomes will be reviewed below.

The hierarchical, control ridden approach to leadership that proposes mechanistic means to lead people is considered inappropriate by a number of authors (Whatley, 1994; Senge et al., 1999). Brodnick (referenced by Moore, 2002:194), indicates that:

« [...] *leadership in non-linear systems emerges from the dynamic interactions between their sub-systems.* » [underlining by author]

Obolensky (2010) suggests that leadership is more complex and leaders/managers are surrounded by more complexity and chaos. The management style required for non-linear systems calls for adaptability, openness and an understanding of the relationships of the whole, not just the parts. A recent survey by the Chartered Management Institute in UK found that ‘80% of UK managers now recognise that they have to change the way they work’ (Smith, 2011).

It is clear that in non-linear complex adaptive systems (CAS), such as that of people, the soft side must prevail. This is not the case just for projects, but it is also for the manufacturing and food industry (Whatley, 1994; Liker, 2004; Obolensky, 2010). In the case of projects with their transient organisation, persuasion rather than rigid management control should be the approach. Blackburn (2002) proposes that the mobilisation of human and non-human elements in an actor-network, is enhanced by the project managers' (PM's) managerial, personal and learning skills. Research into communities facing complex and uncertain challenges shows that:

*«The most effective leaders are those with a sense of repose – a tolerance for uncertainty coupled with self-aware creativity.»* (Gosling, 2006).

Charismatic, inspirational, forward thinking, integrating, motivating and influencing team creativity are some of the attributes that are required by leaders, as the environment is in a continuous change mode and they are acting in the different levels (Senge et al, 1999). Leadership style is also considered as one that could lead to failure (Applebaum, 1982; Gardner, 2006; Thamhain, 2004). Leadership styles have been studied and proposed by various authors and generally have been group to transformational and transactional. For leading projects the styles described by Lansley (1994) and Turner (1999) capture the majority of those proposed and these are listed below in Table 1.

Table 1. Management styles proposed by Lansley (1994) and Turner (1999).

Management style	Description
Democratic	Consult their team and then take action (Turner, 1999)
Autocratic	Dictate to the team what is required and how it should be done (Turner, 1999)
Bureaucratic	Management through rules and procedures (Turner, 1999)
Laissez-Faire	Allowing the team to get on with the work and manage themselves. (Turner, 1999)
Task / Production	Managers concentrating on matters of ' <i>efficiency, productivity and systems of management control</i> ' (Lansley, 1994)
People / Relationships	Managers prioritising people issues such as ' <i>welfare, development and involvement</i> ' (Lansley, 1994) as opposed to their personal position in the organisation
Corporate	Managers focus on medium to long-term company goals instead of short-term relationship (Lansley, 1994)

The importance of the transformational leadership style to the project environment, where there are a number of leaders managing individuals with sapiential authority (Moore, 2002), is that leaders have to create narratives about the overall mission and aim to change thoughts and behaviours of those they lead (Gardner, 2006). Leaders, generally, that need to adapt their styles for continuous change and uncertainty should take note of Lao Tzu's 81 chapters of the Tao Te Ching (Pheng, 1995; Obolensky, 2010).

Applebaum (1982) and Turner (1999) also identified management styles that should be avoided, such as mechanistic, bureaucratic and technocratic as these result in failure, in certain circumstances.

The discourse regarding leadership style continues, however, and it goes without saying, that leadership is a core competence (Cheng & Dainty, 2005) and we expect leaders to deal with complexity and in particular socio-organo complexity. Therefore a set of research questions were developed in order to establish how the leadership style affects complexity and these will be described in the relevant section below.

In the following section a brief review on the subject of complexity is conducted.

### 3. COMPLEXITY

The old static / linear world of management, for projects or general management is challenged and needs to give way to new dynamic, 'living' concepts and organisms and at different multi-dimensional levels. It is generally accepted (Stacey, 2001; Bertelsen, 2002; Moore, 2002; Thomas & Mengel, 2008; Mitchell, 2009; Obolensky, 2010) that project, as well as general, management should be perceived as a complex system operating at the edge of chaos. There is a need to understand terms such as complexity, its definition, its characteristics, the importance of interconnections, which reinforce one another (Miller & Page, 2007) and how we can manage its effects as well as the means that will enable that.

Complexity, as well as chaos theory, is part of the nonlinear dynamics theory (Stewart, 1997; Mitchell, 2009). From an extensive literature review conducted by Burns (2005) on complexity theory, it is clear that implementation has not moved further than being used as a metaphor. However, it is generally accepted (Baccarini, 1996; Lissack, 1999; Lucas, 2000a; Stacey's et al., 2002; Mitchell, 2009) that complexity is the dealing with interconnections between dynamic systems and the change. It is also accepted that complexity is closely tied to the adaptive behaviour of systems (Davidson Frame, 2002; Miller & Page, 2007). Lucas (2000c) had highlighted the fact that complexity is a '*true transdisciplinary endeavour*' that covers the middle ground operating in the *«realm of systems having many interacting parts - too complex for deterministic mathematical solutions, too simple for averaging by statistics.»*

Various authors describe types, features and characteristics of complexity. Listed below are a number of these features, from literature review conducted by the author:

- Davidson Frame (2002) identified size, variety, difficulty and change;
- Kallinikos (1998) identified dynamism;
- Haas (2007) proposed seven dimensions that introduce complexity and risk on projects;
- Phelps & Hase (2002) highlighted the inter-relationship between technology and behaviour;
- Lillieskold & Ekstedt (2003) drew attention to the inter-relationship between cognitive and technical complexity. They highlighted the fact that our mental capability to process information has remained constant against a rapid increase in the rate of change of technology;
- Geraldi (2008a and 2008b) indicated that complexity in projects should be seen holistically as '*patterns of complexity*' and that there are three types of complexity – *faith, fact* and *interaction*;

- Gidado (1996), and for the project environment, determined four sources – employed resources, environment, level of scientific and technological knowledge and the interactions of different parts;
- Girmscheid & Brockman (2008) described four types of complexity, again in project management – task, social, operative and cognitive.

Lucas (2000b) by conducting a review at the lowest level of three streams of theories – systems, organic and connectionist, and considering complexity from the position of complex adaptive systems identified 18 complexity axioms. This approach is also confirmed by Burns (2005) who stresses the need to deal with complexity at the lowest organisational level, the interactions between the systems and the formulation of ‘*rules of interactions*’. It is therefore, feasible to use Lucas’ (2000b) axioms in an analytic approach which can provide a starting point for enabling managers, as well as project managers, to utilise these as a tool to manage complexity. A listing of Lucas’ axioms with their description is shown in Appendix 1 Table Ap1.1.

The substantial change in technology, social and economic factors and the progress of a knowledge-based society has amplified the rate of change. The rate of change has therefore increased the multiplicity of parties that come together to deliver projects and therefore increased social complexity (Girmscheid & Brockmann, 2008). Social complexity exhibits such characteristics as ‘open systems’, ‘chaos’, ‘self-organisation’ and ‘interdependence’ (Jaafari, 2003). This then, according to Geyer (1998) and Kirshbaum (1999), has been found to lead to an increase in self-reference at individual level and self-organisation at the group level. Jaafari (2003) suggests that at the individual level as individual’s insight increases, including those at the lowest levels, their ability to operate and handle their environment more effectively increases and enables the creation of the knowledge-based organisation. It is actually these lower levels, with their activities and behaviours, that define the behaviour of the system (Miller & Page, 2007).

Managers will have to deal with and manage change (Morgan, 1997) as well as achieve large effects through small changes. They will have to consider and implement such complexity concepts as self-organisation (Obolensky, 2010), instability, unpredictability, etc.

Understanding and analysing the effects of complexity will enable the improvement of the management of its effects, it will also improve the decision-making process, the appropriate level of response, the output(s) and, above all, the improvement of confidence in the appropriateness of the process implemented.

A new philosophical model is required, one that will enable project managers (and managers) to overcome the effects of socio-organo complexity, operate at the edge of chaos, in the phase transition stage. This will be done by following a transformational leadership style, enabling empowerment and self-organisation, relying on the competence and insights of the team members (Jaafari, 2003, Obolensky, 2010). As a consequence, such a model will cause an increase in the inter-relationships formed between the teams and individuals and therefore complexity. An additional intricacy that will need to be considered is the increasing use of virtual teams. This requires greater individuality, empowerment and self-organisation, and consequently generates the need for improved teamwork and the management of interconnections.

The above, as in the review of leadership, have generated a number of research questions regarding the management style to be adopted. The research approach and the results obtained are described in the following section.

#### **4. RESEARCH QUESTION AND RESULTS**

The research questions raised and the results obtained will be described in this section. It should be noted that the approach described in this section was a small part of a larger scale investigation into managing complexity in project teams (Antoniadis, 2009) that was conducted in 2007 and 2008. The research focused on soft processes of which the leadership style adopted by project managers was one part.

The proposition was that interconnections, which are formed between and affected by complex adaptive systems in projects, give rise to complexity.

The review has established that the implementation of processes, as well as questions regarding the leadership style adopted, did not improve in the areas investigated, resulting in a detrimental effect on the outcome. In order to manage the effects of complexity and overcome issues such as those raised above a new approach is required. This approach will need to build not only on existing measures but also on the behavioural ones and particularly those required to manage the characteristics of socio-organo complexity through interconnections.

##### **4.1 The research approach**

The research questions regarding leadership style adopted by project practitioners were as follows:

1. It the leadership style to be adopted defined down to the lowest (hierarchical) level?
2. Is there positive correlation between leadership style adopted and project management outcome?
3. Are complexity characteristics taken into account when considering the management style to be followed on a project?

An overall question was also investigated in terms of the relationship between complexity and project performance. However, this will not be covered in this paper.

A stratified multi-methodology by variable sampling approach was developed and six major UK companies agreed to participate, three clients and three contractors. The depth of the research sample was also considered important and for this reason it included from Director to Site Manager level. This was also to be used for internal triangulation purposes.

The overall approach included three phases. Two of which investigated the above mentioned research questions. The first was a survey and this examined the current status and particularly research questions 1 and 2. The second phase was to conduct open structure interviews which examined research question 3 and in particular:

- the current approach to complexity;
- the acceptability of complexity characteristics; and
- the level of actions taken to manage the effects of complexity.

The research results were validated by conducting saturation interviews with participants from different organisations and from Director to project manager level.



## **4.2 The results**

A total of 99 responses were received from the survey of the stratified sample which were analysed and the results will be described in this section. From within the same sample of companies thirty one practitioners were interviewed and again the results will be given below.

The majority of the stratified survey sample were of Senior or Project Manager (PM) level (76%) with the remainder 7% at Director and 10% Assistant PM and Site Manager levels. Also, the majority of the sample (75%) had more than 10 years experience, thus giving considerable weight on the results obtained.

In the generic part and in order to understand the sample's perception of the prevailing condition, respondents were asked to indicate, in a Likert scale, the prevailing environment by selecting between:

- More Static to More Dynamic;
- More Friendly to More Hostile;
- More Simple to More Complex.

Responses indicated that although the project environment is friendlier it has become more Dynamic and Complex. Thus emphasising the importance of the subjected investigated.

Having described the different styles, respondents were asked to consider their most recently completed project and indicate the leadership style adopted. The results indicated that:

- No formal decision was taken regarding the management style to be adopted (response: 73%);
- Situational and Egalitarian styles were those followed at the higher hierarchical levels, with a considerable response (36%) indicating that more than one leadership styles were combined;
- At Design and Site team levels practitioners adopted a stricter / control oriented leadership style.

Although responses regarding management style indicated that a more behavioural / soft approach was adopted, in terms of the prevailing culture, respondents indicated that throughout the hierarchy levels people operated in functionally structured places as opposed to working on a more 'self-organised' environment.

Respondents were also asked to rank the importance of the attribute, as well as the other six areas that contribute to the quality of the project management outcome (Collins & Baccarini, 2004), on a Likert scale 1 to 10 with 10 being the highest. Responses regarding the management style are shown in Figure 1.

The majority of practitioners (91%, for ranking seven upwards) indicated that they rank highly the importance of the leadership attribute in managing projects.

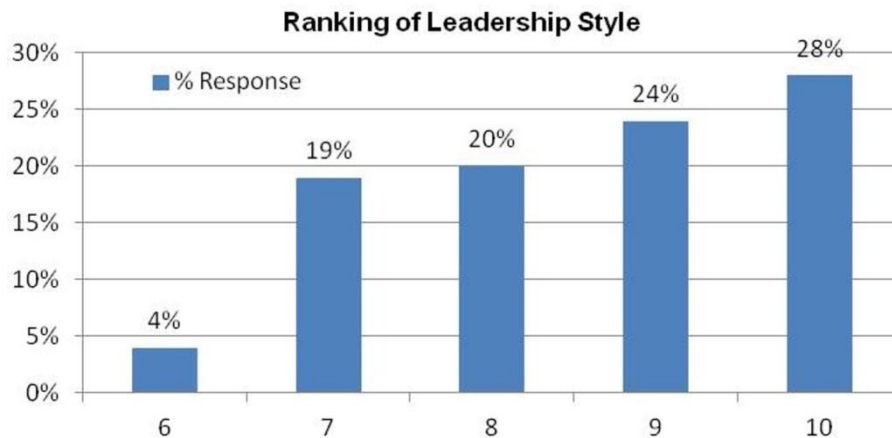
Also, in terms of contribution to the quality of the project management outcome, responses shown in Figure 2 indicate that practitioners ranked the leadership style as the major contributor (72%). Figure 2 also raises an interesting observation. Whereas respondents indicated that the style(s) adopted are Egalitarian and Situational, they ranked the process of 'Monitoring & Control' as the second highest.

Finally, having been given a detailed description of the term 'successful project' respondents were asked to consider their most recently completed project and rank, in a five-level Likert scale (from Very Little to Excellent), the contribution of each area towards the project outcome.

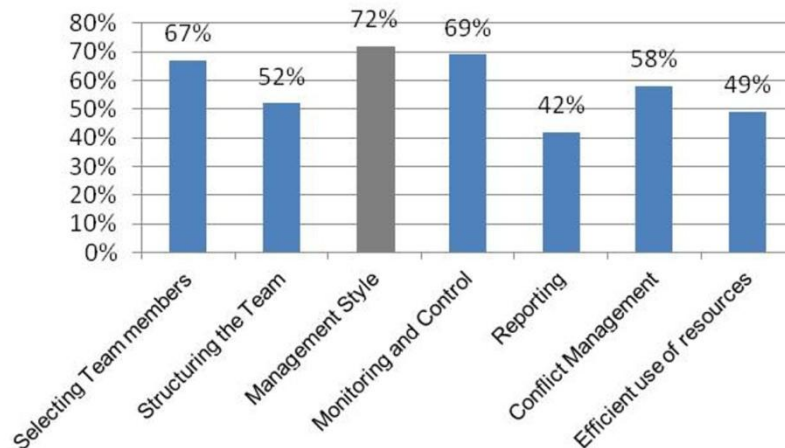
Figure 3 represents the percentage of responses for the first and second highest levels (Substantial and Excellent) and indicates clearly the contribution of the leadership style towards the success of the quality of project management.

Results from Figure 3 confirmed those presented in Figure 2 where practitioners rated the contribution of the management style adopted as the highest.

*Figure 1. Ranking of Management style by PM practitioners*



*Figure 2. Percentage ranking of project management sub-processes that contribute to the quality of the project management outcome.*



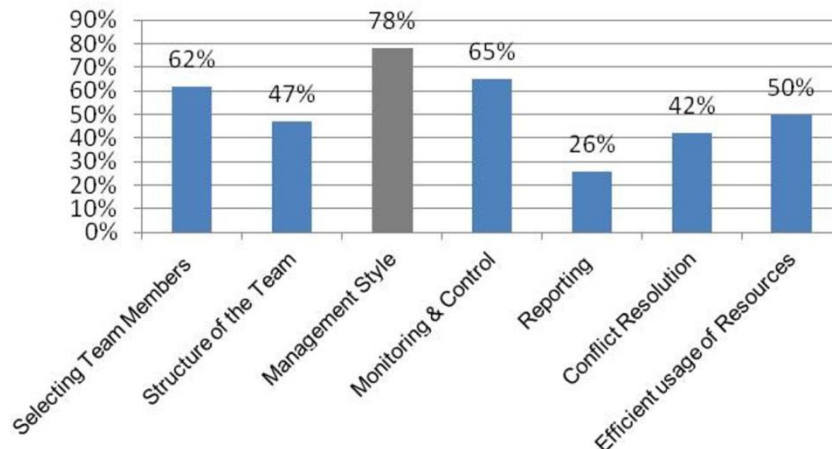
Results from the 31 extensive interviews will be presented below.

In addition to testing the research question raised, the purpose of the interviews was:

- to establish the current practitioner thinking in terms of general complexity,
- to establish applicability of the complexity characteristics in project management processes, and

- to identify and verify actions that will lead to the management of the effects of each characteristic through the attribute of the leadership style as well as the other processes investigated.

*Figure 3. Response regarding contribution of project management sub-processes to the success of the quality of the project management for levels – Substantial to Excellent*

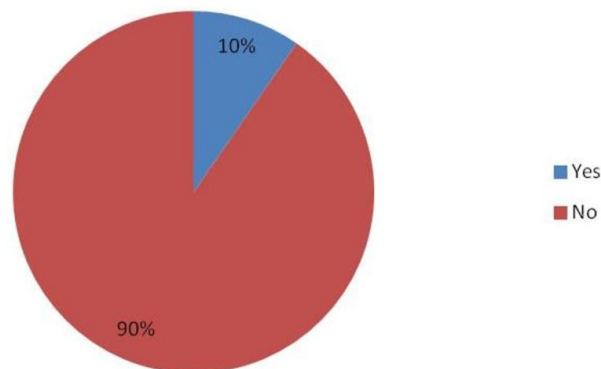


The results presented below are composed of frequencies of response to the questions set during the interviews.

In order to establish the level of understanding of complexity and clarity on issues arising interviewees were asked a number of generic questions. Figures below represent responses given to questions regarding:

- definition of complexity given at company level (Figure 4);
- how their organisation(s) identified complexity (Figure 5);
- what generates complexity and tools/techniques available to them to manage its effects (Figure 6 and Figure 7).

*Figure 4. Response regarding companies giving a definition for complexity*



It is clear from Figure 4 that companies do not give a clear definition of complexity, as they normally do that on other areas, e.g. financial, quality, health and safety, etc., where issues are normally raised.

Figure 5. Response regarding the identification of complexity in projects

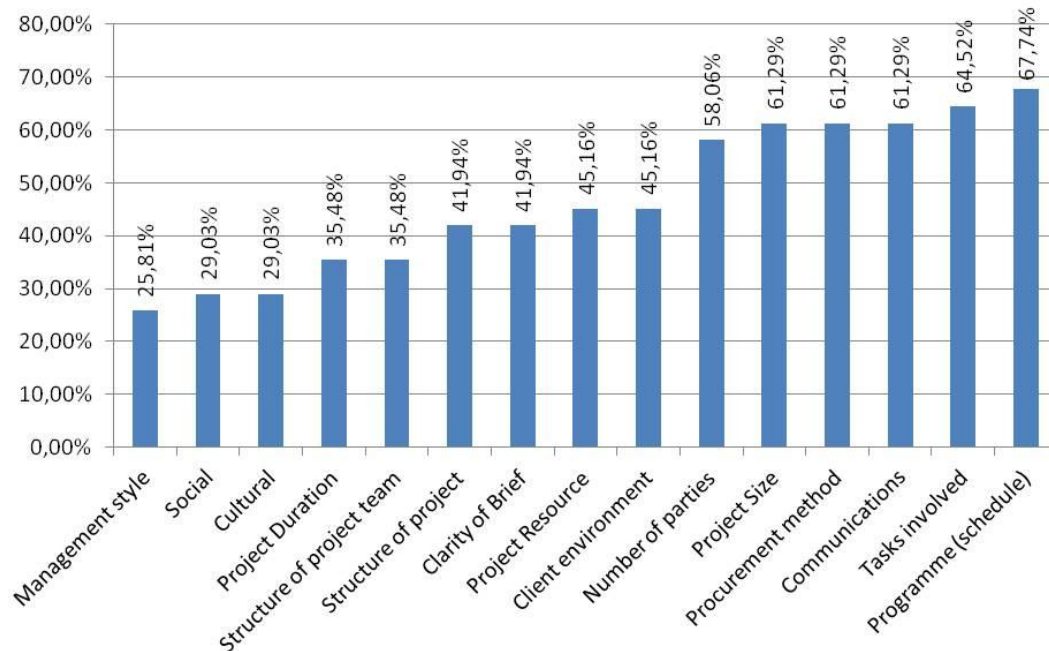
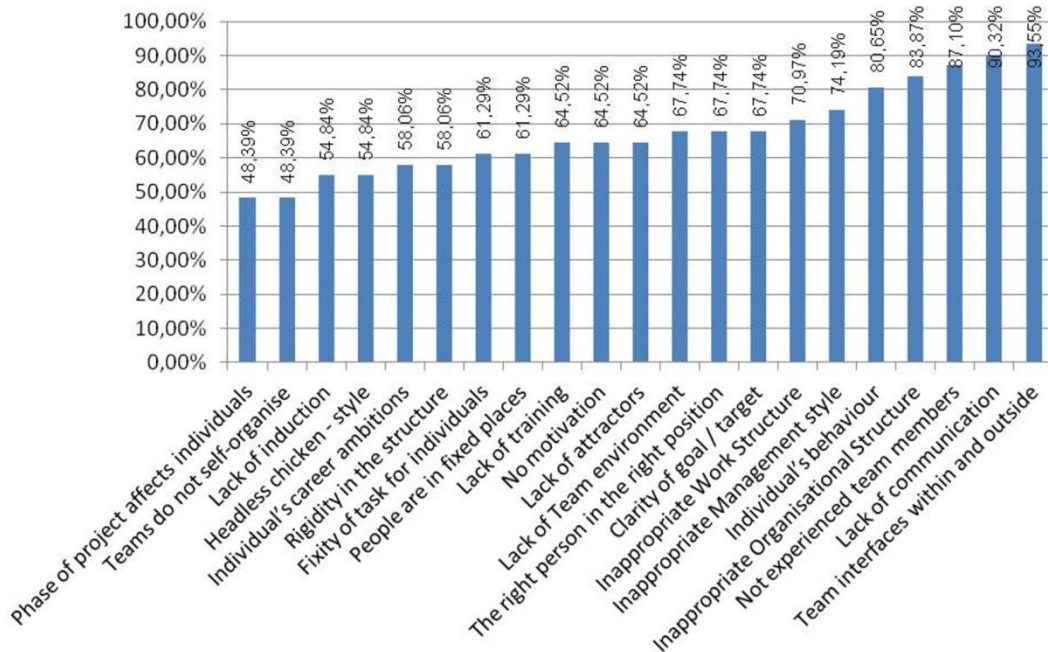


Figure 6. Factors identified as source of complexity

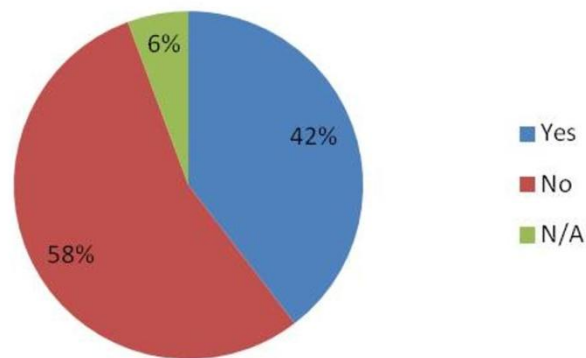


Responses represented in Figures 5 and 6 indicate that at company level, mechanistic means are still the only ones considered as contributing to complexity, whereas from the practitioners' side more behavioural issues are predominant.

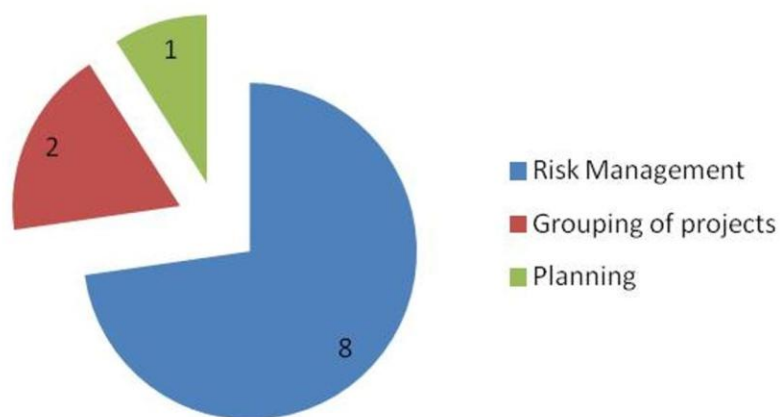
Interviewee responses regarding the availability of tools or techniques to identify complexity are shown in Figure 7.

In terms of tools and techniques available to them, interviewees (those giving an affirmative response in Figure 7) indicated that processes such risk management, planning and grouping of projects were used to manage the effects of mechanistic complexity as shown in Figure 8.

*Figure 7. Response regarding availability of tools or techniques used to identify complexity*



*Figure 8. Breakdown of affirmative responses to open question - 'what tools are used to identify complexity'.*



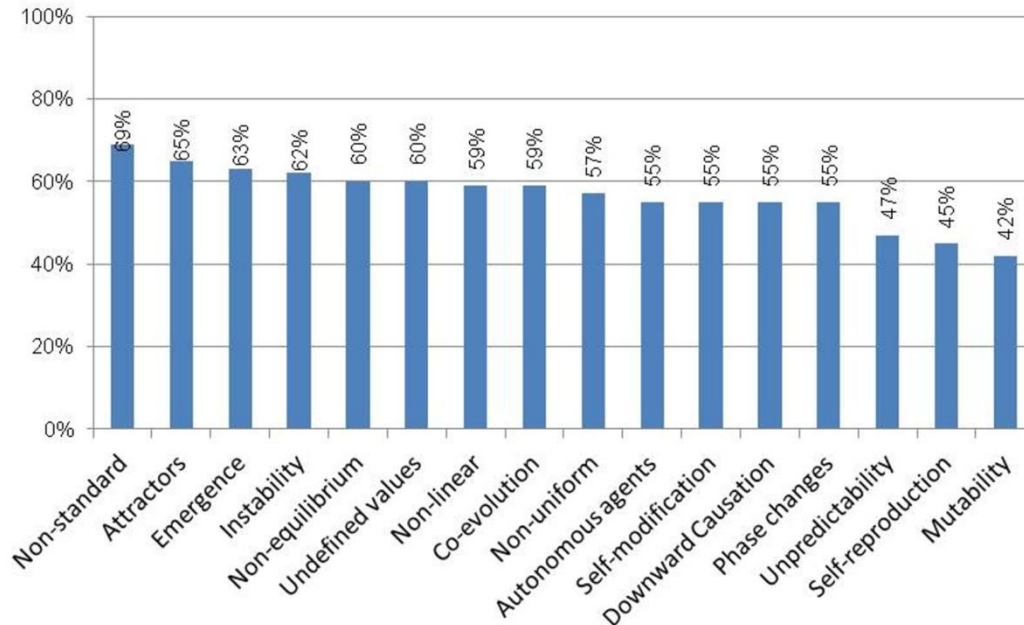
The results for the second part of interviews regarding the applicability of the complexity characteristics in the management style adopted and the implementation of actions that will enable the management of its effects, are presented below.

Having ‘translated’ Lucas’ (2000b) 16 of the 18 complexity characteristics from general complexity terminology into project management these were presented, discussed and in a few cases augmented to accommodate interviewees’ comments. Having completed this part of the interviews they were asked to indicate, against weighted actions, and on a scale from 1 – 100, the level of action(s) taken that will enable the management of the effects of each complexity characteristic through/for the process / area investigated, e.g. leadership style. It was agreed that, for an acceptable result the overall level of achievement should exceed 75%.

Figure 9 represents the overall results for both client and contractor practitioners. The responses, as described above, represent the level (as a percentage) by which current actions taken by practitioners achieve the required level of conduct needed to manage the effect of the corresponding complexity characteristic. For example, in Figure 9 and for ‘unpredictability’ the overall average of actions taken achieves only 47% of the required level of actions / activities which will ensure a 100% management of complexity through the management style adopted.

The results indicate that none of the complexity characteristics are managed at a level that will enable the management of the effect of each characteristic on/through the leadership style adopted.

*Figure 9. Level of overall average achieved from practitioners for managing each complexity characteristic through the management style adopted.*



## **5. ANALYSIS AND DISCUSSION**

In this section the analysis and discussion of the results obtained will be conducted and a response will be given to the research questions raised. The survey results will be reviewed followed by those from the interviews. The section will close with the review of the validation process and the results.

### **5.1 Survey results**

The demographic data of the sample indicate that participation was wide spread covering from the lowest level (Site Manager) to the highest (Project Director) and with the majority having over 10 years of experience (76%). This provides the required comfort regarding responses obtained.

The results indicate that practitioners take no formal decision regarding the management style to be followed. This is despite the fact that the environment is acknowledged as being more dynamic and complex and ranking of the attribute is considered topmost in terms of contribution to a successful project outcome (Figures 1, 2 and 3). It is therefore clear that research question one, regarding the management style being defined to the lowest organisational level, is refuted and research question two is proven. Regarding the management style adopted, and although the results are not statistically significant, practitioners indicated that in their most recently completed projects the style adopted was situational or egalitarian or both. However, at the lower hierarchical levels a more control oriented approach was implemented.

Survey results indicate that despite the known leadership and organisational theories recommendations for a more 'team structure' or 'managing themselves' approach, the opposite is happening and a stricter / structured approach is followed. Therefore, teams cannot adjust to a more demanding, dynamic and complex environment requirements.

### **5.2 Interview results**

As described earlier interviews served a dual purpose. Firstly they were to establish the current thinking of practitioners in terms of general complexity and secondly to examine the applicability of the 16 complexity characteristics (Lucas, 2000b) as a tool for managing the effects of the complexity of interconnections through the management style adopted. In parallel actions were to be established that will facilitate the management of these effects.

#### *5.2.1 General complexity*

Results indicate that companies do not yet understand complexity although it is known as causing issues (Figure 4) and from Figures 5 and 6 that there is a clear difference between what the companies consider as means to identify complexity and what do the individuals. Practitioners consider soft issues such as behaviours, team interfaces, structure, communication and management style as sources of complexity, whereas companies consider more the mechanistic sides of projects such as the schedule, procurement methods, project size, etc.

Responses also indicated that no tools are given / are available for managing the effects of complexity and processes such as risk management and planning are considered as the tool to be used.

### *5.2.2 Complexity Characteristics*

The ‘translated’ complexity characteristics were well received by the practitioners, especially as with the actions identified it became clear how the effects of complexity can be managed through its characteristics. Results show that current level of actions taken to manage the effects of complexity through the management style is not to the required level (Figure 9) and therefore research question three is refuted. Interviewees also indicated that the proposed actions could become a tool that will enable them to manage its effects.

### **5.3 Validation process**

Results obtained for both phases were validated by saturation interviews. Seven interviews were held with participants from different organisations – again client and contractor – and covering hierarchical levels from Director to Project Manager. The objectives and the research results were presented and this was followed by a question and answer session. Participants were asked to complete the validation questionnaire.

There was a complete agreement that results obtained, regarding the current project management practice in the areas investigated, as well as that of complexity of interconnections, are a true representation of the current status. It was also confirmed that complexity characteristics are not taken into account when considering the management style to be adopted (Antoniadis, 2009).

## **6. PROPOSAL**

Complexity theory aims to understand the whole through the interactions of the parts as it is not feasible to grasp the whole through just an understanding of the parts. However, as interconnections between dynamic systems generate complexity there is need to know how to manage its effects. Leaders and managers, through their style, should be prepared to accept and use positively the change that will occur at some point and this can be done by understanding the complexity characteristics and by focusing on the interrelations of the organisation sub-systems. The research results indicated that by ‘translating’ and mapping complexity characteristics to the relevant sub-process, in this case the leadership attribute, and developing appropriate actions it is possible to develop the means and/or approach for managing its effect on projects. Actions to be taken were identified and validated, through the interviews, and these correlated to everyday activities thus forming the basis for the development of a simple framework.

The framework, which was based on the interview questionnaire, enables the leader through a weighted scoring to establish the level of managing the effects of each characteristic, review proposed actions and establish an action plan. In terms of functionality each complexity characteristic is described and leaders are prompted, by ticking selection boxes, to indicate what actions they take to manage its effects through the management style adopted. Actions are scored automatically and results for each characteristic are aggregated. The tool generates instantly graphical output together with a tabular report indicating the level(s) achieved. Results are assumed as acceptable if they achieve an average score greater than 75%. Reports, graphical outputs and commentary can be retrieved at the end of the process and in addition allow the leader to establish an action plan and at the same time support a continuous improvement process.



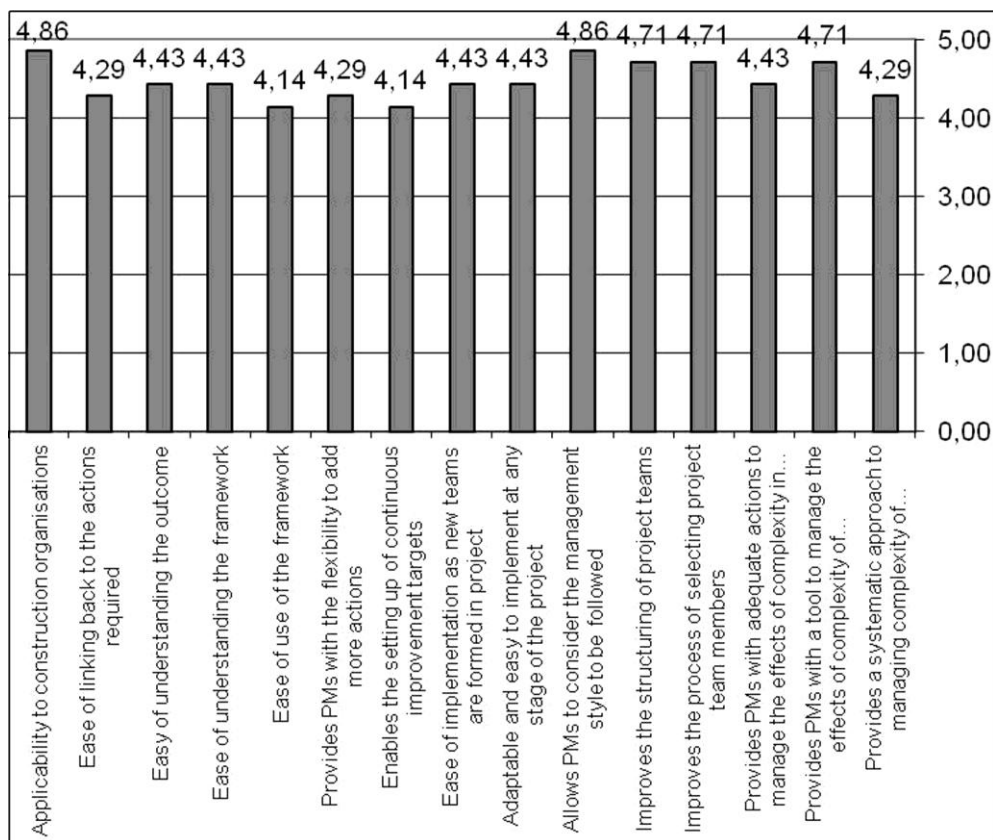
The framework has been designed so that it can be used in a structured approach and at any time during the project life cycle (described in detail in Antoniadis et al. (2011)). With its flexibility it allows for it been updated continuously to incorporate new developments in the processes addressed, therefore avoiding the danger of becoming a meme (Whitty, 2005) which is easy to dispute or not to be followed. Furthermore the framework is not restrictive and it can be used by general management practitioners.

## 6.1 Validation

The framework was validated for its applicability by conducting saturation interviews. It was presented to seven practitioners, from project manager to Director level. Interviewees had to perform a mock example and respond to the questions raised by the tool, in terms of the management style adopted. The report generated was reviewed and having established the level of actions required they were then shown how, by taking further actions (from the pick lists provided), they could improve their scoring and therefore the management of the effects of each characteristic through their management style.

To complete the validation process interviewees were asked to complete a questionnaire and the results are shown in Figure 10.

Figure 10. Level of acceptance by interviewees for the framework validation



It was a general consensus that the use of the framework is recommended for project management practitioners. Some of the general comments received, which make it a more 'general management tool', are included below:

- *The framework should be recommended to all organisations not only construction;*
- *It could easily be a consultants' tool with which he can implement and monitor change;*
- *Opportunity – Value as business process review almost more than project management tool;*
- *It could easily support and become part of implementing company-wide project management processes;*
- *It allows me to monitor my professional progress.*

## 7. CONCLUSION

The review established the existence of a gap in managing the effects of the complexity of interconnections in projects through the attribute of the leadership style and three research questions were raised. The status and importance of the attribute were investigated and the results confirmed its importance and although it is considered a critical contributor to the successful outcome of projects it is not followed to the lowest organisational level.

The results also established that complexity is neither defined nor tools are provided for managing its effects. Practitioners are expected, in some cases, to use tools from unrelated processes, for example, risk management and scheduling.

Findings were validated by project management practitioners who also concurred with the need for the development of a tool that will enable the management of the effects of the complexity characteristics through the attribute of leadership style.

The aim of the framework developed is to support the management practitioners, not only those managing projects, by providing the means to manage the impact of the complexity of interconnections through the attribute of leadership style. It also enables them to identify actions to be taken, establish levels of managing the effect of complexity and plan the implementation of further actions. Moreover, the framework can be cascaded to lower / team levels and therefore enable management to establish a complete action plan, spanning all levels and a coordinated approach for managing complexity of interconnections.

In closing and as noted by the interviewees during the validation phase the framework can be used and transferable to other industries and *should be recommended to all organisations not only construction.*

## REFERENCES

- Antoniadis, D. N. (2009). *Managing Complexity in Project Teams* (PhD Thesis). Loughborough University, UK.
- Antoniadis, D. N., Edum-Fotwe, F. T., Thorpe, A. (2011). A Framework for the Management of Complexity in Projects. *International Journal of Construction Project Management*, 3(1): 27-39.

- Applebaum, H. A. (1982). Construction Management: Transactional versus Bureaucratic Methods. *Anthropological Quarterly*, 55(4): 224-234.
- Baccarini, D. (1996). The Concept of Project Complexity – a Review. *International Journal of Project Management*, 14(4): 201-204.
- Bertelsen, S. (2002). Complexity - Construction in a New Perspective. Paper downloaded from Bertelsen's website [www.bertelsen.org](http://www.bertelsen.org). Retrieved October 20, 2005. The paper is a revised version of a paper originally prepared as a contribution for an IGLC-11, Blacksburg, Virginia.
- Blackburn, S. (2002). The Project Manager and the Project-Network. *International Journal of Project Management*, 20(3): 191-198.
- Burns, B. (2005). Complexity theories and organisational change. *International Journal of Management Reviews*, 7(2): 73-90.
- Cheng, M., Dainty, A. R. J. (2005). What makes a good project manager?. *Human Resource Management Journal*, 15(1): 25-37.
- Collins, A., Baccarini, D. (2004) Project Success – A Survey. *Journal of Construction Research*, 5(2): 211- 231.
- Davidson Frame, J. (2002). *The new Project Management. Tools for an age of rapid change, complexity and other business realities*. Second edition. London (UK): Jossey-Bass.
- Gardner, H. (2006). *Five minds for the future*. Boston (USA): Harvard Business School Press
- Geraldi, J. (2008a). Patterns of Complexity: The thermometer of Complexity. *Project Perspectives*, XXIX: 5-9.
- Geraldi, J. (2008b). The balance between order and chaos in multi-project firms: A conceptual model. *International Journal of Project Management*, 26(4): 348-356.
- Geyer, E. (1998). From simplicity to complexity: adapting to the irreversibility of accelerating change. *14<sup>th</sup> World Conference of Sociology*: Montreal, 26-July – 1-August 1998.
- Gidado, K. I. (1996). Project Complexity: The focal point of construction production planning. *Construction Management and Economics*, 14(3): 213-225.
- Girmscheid, G., Brockmann, C. (2008). Complexity of Megaprojects. The inherent complexity of large scale engineering projects. *Project Perspectives*, XXIX, 22 – 26.
- Gosling, J. (2006). Quietness as a virtue of leadership. *Professional Manager (CMI)*, 15(1), Chartered Management Institute Magazine. UK.
- Haas, K. B. (2007). Introducing the Project Complexity Model. A New Approach to Diagnosing and Managing Projects. *PM World Today*, IX(VII). Part 1 of 2.
- Jaafari, A. (2003). Project Management in the age of complexity and change. *Project Management Journal*, 34(4): 47-57.
- Kallinikos, J. (1998). Organised Complexity: Posthumanist Remarks on the Technologizing of Intelligence. *Organization*, 5(3): 371-396.
- Kirshbaum, D. A. (1999). *Emotional reactions to complexity, confusion and chaos*. Published in [www.calresco.org/kirshbm/reaction.htm](http://www.calresco.org/kirshbm/reaction.htm) April 2002. Retrieved October 2006.

- Kotter, J. P. (1999). *What Leaders Really Do*. NY, Harvard Business Review Press
- Lansley, P. (1994). Analysing construction organisations. *Construction Management and Economics*, 12(4): 337-348.
- Liker, J. K. (2004). *The Toyota Way. 14 Management Principles from the World's Greatest Manufacturer*. New York: McGraw-Hill.
- Lillieskold, J., Ekstedt, M. (2003). *Managing Complex IT-Projects – A need for a tool addressing technical and organisational complexity*. The Royal Institute of Technology, Industrial Information and Control Systems, Stockholm, Sweden.
- Lissack, M. R. (1999). Complexity: the science its vocabulary, and its relation to organisations. *Emergence*, 1(1): 110-125.
- Lucas, C. (2000a). *Setting the Scene – Science, Humanity and Interaction*. [www.calersco.org](http://www.calersco.org). Retrieved in August 2005.
- Lucas, C. (2000b). *The Philosophy of Complexity*. [www.calersco.org](http://www.calersco.org). Retrieved in August 2005.
- Lucas, C. (2000c). *Complexity and Artificial Life – What are they?* [www.calresco.org](http://www.calresco.org). Retrieved September 2005 (page version January 2004).
- Miller, J. H., Page, S. E. (2007). *Complex Adaptive Systems. An Introduction to Computational Models of Social Life*. Princeton. NJ: Princeton University Press.
- Mitchell, M. (2009). *Complexity. A Guided Tour*. Oxford. NY: Oxford University Press.
- Moore, D. R. (2002). *Project Management: Designing Effective Organisational Structures in Construction*. Malden. MA: Blackwell Science.
- Morgan, G. (1997). *Images of Organisation*. London: Sage.
- Obolensky, N. (2010). *Complex Adaptive Leadership*. Surrey. UK: Gower.
- Phelps, R., Hase, S. (2002). Complexity and Action Research: exploring the theoretical and methodological connections. *Educational Action Research*, 10(3): 507-524.
- Pheng, L. S. (1995). Lao Tzu's Tao Te Ching and its relevance to project leadership in construction. *International Journal of Project Management*, 13(5): 295-302.
- Senge, P., Kleiner, A., Roberts, C., Ross, R., Roth, G. & Smith, B. (1999). *The Dance of Change. The challenges of sustaining momentum in learning organisations*. London: Nicholas Brearley publishing.
- Smith, P. (2011). Thought Leadership. Why it's Time to Break the Rules. *Professional Manager (CMI)*. March/April 2011. Chartered Management Institute Magazine. UK.
- Stacey, R. D. (2001). *Complex responsive processes in organisations. Learning and Knowledge Creation*. London: Routledge.
- Stacey, R. D., Griffin, D. & Shaw, P. (2002). *Complexity and Management: Fad or Radical Challenge to Systems Thinking*. London: Routledge.
- Stewart, I. (1997). *Does God Play Dice? The new Mathematics of Chaos*. Second Edition, 1997. London: Penguin.

- Thamhain, H. J. (2004). Linkages of project environment to performance: lessons for team leadership. *International Journal of Project Management*, 22(7): 533-544.
- Thomas, J., Mengel, T. (2008). Preparing project managers to deal with complexity – Advanced project management education. *International Journal of Project Management*, 26(3): 304-315.
- Turner, J. R. (1999). *The Handbook of Project Based Management*. 2<sup>nd</sup> Edn, London: McGrawHill.
- Walker, A. (1996). *Project Management in Construction*. 3<sup>rd</sup> Edn, Oxford: Blackwell Science.
- Whatley, M. (1994). *Leadership the New Science*. San Francisco. Berrett-Koehler.
- Whitty, S. J. (2005). A Memetic Paradigm of Project Management. *International Journal of Project Management*, 23(8): 575 – 583.
- Williams, T. M. (2002). *Modelling Complex Projects*. West Sussex. UK: John Willey & Sons.



# Economic crisis and communication: The role of the HR manager

**Lourdes Susaeta Erburu**

*IESE Business School, Madrid, Spain. e-mail: LSusaeta@iese.edu*

**Esperanza Suárez Ruz**

*IESE Business School, Madrid, e-mail: esuarezr@iese.edu. Corresponding author*

**José Ramón Pin Arboledas**

*IESE Business School, Madrid. e-mail: JPin@iese.edu*

*Published online on April 1, 2013*

*DOI: 10.7350/BSR.V14.2013 – URL: <http://dx.medra.org/10.7350/BSR.V14.2013>*

## ABSTRACT

*As Conner and Ulrich (1996) have broadly maintained, the evolution of Human Resources Management (HRM) is related to the historical evolution of the business and of the economy in which companies operate. Accordingly, the roles and decisions of HR managers and the HR function adapts to the changes that take place in the economic cycle. Since 2008, the global economy has been immersed in one of the most significant structural economic crises of recent times. Its origins can be traced to the North American financial crisis, and its consequences have impacted all global economic production sectors, triggering a broad and profound employment crisis which has led to a deepening social recession around the world. In Spain, the effects of the crisis on the labor market have been much more devastating than in the rest of Europe, and around six million people have lost their jobs. In the light of this context, we wished to investigate what should be the role and the contribution of HR in business crisis management, and what are the key drivers in achieving employee engagement. Have there been recent changes in the HR manager's role? The efficiency of an appropriate communication policy in a crisis situation, both with respect to employees and to their union representatives, constitutes a crucial factor which could be defined as the strategic role adopted by the HR function when facing a change in the economic cycle. In this sense, the purpose of this paper is to analyze the internal (employee-directed) and external (union-representative-directed) communication strategies being applied by the HR managers of Spanish companies in their approach to the economic crisis. The paper outlines and explores the firsthand opinions of managers and unions on dealing with what is considered to be the deepest crisis after the Great Depression of '29, and concludes with a description of how the crisis is strengthening the strategic role of the HR function.*

**Keywords:** Internal communication, Global financial crisis, HR manager role, Employee engagement, Unions, Work council.

## **1. INTRODUCTION**

Since 2008, the global economy has suffered one of the most significant structural economic crises of recent times. The North American financial crisis can be considered to be its origin, as its consequences have had an impact on all global economic production sectors, triggering a broad and profound employment crisis which has led to increasing social recession around the world. Based on recent data from the IMF ([www.imf.org](http://www.imf.org)) and the ILO ([www.ilo.org](http://www.ilo.org)), the global financial crisis (GFC) has led to 30 million people becoming unemployed—more than the figure for the global recession. In late 2012, the global unemployment level will rise to 200 million people ([www.ilo.org](http://www.ilo.org)). According to information from the OECD, unemployment in advanced countries stood at around 47.8 million people—13.1 million more than at the onset of the financial crisis in 2008 ([www.oecd.org](http://www.oecd.org)). This type of unemployment is called cyclical, as it is usually linked to a country's business cycle. Cyclical unemployment begins to occur during the first part of the business cycle. It reaches its peak when the business cycle is at the bottom of the trough.

In terms of the general pattern of the loss of employment, the case of Spain is similar to the remaining countries of the European Union. However, in terms of magnitude, the problem is different. Although Spain is fully integrated into the Eurozone and the European Common Market, the effects of the crisis on the labor market have been much more devastating in that country than in the rest of Europe. Spain had one of the highest growth rates in the Eurozone prior to the collapse of its construction and finance sectors. While in the United Kingdom, the number of unemployed people was 2.5 million in 2012, in Spain around six million people were unemployed (INE, [www.ine.es](http://www.ine.es)). In other words, the rate of unemployment in Spain reached 26% in December, 2012 (INE, [www.ine.es](http://www.ine.es)). For many businesses, the GFC has been the reason for a large number of changes with respect to their human resources decisions over the last three years. The challenges of leading and managing people were further complicated by the recession, due to increased volatility and uncertainty.

Conner and Ulrich (1996) broadly supported the position that the evolution of HRM is related to the historical evolution of the business and the economy in which companies operate. Hence, the roles and decisions of HR managers and of the HR function adapt to the circumstances of economic cycles. In attempting to succeed and survive within their markets, companies adjust their strategies whenever the economic or business situation requires modified choices. And it is here where the HR or employment decisions derive from organizational strategy (Miles & Snow, 1984; Schuler & Jackson, 1987; Freedman, 1991; Conner & Ulrich, 1996). In this context, we want to investigate what the role and contribution of HR in business crisis management should be, and what are the key drivers in achieving employee engagement.

Companies need to adapt the size and quality of their workforce to the times. Among many other consequences, HR managers have had to reduce employee number, reduce work hours, alter functional mobility contracts or labor force adjustment plans. The efficiency of the communication policy in a crisis situation, both with respect to the employees and to their union representatives, constitutes a crucial factor which could be denoted the strategic role of the HR function when facing a change in the economic cycle.

Based on the model suggested by Kamoche et al. (2003), we can confirm that in this type of economic situation companies suffer both internal and external pressures. The external competitive pressure stemming from the economic crisis produces a drop in demand and an increase in unemployment, which in turn affects the global competition in the market. On the

other hand, the internal management of the company focuses on efficiency. This leads to pressure to reduce costs and fringe expenditure, as well as to the need to justify the need for each and the total amount of all expenditure to be incurred.

Without a doubt, these matters influence the strategic HR function. During times of economic prosperity, it was possible to focus on the design and implementation of sophisticated HR policies or on the search for measures to help retain talent and increase employee motivation. In times of crisis, on the other hand, these suffer a necessary reconversion. The strategic HR role, aligned with corporate strategy, requires an increase in creativity and a significant amount of leadership ability in order to generate trust and facilitate communication. Among the strategic actions that this department or function should adopt in a crisis situation are following up on skills and competencies, functional relocation, multipurpose (polyvalent) training, outplacement services, and, fundamentally, planning the different scenarios involved in the needed restructuring. In summary, all these measures align with the corporate strategy deriving from the economic situation and help management to overcome the difficulties.

A key factor in the effectiveness of these measures is correct communication with employees and their union representatives in order to reach a consensus to avoid worsening the conflict. As affirmed by Coombs and Holladay (2003), it is therefore reasonable to assume that communication in a crisis is affected by the crisis situation. The theories regarding communication in times of crisis are based on two seminal crisis models often referenced in literature and textbooks: Fink's (1986) *precrisis-crisis-postcrisis* model and Barton's (1993) detection-prevention-containment-recovery-learning model. Both works cover the need for crisis prevention and the learning points that any organization should draw from these situations. As James and Wooten (2009) have stated, more research is necessary in order to identify crisis leadership competencies and the role that HR managers can play in providing an opportunity for organizations to overcome the crisis and maintain business profitability and employee engagement.

In this line, the research objective of this paper is to explore which internal (employee-directed) and external (union-representative-directed) communication strategies are the HR managers from Spanish companies applying as they face the economic crisis which is affecting the country. Have there been any recent changes in the HR manager's role? And could such changes permanently affect the role of the HR function? We intend to use the empirical study presented in the following to contribute to the learning model that Barton (1993) refers to, with respect to the best practices derived from it which, at the same time, can serve as preventive measures for the corporate community for future changes in the economic cycle.

Now that the objective of our research has been established, we first make a brief reference to the evolution of the industrial relations in Spain with the intention of bringing the subject of the research into context. We consider here the figures who, within the legal framework and as result of social dialogue and collective bargaining, allow companies to temporarily reduce their ordinary production costs in times of economic crisis—without having to let go any workers and without affecting the unemployment rates or causing significant impact on the economy of the country. In second place, we explain the methodology used in our research, focused on examining in detail how the communication of these measures is produced, followed by a description of the results obtained. Finally, we extract the main conclusions from the paper, as well as their relevance from both an academic and a corporate perspective, and the limitations of our investigation, which can serve to motivate further study.



## 2. THEORETICAL BACKGROUND

### 2.1. The Spanish Labor Market and Industrial Relations System

The historical evolution of the Spanish labor relations system is extremely relevant to the current industrial relations (IR) system. Fifty years ago, during Franco's dictatorship, trade unions were completely illegal and it was the labor ministry itself which controlled and managed IR within companies. Democracy led to the separation of collective bargaining from the government, and currently workers can benefit from an ethical and highly regulated IR system (Martínez Lucio, 1998; Hamann, 1998). Experts highlight two main features of the Spanish collective bargaining system. Firstly, employees are covered by national, regional, industrial, or company agreements, independently of whether they are affiliated with a unions. In fact, collective bargaining agreements cover about 80% of the workforce (Hamann & Martinez Lucio, 2003:60). The distinctive types of collective bargaining are true acts for the company. According to the European Industrial Relations Observatory (2009), collective bargaining in Spain covers an increasingly wide range of subjects. This is due to new legislative reforms and their development through the following framework agreements: control of temporary recruitment, prevention of occupational risks, and promotion of gender equality at work. Based on the European Industrial Relations Observatory's information (2009), two organizations represent over 70% of all trade union members in Spain and are recognized as the most representative organizations. Secondly, the work council or committee is the most representative body within the company. Although the general union density is quite low (17% in 2009), the work councils are heavily influenced by the trade unions, with 80% of work council members being affiliated with one of the unions<sup>i</sup> (Martínez Lucio, 1998: 436). For this reason, Spanish IR shows a high level of industrial conflict.

With reference to the legal measures provided by the framework of labor relations in Spain, we can list the following measures that companies can adopt when facing the need for restructuring as consequence of the crisis:

1. Temporary suspension of labor contracts for economic, technical, organizational or productive reasons by means of a Temporary Employment Regulation Procedure (*Expediente de Regulación de Empleo, ERE*)<sup>ii</sup>.
2. Preservation of employment by means of temporary modification of the functions and category of the worker—if justified by technical or organizational reasons (functional mobility)
3. Preservation of employment by means of permanently transferring the worker to another center of the same organization, requiring the worker to relocation—if justified by economical, technical, organizational, or productivity reasons (geographical mobility)
4. Permanent or temporary reduction of the number of working hours with corresponding reduction of salary
5. Permanent or temporary reduction of salary
6. Conversion of a full-time contract to a permanent intermittent contract;

7. Recovery of employment after a temporary employment regulation procedure (ERE) has been used to eliminate labor contracts, by means of relocation to branches, group members, or companies of the same sector, as well as to newly created positions;
8. Outsourcing services in order to reduce operational costs, or reverting services previously outsourced in order to maintain employment in the company.

By applying these measures, organizations are free to offer additional guarantees in favor of the affected workers, such as a priority right for reconversion to a full-time contract when a vacancy of this nature is created, a company waiver not to terminate the affected worker by means of a collective or objective termination during a defined period of time, severance payments, or others (Pin et al., 2010). Unions usually demand strict application of the law. Concerning the pressure measures, unions and workers' committees often call for demonstrations and strikes (as has happened at Delphi, Nissan, and Volkswagen) or public campaigns (such as against the use of 'yellow trade unions' dominated by management in companies such as El Corte Inglés, Carrefour, and Metro) (Villarejo, 2009).

## **2.2. The HR Manager's Role Revisited**

In today's businesses, the right approach to and management of the company's employees can greatly affect the firm's overall performance. A strategic approach to Human Resource Management is vital, especially in growing companies. From ensuring the right staffing to maintaining performing employees, HR management is key to developing not only employees, but the whole organization itself. Regardless, becoming strategic requires that all HR efforts become coordinated and united under a uniform set of goals and objectives.

Crisis organization is an occasion to reexplore the strategic role of human resource managers in improving crisis leadership management. In a crisis situation, HR activities can contribute positively or negatively to the success of the company by recruiting and developing employees (McCracken & Wallace, 2000). This becomes skillful through strategic partnership, where the actions of HRM are aligned with the goals of the company's overall strategy, and with the crisis management plan in particular (Garavan, 1991; Wooten, 2005).

A financial crisis affects the entire organization, and requires a team to address it holistically; HR is a segment of this team. In most cases, the leadership team (including HR) is unable to manage the crisis, and mismanagement of an organizational crisis can have negative long-term consequences for a firm's profitability, reputation, market position, and human resource management systems (Garcia, 2006).

Changing the focus of company strategy during a financial crisis involves enormous efforts from HR: from the process of perhaps downsizing the firm to new definitions of job positions, to the reestablishing and reharmonizing the performance-evaluation and remuneration systems—anything can be reconsidered. The crisis demands the creation of an HR strategy that can be adjusted to a completely new and completely changed economic environment and to a corresponding business strategy by most companies.

The role of HR is vitally important in implementing sound business strategy to secure business success, and in certain cases the very survival of the company. A reevaluation of strategic priorities is necessary when a company changes and redefines its HR function. Effective crisis communication is one of the key components of effective crisis management, and we propose that the key human resource manager role consists in driving and facilitating crisis

communication.

### 2.3. The HR Manager and Communication Challenges in a crisis environment

Efficient communication is an essential measure of any well-constructed strategy for driving employee commitment, but this is particularly so in complicated times when anxieties are high and circumstances ensure a certain amount of instability (Poglianich & Antonek, 2009). Employees need to be aware of what has happened, of what they should do, and of how the crisis will affect them (Coombs, 2007a). In line with this, Robinson (2009) argues that managers should also ask themselves what will happen with employees who already know about the company's situation through mass media reports.

It is vital to reflect on the asymmetry of perceptions of conflict (Jehn et al., 2010), as it has been somewhat overlooked in past conflict studies (e.g., Jehn & Rispens, 2008). Managers facing a corporate crisis should be aware of the fact that workers will ask themselves questions such as: “*Will I have a job tomorrow?*” or “*What happens to my benefits?*” Managers should understand that their own perception of what is happening in the organization is not likely to be the same as that of the employees. Furthermore, managers who can put themselves into their employees' skin and imagine their point of view will be more efficient in their organizational role (Galinsky et al., 2005; Galinsky & Mussweiler, 2001).

Herein lies the relevance of the company developing a transparent and trust-generating communication plan. Numerous studies have demonstrated the key role that communication holds in maintaining and increasing trust, resulting in increased employee commitment and job performance. (Dirks & Ferrin, 2001; Ellis & Shockley-Zalabak, 2001; Ruppel & Harrington, 2000). This communication becomes difficult in critical situations where it can be foreseen that an ERE will be presented, as this increases uncertainty. Alarm is generated, leading to unhappiness and a lack of comprehension towards the organization. As Reynolds and Earley (2010) have stated, the behavior and message of leaders will have a great impact on subordinates' reactions in a crisis. They have pointed out that:

*«One of the challenges faced by crisis leaders is to communicate effectively the courses of action needed to allow for a reduction of harm to individuals and the ultimate restoration of the group, organization or community.»* (Reynolds & Earley, 2010:262).

In a new and challenging situation, crises make clear the negative and positive aspects of leaders. This is why transparency is needed, as well as communication plans for before, during, and after any measure which might affect employees. In this section, as part of the analysis of how this communication should be carried out, we will cover these three stages.

In every crisis situation, there is an element of surprise. Behaviors such as making sense, managing the change process, taking risks, and fostering organizational agility, communication, and public relations during the crisis may take a back seat to managing the ostensibly more pressing difficulties associated with financial difficulties (James & Wooten, 2005; Shaw & Harrauld, 2004). Crisis leadership does require leaders to adopt a multifaceted set of competencies, from communicating satisfactorily to truly leading the organization through the various crisis stages and into a fruitful recovery (Bolman & Deal, 1997; Burnett, 2002).

The competency which is perhaps the most narrowly identified with crisis management is the ability to communicate successfully. Very frequently, the kind of communication seen during a crisis event is rooted in public relations practices and efforts to place the company or its problem

in fairly constructive terms. In other words, crisis communication is used to positively shape stakeholders' perceptions of the crisis and the organization (Coombs, 1995; James & Wooten, 2006). During a crisis, leaders will identify and link with key organizational personnel and workforce representatives and will provide guarantees to the affected parties. Depending on the type of crisis, managers also may need to be persuasive, confident, and empathic in their messages.

What improves a leader's competency in communicating effectively during a crisis is the capacity to connect emotionally and psychologically with the audience and to influence the audience's view of the organization in such a way that opinions are the same or more favorable subsequent to the crisis than they were at prior to it (Sturges, 1994). Furthermore, effective crisis leaders will be proactive and forthcoming in their communication during a crisis, and will adopt a posture of acknowledgment and accountability (James & Wooten, 2006), their actual faults notwithstanding. What frequently damages a firm in crisis is a lack of transparency and the misinterpretation of the messages communicated.

### **3. METHOD**

In this study, we employ an evaluation research methodology. Evaluation researchers increasingly use both qualitative and quantitative methods in their evaluation efforts. This methodological approach is justified by the objective of our research, which is not only concerned with knowing what companies are doing, but also how, why, and with what consequences.

For this reason, the primary instrument used for gathering the fundamental information involves the use of focus groups. The focus group, or the focused interview (Merton & Kendall, 1946), is more than just a group dynamic. It is an investigation tool for trying to obtain a consensus with respect to a social fact previously defined by the researcher. Focus groups have been described as "carefully planned discussions designed to obtain perceptions on a defined area of interest in a permissive, non-threatening environment" (Krueger, 1994:6). The resulting data offers a robust alternative to more traditional survey methods when the absolute number of respondents is less important than is the richness of content of the investigation. The resultant information extends ahead of the predetermined questions integrated in the guide (Flores & Alonso, 1995).

We wanted to obtain firsthand information on the subject of our analysis, in this case through the opinions and perceptions of individuals. To this end, a group of HR directors of different companies operating in Spain was chosen, grouped by the sector of activity. The identity of the companies is confidential. Each of the groups was formed by 8 to 10 participating HR directors, and the sessions lasted approximately two and a half hours. They were guided by an expert in labor relations. The sectors represented were the following:

- Chemical-Pharmaceutical;
- Finance and Insurance;
- Construction;
- Telecommunications.

In order to gather information on sectors in which we could not obtain the critical mass to build a focus group, seven interviews with HR directors of companies from other sectors were carried

out. These interviews lasted approximately one and a half hours. They were recorded and later transcribed.

As it is of interest to know not only the opinion of the companies, but also of union leaders, further interviews were carried out during a working breakfast with three representatives of the main trade unions in Spain. The duration of this interview was two hours, and it was recorded and subsequently transcribed.

#### 4. FINDINGS AND DISCUSSION

The aim of this study is to advance knowledge of the effect of the main channels of communication with employees during a crisis of the economic cycle. Following the line of our empirical results, we discuss in this section the main findings concerned with internal communication and social dialogue with the work council and the unions.

##### 4.1. Crisis and internal communication: What are HR managers doing?

In the precrisis stage, it is important to build consciousness among employees and involve them in the measures that the company is going to take. Employees are naturally aware of the uncertainties and ambiguities that take place during a period of crisis, and try to find information on their causes, in order to reduce their own uncertainty (Pheng & May, 1997). If restructuring is necessary, the reason for this should be explained, and it should be explained well—with communication on all levels, as this communication will act as the catalyst or dynamical factor for the process (e.g. Gates, 2005). Communication transparency is key to the success of the process. At this point, the role of the HR manager is crucial to managing the business crisis. An HR director of a pharmaceutical company described his experience of they went about this:

*«From the moment we said that we were going to have an ERE, or that we were going to shut down our center for basic investigation, the employees were very alarmed with respect to what, when, and how it would happen. We had an open and transparent communication policy and began organizing regular meetings, almost weekly, with them, in order to keep them informed on the matter. From the perspective of helping them to adapt to the change this loss of work was going to impose on them, we began applying a series of measures to increase flexibility. This meant that they were allowed to finish their studies, assist congresses, or publish their research. During this period of uncertainty, they were at least able to prepare themselves for what could be lying ahead.»*

Employees are typically aware of the uncertainties and ambiguities that arise during a transition, and seek out information on the changes and their own place in the new system. If there is a lack of information, the gap might be covered with false information that could jeopardize the process of solving the crisis. Rumors have a propensity to spread faster along the grapevine than truthful information can be circulated through official channels. HR Managers should always be prepared for the special effects of insecurity on employees, especially in a period of crisis where any news, even bad news, seems better than no news (Fisher, 2010).

In case of a lack of a communications plan for reaching all employees, “official rumors” can appear and generate further uncertainty and tension. With regard to this, another HR director commented:

*«In these situations, everything is a hotspot for rumors, and in terms of the relation with the unions, critical in these stages, it can even become a tremendous problem if they began to think that one sector of the workforce has access to more information than another, etc. The rumors condition the negotiation process, to the extent that we prefer to be very strict. If there are any rumors, they should not be caused by our actions. Not falling into official rumors, but communications to all from the HR management.»*

Employees should find out about what is happening through the company itself or their union representatives, and not by means of external sources such as mass media or the rumor mill. There are several typical communication mistakes in changing times, such as mixed messages, not clarifying rumors, and releasing information late (Reynolds & Earley, 2010). Another manager explains the process his company followed to avoid these mistakes:

*«We have implemented a communication plan. Every two months, we inform all employees about the evolution of the company. Every department head receives the information to pass it on to his or her employees. But in a situation like this, we generate extraordinary communications. For example, today I have a meeting with the entire workforce, in the morning and in the afternoon, to explain to them the recent results and evolution of the company. This information is well received by the employees. Sometimes there is someone who says something you would not like to hear, but in general, these meetings are positive. Also, if it were not like this, it would not be communication, but rather a speech. I want it to involve feedback. Everybody understands that it is a forum for debate and for contributing ideas. It is not an arena for fighting.»*

In the case of the automotive sector, hit especially hard by the crisis, a great portion of the information available is published by the media. As Euler Hermes (2010)<sup>iii</sup> affirms:

*«The collapse in sales triggered by the economic and financial crisis in 2008 and 2009 has led to a violent contraction in auto production in the major producing countries—with the notable exception of China—and this has brought about profound restructuring.»*

In this sector, important figures and facts about the company are published and can be read in the daily media by the general population, and hence also by the workforce. The HR director of an important multinational company commented on this:

*«You do not need to convince nobody that the crisis exists. In this case, this has been an advantage.»*

Communication is directed, in this case, at explaining how the crisis is affecting every company, and what measures are being taken to mitigate its effects. Another manager of a company from the automotive sector said:

*«When we studied the possibility of presenting an ERE, there had been already many other companies which had done the same. We have had a certain time lag. By the time we reached this point, the communication plan was already a given. The press has already explained to you what the situation is like, and you have already seen that we have been temporarily decreasing our activity. We communicated internally, not only due to the culture of our company, but also because part of our remuneration depends on these results and potholes have to be explained.»*

In second place, the internal coherence of the organization is very relevant. As tough measures that affect all employees have to be taken, it should be apparent that the company is making an effort to reduce costs in areas other than HR. This can be illustrated by the following comment of one participant, which speak of the importance of transmitting messages not only orally, but also through action and managerial decisions:

*«We will not have a Christmas dinner this year. Not only due to the cost it imposes, but also because of how it would be perceived. This is to say that, the day before you might be laying off X number of workers, and later you would go to the Christmas party. People, and me first, would say: with what this party has cost, at least one of the jobs could have been saved. Hence, and not only from a business perspective, but also from an ethical and moral point of view, I would prefer to save one job and rather not have a Christmas dinner. So maybe it is important to say that this is why there will be no Christmas dinner. Maybe this example is slightly absurd, but I think that communication is essential.»*

At the same time, the message has to be aligned with the decisions that the organization is making on a global level. What should not happen is that, on one hand restructuring processes are being carried out as a consequence of cuts, while on the other hand contradictory messages are being launched, for example by presenting a profit and loss statement with profits on an international level. One participant, while speaking of how these contradictions are sometimes more frequent in multinational companies, mentioned the following:

*«Right now, I have two recent examples. We are currently immersed in a restructuring process involving the shutdown of a plant in Zaragoza and at the same time as you are saying how complicated the situation is, you suddenly find a message from the multinational firm on international level, where the CEO has said that this year there has been this and that growth, and that there will be further growth and that a huge plant in China has been built to concentrate all activities there.»*

It has always been difficult to come to terms with the loss of a job, but everything depends very much on how this news is presented, on the environment of the employee, and the on favorable or otherwise termination negotiations. Creating this climate of trust is the mission of the managers, and it comes down to communicating well and at the right moment. In words of another participant of the focus group:

*«In the end, I think it all reduces to the lack of trust between the employees and the management of the company (...). If we are not capable of convincing the workers' representatives that the individual performance of any person is critical for the overall evolution of the business, this denotes a breach in the emotional pact, of the trust. It is important to transmit the sensation that the company, its management, and its workers are sitting in the same boat.»*

Crisis experts have recommended a third component to initial crisis responses: crisis managers should express concern and sympathy for all the victims of the crisis. Downsizing has a significant negative impact on work attitudes, and often results in low morale, reduced commitment, and a lack of trust and loyalty among employees. With communication, the company can minimize the effects of survivor's syndrome before, during, and after a layoff (Burham, 2009; Brockner, 1995). The company should communicate to its employees that restructuring will lead to an improved business situation and will guarantee the survival of the

company in the future. This will increase trust and motivation among the survivors, and will improve comprehension of the situation among terminated workers. One HR director said during a meeting of the focus group:

*«We are involved in several restructuring processes, but in the end, it is to achieve viability for the company. If the people who are in the company are not motivated and do not identify, or if the link of commitment is broken because worker believe they are next in line, then it is difficult to align the achievement of the goal of the company with the challenge of keeping the people motivated. (...) But it is true that we are survivors, and in the end it is very difficult to make somebody understand that you are eliminating his or her job, and this is why I believe that the process of communication as a whole has to be positive.»*

Companies should aim at it becoming common that people participate and are convinced that what is being done is the right thing to do. With respect to the demotivation produced by restructuring processes, upper management should be aware of the tremendous difficulty and the huge degree of stress that the delivery of a termination notice imposes. Frequently the negative feelings and sense of guilt of the manager delivering the message result in the manager's own dissatisfaction and lack of motivation to remain with the company. The challenge, as Brockner et al. (1993:165) concluded, is to help managers handle layoffs (and other forms of restructuring) in ways that optimize the outcome for both the organization and its people. As Daniels (1995) proposes, some of the measures that downsizing organizations can take to preserve survivors' engagement include social support, effective and timely communications, and stress management programs.

In summary, internal communication has to be clear, fluid, and coherent with the situation of the organization, in order for it to be an instrument that increases motivation and commitment towards the company, as opposed to being a weapon for tension. Coombs (2007b) suggests that well informed employees provide an additional channel of communication for reaching other stakeholders. Among the stakeholders who control corporate reputation, and who are predisposed by it, employees are a major factor whose important role becomes increasingly valuable each day (Dortok, 2006). The fact is that internal communication is an integral part of the game.

#### **4.2. The HR Manager's role in maintaining dialogue with unions and work councils**

Within a strategic, viable, and fluid communication plan, maintaining dialogue with union consultation and participation presents the best route forward, not just for companies and employers but also for trade unions thinking of their members (O'Brien, 2000). This dialogue with the social agents must be carried out with normality—the so-called “normalization of labor relations.” In a qualitative study undertaken in Germany, Gullemos (2009) reflected that companies are living “from day to day” with respect to the decision-making needed to face the financial crisis. Hence, managers are not really prepared for this situation, and the trade unions are also not very well positioned in this scenario (Hyman & Gumbrell-McCormick, 2010). Referring to this point, one of the HR manager participants commented:

*«The biggest complaint about the unions with respect to the restructuring processes is that, in many cases, the companies only call them when the problem is already there, while they have no type of communication with them during the normal life of the company.»*

The fundamental point here is that “having a voice in how they do their work is often as



important to people as how much they are paid to do it” (Strauss, 1998). According to this, one of the members of the focus group stated:

*«The attempt to maintain a permanent communication channel with the social agents, the workforce, in terms of establishing didactic work and maintaining the employability of the people, is very important (...). It is important that the market should also see our organization as one that is socially responsible, takes care of its people, and is willing to adapt to change.»*

However, permanent dialogue is difficult, as there is the risk that union agents will interpret this as a weakness of the company. And in this communication lies the special importance of *dialogue with union representatives*. A participant speaking about the construction sector commented to us:

*«Knowing what dialogue has occurred and what has been done over time helps a lot with a restructuring process (...). Once you are done with the restructuring, keep up the dialogue, it's not a bad thing. Tell them sometimes what plans you have and what you will do. It happens to me a lot that 4 years pass and the same HR director comes again to tell me that we have to do another restructuring, and I ask him whether he maintained contact [with the union], and he tells me that he has not seen them since that day [4 years ago]. And the problem is deserved, because it will be the second time that they will claim you only call to see them to talk about problems.»*

As Marginson (2010) has stated, the operational sectors which have most suffered from the crisis have been those whose union density is high and where the firms are very important for the economy. He also remarked that in some countries, like Poland, there are some joint “*employer-trade union packages of anti-crisis measures*” discussed directly with the government in cases when the company and the trade unions failed to reach a proper, successful agreement (Marginson, 2010: 362). In line with this statement, the financial institutions in Spain did not have to present a social plan, which incurred the risk that the plan might be denied by the administration. As affirmed by another assistant of the focus group,

*«In the banking sector, we have not seen ourselves in the position of armoring an ERE with a social plan to be fiscalized by the administration. I think we know how to generate restructuring dynamics on a day-to-day basis to work with maximum efficiency, to be prepared at any moment for any economic situation, and to have a daily dialogue with union representatives in order to generate this climate of collaboration.»*

The importance of involving the social representatives appears clearly in educational plans, as well as in transformation plans, in the definition of the profiles, in aspects of mobility, and in all that is necessary for the representatives to really feel they are participants in the organizational change and to understand it thoroughly. The idea is to achieve their engagement, and that they transmit to the employees the reason behind the actions that are being carried out. Negotiations with these representatives can become more complicated if there is little connection between the representatives of the workforce and the workforce itself. This situation appears when the structure of the union is very bureaucratic. The leading view (e.g., Lipset, Trow, and Coleman, 1956) stresses conflict, emphasizing that progress in the administrative systems has unfavorable effects on representative systems. There is a certain risk that union representatives may turn into mere “*public service workers for the union*.” It is very controversial in Spain to talk about the

existence of so-called “*liberalized by the union.*”<sup>iv</sup> Additionally, the number of representatives in a company can be modified, depending on the agreement between the company and the workers. The law establishes a minimum, and from there, the number changes in line with the company, the size, and the sector. In the words of a participant of the telecommunications focus group:

*«We have a union representation who is very distant from the worker; there is a significant lack of representation. Just think, there are people on the work council who earn a lot more money than the people on an average level at another place (...). This lack of connection manifests on two levels: between our union representatives in the company and their own unions, where I understand that they are very privileged; and also between our representatives and the employees, where, what happens is that they act based upon their legal prerogatives and that they are very aggressive (...). The first thing they did when we said that we were going to file an ERE was to bring in two people from outside. We spoke to them and it worked out. But they had no support from their base. Now they are better connected, but the level of representation is minimal. If they are not respected, it makes reaching an agreement more difficult.»*

As has been pointed out in the chapter on methodology, the two most important Spanish unions were interviewed, as they are crucial members of the social partners and hold an essential role in the Spanish labor market, as well in the Spanish system of labor relations. These unions were asked about the existence of fluent communication in the face of a possible crisis, in terms of prevention measures. As Robinson (2009) pointed out, the communication plan should be one of the main measures within the precrisis phase. One of the interviewed trade union representatives stated:

*«In any case, if there is an exception, it should be looked for in large corporations. Especially those that have strong and stable union representation. Where this change of culture has already happened so that the companies take into account this way of anticipating, I think, is where there is a strong union representation, especially where there are European work councils because then you can take the experience of other countries of the European Union into account. Well there, I think that this work already begins there to some extent (...) Later, we enter small businesses and there is absolutely nothing like this. Maybe there is an exception in large corporations, and especially multinational ones, where some of this work has already been done.»*

The unions, if fluid communication is maintained by the management of the company, can facilitate the transfer of employees affected by the ERE as a defensive decision to guarantee the viability of the company. In line with this statement, a general manager from the pharmaceutical sector pointed out:

*«We have had difficult moments where we paid a lot of attention to communication, and I think that we have sent out a clear message (...) “We will show you how to tackle the labor market so that, when you reach an agreement with the company in which you will be notified of the conditions of the ERE, you will already have started. Among our candidates, people who have worked in Pharma, some have moved on to small biotechnological companies. It is a complicated process and it cannot always be established, because the unions are out there, but it has served to manage uncertainty.»*

It is usually the function of the HR director, or of labor relations, as part of the strategic function they hold within the company, to maintain and leverage the relationship of the company with the representatives of the workforce and the unions. To have workforce representatives behave like any another shareholder in the organization is not an easy task. The message derived from the empirical analysis is clear, and it points at the need to keep the work council informed and to proactively count on its approval before taking any decision which might affect the workforce. This is not something that can be improvised—even less so when the situation is complicated and there is talk of layoffs and restructuring. Hence the importance of maintaining a “good, fluid and constant relation” in which information is shared beyond the strictly legal minimum. This measure will facilitate relations with workforce representatives at problematic moments.

## **5. CONCLUSIONS**

The objective of this research was to explore the role of HR managers in communication strategy internally, and at the same time, the communication strategy towards workforce representatives during the crisis that the Spanish economy is currently immersed in. Communication strategies are intended to communicate the need for redundancies. On the one hand, we have noted among the results obtained that there is a need for constant, fluid, transparent communication with employees, to avoid surprises and explain the reason behind the actions being taken. This not only helps prevent rumors that might lead to an estranged work climate, but also produces a climate of trust which can allow both the reputation of the company and the motivation of the managers leading restructuring process and the survivors themselves to be maintained.

Concerning the dialogue with unions and workforce representatives, alignment with the company is much more favorable when the company, through the HR manager, possesses a traditional constant and fluid relation with the other parties. Even though there are some exceptions, managers of human resources seem to agree that if you involve the responsible players of the union from the start, they will respond with increased support for the plans developed and agreed on by both management and unions.

We can conclude that the current financial crisis is enhancing the strategic HR role. With prompt and positive responses from HR managers, companies would not now be facing the problems of continuity that the crisis has raised. The communication capacity of HR managers is a key factor in overcoming a crisis period, with all that this implies for human capital loss, union conflict, and possible damage to the company.

The contribution of this paper is of an empirical character and supports what has already been pointed out in the literature. It is an original and valuable feature of this research that it gathers the firsthand opinions of managers and unions on dealing with what is considered to be the deepest crisis after the Great Depression of ‘29. The present situation is not the same as that which faced companies then, but the learning point seems not to have been retained, as in spite of a greater consciousness regarding the importance of the communication, it is still the case that the companies wait for the problem to appear before they reestablish contact.

Future quantitative research could add solidity to our results and go further into the detail with respect to the existing relations between communication with employees (indirect and direct) and the degree of unionization of companies. On the other hand, the relative rareness in certain companies’ workforces of the feeling of being actually represented by the workers’ representation opens up another line of investigation. In this same line, we are aware that this

paper shows its limitations in the fact that we have listened to the managers of human resources and the unions, but not directly to the employees, which would have completed the framework and obtained a more complete vision of the problem. It seems therefore that communication is the oxygen for the global crisis asphyxia, and the HR managers will have to learn to provide this oxygen to companies as part of their strategic role.

## ACKNOWLEDGMENTS

We appreciate the anonymous and uninterested collaboration with this work offered by all the members of the focus groups, as well as the interviewees. We would also like to thank the Creade Lee Hecht Harrison group and the law firm Sagardoy Abogados for sponsoring this research.

## REFERENCES

- Barton, L. (1993). *Crisis in organizations: Managing and communicating in the heat of chaos*. Cincinnati (USA): SouthWestern Publishing Co.
- Bolman, L. C., Deal, T. E. (1997). *Refraining organizations*. San Francisco(USA): Jossey-Bass.
- Brockner, J. (1995). Research notes and communications towards enhancing survivors organizational and personal reactions to layoffs: A rejoinder to Daniels. *Strategic Management Journal*, 16(4): 329-331.
- Brockner, J., Grover, S., O'Malley, M. N., Reed, T., & Glynn, M. A. (1993). Threat of future layoffs, self-esteem, and survivors' reactions: Evidence from the laboratory and the field. *Strategic Management Journal*, Summer Special Issue, (14): 153-166.
- Burnett, J. (2002). *Managing business crises: From anticipation to implementation*. Westport, CT (USA): Quorum Books.
- Burnham, K. (2009), *Managing redundancy survivor syndrome: Tips to avoid layoff stress*. USA: CIO.
- Conner, J., Ulrich, D. (1996). Human resource roles: Creating value, not rhetoric. *Human Resource Planning*, 19(3): 38-49.
- Coombs, W. T. (1995). Choosing the right words: The development of guidelines for the selection of the “appropriate” crisis response strategies. *Management Communication Quarterly*, 8: 447-476.
- Coombs, W. T. (2007a). Crisis Management and Communications, *Working Paper of the Institute for Public Relations*, retrieved January 2013 from: [www.instituteforpr.org](http://www.instituteforpr.org)
- Coombs, W. T. (2007b). *Ongoing crisis communication: Planning, Managing, and responding* (2<sup>nd</sup> ed.). Los Angeles (USA): Sage.
- Coombs, W. T., Holladay, S. J. (2003). Reasoned Action in Crisis Communication: An Attribution Theory-Based Approach to Crisis Management. In D. P. Millar, Heath, R. L.

- (Eds.). *Responding to Crisis: A Rhetorical Approach to Crisis Communication*, 95–115. New Jersey (USA): Mahwah: Lawrence Erlbaum Associates.
- D'Angelo Fisher, L. (2010). Beware the toxic workplace. *BRW*, 32(10), 43-43.
- Daniels, K. (1995). A comment on Brockner et al. 1993. *Strategic Management Journal*, 16: 325-328.
- Dirks, K. T., Ferrin, D. L. (2001). The role of trust in organizational settings. *Organization Science*, 12 (4): 450-467.
- Dortok, A. (2006). A managerial look at the interaction between internal communication and corporate reputation. *Corporate Reputation Review*, 8(4): 322-338.
- Ellis, K., & Shockley-Zalabak, P. (2001). Trust in top management and immediate supervisor: The relationship to satisfaction, perceived organizational effectiveness, and information receiving. *Communication Quarterly*, 49: 383-398.
- Fink, S. (1986). *Crisis management planning for the inevitable*. New York: AMACOM.
- Flores, J. G., Alonso, C. G. (1995). Using focus groups in educational research. *Evaluation Review*, 19(1): 84–101.
- Freedman, A. (1991). *The Changing Human Resources Function*. (Report No. 950). New York City: Conference Board.
- Galinsky, A. D., Mussweiler, T. (2001). First offers as anchors: The role of perspective-taking and negotiator focus. *Journal of Personality and Social Psychology*, 81(4): 657-669.
- Galinsky, A. D., Ku, G., Wang, C. S. (2005). Perspective taking and self-other overlap: Fostering social bonds and facilitating social coordination. *Group Processes and Intergroup Relations*, 8(2): 109–124.
- Garavan, T. N. (1991). Strategic human resource development. *Journal of European Industrial Training*, 15(1): 17-31.
- Garcia, H. (2006). Effective leadership response to crisis. *Strategy and Leadership*, 34(1), 4-10.
- Gates, G. F. (2005). The role of communication integrators at General Motors. *Strategic Communication Management*, 9(2): 30-33.
- Guggemos, M. (2009). Die Leute wollen kein Ra'dchen im Getriebe sein. *Die Mitbestimmung*", 6: 18–21.
- Hamann, K. (1998). Spanish Unions: Institutional legacy and Responsiveness to Economic and Industrial Change. *Industrial and Labour Relations Review*, 51: 424-44.
- Hamann, K., Martinez L. M., (2003). Spanish Unions: Dynamics of Revitalization. *European Journal of Industrial Relations*, 9 (1): 61-78.
- Hyman, R., Gumbrell-McCormick, R. (2010). Trade Unions and the Crisis: A Lost Opportunity?. *Socio-Economic Review*, 8(2): 364-372.
- James, E. H., Wooten, L. P. (2005). Leadership as (un)usual: How to display competence in times of crisis. *Organizational Dynamics*, 34 (2): 141-152.

- James, E. H., Wooten, L. P. (2006). Diversity crises: How firms manage discrimination lawsuits. *Academy of Management Journal*, 49(6): 1103-1118.
- James, E. H., Wooten, L. P. (2009). Leading Teams in Crisis Situations: From Chaos to Extraordinary Performance. *Effective Executive*, 12(5): 14-19.
- Jehn, K. A., Rispens, S. (2008). Conflict in workgroups. In C. L. Cooper, Barling, J. (Eds.). *Handbook of organizational behaviour*, 262–276. Thousand Oaks, CA (USA): Sage.
- Jehn, K. A., Rispens, S., Thatcher, S. M. B. (2010). The effects of conflict asymmetry on work group and individual outcomes. *Academy of Management Journal*, 53(3): 596-616.
- Kamoche K., Cunha, M. P. E., Vieira da Cunha, J. (2003). Towards a Theory of Organizational Improvisation: Looking Beyond the Jazz Metaphor. *Journal of Management Studies*, 40(8): 2023-2051.
- Krueger, R. A. (1994). *Focus groups: A practical guide for applied research*. Thousand Oaks CA (USA): Sage Publications.
- Lipset S. M., Trow. M., Coleman, J. (1956). *Union democracy*, Glencoe. IL (USA): The Free Press.
- Marginson, P. (2010). New forms of cooperation, new forms of conflict. *Socio-Economic Review*, 8(4): 341-376.
- Martinez Lucio M., (1998). State Intervention and the Question of European Integration in Spain. In B. Moss, Michie, J. (Eds.). *The Single European Currency in National Perspective*. London (UK): Macmillan.
- McCracken, M., Wallace, M. (2000). Towards a redefinition of strategic HRD. *Journal Of European Industrial Training*, 24(5): 281-290.
- Merton, R. K., Kendall, P. L. (1946). The Focused Interview. *American Journal of Sociology*, 51: 541-557.
- Miles, R. E., Snow, C. C. (1984). Designing Strategic Human Resources Systems. *Organizational Dynamics*, 13: 36-52.
- O'Brien, R. (2000). Workers and world order: the tentative transformation of the international union movement. *Review of International Studies*, 26: 533–555.
- ONS (2012), Labour Market Statistics , retrieved November 2012, from:  
<http://www.ons.gov.uk/ons/rel/lms/labour-market-statistics/november-2012/index.html>
- Pheng, L. S., May, C. F. (1997). Quality management systems: A study of authority and empowerment. *Building Research and Information*, 25(3): 158-169.
- Pin, J. R., Susaeta, L., Gallifa, A. (2010). Mejores prácticas en recursos humanos. (ST-115). Spain: IESE Publishing.
- Poglianich, A., Antonek, M. (2009). Rules of Engagement in Turbulent Times: How Verizon Wireless Uses A Robust HR Portal for Employee Communication. *Wiley InterScience*, retrieved January 2013 from: [www.interscience.wiley.com](http://www.interscience.wiley.com).

- Reynolds, B. J., Earley, E. (2010). Principles to enables leader to navigate the harsh realities of crisis and risk communication. *Journal of Business Continuity and Emergence Planning* 4(3): 262-273.
- Robinson, W. (2009). Communications During Corporate Restructuring. *The Corporate Board*, November/December: 11-16.
- Ruppel, C. P., Harrington, S. J. (2000). The relationship of communication, ethical work climate, and trust to commitment and innovation. *Journal of Business Ethics*, 25(4): 313-328.
- Schuler, R. S., Jackson, S. E. (1987). Linking competitive strategies with human resource management practices. *Academy of Management Executive*, 1: 207-219.
- Shaw, G., Harrauld, J. (2004). Identification of the core competencies required of executive level business crisis and continuity managers. *Journal of Homeland Security and Emergency Management*, 1(1): 3-18.
- Strauss, G. (1998). An overview. In F. Heller, Pusic, E., Strauss, G., Wilpert, B. (Eds.). *Organisational Participation: Myth and Reality*, 8-39. Oxford (UK): Oxford University Press.
- Sturges, D. L. (1994). Communicating through Crisis: A Strategy for Organizational Survival. *Quarterly February 1994*, 7(3): 297-316, doi:10.1177/0893318994007003004.
- Villarejo, E. (2009). “Spain: Multinational companies and collective bargaining”, Eironline, Document ES09.
- Wooten, L. P. (2005). *Framing crisis management: A multiple lens perspective*. Darden executive briefing series on crisis management. Charlottesville, VA: Darden Press, Batten Institute.

---

## Endnotes

<sup>i</sup> The most important national trade unions in terms of number of members are the Trade Union Confederation of Workers' Commissions (Confederación Sindical de Comisiones Obreras, CCOO) and the General Workers' Confederation (Unión General de Trabajadores, UGT).

<sup>ii</sup> This is the procedure which must be followed when an employment contract is to be terminated or suspended for economic or technological reasons or on grounds of *force majeure*. In Spain, such action requires the agreement of the workers' representatives or, if this is not obtained, prior official authorization. It is also called *expediente de crisis* (crisis procedure) or simply *regulación de empleo* (employment adjustment). This formula, which is particularly important in the case of collective dismissal or redundancy, has a long tradition in Spanish labor legislation and is accepted by the trade unions. In 1994, the legislation was rewritten to align it with EEC Directive No.129/1975, although the requirement for official authorization has been retained. In the past few years, there has been a slight increase in instances of redundancy and in the number of employees affected. The latest labor market reform law 3/2012 has eliminated the need for the administrative authorization for EREs and it has also eliminated the need to agree with labor unions in order to implement them. This should facilitate the business decision to apply EREs. However, the possibility that employees and labor unions have of recourse to the court has judicialized collective labor relations. This fact has slightly changed the role of HR managers this year, but the change was not substantial. The study was conducted before the law came into force.

<sup>iii</sup> Euler Hermes offered an analysis (Paris, 24.09.2010) of the world automobile market in these term: “The crisis is enduringly reshaping the global landscape of the automobile sector.”

<sup>iv</sup> The delegates of the union hold the legal right arising from an “organic law” (*Ley Orgánica*) to dedicate a series of weekly working hours to their task of representation without prejudice to their pay. In the private sector, the number of delegates varies depending on the size of the company, while in the public sector, the norms of each autonomous region establish the number, which thus vary from region to region.





# From management of complexity for better performances towards management of complexity for survival: relations and strategies of firms

**Giancarlo Scozzese, Ph.D.**

*Assistant Professor. University “per Stranieri di Perugia”. Department Of Comapred Cultures. Perugia, Italy. e-mail: giancarlo.scozzese@unistrapg.it. Corresponding author<sup>i</sup>*

**Roberto Bruni, Ph.D.**

*Research Fellow. University of Cassino Cassino. Department of Economics and Law. Cassino. Italy. e-mail: r.bruni@unicas.it*

*Published online on April 1, 2013.*

*DOI: 10.7350/BSR.V15.2013 – URL: <http://dx.medra.org/10.7350/BSR.V15.2013>*

## ABSTRACT

*This work aims to highlight the main relational and strategic criticalities of firms which at the present time find themselves forced to deal with turbulent and chaotic markets and, in particular, with a change in consumption. There are no more quiet moments for firms that are constantly stressed by complex events and by critical organizational aspects, at all levels, in quickly changing markets and society. Instability has become a regularity because of the economic crisis, the weather, and political events in different nations. In this way, the firms suffer high variability and complexity in order to manage from day to day their relationships with all stakeholders and with each market. This paper is focused on complexity management in the daily activities of the firm underlining the extreme variability of the current environment and context.*

**Keywords:** Complexity, Global crisis, Management, Survival.

## 1. INTRODUCTION

Kotler and Armstrong (2005) considered the main task of marketing strategy to be the identification of consumers' future needs and, of course, to design and develop the products and the services necessary for their satisfaction; they held this to be true for B2C marketing as well as for B2B marketing. Evolution and the market turmoil make it increasingly harder to foresee future developments, and it often becomes difficult, if not almost impossible, to produce predictions and planning of activities, especially in the medium to long term. The literature is beginning to unanimously agree that we must “predict the future,” according to different strategies already prepared and planned (Kotler, 2009). Globalization has led to some price reductions, to increased product availability (often at poor quality), and, basically, for some

products, to a less critical approach on the part of the demand to the supply. Technological development has opened its borders, has facilitated the exchange of information and, therefore, enhanced innovation capability in many contexts (firms in general have increased the quality supply). Senge (1990) considers organizational learning as the ability of organizations to adapt themselves to the environment in a sustainable way; other authors have dealt with organizational learning and contributed to the advancement of research (Mintzberg & Quinn, 1996; Serrano & Fialho, 2005) into supporting the theories of chaos and turbulence, especially alongside organizational models that can be adapted to the turbulent reality. From this aspect, emerges the need for organizations to organize themselves within this turmoil and chaos (Kotler & Caslione, 2009) by learning to understand and manage both this environment, but also the enterprises themselves from the inside. Thus a need to control innovation in organizations arises, apart from control of a technology that releases knowledge and information, as do financial and market difficulties in general and opportunities resulting from changes. The theories and reflections of Normann and Ramirez (1993) stress the importance, especially for SMEs, of checking reports which are upstream and downstream to the product-process chain and the core business (value constellation), and of maintaining correct relations with the stakeholders of companies that are in any case related to the company and which, in the event of a crisis, may be directly affected by such difficulties because of their (direct or indirect) connected. Every decision of the firm is thus based on information and data both inside and outside the enterprise, and the information system of marketing can be understood as an integrated and interacting structure of people, equipment, and procedures aimed at collecting, analyzing, and classify information for those in charge of deciding market strategies (Kotler & Keller, 2007).

In synthesis, firms in these years of global crisis, through innovative management, need to develop B2B and B2C cooperation, and internal knowledge. They also need to give value to intangible assets in order to gain competitive advantages.

## 2. THE ROLE OF COMPLEXITY IN GLOBAL CRISIS: CONTINUOUS CHANGE

The present economic world scenario is affected by a significant and persistent turbulence that came to a peak in September 2008 with the bankruptcy of the large merchant bank Lehman Brothers.

In these times of turbulence, the role of business, management, and strategies in facing this type of macroeconomic instability and critical situation represents the crux of the debate: it is useful to identify the elements that give new trends in management—that *lead the company towards survival*—interpreted according to the generic elements of the firm's crisis and the specific features of the global crisis in the era of continuous change.

Tension arises in companies due to the economic crisis and other complex situations. The fear of unemployment and the difficulty of forecasting the future of firms, especially of SMEs, generate difficulties and tensions. From a management and production point of view, tensions in the firm generate negative results that cannot be managed when the situation of economic-financial difficulties is both global and enduring.

When the crisis is strictly internally related to companies, for limited periods of time, problems and difficulties can be more easily solved. The mistrust increases when the feeling of difficulty involves the private domain of people, markets, and the global economy in general. Such mistrust leads to a reduction in consumption and risky investments, and therefore to economic

recession. The governance of firms, especially of SMEs, has had to consider in recent years that the shock generated by the current economic crisis is very strong, and has not only reduced the opportunities for business but has generated new models of consumption, production and management, especially in Europe.

The global economic crisis represents a “new set of rules” both from the business (supply) and, the consumers (demand) side; it is the time to reset the organizational structures and processes in compliance to new performance indicators, new type of investments, growth perspective, firms internal and external relations.

Based on past experiences, other researches and studies, firms stand in a situation of indeterminacy<sup>ii</sup> (Golinelli, 2010); in this condition, firms in some way know all the elements required for generating new survival possibilities, but will only find a solution if they are ready to improve the knowledge level of the interaction between these elements, and only if they also are inclined to change. Companies that change are “*enlightened firms*,” who possess governance capable of leading such change that, in turn, comes from a consciousness of different approaches to management, to the relationship with markets and stockholders, and so on. When an internal crisis affects the firm for a short time, the “necessity of change” is not shared by human operative resources; yet when it goes on for a long time and, especially, involves several nations, the feeling of difficulty and fear involves the company at all levels, which sometimes stimulates change. The duty of leading the change, especially in complex periods and during crisis, belongs to the governance that leads the firm towards innovation and value creation, while also developing consonance and resonance.<sup>iii</sup>

In this work, we intend by the term “innovation” to synthesize the cluster of strategic and managerial approaches by which governance begins to manage the continuous change and to lead the firm step by step through the complicated and unpredictable situations caused by turbulent markets. By means of an approach based on continuous change, a firm can avoid immobility and assume flexible and adaptive features, in order to manage uncertainty; in this sense, companies will be continuously encouraged to innovate, weakening the effects on them of the economic crisis.

In continuously innovating, governance must consider the expectations and awaited values of stakeholders and shareholders, the activities and processes that must be improved in order to reach the scheduled goals even in the crisis period, and the consonance and resonance levels that can be developed with relevant systems and supra-systems

Innovation is aimed at generating value through a continuous renewal that could be spread throughout all processes and, in general through the operative structure. The Italian situation with regards to innovation is positive, because the economic and productive systems are founded on SMEs— a situation that gives a particular, positive approach to research and innovation that is very often the result of practice, experiments, and relations with Universities and research centers. This condition, as can be observed in some studies on the innovation of Italian firms (Foresti et al., 2007), risks representing the SME sector as one characterized by low levels of innovation, as the reference indicators are connected with the outgoings of R&D.<sup>iv</sup>

Italy is thus a production system characterized by a dual situation (Malerba, 1993) of innovation development, where we find few large firms investing in R&D, while a significant number SMEs found their development and innovation projects on unformalized activities, on direct contact with research institutions, and on in-the-field tests. In any case, once all these limitations are considered, the Italian situation of innovation is in line with that of other developed countries. In this situation, it is worth knowing that the Italian productivity system and the process of creation

and management of innovation both support the development of exports and the approach to international markets (Sterlacchini, 1999; Basile, 2001, Guelfa & Trenti, 2004).

The economic and financial crisis of recent years has highlighted the weaknesses of long-term forecasts, showing in the meantime that the best solutions for recovery and new economic development include the financial strength of firms, cooperation, the development of intangible assets (*brand value, business ethics and culture, attention to design and use of information systems*), collaboration between public and private sectors to make specific strategic choices and eventually to support employment, or at least welfare, systems. From the literature on process management, two approaches to change emerge: one is the radical type and the other is the improvement type or incremental type. The former does not exclude the latter, and is not more efficient it; it is simply necessary to identify the correct moment in the life of the company to act with the right level of innovation. In the literature on Viable systems Approach (VSA), three forms of change are identifiable, involved at different levels of the firm: *adaptation* involves ameliorative actions with the aim of reducing the cost of structure use (with the structure remaining unchanged); *transformation* operates on the extended structure that remains unchanged but, in fact extracts from this a new specific structure. *Structural transformation* works on an extended, unchanged structure to allow the development of relations and contacts that can be activated with external systemic entities in the perspective of value creation and development. This kind of “change-innovation” takes place thanks to the flexibility of the extended structure. When governance wants to grow past the extended structure, and decides to rethink its business foundations, it can modify the business idea. In this way, the firm can identify new ways of doing business (Golinelli, 2002).

Although these topics are already known, the significant consideration that we ought to remember is the role of time and organizational flexibility in the activity of the firm. Market turmoil and economic instability impose a high pace of planning, organization, adjustment, and strategic development. In this complex context, companies cannot lose time or weigh down their structure with rigid organizational levels, extremely standardized procedures, or complex decisional models: they must give value to trust feelings among the stakeholders and to optimal proxy levels, and they must access results, motivation, self-denial, and inspiration. The unpredictability of events has generated situations characterized by high uncertainty, and to be filled with courage, creativity with the value of intangible assets, instead of a high level of bureaucracy.<sup>v</sup>

The concept described here is connected with several studies of companies having as their object strategy and organization that, over and over, have underlined the distance between the planning phase and the operative reality of “implementation”.

Often within an organization we find differences between what is decided and what is practiced. Sometimes, such situations generate great difficulties within firms, and the management has the duty to reduce this gap. Yet, as a matter of fact, it cannot be completely removed, especially when organizations have to deal with internal (management, technical, relational) problems or with external disturbances (unforeseen variability of the market and situations affecting the company, unexpected obligations coming from the supra-systems). These topics, among others, have been approached by Mintzberg (1985) and by scholars of organizational behavior theories. At historic moments characterized by an high level of variability, such as the present juncture, it is important to plan company development by interpreting the maximum amount of information coming from the markets through a particular sensibility build on knowledge (“know-why”) and company experience.<sup>vi</sup>

### 3. THE FEATURES OF THE CURRENT GLOBAL CRISIS: MARKETS, CONSUMERS, AND FIRMS

Behind the current global crisis is the widespread seeking of greater profit, the persistent action of large international banks that, by the distorted use of finance, have encouraged risky investments, often omitting information important to large and small investors. Financial institutions have supported the demand for complex financial products capable of generating high profits, but mainly based on intangible markets of risky investment products. It is clear this kind of global behavior has involved civil society at all levels, and has caused an economic, ethical, and moral problem that has destroyed a many jobs and generated tensions between people. Because of the magnitude of the crisis, the economic community, especially within the financial field, decided to define more rigid rules in order to avoid similar situations in the future.<sup>vii</sup>

The concept of crisis generally associated only to negative meanings, but in the present situation, the economic conjunction has led to a “global revolution” in some sectors and in some aspects. The effects of this differ from one country to another, and call into question the strengthened models of consumption and business that are in some way leading also positive results.<sup>viii</sup>

In terms of “demand”, if we analyze in a positive way the results of this phase of great consumption, we can highlight some interesting aspects of the transformation. In particular, given strong consumption, reductions in the supply of circulating cash, and above all the decrease in employment, we find a greater attention to economical measures, to saving, and to responsible consumption. On one hand, this situation generates a further arrest of the economy and a slowing of growth, due to the drop in mass purchasing and spending volume but, on the other hand, it develops new positive typologies of demand, attention to the environment, solidarity, recovery of the central moral values, and cooperation.

In a situation characterized by market contraction, spending by consumers (and firms) tends to be naturally limited by wiser purchase planning; there is the tendency to evaluate a larger number of offers before making a purchase, and new purchase modalities are developed, privileging the exchange of information prior to the act of purchasing, and, above all, considering the aggregation among economic subjects (groups of supportive purchases, consumer cooperatives, associations, etc.). The literature, not only in economics, shows that humans tend to aggregate in order to solve difficult problems and to defend themselves from dangers. This is the principle which has contributed to the development of villages, cities and, in general, of organizations. In this difficult period, thanks also to the help of new technologies, new network models grow from the bottom and manifest themselves mainly through the sharing of information in all sectors and through co-creation of value.<sup>ix</sup> Regarding this, some authors affirm the relevance of mass participation as a new way of conceiving society, companies, and more generally, management problems:

*«The new mass collaboration is changing how companies and societies harness knowledge and capability to innovate and create value. [...] Conventional wisdom says companies innovate, differentiate, and compete by doing certain things right: by having superior human capital; protecting their intellectual property fiercely; focusing on customers; etc. The new business world is rendering each of these principles insufficient, and in some cases, completely inappropriate. [...] The new art and science of wikinomics is based on four powerful new ideas: openness, peering, sharing and acting globally»* (Tapscott & Williams, 2008:20).

The stimulus of sharing, opening, and of global action should lead companies to reconsider their management models, and should also lead to a change that is an element of complexity reduction, and that very often is considered in a positive way by organizations, as it entails as a guide<sup>x</sup> self-denial, new work models, new procedures, and also some risk. According to Farinet (1987) the crisis in firms also arises because of the incapacity of some who, when dealing with negative variations of the context, do not invest to find solutions or to propose innovative options, but propose again the same offer and the same management modality.

#### **4. MANAGEMENT OF COMPLEXITY IN FIRMS**

The complexity of markets, economic trends, and financial difficulties can initiate the beginning of a crisis that can lead to a firm's failure. A company's crisis can appear even when the market is growing and positive economic conditions prevail, but when economy is in recession all over the world and the economic crisis has already spread, management becomes more relevant. In this paper, we select a set of management macrofactors and, interfacing them with the corresponding macroeconomic elements that generate economic difficulties and global economic crisis, we propose actions and management models useful for managing complexity, in order to lead the firm toward survival.

The Slatter model (1984)<sup>xi</sup> suggests a series of internal and external elements that are to be monitored in order to determine the probability or the status of a business crisis in a given period. Indications show some verifiable elements that have to be contextualized in the specific time periods.

Among the internal factors of a company, we can find:

- Characteristics of the competition and the environment (factors related to the specific area in which the company operates);
- Characteristics of the firm's management (management structure and internal reports);
- The firm's organizational characteristics (flexible structure, hierarchy, relations within corporate functions).

Among the external factors determining the crisis are:

- Macroeconomic factors external to the company;
- Sectorial factors external to the company (referring to the company's target market and especially to competitors, suppliers, etc.).

##### **4.1 External factors determining crisis**

Regarding external factors that determine the crisis, there are an infinite number of variables that cannot be directly controlled by firms but can influence the choices of managers, especially within firms strongly connected and integrated with the global economy.<sup>xii</sup> The problems that occur in the network of a firm unable to manage the macroeconomic complexity move across the network, causing further difficulties. Macroeconomic or environmental factors are considered to be less manageable and controllable than companies, despite the fact that they are related to the economic or social context.<sup>xiii</sup> These are essentially elements of economic instability (table 1) capable of determining critical conditions for companies, enterprises, and entire industries. Their

sudden occurrence can cause very significant changes in productive inputs, supply markets and new markets, which more specifically translate into changes in costs, availability of labor, and capital; variations in the innovation level required from the production system; sudden transformations of the exchange relations between goods and in the monetary system, and so on.

*Table 1. Elements of generic economic instability.*

---

<ul style="list-style-type: none"> <li>• Political instability, complex laws or deficient in promoting the enterprise development</li> <li>• Bureaucracy and high fiscal taxation against limited services</li> <li>• Reduced spread of specific professional skills over the different territories</li> <li>• Reduced support of banks to enterprises investment projects</li> <li>• Low level of incentive to research and innovation due to the lack of investment in research</li> <li>• Weak financial markets</li> <li>• Lack of infrastructure and related investments on infrastructure development projects</li> </ul>
---

---

*Table 2. Global crisis: negative elements.*

---

<ul style="list-style-type: none"> <li>• Distorted financial markets</li> <li>• Difficulties in the relationship between stakeholders and firms</li> <li>• Rising unemployment</li> <li>• Reduction of financial investments</li> <li>• Liquidity crisis</li> <li>• Social tensions</li> <li>• Environmental issues</li> </ul>
--

---

*Table 3. Global crisis: positive elements.*

---

<ul style="list-style-type: none"> <li>• Responsible consumption and environmental awareness</li> <li>• Transformations of political, social, and cultural variables</li> <li>• New laws to guarantee investments</li> <li>• New patterns of demand in Western countries and new demand in emerging countries</li> </ul>
--

---

Economics generally considers the variation of some macro-variables to be essential, such as the interest rate, the capital cost, public spending and public debt, in order to explain complex dynamics. A sustained increase in the exchange rate, an uncontrolled growth in interest rates that penalizes investments, increases in the public spending or the net foreign debt, all combined with increases in tax burden, all represent macroeconomic phenomena that involve the creation of conditions for imports to develop against exports. A country where the wealth of its productive apparatus comes from its relationships within markets different from the original one inexorably assists its collapse, with all the consequences that arise from this and that have an impact on the national economy.

Thus, when managers of a company plan their marketing strategies, they also need to take into account such environmental variables, in order to avoid choices capable of accelerating the mad race toward critical situations that could threaten the survival of the company.

#### **4.2 Internal factors determining enterprise crisis and management elements generating complexity within the firm**

Several factors internal to firms can determine a crisis. These factors can be classified as “management elements” (table 4) and “economic/financial factors” (table 5).

The economic or financial factors represent the result of strategic choices made through “management elements” and macroeconomic external influence; the management choices and the global crisis can be the cause that generates the negative effect present in the economic/financial factors. Without the presumption of completeness, we here propose a list of the main management elements and a list of economic/financial factors that may signal crisis situations.<sup>xiv</sup>

*Table 4. Management elements that lead to crisis in firms.*

---

<ul style="list-style-type: none"> <li>• Low levels of crisis acknowledgement</li> <li>• Difficulty of strategic forecasting activities</li> <li>• Low levels of knowledge management</li> <li>• Extent of Strategic Change</li> <li>• Middle and Long term routine management</li> <li>• Loss of significant managerial resources</li> <li>• Internal tensions</li> <li>• Worsening of relationships with suppliers</li> <li>• Worsening of the relationships with the financial system</li> <li>• Lack of strategic capabilities</li> </ul>
---

---

*Table 5. Economic/financial factors that lead to crisis in firms.*

---

<ul style="list-style-type: none"> <li>• Loss of profitability</li> <li>• Negative cash flows</li> <li>• Loss of market share</li> <li>• Reduced sales</li> <li>• Increase in debts</li> <li>• Reduced liquidity</li> <li>• Loss of receivables</li> <li>• Deterioration of the financial structure</li> </ul>
--

---

In economic periods where markets are growing, some management choices capable of identifying positive or negative economic or financial results, can lead the company to development—if the management strategies have a positive effect—or to simple stagnation, if management choices are unsuccessful. A favorable market situation naturally tends to protect firms from mistakes.

In times of global crisis<sup>xv</sup>, traditional management or small corrections to the traditional management activities are insufficient to guarantee the survival and the development of the



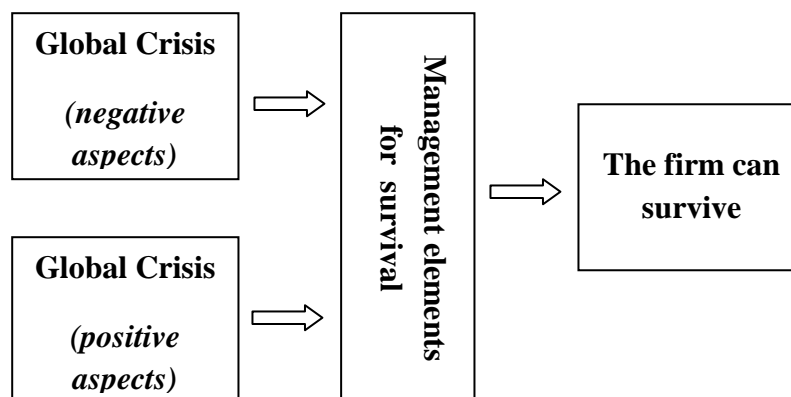
enterprises. The specific features of the present crisis require a new management team able to quickly interpret market changes, reorganize management methods, enhance the intangible assets of the enterprises, develop initiatives for the cooperation with companies and consumers, and develop financial strength.

## 5. CONCLUSIONS: MANAGEMENT OF COMPLEXITY TO SURVIVE

When the prediction of markets become difficult (Greenspan, 2007), marketing actions and reactions influence the market actions and reactions, and vice versa. The company stands in contexts where it is difficult to predict something, and where managers must find new management modalities that may sometimes appear unconventional. The tendency, therefore, should not be to “weather” the crisis and to seek tactical solutions, but to predict different scenarios (Kotler & Caslione, 2009) by adapting the models and the development strategies to appropriate reference hypothesis. Each kind of business plan needs specific predictions, but in these turbulent years, we need to pay special attention to risk-sensitive foresight, interpreting risk as the probability of negative events for the company, coming mainly from external factors which are less and less controllable, such as the problems and difficulties of political economy, financial markets, and so on.

A variation of some management variables should correspond to a global change in demand. Yet not all companies are willing to change. Nelson and Winter (1973), for example, argue that organizations agree to change their routine only if the expected profit falls below a minimum threshold established by the organization. Otherwise, they choose to remain steady with no change, even in a time of crisis. Frequently, in fact, we find companies that are not willing to invest in change, preferring instead to invest in routine management without risking any change. The global economic crisis involves companies that are facing complex situations and, by consequence, forms of change become indispensable in the management to generate a “shock” and a shift from the previous stage. The shock, and the reduction of market opportunities, compels companies to organize themselves in order to survive. Previously, we broke the global crisis down into negative components and positive components; both components generate imbalance in firms that, in order to survive, can be managed through management elements.

Figure 1. Management elements for survival.



The main elements of management that, by the characteristics of the global crisis, allow companies to survive in a complex environment are financial strength, cooperation, and promotion of intangible assets<sup>xvi</sup>.

Financial strength is crucial, because the global crisis began in the financial sector and has destabilized the rules and laws of finance, causing a liquidity crisis and problems in the relationships between banks, companies, and investors. Financial strength allows firms to support change, even in complex market situations. The loss of competitiveness in Italy, characterized by inflation, stagnation, and drops in per capita income, has been known for years, although protected from a domestic financial system less “daring” than those in European and international contexts. The backwardness of the financial market and the lack of innovative financial instruments in the Italian market guaranteed the maintenance of the sector and of the major banks that, until now, have prevented a real crisis, firmly absorbing current market and economy difficulties. A management that offers slow and careful growth of the firm in a step by step modality is necessary.

Cooperation is an awkward issue, also discussed in the literature. In complex situations, cooperation means creating collaborative global networks and widening the firms’ boundaries, not only to obtain the intended benefits (commercial, manufacturing, etc.), but also to set up a new way of doing business in a direct and continuous cooperation between companies, consumers, and territories. The situation is hindered by rigid network links and exclusivity; companies in turbulent environments must be flexible, adaptable and open to change.

The valuation of intangible assets is an extremely relevant theme in firms’ survival courses during the global crisis, characterized by their economic knowledge. In intangible assets, we can find the value of a brand, culture, and business ethics, as well as an efficient information system. Companies that do not develop their intangibles have lesser chances of overcoming the global crisis that is creating a new economic equilibrium of specialized and flexible companies capable of moving products and services to places of the world where work has a lower cost, even though they try to keep control in specific skills, in ethical behavior, and in respect for people and the environment.

Attention to the environment is another factor that allows the development of a new firm’s approach to the markets. Unexpected and catastrophic weather events, climate change, and the global problem of pollution are all issues that by now affect many consumers; companies need to consider that in recent years, the sensitivity of consumers to environmental issues has increased, and more and more often, purchasing decisions are being made in line with this environmental sensitivity. On the relationship between companies, markets, superfluous consumption, and its reduction, Kotler (2011) says: *“Marketing has traditionally been about demand expansion, and this will remain the dominant pursuit; However, there are times and resources that will demand conservation and reduction.”* Since the arrival of the great global recession, consumers have been balancing their consumption by choosing products based on actual need, confronting and cooperating with other consumers.

We need companies involved in the social sphere, easily recognizable, able to build in time a reputation that is in constant contact with consumers, but also with research centers and universities, using the most modern technologies with an attitude of innovation and constant change.

## REFERENCES

- Basile, R. (2001). Export behaviour of italian manufacturing firms over the ninties: the role of innovation. *Research Policy*, 30(8), 1185-1201.
- Di Bernardo, B., Rullani, E. (1990). *Il management delle macchine*. Bologna (Italy): Il Mulino.
- Foresti, G., Guelfa, F., Trenti, S. (2007). Strategie e performance: un'analisi econometrica. In Guelpa, F., Micelli, S. (Eds.). *I distretti industriali del terzo millennio. Dalle economie di agglomerazione alle strategie d'impresa*, pp. 147-180. Bologna (Italy): Il Mulino.
- Golinelli, G. M. (2005). *L'approccio sistemico-vitale al governo dell'impresa*, vol. I, *L'impresa sistema vitale*. Padua (Italy): Cedam.
- Golinelli, G. M. (2010). *Viable Systems Approach – Governing Business Dynamics*. Padua (Italy): Kluwer/CEDAM..
- Greenspan, A. (2007). *The age of turbulence*. New York (USA): Penguin Press.
- Guatri, L. (1985). *Turnaround: declino crisi e ritorno al valore*. Milano: EGEA.
- Guelfa, F., Trenti, S. (2004). Strategie di impresa e performance nei distretti, verso un nuovo paradigma?. In Bracchi, G., Masciandro, D. (Eds.). *La competitività dell'industria bancaria, nono rapporto sul sistema finanziario italiano*. Di Caro, Bancaria editrice.
- Hamel, G., Prahalad, C. K. (1993). Strategy as stretch and leverage. *Harvard Business Review*, 71(2), 75-84.
- Kotler, P. (2011). Reinventing Marketing to Manage the Environmental Imperative. *Journal of Marketing*, 75 (4), 132-135.
- Kotler, P., Armstrong, G. (2005). *Principles of Marketing*. 10th edition. Upper Saddle River, NJ: Pearson.
- Kotler, P., Caslione, J. A. (2009). *Chaotics: The Business of Managing and Marketing in The Age of Turbulence*. New York: Amacom Publishing.
- Kotler, P., Keller, K. L. (2007). *Il marketing del nuovo millennio*. Milan (Italy): Pearson.
- Kotter, J. P. (1996). *Leading Change*. Harvard Business Press Books.
- Maggioni, V. (2000). Apprendere dalle strategie relazionali delle imprese: modelli ed esperienze per le meta- organizzazioni. *Sinergie*, 52.
- Malerba, F. (1993). The national system of innovation: Italy. In Nelson, R. (Ed.). *National Systems of Innovation: A Comparative Analysis*. Oxford: Oxford University Press.
- Micelli, S. (Ed.) (2007). *I distretti industriali del terzo millennio dall'economie di agglomerazione alle strategie di impresa*. Bologna (Italy): Il Mulino.
- Mintzberg, H. (1985). Of Strategies, Deliberate and Emergent. *Strategic Management Journal*, 6(3), 257-272.
- Mintzberg, H., Quinn, J. B. (1996). *The strategy process*. New York: Prentice Hall.
- Nelson, R. R., Winter, S. G. (1973). Toward an evolutionary theory of economic capabilities. *American Economic Review*, 63(2): 440-449.

- Nonaka, I., Takeuchi, H. (1995). *The knowledge creating organization: how Japanese companies create the dynamics of innovation*. New York: Oxford University Press.
- Normann, R., Ramírez, R. (1993). From Value Chain to Value Constellation: Designing Interactive Strategy. *Harvard Business Review*, 71(4), 65-77.
- Senge, P. M. (1990). *The fifth discipline. The art and practice of the learning organization*. New York: Doubleday.
- Serrano, F., Fialho, C. (2005). *Gestão do Conhecimento. O novo paradigma das organizações*. Portugal: FCA Editora.
- Sifneos, P. E. (1967). Clinical Observations on Some Patients Suffering from a Variety of Psychosomatic Diseases. *Acta Medicina Psychosomatica*, 7, 1-10.
- Sterlacchini, A. (1999). Do innovative activities matter to small firms in non- R&D – intensive industries? An application to export performance. *Research Policy*, Elsevier, 28(8), 819-832.
- Tapscott, D., Williams, A. D. (2008). *Wikinomics. How Mass Collaboration Changes Everything*. New York: Portfolio/Penguin.
- Toffler, A. (1980). *The Third Wave*: New York: Bantam Books.
- Volpato, G. (2010). *Economia e gestione delle imprese. Fondamenti e applicazioni*. Roma: Carocci editore.

---

## Endnotes

<sup>i</sup> *To conform with Italian regulations on academic publishing, even though the article is the joint work of all the authors we attribute the contribution of each author as follows: sections 1, 2 and 3 may be attributed to Roberto Bruni and sections 4 and 5 to Giancarlo Scozese.*

<sup>ii</sup> The concept of “indeterminacy” refers to a characteristic of a phenomenon linked to the ability of an observer to fully understand it as a whole (Golinelli, 2010).

<sup>iii</sup> The concepts of consonance and resonance are two fundamental aspects of the Viable Systems Approach (VSA); the former refers to the degree of integration among structure—their potential structural compatibility for exchange. It is the ability to relate to the outside world in order to bring about the exchange of resources. The latter concept, resonance, it is a criterion for assessment and selection by suprasystems, in order to endow government with instruments it can use to make necessary structural changes and international strategies. It is a latent variable which cannot be observed directly, but which can be measured through critical bearing and can influence variables (Golinelli, 2010).

<sup>iv</sup> While large companies take note of their R&D costs, SMEs often do not. In SMEs, sometimes, expenses are not registered and investments are in field research.

<sup>v</sup> On the cognitive view of the company system, see Nonaka I., Takeuchi H. (1995); on the relationship between knowledge collected by the firm and the complex of informative channels that encourage the acquisition of this knowledge, see Maggioni V. (2000); on distinctive competence, see Hamel G. and Prahalad (1993).

<sup>vi</sup> According to Volpato (2010), “culture is something that gives us information on the variety of the world and the singularity of our experience, and so it represents a source full of alternative ideas and possibility to be explored.” Volpato G., 2010, “introduzione allo studio della gestione di impresa”.

<sup>vii</sup> In the 2010 meeting of the World Economic Forum in Davos, the French President Nicolas Sarkozy said, “This not just a global financial crisis, it is a crisis of globalization [...] there will be a much greater demand for justice, protection, regulation, and cooperation.”

<sup>viii</sup> Sifneos (1967) says about crisis that it “could intensify or aggravate a difficult condition, that leading toward better or toward worse”.

<sup>ix</sup> Alvin Toffler first coined the term “prosumer” in his book *The Third Wave* (New York: Bantam Books, 1980).

<sup>x</sup> For further in-depth analysis on leadership and organizational issues, refer to the work of Kotter J.P. (1996).

<sup>xi</sup> See Guatri (1985).

<sup>xii</sup> Companies organized in networks, innovative companies on highly volatile markets, companies heavily dependent on financial markets or companies that optimize the supply chain through the system of Supply Chain Management.

<sup>xiii</sup> In the case of outsourcing there is often a dependency between companies, and the default of one company in the chain can weaken the entire network. The model of the search for higher levels of efficiency through “lean” practice has led some companies to overdependence on suppliers.

<sup>xiv</sup> It is very difficult to develop a definitive list of causes that generate crisis in enterprises. This paper proposes an analysis of useful elements to determine management models that support the processes of managing the complexity generated by the global crisis.

<sup>xv</sup> Characterized by liquidity crisis, distorted financial markets, rising unemployment, social tensions, environmental issues, new patterns of demand in Western countries, new demand in emerging countries, responsible consumption and environmental awareness, reduction of financial investments and new laws for investment protection.

<sup>xvi</sup> See bibliography on the subject.



# A business model for the development of a territory: the case of Reggio Calabria

**Maria Antonella Ferri, Ph.D.**

*Associate Professor of Business Strategy, University Mercatorum, Rome, Italy.  
e-mail: a.ferri@unimercatorum.it.*

**Lucia Aiello, Ph.D.**

*University Mercatorum, Rome, Italy. e-mail: l.aiello@unimercatorum.it. Corresponding author*

*Published online on April 1, 2013*

*DOI: 10.7350/BSR.V16.2013 – URL: <http://dx.medra.org/10.7350/BSR.V16.2013>*

## ABSTRACT

*This work aims to study the causes of an economic crisis from a local perspectives. In particular, it will focus on Reggio Calabria territory to analyze how the economic and social factors have influenced the present condition of this area. At the same time, we propose a model for the growth of Reggio Calabria' system, starting from the mentioned factors. We will follow an integrated systemic approach to verify, with the support of statistical data, why the crisis in Reggio Calabria has had a low impact in comparison with the rest of the world.*

*The final analysis of the research is to propose a method for mapping the cause-effect relationships for the development of a territory, through the DPSIR-model (determinants, pressures, state, impact, response). The systems approach allows us to analyze: 1. the result of the development model, 2. relationships which are the basis of the model. Every economic analysis after the crises of 2008 and 2011 has been considered as a reflection of the U.S. financial crisis.*

**Keywords:** Territorial system, Territorial relationships, Business relationships, DPSIR model, Business mapping, Business model.

## 1. INTRODUCTION

The global economic system revealed that elements of great crisis have as consequences the decline in domestic consumption and general recession. In other words, the results of these last four years of the global crisis had an impact on families' lifestyle, spending behaviour of companies, interaction between institutions and organizations. Household debt, company recourse to the use of credit leverage for managing current expenses, slowdown in public spending, are just some of the repercussions. Reggio Calabria, unlike, has exogenous factors, that had impacted on the proposed development model. The difficulties of the socio-economic system in the investigated area has structural imbalances that were not evolved in the global crisis. It means that the economic model of the province was not affected by global events. For the productive system, we recognized the imbalances inherent in the model of development, that

depend on the level of consumer demand and much less on the intrinsic competitiveness from the supply system. In the conclusion, we present a development business model based on the conditions of the local context to emphasize how these conditions could be considered fundamental for the growth of a territory even in a global market crisis.

The current economic crisis was triggered by the US financial market crisis and hit the entire global credit system with impact on global economic and financial systems, causing the passage from a local collapse to a systemic crisis.

The growing interdependence of national economies deriving from globalization has generated the volatility of markets that is the main reason of widespread insecurity among people as well as of an extreme vulnerability of financial systems in the case of adverse shocks.

Globalization has exponentially increased the opportunity of financial investment. In such context, however, banking systems have extended their financial services without limitations by offering to the market *poor* bonds, that have been securitized and hidden within the various portfolios, originally introduced by US banks and then spread throughout the world.

Banks have exchanged subprime securities on financial market without respecting the constraints of their reserves under the poor supervision of surveillance institutions, with the acquiescence of the rating agencies, in the background of a *shadow financial system*.

George Soros - Soros Fund Management Chairman - in an interview (the *Inside Job* documentary by Charles Ferguson, USA, 2010) stated:

*«[...] the market is of course unstable or at least potentially unstable, oil tankers are an appropriate metaphor, they are very large and therefore need compartments to prevent the oil moving inside reverse them, the design of the ship should evaluate that and, after the Great Depression, financial regulations introduced these "water proof" compartments. Deregulation has led to the end of divided into compartments.»*

Andrew Sheng - Chinese Banking Regulatory Commission Counsel Chief - in an 'interview (*Inside Job*, documentary by Charles Ferguson, USA, 2010) says:

*«[...] since the end of the Cold War many former physicists and mathematicians have decided to apply their chances not on military technology but on financial markets and together with the bankers and Investment Funds created different weapons weapons of mass destruction.»*

In the late 90s you could bet on anything due to financial derivatives and this generated an unregulated market by about 53 trillion dollars. Raghuram G. Rajan (2005), during a key conference on the banking sector, argued in his publication, that these incentives that banks supported could lead to the failure of their own banks and of the entire financial system, as it was a high risk; Raghuram asks *«Has Financial Development Made the World riskier?»*. On 18 September 2008 total recession started. Financial crisis dragged the economic crisis around the world, starting from General Motors and Chrysler. Foreclosures in the U.S. reached 6 million in the early 2010, as the low interest rate on loans increased significantly. These brief premises on financial crisis are the basis from which the present work starts in its first part: to trace the economic crisis from a local perspective.

In the changing context of globalisation and organizational models of countries which are increasingly interdependent and linked to each other, there are constantly different specifications in economic, social, legal, cultural terms; the central theme of this work is the role of business models within territorial systems.

Starting from the assumption that the size of the crisis of the last few years mainly concerns the market, the demand, and consequently, the supply: cultural, political, business organizations. The *multi-level governance*, capable of standardizing different sectors and subjects, left itself open and was hit in *his weak point*. On the basis of this track the goal is, starting from a new business model (Ferri et al., 2012), to analyze the business model of the province of Reggio Calabria in order to find out which elements of the business model have *permitted* it to *be permeable* to the last two global economic and financial crisis.

The research is divided in two sections, the opening one aims to give a method for mapping the cause-effect relationships for the development of a territory; in the second section identifies business models more precise evidence. The theme of the crisis and the effects on the reference territory is made operational by data reflecting the connection between environmental, economic, and social aspects of development. These statistical information are conceptually translated in the *DPSIR framework* model (Determinants - Pressures - State - Impact - Response) (Ferri, 2012; 2009), this model is an extension of the *PRS* (Pressures – State - Response) model developed by the OECD (Organisation for Economic Co-operation and Development).

## **2. THE CAUSES OF AN ECONOMIC CRISIS FROM A LOCAL PERSPECTIVE. THE ASSUMPTIONS UNDERLYING THE TERRITORY ANALYSIS.**

The proposed work began with a brief analysis of the causes of the current crisis that has affected the whole world. In particular, the study looks at reference the Italian territorial systems. We must to consider the difference between the crisis and the lack of development. The lack of development, that is due only in part to the limited size of Italian business, there are various problems, first among all the lack of consultation and sharing between economic and territorial stakeholders, namely the lack of competitive synergies.

For Barile et al (2012:388) the firm-territory relationships:

*«[...] run in a socio-economic tissue that is divided into a variety of structures from which they recursively develop vital dynamics of individuals and organizations operating at different levels and with different roles and goals. The formation itself of the land is the result of a dynamic evolution of interactions developed by individuals, families and organizations within a system of constraints and rules defined by the strong network of laws and rules governing the social and economic activity in the area.»*

In fact, the crisis is the result of organizations' - expressed or non - legislative and regulatory choices in a definite area (USA, in the case of the crisis of 2008), that produced, when compared to other crisis, the global connection, with consequences for all the countries.

Obviously:

*«[...] the regulatory framework (within the law) and individuals and organizations' initiatives take place in any case within degrees of freedom that are the expression of a subjective interpretation of the consolidated legal framework (code, consolidated laws, etc.), they are influenced by the prevailing system of values (moral, ethical, value-categories) and by dominant paradigms, which translates the rule in behavioral rule by defining procedures, models, protocols, and commonly used operational techniques.»* (Barile et al., 2012:388)

So, the business model for the development of a territory should start by mapping the relationships: territorial and macro e micro business; we represent in the figures that follow.



Figure 1. The territorial relationships (elaboration on Ferri, 2012:35).

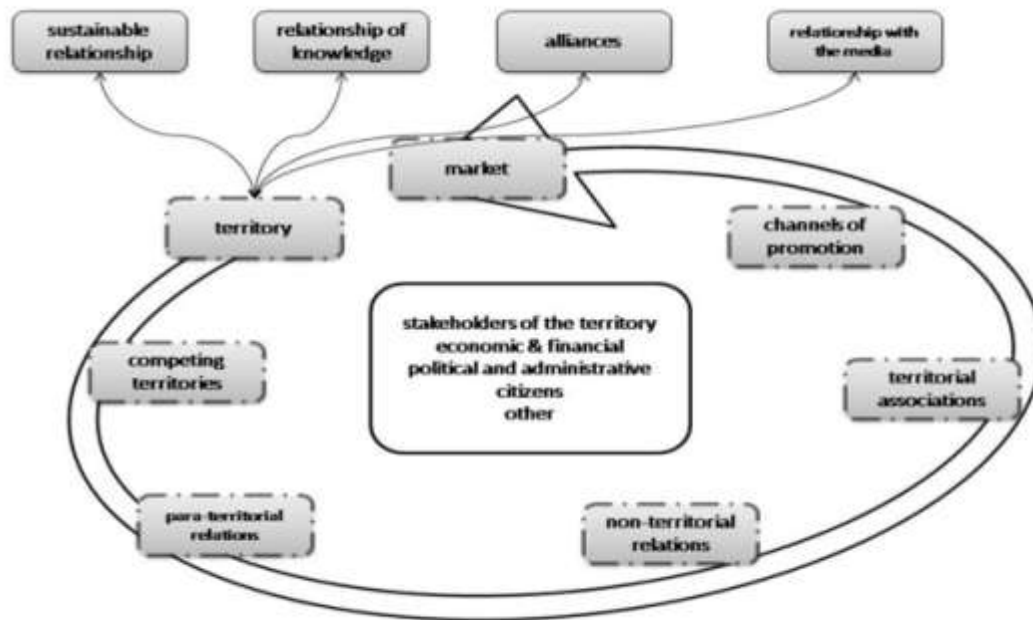
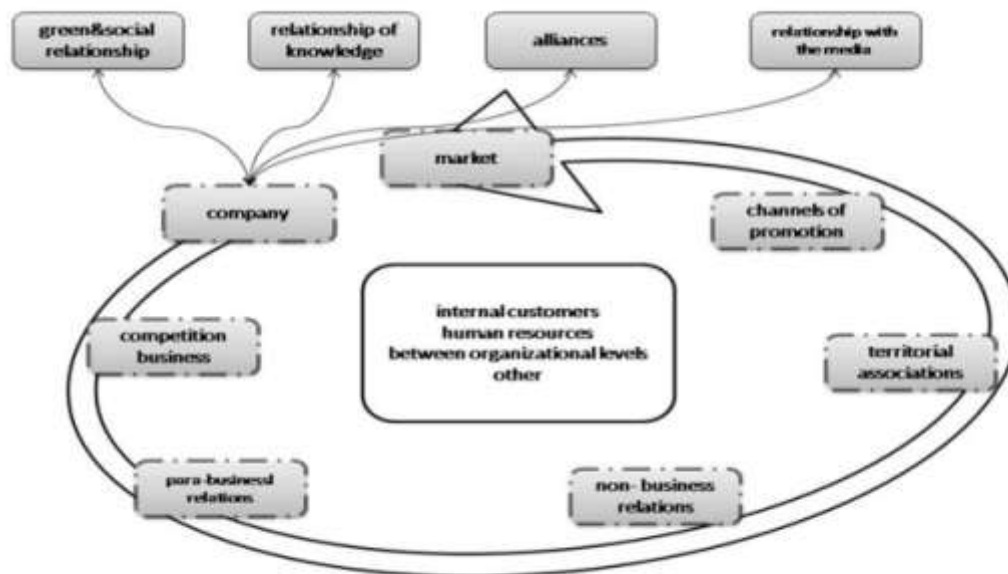


Figure 2. The macro and micro business relationships (Source: elaboration on Ferri, 2012:34).



Relationships (Gummeson, 2008) can be divided, even in this case, into three main groups:

1. market relationships (dotted grey area); between the territorial system and other systems;

2. macro relationships (grey area) between the territory and the worldwide systems (Italy, Europe);
3. micro relationships (white area), inside the territorial system.

Territorial stakeholders should consider the possible relations that are represented in figures 1 and 2, in order to create competitive synergies, transforming possible threats into opportunities. The territorial relationships instead are aimed at the promotion and support of local activities and at the creation of a unitary external image (figure 1) The main objective of business relationships (figure 2) is the cost reduction that can be achieved through collaborative marketing actions as well as by means of information sharing (on market and/or competitors) to be made available in the operational phase.

## 2.1 Mapping of Territory: DPSIR

The policy of the European Union in the field of sustainability was introduced in 1992 by the *Fifth environmental action program*, a few months before the Conference on environmental issues and development held in Rio de Janeiro. The Rio Conference has produced a document called Agenda 21, which sets out the commitments to sustainable development for the twenty-first century. Local Agendas 21 represent operational instruments by which the global objectives of sustainable development are translated into local actions, consistent with the characteristics of each community. To bring such an abstract concept as the one of sustainable development into effect and translate it into actions that can be monitored over time, you use indicators, that is tools able to give information in the form of a synthesis of a complex and large phenomenon that is not directly detectable nor immediately perceptible.

At the international level the requirements identified by the OECD (Organization for Economic Cooperation and Development), so that an indicator can be considered effective are:

1. relevance and usefulness regarding goals, the usefulness of an indicator is directly linked to the ease of its interpretation on the part of those who use it;
2. scientific soundness: it is necessary that each indicator underpins standards recognized by national and international scientific community;
3. measurability: indicators must be easily available, documented of proven quality and regularly updated.

These indicators are normally useful for: representing complex problems in a simple way; identifying and analyzing the changes, trends, the priority problems and risks in a systematic way; supporting local decision-making on the part of private and public actors; monitoring interventions; facilitating local participation, defining a reference framework for shared objectives and policies .

The main types of indicators are currently the descriptive indicators, performance indicators and efficiency indicators. The most popular conceptual models of reference are two, the one developed by the OECD, both detect and highlight the cause-and-effect relationships existing between the anthropogenic activities and their consequences on the territory. Ferri et al. (2009) have adapted this model to the development of the area starting from the cultural resources (case study Naples), in this study, we propose mapping the territory as a whole, starting from its weaknesses. When applying the *DPSIR model* we need to analyze the elements of the territory beyond the logic of the simple aggregation of interests in order to arrive at an authentic system

characterized by specific spatial and immaterial components, well identified and shared values and strong relations acting in cultural heritage, able to supply development projects.

In this context, the information, data and indicators relate to:

- the determinants are the underlying factors that influence a range of variables, such tools to attract investors, such as infrastructure, companies, means of access to credit, and more;
- the pressures identify the variables that directly restricting the development, as social problems, absence of infrastructure, barriers to entry for investments in the territory;
- the state indicates the current conditions of the territory, for example, number of enterprises, economic sectors, average wealth, distribution of wealth;
- the responses reveal the efforts/commitments the company supports in order to solve problems and develop potential both within and outside the territory, for instance, development plans and business models tailored to the needs of the territory.

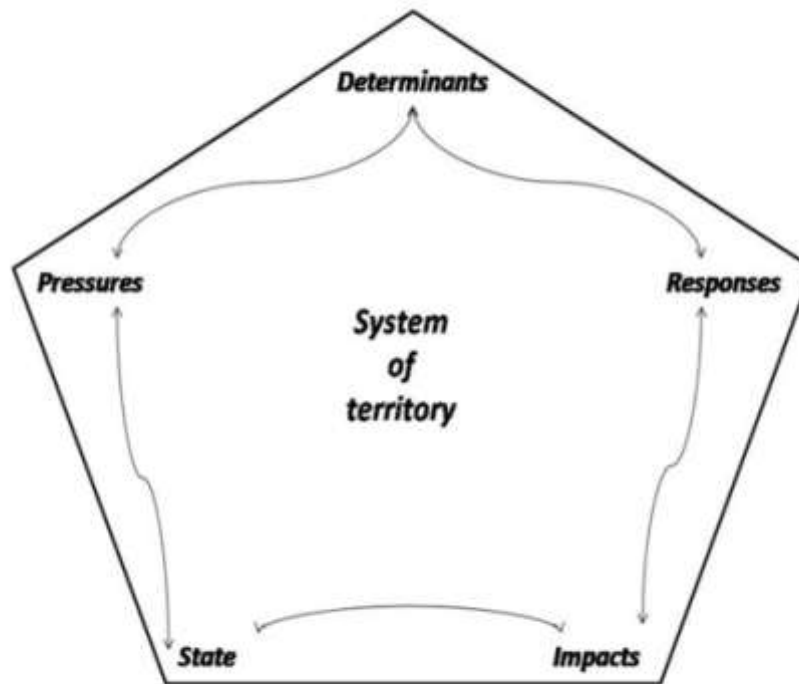
The business model, that we propose in this paper, may be a possible answer. Such a model, widely used as a tool for territorial monitoring, permits the possibility to focus on connections between various elements and to reflect the situation as it is without any reference to objectives, target or scenarios. For this purpose it is necessary to build and adopt efficiency and performance indicators. They provide a measure of the output which has been produced in terms of effects on territory: resources used, capacity of attraction. The environmental efficiency of a nation, for example, can be measured in terms of levels of emissions and waste generated per unit of GDP.

The latter allow us to draw comparisons between the situation of state and the ideal situation. Most countries and international groups have developed this type of indicators with reference to environmental targets and there are only a few experiences of performance indicators applied to sustainable development. Sustainability indicators include more than one aspect and provide a transversal and integrated reading. Representing complex phenomena, such as sustainability, through digital equivalents and indicators is not still current practice.

One evident exception is in the field of economics where indicators such as GDP, rather than the rate of unemployment or inflation have entered the common use. For example, the European Union has elaborate the EU 10 common indicators, that are:

1. citizen satisfaction with reference to the local community;
2. the local contribution to global change; local mobility and the transport of passengers;
3. the accessibility of public green area;
4. the accessibility of social services;
5. local air quality;
6. the displacements home-school children;
7. the sustainable management of the local authority;
8. noise pollution;
9. the sustainable use of land;
10. the sustainable products.

Figure 3. Analysis of the DPSIR (Determinants-Pressure-State-Impact-Responses) mapping (elaboration on Ferri, 2009:152).



A system of economic and social indicators must meet the following basic features: coverage of the "European dimension" in terms of identity and cohesion,

The implementation of new aspects relating to welfare and social change, even through the research of new indicators and the harmonization of new data sets among the EU acceding countries. The set of possible indicators must be considered neither rigid nor an obligatory step for the elaboration of the model, it just wants to support and synthesize the cause/effect relations of the input/output analysis of an organizational model along with the elements of growth (Ferri, 2009). This model is able to identify the connections of the territory's elements. Its applicability to areas (economic, socio-cultural, environmental) of the territory allows you to develop a set of key indicators and to support the analysis of development of territory and vice versa; the Indicators - to be integrated to the DPSIR model - should be grouped in indicators of efficiency and performance, the former are useful for measuring the interactions between the different elements of the causal chain; the performance indicators allow make comparisons between the current situation and the ideal one to activate and implement a sustainable development policy. The path to follow is to identify the connection between the various elements of system territory, in order to intervene on the themselves, eliminating the negative impacts and enhancing positive ones in the causal chain of model.

### 3. THE ROLE OF BUSINESS MODEL IN THE VALUE CREATION PROCESS FOR A SYSTEM OF TERRITORY

In according to Braccini (2010:37-61) most Business Model definitions refer to the phenomenon of the value creation; the Business Model concept is often used to describe how an organization or a group of organizations doing business together create, deliver and capture value. From this point of view, the Business Model becomes a theoretical lens through which it is possible to identify, describe and communicate the process of generating value taken on by an organization. Pateli and Giaglis (2004) have classified the theoretical contributions on Business Models in eight different sub-domains: definitions, components, taxonomies, conceptual models, tools, and methods of design, factors of adoption, evaluation models and methodologies of change. In literature, there are differences between the main contributions on Business models, so a further contribution to the identification of a method for the application of the Business Model theoretical concept to a specific case results from the analysis carried out by Osterwalder, Pigneur, & Tucci (2005), that identifies an evolution timeline of the research theoretical contributions on the Business Model concept. The study presented on focuses on the models of an organization such as that of a territory. Several approaches are currently available. In the analysis of business models, with reference to the territory, it is important to consider: the models to be applied to an organization; the models to be applied to relations between organizations. The first is supporting the planning of the single element (company, organization) of territory, the second allows the planning of the entire system territory. They allow us to apply Business Model theoretical concept to describe organizations' logic of value creation (Andersson, et al., 2006). Some of these approaches make use of conceptual diagrams that represent the structure (thought as the components and their relationships) of a generic business model. These conceptual schemes can then be applied to real contexts. Downstream of an extensive analysis of the literature regarding Business Model theoretical concept, Osterwalder et al. (2005) have identified the major components composing it.

The result of their analysis is the definition of a generic Business Model architecture that can be applied to any organization. The contribution from their formulation consists of a business meta-model, that is a model describing the characteristics of a generic business model, known as Business Model Ontology (BMO). Together with this contribution, these authors also provide a definition of business model concept that is as follows:

*«A business model is a conceptual instrument that contains a set of elements and their relationships/interdependencies contributing to describe the rationale of business value creation. It is a description of the value the company offers to one or more customer segments along with its architecture and partners that are essential to create, bring to the market, and deliver to the customer the product value with the ultimate goal of generating a long-lasting and defensible income flow.»* (Osterwalder et al., 2005:1-25).

The Business Model structure described by Osterwalder et al. (2005) is divided into four main pillars, which are in turn divided into nine building blocks, each divided into other elements in greater detail. The Business Model structure provided by Osterwalder et al., aims at illustrating the internal structure of a Business Model, therefore it makes reference to a single organizational unit (Andersson, et al., 2006). The contribution of the BMO is functional to the description of an organization's business model, even if the level of detail still stays intermediate (between the strategic level and the single business processes). The BMO, in fact, describes only those parts of the organization affecting the process of the value generation. The representation in monetary terms of all the means and tools that are used in the business model; the manner by which income is generated from a set of income flows. An alternative to the BMO for the definition of

a Business Model is provided by the intra-organizational prospect of McCarthy (1982), and Geers and McCarthy (1999) through the Resource Event Agent (REA) ontology. Even if the contribution resulting from their suggestion is not directly addressed to the description of a Business Model (Andersson, et al., 2006). According to the REA there are three important elements in a Business Model. The first consists of resources. A resource may be a good, service, or the coin which may be the subject of an exchange. Resources are exchanged between operators (second element), that may be both individuals and entities or organizations, under crucial circumstances (last element of this model) such as business transactions or other agreements. In the REA approach, a Business Model is defined as a set of two events that are connected by a trade relationship. During one of these two events a resource is usually lost or transferred in exchange for another resource that is earned or received. The representation of the model can also be more complex, involving simultaneously more than two events. In describing a Business Model the REA interprets a process as one of the functional departments or functions described by Porter's value chain (Porter M., 1980).

The Business Model in inter-organizational relationships; already talking about the value configurations it was made evident that the value creation could occur both within a single entity and in a set of related entities that are connected in a network of inter-organizational relations. These considerations also apply to the case of Business Model.

In this regard Gordijn and Tan (2005) have proposed a conceptual model called e3-Value through which it is possible to describe and represent the value exchange within a network of subjects operating in a cooperative manner. In line to this approach the value exchange takes place between players. Each player is defined as an economic, legal, or independent entity performing tasks that generate value. Players exchange things with each other such as goods, services, rights, or even experiences of consumption. These things are eligible for trading because they represent elements of value for one or more players. The value exchange takes place at the moment in which two or more players will exchange one or more goods. According to the e3-Value a Business Model is nothing more than a network of players, things, and exchanges. The structure of the network (i.e. , the number of players, things and exchanges) then determines its potential for the production of value. The e3-Value model adopts the network perspective in order to describe a Business Model so it can be used to identify value exchanges in inter-organizational relationships (Braccini, 2010:63-79). The analysis of the organizational model of corporate systems representing the basis of globalized countries' business models, and determining the global crisis in 2000, of which they are victims, make it possible to get the following reflection: countries and territories founding their development on these models are "fallen" from a skyscraper, by contrast, non-globalized, poorer countries, got the foundations for their development. These reflections, however, are not sufficient to determine the main aspects of a winning business model, but allow us to identify the elements that can determine a model of unsustainable development. On the other hand, the Reggio Calabria case study, has allowed us to point out that the organizational model of a territory cannot even be welfare, these models failed a long time ago, as it is shown by several studies in this field.

This study intends to propose a business model oriented to local sustainable development. The characteristics are the following:

1. to satisfy all stakeholders (investors, citizens, tourists, etc.);
2. to implement and support development initiatives aimed at achieving practical use functions for stakeholders;

3. to create a system of values involving territory areas and sectors.

For that purpose, the model should be a tool to support development policy which should not be only financial or social policies, but also cultural, economic, environmental, political policies. The failure of models where politics runs the economy (unsuccessful Italian model) and where finance runs the economy (American model) led us to the following remark: an information asymmetry without any fault in the link between controller and controlled may be achieved only through a balanced and systemic model. This obviously requires a fairer distribution of wealth. The countries that have an organizational model "market-oriented", they stimulated business models in which the credit, and then the financial system, had a major role, if not exclusively. So, a model that is based primarily on a combination of:

*«[...] distribution of risk and low cost of credit - largely has been driven by choices of corporate governance [...] to promote conditions of growth of the real economy through expansion of financial markets.» (Iannuzzi et al, 2011:88).*

Iannuzzi et al. (2011) observe that - with specific reference to the crisis of 2007/08 - the action of government, so, has shown strong signs of ineffectiveness due to three weaknesses:

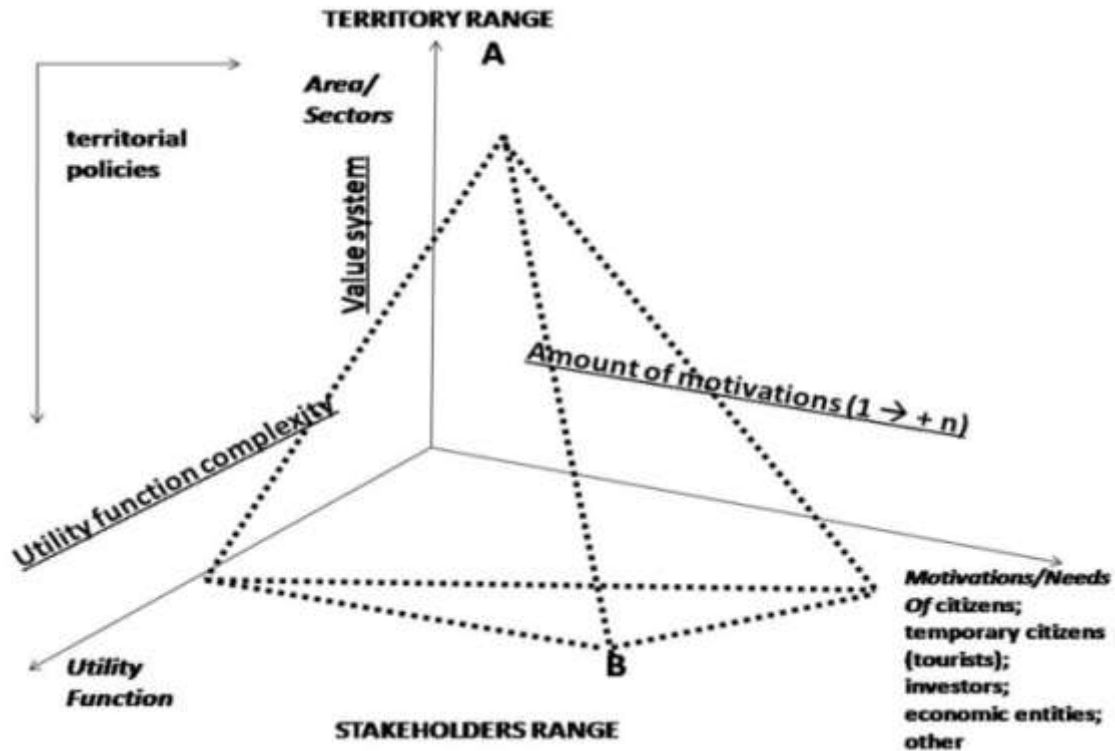
1. inability to interpret changes in the environment;
2. inability to quickly correct the trends dictated by the dynamics of market and/or by decisions taken by the governing body;
3. difficulty of controlling the components of the operating structure according to a systemic logic.

On the basis of what has emerged, it is proposed a business model for the development of a territory; considering the main elements that caused the current crisis, it is needed a systemic approach in the business models.

The pyramid represents the intersection between territorial range (a complex set of different goods and services, even belonging to different area/sectors) and stakeholders range. So, the business model is a tool to support policy makers; the model is designed to consider all interests - in terms of motivation / needs - of the stakeholders in an integrated and systemic perspective.

Each stakeholders can be an economic, legal, or independent entity performing tasks that generate value; so there is a network of players. The structure of the network (i.e. , the number of players) then determines its potential for the production of territorial value. The e3-Value, that we have considered, adopts the network perspective in order to describe a Business Model so it can be used to identify value exchanges in inter-organizational and intra-organizational relationships.

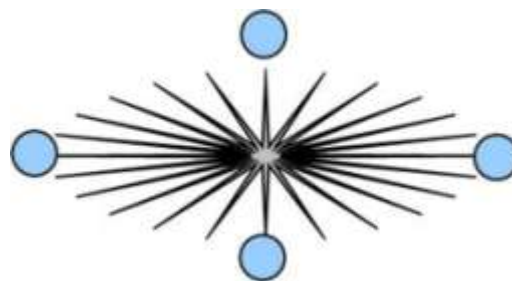
*Figure 4. Business Model for Territorial System (elaboration on Aiello L. et al., 2012:195).*



#### 4. CASE STUDY: REGGIO CALABRIA

Relationships' role is to be thought not as parties being in contrast with each other but as *cooperation between stakeholders*. Unfortunately in the Italian context companies have not yet seized the opportunities resulting from these relations. Although many tourist operators manifest the will to start development policies, being aware of the competition difficulties occurring in the Italian scenario, they are still reluctant to use and exploit important criticality in the current competitive logic. So, in this study we considered a method for strategic analysis, that is therefore the one focusing on relations, its implementation obviously requires an in-depth study of the nodes that are the network's essential elements of cohesion, as presented in the following Figure.

Figure 5. The network and the nodes





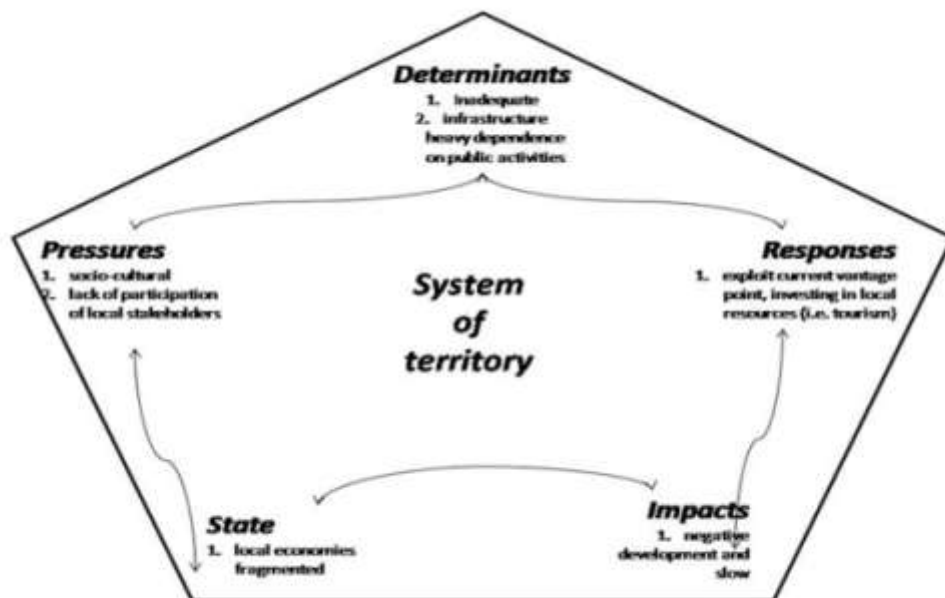
The Figure represents a network formed by different nodes, with a flow of input-output relations starting from each of them. Each local stakeholder should draw up a map of the possible relations and identify the strategic nodes, this for the following reasons:

- The investment in terms of time/cost must be practical. Having a relationship with all local actors would be uneconomical.
- Avoid the overload of information coming from relational flows. Too many relations entail too much information to manage.
- A node originates different relational flows. Choosing a strategic node indirectly means to relate (without supporting any sacrifice) to the subjects with which the node interacts.
- Just one effective relationship can derive from a node and in a limited period of time. It is possible to activate a relationship, in the short term, with a party on the node.

The strength of the relationship is a concept rooted in the company's culture, in fact it represents a point of force in the dynamics of business organizations and the node is the focal point. Companies operating in Calabria must verify if they have implemented such evolution. A first analysis has highlighted the following weaknesses:

1. absence of an integrated distribution network;
2. poor relations between local actors;
3. the consumer is not part of the system but just a buyer.

Figure 6. The network and the nodes



In this circumstance, it could be useful to rely on integrated technologies in the relationship between the economic sectors and territory. This implies: a business model of system approach, that considers a network, the development of informal relations among stakeholders, the integration and interaction of the consumer (citizen also) into the distribution network. Business organizations should move from attitudes of mistrust to attitudes of confidence, starting from the assumption that competition is not between local actors or inside the sector, but between complex markets. That's why only by adopting an approach of territorial interest rather than a personal interest's a corporate strategy can be a winning strategy. In order to realize an efficient integrated system of Offer, the strategic node for Calabria region is represented by the trade associations, such as Unioncamere, which is, for the involved operators, both a promoter and a supporter of unitary and strategic policies. In this perspective, it is required an integrated model of development: the governance. The development of a destination should be based on an integrated model involving both the operational policies and the governance model. Integration is on two levels: territorial, and sectoral. The governance must be able to meet the double integration. On based of data from the Economic Observatory of the province of Reggio Calabria, 2012 on the Growth and imbalances in "reggina" (Chamber of Commerce of Reggio Calabria and the Institute G. Tagliacarne), we have elaborate the following figures. The summary data are presented in the Appendix.

## **5. CONCLUSIONS AND FUTURE RESEARCH**

The concluding remarks of the work represent only a full start; the crisis and the consequences can represent hazards, delays, but the process of development and growth - social, cultural, environmental, economic, financial, other - of the territory must be: *non-stop*.

The table 1 contains a summary of the main points of the global and Italian crisis of 21st. The territories, that are able to create models of systems business can reap the opportunities of the new cycle that began with the 2008.

The generation of new wealth is only possible by changing economic structure and forcing finance to change in order to open the door to the natural placement of the system's general equilibrium. Interventions that are solely and exclusively related to the financial side instead prevents the renewal because the sources of resources do not change and the loss of well-being remains unchanged. So, the analyzed territory in pursuit of sustainable development should prepare a business model consistent with the EU's plan, set up in Paris in October 2008, with the participation of the 15 euro area countries, consists of six elements and concerns issues of great importance: the liquidity conditions for financial institutions, banks and Government guarantees on inter-bank loans and the recapitalization of banks by governments (which can intervene through direct capital injections, guarantees, insurance, direct purchases and other agreements related to further medium term debt in the major banks for a limited period of time and avoiding market distortions and abuse to the detriment of those who will not benefit from this kind of intervention), the commitment of governments to avoid dangerous failure of systematically important institutions, the flexibility of accounting rules, cooperation between countries, with the European Commission, the ECB and the Euro group. In subsequent meetings, the ECB finally effected further reductions in policy rate bps (basic points), in order to stimulate economy.

This study provides a space for reflection, on the border between studies in economics and studies of management, on which the analysis of the economic value of culture can be interpreted

as a diagram that contributes to the production of economic value in regional contexts of reference.

The commitment towards the effective and creative management of the cultural heritage and towards a form of development that meets local values requires not only new paradigms but also an innovation of the tools aiming at the management of local changes in addition to the experimentation of methodologies and practices that are capable of producing more *efficient* results in terms of enhancement of cultural identities.

Our perspective is systemic and moves from the holistic theory that aims to broaden the vision of resource management; to evaluate all areas affecting the user satisfaction; to monitor the effects of interventions on all the stakeholders and finally to move within the framework of a broader perspective within the industry of reference.

*Table 1. The crisis of the XXI century in points*

The economic crisis hit the states with low state incidence on finance and economy
Nations with a coherent historical and ideological-political connotation have precise economic interests and pursue them by all means.
In this historical phase, nations with a strong and significant presence in economy, have suffered from the crisis in a dramatic way, but in some cases have even increased their well-being (i.e. Brazil)
Unlike U.S., major parties supporting intervention in economy no longer exist in Europe, even for strategic sectors such as energy, transport and communication. They neither propose the <i>governance</i> of the Central and/or European Bank under the control of the Treasury. A Central Bank under the control of a hypothetical European Ministry of Treasury would ensure the political supremacy of economic market
One of the main responsibilities of this situation is to be found in the movements of '68 and '77: the "forbidden to forbid" that ensued did not generate the hoped for freedom, but rather a widespread <i>laissez-faire</i>
However, the decline of historical parties is due not only to elites' attitudes that may be more or less dishonest and/or corrupt, but it mainly results from the lack of interest among population compared to the little-known Italian economic and political issues, and little or nothing known, in Europe
In Italy parties are no longer participated entities, but they appear as varied oligarchies that are therefore distant from citizens who consequently do not recognize them anymore. The state, under our Constitution, is based on the active role of the parties who must be an expression of popular participation. Those people who control parties control the State. Parties are therefore the means by which citizens control the state
The so watered down national political consciousness has also been subject to media manipulation. Today all goes well, spread at 150, tomorrow is not true that all goes well, spread at 550. But discontinuous phenomena do not exist in economy and therefore today's reality has not so radically changed from yesterday: its "perception" changed and this fact led, due to ignorance and emulation, to an irrational domino effect
Current market is therefore not the result of a sound economic policy, but its cancer. It 's an established fact that the inflation rate in Germany is 2% per year. Therefore, any investment in German treasury bonds should make at least more than 2%. Instead, the paradox is that investors receive less than 1.45%. They recently been put on the Bund market in two years at the rate 0%. So people who invest in German Bunds invest in loss or at least pay the insurance on investment. It is not the first axiom of Political Economy which provides the rationality of the city

The future direction is the systemic management of territory, which can foster coherence and reverse the trend to abandonment and degradation as first step towards short period exclusively financial forms of exploitation. The policies resulting from this direction consist above all in a long-term maintenance, in a permanent management of the territory through a strong integration with the development planning. For this purpose we must consider two fundamental aspects:

1. to sensitize local actors, through awareness and by defining appropriate objectives for the development and enhancement of local resources;
2. to evaluate the mutual relations between the territory and the local resources.

The first point requires an active and proactive role on the part of public and private entities that manage resources; since, they stay closer to the needs of local stakeholders, so starting from a systemic perspective, they can plan the development of the resources in an integrated perspective, that is closely related to the one of the reference local area (territory). Subsequently, resources become a point of cohesion of social groups concerned with development process as well as strengths of the territory (territorial system).

The development is a set of goals or desirable objectives for every society that, in pursuing it, should take note of the connection, which is directly proportional, between sustainability and quality of life, in fact, when it can assuring sustainability, quality of life is positive.

The search for sustainability in development determines the need to design economic and social systems capable of simultaneously achieving sustainability and high levels of quality of life, through the protection of the main (socio-cultural, environmental and economic) elements of territory by expanding the horizon of the interventions and pursuing the intergenerational equity.

The QoL (Quality of Life), in a broad sense is an individual constellation of objective and subjective components of wellbeing (Welfare), while in the strict sense we need to put more emphasis on the perception and evaluation of life, and on the general subjective wellbeing (Wellbeing). Development presupposes a positive level and high quality of life so we need to act on the factors that determine it (such as economy, environment, society) by assuming as a common denominator the territory as container. We should look at territory in order to find the questions to be answered and the most appropriate solutions for sustainable economic development and to identify the elements affecting the national and global crisis. The case study of the province of Reggio Calabria shows as are the territorial conditions that determines the business model and not vice versa. We cannot apply standard models of development, but territory, starting from its contextual conditions, must identify the appropriate business model. The model must be able to attract resources from outside - in terms of capital human, financial and knowledge - and the optimal use of internal resources. So, the financial and political system must be the elements that make starting the engine of development and not vice versa. In summary, the financial system must supply the model of economic development without constituting the ultimate goal.

## REFERENCES

- Abell, D. F. (1980). *Defining the business: the starting point of strategic planning*. Upper Saddle River, New Jersey (USA): Prentice Hall.
- Aiello, L., Esposito, F. E., Ferri M. A. (2012). Strategic Management and “Complex Products”: some notes about an interpretative model for business policies. *Business System Review*, 1(1), 178-201. DOI: 10.7350/BSR.A14.2012
- Andersson, B., Bergholtz, M., Edirisuriya, A., Ilayperuma, T., Johannesson, P., Gordijn, J., Grégoire, B., Schmitt, M., Dubois, E., Abels, S., Hahn, A., Wangler, B., Weigand, H. (2006). Towards a reference ontology for business models. *Lecture Notes in Computer Science*, 4215: 482-496.
- Barile, S., Saviano, M., Polese, F., Di Nauta, P., (2012). The relationship between firm-territory, local efficiency, context effectiveness and environmental sustainability. Proceedings of 24<sup>th</sup> *Sinergie Annual Conference “Territory as a reservoir of vitality for businesses”*. (University of Salento, October, 18-19, (pp.387-402). Lecce, Italy.
- Beccantini, G., (ed.), (1989). *Modelli locali di sviluppo*, Bologna (Italy): Il Mulino.
- Braccini, A. M., (2010). *La generazione del valore in una organizzazione. Il contributo della tecnologia*, Rome (Italy): Aracne.
- Braccini, A. M., (2011). *Value Generation in Organisations*. USA: Lambert Academic Publishing.
- Ferri, M. A, Aiello, L. (2009). The evolution of the placement. The application to the cultural product. Proceedings of the *Business & Economics Conference (OBEC)*. (Oxford University, 24-27 June). (pp. 151-190). Oxford, UK.
- Ferri, M. A. (2009). La valorizzazione delle risorse culturali nello sviluppo sostenibile dell’economia del territorio. In G. Burgio, Capparucci, C., Sancetta, G., Todisco, E. (Eds.), *Coesione sociale e sostenibilità nell’Unione Europea*, 131-154. Rome (Italy): Casa Editrice Universitaria La Sapienza.
- Ferri, M. A. (2012). *Dai territori alle destinazioni turistiche. Domanda, offerta e competitività*, Milan, (Italy): FrancoAngeli.
- Ferri, M. A. (2012). *Il piano di marketing integrato. L’analisi del turismo nella provincia di Reggio Calabria*. Rome (Italy): Aracne.
- Ferri, M. A., Aiello, L. (2009). A model of development for “territory” as a tourism product and the role of brands in the positioning map. Application to a Mediterranean area in the global economy. *Conference Proceeding, The EuroMed Academy of Business announces the 2nd Annual EuroMed Conference*, 609-641. October 26-28, 2009, University of Salerno, Salerno, Italy: Euromed.
- Ferri, M. A., Basile, G., Aiello, L. (2010), The Relationship Between Integrated Cultural Product Brand and Individual: a Conceptual Framework. *7th CIRCLE Conference for Consumer Behavior and Retailing Research, Estoril, Portugal: International Journal of Management Case*, 7th - 9th April (pp. 121-131), Estoril, Portugal: Estoril Higher Institute for Tourism and Hotel Studies (ESHTE).

- Geerts, G., McCarthy, W. (1999). An Accounting Object Infrastructure for Knowledge-Based Enterprise Models. *IEE Intelligent System & Their Applications*, 14(4): 89-94.
- Ghoshal, S., Hahn, M., Moran, P. (2002). Management competence, firm growth and economic progress. In C. Pitelis (ed.), *The growth of the firm: the legacy of Edith Penrose*. Oxford & New York: Oxford University Press, England.
- Gordijn, J., Tan, Y. (2005). A Design Methodology for Modeling Trustworthy Value Webs. *International Journal of Electronic Commerce*, 9(3): 31-48.
- Gruninger, M. (1998). Enterprise Modelling, *AI Magazine*, 19(3): 109-121.
- Gummesson, E., (2008). *Marketing Relazionale. Gestione del marketing nei network di relazione*. Milano, Italy: Hoepli.
- Iannuzzi, E., Renzi, A., Sancetta, G. (2011). Un'interpretazione delle crisi del sistema finanziario. *Sinergie*, 80(9): 69-102.
- Johansson, S. (2002). Conceptualising and Measuring Quality of Life for National Policy. *Social Indicators Research*, 58(1): 13-32.
- McCarthy, W. (1982). The REA Accounting Model: A Generalized Framework for Accounting Systems in a Shared Data Environment. *The Accounting Review*, 57(3): 554-569.
- Noll H. (2002). Towards a European System of Social Indicators: Theoretical Framework and System Architecture. *Social Indicators Research*, 58(1): 47-87.
- Nussbaum, M., Sean, A. (1993). *The Quality of Life*. Oxford, England: Oxford University Press
- Osterwalder, A., Pigneur, Y., Tucci, C. (2005). Clarifying Business Models: Origins, Present and Future of the Concept. *Communications of the Association for Information System*, 15(1): 1-25.
- Pateli, A., Giaglis, G. (2004). A Research Framework for Analysing eBusiness models. *European Journal of Information Systems*, 13(4): 302-314.
- Pitelis, C. N. (2009). The Co-Evolution of Organizational Value Computer, Value Creation and Sustainable Advantage. *Organization Studies*, 30(10): 1115-1139.
- Pitelis, C. N., Teece, D. J. (2009). The (new) Nature and Essence of the Firm. *European Management Review*, 6 (1): 5-15.
- Porter, M. E. (1979). How competitive forces shape strategy. In P. J. Smit (Ed.). *Strategic Planning Readings*, 102-117, Kenwyn: Juta & Co Ltd.
- Rajan, R. G. (2005). Has Financial Development Made the World riskier?, *Proceedings, Federal Reserve Bank of Kansas City Symposium*, (pp. 313-369). Wyoming (USA): Jackson Hole.
- United Nations (2001). *Sustainable Development, Agenda 21*. UN Division for Sustainable Development: USA. Retrieved in January 2013 from: <http://sustainabledevelopment.un.org/>.
- Vogel J. (1997). The future Direction of Social Indicator Research, *Social Indicator Research*, 42(1): 103-116.

## APPENDIX

### Economic Observatory of the province of Reggio Calabria, 2012 on the Growth and imbalances in "reggina" (Chamber of Commerce of Reggio Calabria and the G. Tagliacarne Institute)

Table 2. Trend of GDP in volume in major international economies. (2007 - 2011; % changes)

	2007	2008	2009	2010	2011
Brazil	6,1	5,2	-0,3	7,5	2,7
Canada	2,2	0,7	-2,8	3,2	2,5
Euro Area	3,0	0,3	-4,2	1,8	1,5
France	2,3	-0,1	-2,7	1,5	1,7
Germany	3,3	1,1	-5,1	3,7	3,0
<b>Italy</b>	<b>1,5</b>	<b>-1,3</b>	<b>-5,2</b>	<b>1,3</b>	<b>0,4</b>
Japan	2,4	-1,2	-6,3	4,1	-0,7
Russian Federation	8,5	5,3	-7,8	4,0	4,3
Spain	3,5	0,9	-3,7	-0,1	0,7
United Kingdom	3,5	-1,1	-4,4	1,8	0,9
United States	1,9	-0,3	-3,5	3,0	1,7
G20	5,0	2,3	-1,4	5,0	2,8

Source: OECD. Reported by: Economic Observatory of the province of Reggio Calabria, 2012: 5.

Table 3. Estimate of the value added at current prices by economic sector in the provinces of Calabria, in Calabria, in southern Italy and in Italy (2010; composition%)

	Agriculture	Industry			Service	General Economy
		industry excluding construction	construction	Total		
Catanzaro	3,2	7,2	7,9	15,1	81,6	100,0
Cosenza	2,9	9,0	6,9	15,9	81,2	100,0
Crotone	5,4	11,4	7,3	18,7	76,0	100,0
<b>Reggio Calabria</b>	<b>5,1</b>	<b>6,2</b>	<b>6,7</b>	<b>12,9</b>	<b>82,0</b>	<b>100,0</b>
Vibo Valentia	4,8	10,0	7,3	17,3	77,9	100,0
<b>CALABRIA</b>	<b>3,9</b>	<b>8,1</b>	<b>7,1</b>	<b>15,2</b>	<b>80,9</b>	<b>100,0</b>
<b>MEZZOGIORNO</b>	<b>3,3</b>	<b>12,1</b>	<b>6,6</b>	<b>18,7</b>	<b>78,0</b>	<b>100,0</b>
<b>ITALIA</b>	<b>1,9</b>	<b>18,8</b>	<b>6,1</b>	<b>24,9</b>	<b>73,2</b>	<b>100,0</b>

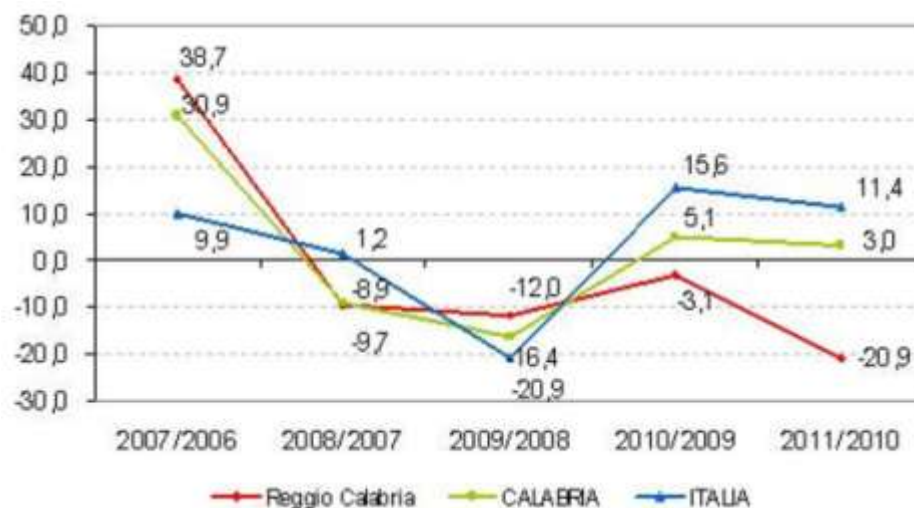
Source: Istituto G. Tagliacarne Reported in: Economic Observatory of the province of Reggio Calabria, 2012: 12.

Table 4. Bank loans of households in the province of Reggio Calabria, in Calabria and Italy (March 2009-2011; absolute values in millions of euro and Δ%)

	31/03/2009	31/03/2010	31/03/2011	Var. % I trim. 2010/I trim. 2009	Var. % I trim. 2011/I trim. 2010
<b>Reggio Calabria</b>	1.571	1.790	2.112	14,0	17,9
<b>CALABRIA</b>	6.412	7.177	8.445	11,9	17,7
<b>ITALIA</b>	372.709	405.853	491.899	8,9	21,2

Source: Economic Observatory of the province of Reggio Calabria, 2012: 15.

Graph 1 – Export performance in the province of Reggio Calabria, Calabria and Italy (2006 – 2011;  $\Delta$ .)



Source: Istituto G. Tagliacarne su dati Istat reported in Economic Observatory of the province of Reggio Calabria, 2012: 17.

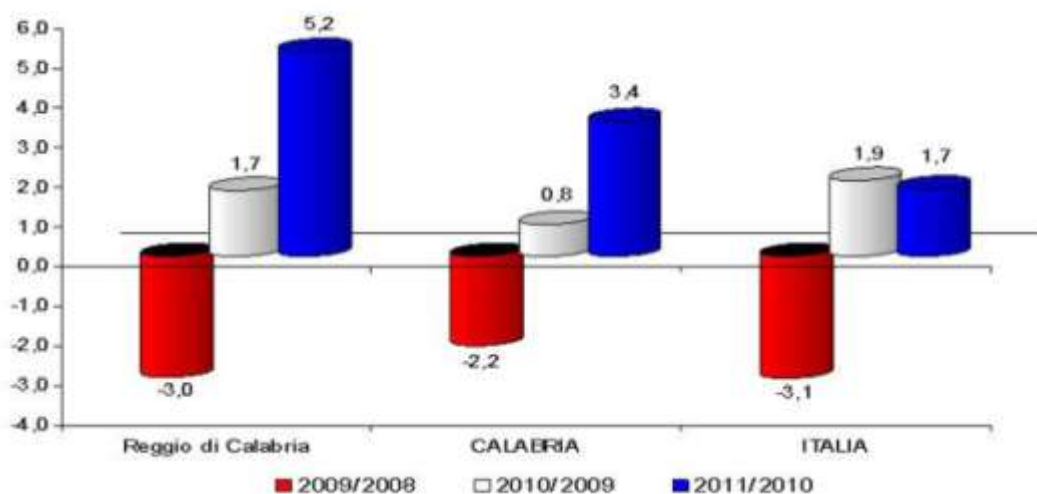
Table 5. Percentage change in sector of companies operating in the province of Reggio Calabria, in Calabria and Italy (2011/2010)

	Reggio Calabria	CALABRIA	ITALIA
Agriculture, forestry and fishing	-2,5	-2,8	-2,6
Mineral extraction and quarrying	-4,8	-5,9	-2,7
Manufacturing	-2,0	-2,0	-1,5
Supply of electricity, gas, steam and air conditioning	40,0	34,3	37,0
Water supply, sewerage, waste management and remediation activities	-7,7	-5,1	-0,4
Costruction	0,1	-0,5	-0,2
Trade	1,7	0,9	0,1
Transport and storage	-1,4	-0,8	-1,4
Service activities Accommodation and food	1,9	1,5	2,2
Information and communication	-0,3	0,0	1,5
Financial and insurance activities	0,4	0,4	0,2
Immobilier Sector	4,4	7,7	1,5
Professional, scientific and technical	2,6	3,5	2,3
Rental, travel agencies, business support services	-0,3	0,4	2,7
Public administration and defense; assic. Compulsory social	0,0	0,0	-6,6
Education	3,6	5,1	6,3
Health and social care	6,4	3,7	5,1
Arts, sports, entertainment and recreation	5,0	6,6	3,0
Other service activities	2,2	0,8	0,9
Enterprises not classified	50,0	-27,4	-22,6
<b>TOTALE</b>	<b>0,4</b>	<b>-0,2</b>	<b>-0,1</b>

Source: Istituto G. Tagliacarne su dati Infocamere. reported in: Economic Observatory of the province of Reggio Calabria, 2012: 20.



Graph 2 – Annual change in the Gross Domestic Product at current prices (provisional) in the province of Reggio Calabria, Calabria and Italy (2009 - 2011;  $\Delta\%$ ).



Source: Economic Observatory of the province of Reggio Calabria, 2012: 21.

Table 6. Indicators of infrastructural facilities in the provinces of Calabria, in Calabria, in southern Italy and in Italy (2011; N.I. Italia = 100)

	road network	rail network	ports	Aeroports	Environmental energy networks	Broadband services
Catanzaro	111,0	87,4	1,1	199,1	103,1	78,3
Cosenza	111,8	108,4	14,0	0,0	48,2	63,0
Crotone	60,5	19,6	26,9	111,9	44,6	65,6
<b>Reggio Calabria</b>	<b>100,1</b>	<b>117,9</b>	<b>376,8</b>	<b>131,1</b>	<b>54,7</b>	<b>93,0</b>
Vibo Valentia	143,5	229,0	116,2	0,0	48,9	64,1
<b>CALABRIA</b>	<b>106,1</b>	<b>107,4</b>	<b>106,8</b>	<b>76,4</b>	<b>58,8</b>	<b>73,0</b>
<b>MEZZOGIORNO</b>	<b>88,1</b>	<b>82,1</b>	<b>95,7</b>	<b>62,4</b>	<b>67,0</b>	<b>96,7</b>
<b>ITALIA</b>	<b>100,0</b>	<b>100,0</b>	<b>100,0</b>	<b>100,0</b>	<b>100,0</b>	<b>100,0</b>
	Structures for businesses	cultural facilities	Educational facilities	sanitary	TOT	TOT WITHOUT PORTS
Catanzaro	66,3	38,6	99,7	96,8	88,1	97,8
Cosenza	52,2	49,7	84,5	67,6	59,9	65,0
Crotone	40,8	19,2	52,4	71,8	51,3	54,0
<b>Reggio Calabria</b>	<b>71,5</b>	<b>35,7</b>	<b>89,9</b>	<b>84,3</b>	<b>115,5</b>	<b>86,4</b>
Vibo Valentia	58,4	38,2	69,0	46,7	81,4	77,5
<b>CALABRIA</b>	<b>58,5</b>	<b>40,4</b>	<b>83,8</b>	<b>75,3</b>	<b>78,7</b>	<b>75,5</b>
<b>MEZZOGIORNO</b>	<b>65,1</b>	<b>58,5</b>	<b>97,7</b>	<b>86,6</b>	<b>80,0</b>	<b>78,2</b>
<b>ITALIA</b>	<b>100,0</b>	<b>100,0</b>	<b>100,0</b>	<b>100,0</b>	<b>100,0</b>	<b>100,0</b>

Source: Economic Observatory of the province of Reggio Calabria, 2012: 22.



# Formal and Informal Mechanisms of Accountability in Local Governance. Towards a New Authoritarian Governance Model

**Thanh Thuy Vu**

*Paris X University, Nanterre, France.*

*e-mail: thuy.vu\_thanh@yahoo.com. Corresponding author*

**Bruno Deffains**

*Paris II University and the ERMES, Paris, France, e-mail: bruno.deffains@u-paris2.fr*

*Published online on April 1, 2013.*

*DOI: 10.7350/BSR.V17.2013 – URL: <http://dx.medra.org/10.7350/BSR.V17.2013>*

## ABSTRACT

*'Accountability crisis' followed by a series of recent global chaos has put a lot of pressure on all governments to adopt international best practices and innovations in their governance. A lot of authoritarian regimes are in democratic transition, adopting modern institutions in a prudent fashion and to the extent that their legitimacy is not endangered. Accountability is one of such a case. In this transitional stage, authoritarian governments accept the functioning of informal accountability mechanisms in complementary with formal ones. Our case study and empirical analysis of all legal documents made by 35 provincial governments of Vietnam published in their Official Gazettes from 2006 to 2009 show the positive impact of informal individual accountability and policy-making culture on responsive policy output while the influence of formal institutions is insignificant. Given this policy allocation, those provinces making more public administrative reforming legal documents have higher public trust in their responsiveness. Our findings imply that the legitimacy of the single-party regimes should be better guaranteed by modern management instruments rather than avoiding them by centralizing its power.*

**Keywords:** Informal accountability, Local governance, Authoritarian regime, Responsiveness.

## 1. INTRODUCTION

Accountability is increasingly becoming a buzz word in both governance literature and political forum. It is often argued that accountability is the backbone of democratic governance and a virtue of democracies. Scholars have recently paid their attention to authoritarian states and tried to find out whether similar accountability mechanisms function in these countries. Successive economic crises over the past decades on the global scale have uncovered governance deficits in

both types of regimes. However, some authoritarian countries such as China and Vietnam still show their benign economic growth, even during this global hard-hit time and prove their mode of governance is worth further research. What kinds of accountability and governance mechanisms are employed in these authoritarian regimes to ensure their legitimacy and durability?

Globalization has put a lot of pressure on all governments to adopt international best practices and innovations in their governance. A lot of authoritarian regimes are in democratic transition, creating a network of traditional formal and informal accountability mechanisms and innovations at work and inducing institutional change in public organizations. We find that successful authoritarian regimes are those that make use of informal accountability mechanisms in complementary with formal ones. Many authors have pointed out that dependence on either of them might lead to severe deficits of accountability and inclusion (O'Donnell, 1998; Tsai, 2007). Different institutional settings also require initiatives to endure their own regime legitimacy. Among a myriad of both formal and informal mechanisms, what will serve best the harmonization of the authoritarian legitimacy and the public interests in lights of the growing globalization and democratization? And how will the choice impact institutional change in public organizations?

Vietnam is a vivid case of the dynamic change in its institutional environment over the past two decades of reform. The formal contribution to the today's Vietnam position is often attributed to the decentralization process in which the tasks of providing public services and public order have been devolved substantially to sub-central governments and private agents. However, the weaknesses of this process arisen in a multi-level system of checks and balances can also be the reasons for undermining the reform achievement. Our empirical analysis both in this paper and the previous work (Vu et al., 2012) have shown that formal mechanisms (similar to democratic institutions) alone are not sufficient to create incentives and private efforts to full accountability. It should be accompanied with other informal ones to fill in accountability deficits of the formal system. In this paper, we point out some alternatives, including identity-based and performance-based mechanisms which are tactfully introduced into the kit of governance strategies to achieve higher accountability, albeit in the informal manner. The main differences between the two types of accountability lie in four main dimensions: legal binding, control (direct versus indirect), mechanisms of account-giving, and incentives (formal versus informal). Formal mechanisms are well communicated in legislature and binding to all involved actors, based on formal incentives to accountability, and incorporated with direct vertical and horizontal control. Informal mechanisms are not institutionalized and binding, based on intrinsic and informal incentives to accountability. Further details of this typology in the case of Vietnam will be provided in the next section.

This paper also contributes to the burgeoning comparative politics literature, providing empirical support for theoretical link between accountability and governance, especially in an authoritarian regime. In this paper, we compare the variation in accountability, local government responsiveness and performance across provincial jurisdictions through surveying all decisions in the form of legal documents issued by 35 provincial governments and published in the official public press (Official Gazettes) of Provincial People's Committees from 2006 to 2009 and use the *Proactivity* sub-index in the annual Vietnam Provincial Competitiveness Index (PCI) survey as an indicator of governance quality of provincial-level government. We find that although the single-party government has employed various mechanisms to make their sub-central arms identify with their exclusive leadership and accountable to the central government, many

provinces are inclined to identify themselves as representatives of community and even deviate from central will and rules. Some other provinces, however, show their strong attachment to the central state and act little in response to local development demand. We also give evidence of how policy making at the provincial level and identification are influenced by an external and non-binding PCI ranking conducted by a foreign-funded non-governmental organization (NGO). Our case study and quantitative analysis in section 4 prove that although central rules and policy guidelines are uniform for all provinces, there is substantial variation in the number and distribution of provincial legal documents to two main goals: administrative goal (sense of responsibility) and responsive goal (sense of accountability). We argue that the number of responsive decisions and their distribution are signals of provincial identification. Some provinces issue few responsive legal documents, and most of them focus on administrative tasks or implement closely the central guidelines and laws. Some provinces made a large number of legal documents and show their proactivity in making those decisions or initiatives to enhance their provincial competitiveness and brand, particularly those concerning the development of high-quality human resources, science and technology, entrepreneurial activity, and administrative reforms. We also found that for the same policy and decision, accountors are different across provinces. For example, initiatives and decisions on the development of science and technology are the accountability of the collective people's committee in Thua Thien –Hue province, but that of individual chairman in Thanh Hoa province. Obviously, there is an autonomous organization of accountability within each provincial authority despite the fact that there have been central laws and guidelines of the authority and task division for sub-central level government, the extent of how local authorities interpret them as closely as possible with central willingness is beyond the state control. Provinces identify themselves autonomously through policy allocation and decide the internal organization of accountability (individual versus collective).

In this paper, we have attempted to give evidence of how responsive policy making at the provincial level is formulated and driven by formal and informal accountability mechanisms, how internal accountability is organized, and how provinces benefit from their responsiveness in the case of an authoritarian country. In the following section, we give an overview of current and new conceptualizations of formal and informal accountability mechanisms. Section 3 develops some hypotheses linking informal accountability and responsive policy-making output. Section 4 provides some empirical proofs to our hypothesis in our comparative analysis of accountability and governance in 35 provinces in Vietnam. The paper will end with discussions and conclusions.

## **2. FORMAL AND INFORMAL MECHANISMS OF ACCOUNTABILITY**

Accountability has recently become a fashionable concept in governance literature. From the broad sense, the public agency theorists define it as an account-giving relationship between a public agent – the accountor - and a forum of stakeholders – the principal, or the accountee (Bovens, 2007). Depending on the organizational feature of the principal and the agent, equivalent institutions of accountability are established to hold the former answerable for their actions and decisions during the processes of public administration<sup>1</sup>, including the possibility of imposing sanctions if misconducts are found.

From a narrower sense, it is seen as a standard of performance, an incentive mechanism, or a control means. O'Connell (2005) and Dubnick (2005) consider accountability as the goal or a standard that the account-holder sets for the accountant, or a promise of performance from the latter such as the delivery of public services in a high quality, at a low cost, and in a courteous manner. This view highlights public accountability for outcomes and regards agent performance as a measure of his accountability. This explains why accountability carries many virtues such as 'democratic', 'ethical', 'moral', 'trustworthy', 'answerable', 'responsible', 'responsive', 'impartial', 'private efforts', 'transparency', 'openness', 'liable', and 'controllable' in recent research on governance (Dubnick, 2003; Mulgan, 2000; Koppell, 2005; O'Connell, 2005). Accountability has become the key to good governance in worldwide institutional reforms.

Accountable governance cannot be achieved if there are no effective mechanisms in place to hold public actors on the virtuous path and to prevent them from misconduct (Bovens, 2007, 2010). Bovens (2010) defines accountability as both a virtue and a mechanism. As a virtue, it is a set of standards of good governance performance. As a mechanism, it is a set of institutional arrangements designed to communicate the principal's norms of being accountable and give incentives for all parties to perform up to standard. Some other scholars (Burke, 1986; Gruber, 1987; Caiden, 1988; Dwivedi, Jabbra 1988) consider it as an instrument or a strategy to hold the agent answerable, responsible, and responsive to the principal when he takes actions or makes decisions under the pressure of sanctions.

Each political regime and culture has its own connotation of 'being accountable' and it, therefore, sets their own standards of accountability and establishes their own mechanisms to ensure their achievement and durability. Research on the governmental performance in developing countries has analyzed the prevalence of informal accountability mechanisms given the weak formal accountability system (Bardhan, 2002; Tsai, 2007). This phenomenological argument has inclined to claim that the emergence of institutions of informal accountability is objective and external. Media, NGOs, independent institutions, civil society, or social networks are in this category. Another strand of governance literature takes a view of sociologists that informal accountability for others is subjective and internal (Tetlock, 1992; Akerlof, Kranton 2000, 2005; Royle et al., 2008). These authors attributed the proactive behavior of employees and public agents in firms and public organizations to intrinsic motivations such as identity, embeddedness, or empowerment. Shearer (2002) and Tsai (2007) argue that formal accountability mechanisms are not sufficient to achieve public accountability. Shearer (2002) proposes to put ethics into mechanism designs.

So far, formal and informal accountability has been assimilated to formal and informal institutions. In the following section, we attempt to distinguish formal mechanisms of accountability from the informal ones based on four main dimensions: legal binding, control, account-giving mechanisms, and incentive structure. The description is summarized in Table 2.1.

## **2.1 Formal mechanisms of accountability**

As a governance institution, formal accountability has some aspects of a formal institution. It is a set of institutional arrangements (rules and procedures) that are created, communicated and enforced by the state or state bodies such as constitutions, statutes, laws, regulations, courts, legislatures, and bureaucracies (Helmke, Levitsky, 2004). This way of understanding highlights the legal ground for the creation of formal institutions, not excluding formal accountability. What matters is how to differentiate formal accountability from other types of similar institutions

such as control or to get insights into the functional difference between formal accountability and informal accountability as a mechanism. The above definition is just the first important dimension of formal accountability.

*Table 2.1. Formal and Informal Mechanisms of Governmental Accountability*

	<b>Formal Accountability</b>	<b>Informal Accountability</b>
Legal Binding	Yes Well-written in Legislature	No Unwritten in Legislature
Control	Direct (legislative, executive, judiciary, and hierarchical)	Indirect (the third party, not the state)
Mechanisms of account-giving	Bureaucratic	Responsive and proactive
Incentives	Formal channels of rewards and sanctions	Informal channels of rewards and sanctions
Institutions of accountability	Bureaucracies, Fiscal Target, Target Investment Programs, Oversight, Election	Identity, Media, Independent Institutions, NGOs, Civil Society, Noms, Social Networks

Existing studies emphasize two important mechanisms of accountability: information provision and sanctions (Dubnick, 1998; Schedler, 1999; Bovens, 2007). Both of them act as incentives to the accountable performance of public agents. The former is a set of institutional arrangements of communicating expectations of governance quality, internalizing standards of good governance, justifying and judging the agent's conduct. These procedures are the basis for a certain form of sanctions in case any misconduct is found and judged. The threat of sanctions, either formal or informal, acts as incentive mechanisms that hold the agent's behavior and actions proper and meet the expectations of the accountee in a passive manner. This way of understanding has not differentiated the possibility of punishments from that of rewards in case the agent is proactive enough to outperform the forum's expectations. It has also not mentioned the possibility of accountability to provide the accountor with intrinsic incentives rather than just extrinsic values in exchange for his private efforts to do his best. Those active mechanisms can help the actors avoid costly sanctions and deal with accountability crisis, especially in low-trust institutional contexts.

In this paper, formal (public) accountability refers to a set of institutional arrangements between the principal (or the account-holder) and the agent (or the account-giver) that are formulated, communicated, and enforced by the state in order to facilitate, control, and motivate the agent's fulfillment of his tasks up to the principal's expectations in a direct and justifiable manner. This definition emphasizes the importance of accountability as a process of account-giving and account-holding through communication and responsiveness, a set of legal and bureaucratic procedures under direct state control (or the direct system of balances and checks), and a set of formal incentive mechanisms (including the possibility of both sanctions and rewards that is well communicated in legal documents). Bureaucracies, fiscal and administrative decentralization, courts, state investigations, target programs, and legal sanctions and rewards are examples of formal accountability.

## **2.2 Informal mechanisms of accountability**

Any arrangements that violate one of the above dimensions of formal accountability are categorized as informal accountability. In other words, informal accountability is a set of institutional arrangements that are formulated, communicated, and enforced by the non-state principal or a third party which is not the state in order to facilitate, control and motivate the agent's fulfillment of his tasks up to the principal's expectations through intrinsic and indirect sources of incentives. Accountability enhanced through the agent's response to mass media, civil society, NGOs, norms of governance, ethics, trust, identity, professional advancement, or reputation is regarded informal. The accountable agent goes beyond bureaucratic or top-level expectations and acts for grassroots-level expectations for his beliefs of himself as a constructive source of change or as a part of a community (Morrison, Phelps, 1999; Akerlof, Kranton, 2000, 2005). He may face informal consequences (rewards or sanctions) subject to his success or failure in satisfying the public expectations.

One of the main difficulties in studying accountability empirically is the lack of consensus on the conceptualizations. In other words, accountability means different things in various institutional environments (Bovens, 2010). Therefore, the studies of accountability make more sense of policy recommendations if it is analyzed in a particular institutional setting. In the following section, we discuss some literature gaps in the link between local government accountability and performance when we get more insights into different formal and informal institutions of accountability in effect in transitional countries.

## **3. LOCAL GOVERNMENT ACCOUNTABILITY AND PERFORMANCE: WHAT REMAINS INCONCLUSIVE**

Public administration literature has been exhausted with seeking new models of accountability that enable to hold public agents accountable to their accountees. Accountable governance has been ever debating in most kinds of institutions and organizations, especially when it is blamed for the current world depression, starting with the subprime crisis in the U.S. in 2008. At the firm level, there is a lack of confidence that management follows the interest of shareholders and stake holders alike. In particular, incentive schemes for management have been the target of significant criticisms, supposedly misleading the latter to follow short term objectives that are incongruent with welfare maximization. At the macro level, the institutional fragmentation and competition accompanied with partial decentralization among states, regions, or localities seems to lead to race to the bottom when many global, national, or regional issues are addressed in an ad hoc and dissonant manner. In many cases, accountability is misplaced along the tiers of a hierarchical organization, which leads to overinvestment or free-riding. For example, public investment in constructing an airport, a road, or a hospital should be a regional and national issue to obtain the economies of scale and to minimize negative externalities rather than decentralizing it to lower levels of government. In addition, even when a global, national, or local dimension is acknowledged, there is still no clear division of labor among the myriad of related institutions that seek to address them: the functions often overlap, their mandates conflict, and their objectives often become blurred. In the end, the system of governance suffers from severe deficits of accountability and inclusion.

The accountability crisis has uncovered some governance issues that need new accountability mechanisms and models to solve. First, the system of incentive mechanisms should be

redesigned to reward the making and pursuit of developmental or long-term policies and discourage the making of short-term oriented policies and decisions. Second, accountability mechanisms are considered as skeletons of organizational structure, so the internal structure of the organization is determinant of the efficiency of accountability institutions and vice versa, change in accountability conceptualizations also results in the adjustment within the organizational structure. Third, new accountability mechanisms should be based on the clear division of labour and the allocation of tasks to achieve the economies of scale and avoid negative externalities. Individual and collective accountability need clarification in order to mobilize the coordinated resources and knowledge when necessary. Finally, periodical assessment of current accountability mechanisms will be essential to proceed with further innovations in governance.

In the light of growing lack of trust in formal institutions, recent empirical studies have applauded the role of informal mechanisms as an incentive to local government being accountable. Tsai (2007) has surveyed 316 villages in China and found that even when formal accountability is weak, social networks or particularly the presence of embedding solidarity groups, make some villages outperform the others in the provision of public goods. Her findings imply that each institution of accountability is built on an equivalent organizational structure, so the structural design of an organization will act as a moderator or a constraint to the process of communicating expectations and commitments of its performance and enforcing them in the account-giving and –holding process. Informal accountability induced by moral reward, a kind of respect, rendered when both the accountant and the accountee are members of a social network are substitute to ineffective formal counterpart.

However, theoretical and empirical studies agree that informal institutions are not durable and limited in the scale of applicability due to their financial and structural constraints or their different norms of governance. Li (2003) argued that informal institutions had low fixed costs of creation, but their marginal costs of enforcement were increasing as the scope of their applicability, for example, the size of social networks expanded. Vice versa, formal institutions need substantial public order to get them enforced, so they are created with high fixed costs but the high-quality formal ones are long-lived thanks to their diminishing marginal cost advantage as the scale of their use is enlarged. Furthermore, the success and durability of informal institutions also depend on other factors such as the types of accountability mechanisms, ownership, performance norms, and the possibility of embedding informal mechanisms into the formal system. For example, civil societies are strong forms of informal accountability in transitional countries; yet, their scope of use is subject to the extent of financial and expertise independence of the state and of dependence on foreign financial and expert resources.

The influence of being accountable on how public agents are responsive to local demand for development has been controversial in public administration literature. The majority of scholars argue for the positive effect of increased accountability on transparency and openness (O'Donnell, 1998; Schedler, Diamond, Plattner 1999), democracy (Bovens, 2005), ethical behavior of the agent (Gray, Jenkins, 1993; Anechiarico, Jacobs, 1994; Morgan, Reynolds, 1997; Dubnick 2003; Bovens 2005), responsiveness (West, 2004), and the quality of public goods and services (Dubnick, 2003). Dubnick considers it as a *sine qua non* institution of a modern state. Bovens (2005) emphasizes the importance of accountability as a modern institution that guarantees the legitimacy of public governance. There is a group of scholars who analyze the side effect of excess accountability on governance (Behn, 2001; Halachmi, 2002; Dubnick, 2003; Bovens, 2005). For example, too much control of corruption and integrity can lead to a



proceduralism that negatively affects the efficiency and effectiveness of public organizations (Anechiarico, Jacobs, 1996).

In such an exhausting debate, Dubnick (2003) called for new forms of accountability that aim to enhance government responsiveness to the direct consumers of public goods and services, which is not the focus of the old models of modern governance. Initiatives to enhance accountability to local people/voters are objectives of “new public management” (NPM) reforms. It should be noted that accountability is an instrument of public governance and its scope of use is subject to both objective and subjective conditions. It may, therefore, not be conceptualized in the same way in different political systems. The relationship between accountability and responsiveness and governance performance depends mostly on the particular forms of accountability used in the given political environment.

Public administration models emphasize both collective and individual accountability. Our review of related literature shows there is little research on the link of these two forms of accountability with responsiveness and other government performance dimensions, especially at the sub-national level. The informality of accountability has also been less documented than formal institutions in public administration, especially in those political systems that have collective decision-making tradition. We agree with several scholars that formal or collective mechanisms of accountability are not sufficient in a complex construct such as multi-sectoral networks (Benner, Reinicke, Witte, 2004), or a multi-level government. There should be informal and individual mechanisms in complement with the former in order to enhance government responsiveness to the public they are intended to serve.

A question remains open to scholars. What kinds of institutions are efficient to hold local agents accountable and responsive to its citizens in authoritarian countries where democracy is limited and formal institutions are weak? To answer to this question, scholars need to take several external and objective conditions to its emergence into account. First, accountability is a transitional and deliberate process in authoritarian states. Accountability is an institutional innovation of democracies and a democratic legacy, but it is incorporated into economic and public administrative reforms of authoritarian regimes under the pressure of globalization. As a virtue, accountability is seen as an added value to governance quality in addition to the norms of authoritarian legacy. Second, it is an inconsistent concept in authoritarian governance. Account-giving mechanisms are allowed to an extent that authoritarian legitimacy is not endangered. For example, accountability is more of a discourse at the upper level of a multi-tier government, but a formal action plan at lower levels in Vietnam. Third, culture matters governance performance. Where informality becomes a social norm, informal mechanisms of accountability are preferred to formal ones. Informality refers to a wide range of issues such as informal economy, corruption, self-regulation, fence-breaking, local autonomy, ‘village’ culture, the norm of consensus-based decision-making, or the like. Comparative politics literature has also observed the prevalence of social networks in Asian countries, especially in those with Confucian heritage while strong social groups make up powerful accountability institutions in democracies (Gibson, 2001).

In the following part of the paper, we present how the system of formal and informal accountability is established and functioned in an authoritarian country through our case study of Vietnam. We focus on accountability of provincial governments, the middle level in the government hierarchy. The reason for our choice is that they are the kind of public agencies that are faced with the relatively full set of accountability mechanisms (upward vs. downward, vertical vs. horizontal, collective vs. individual, and informal vs. formal). Our main claim is

that many historical informal institutions such as the norm of authoritarian accountability (the communist-single party legacy), the consensus decision-making culture, and ‘village’ culture (grassroots self-help) are embedded well into the formal system of accountability and influence the behavior of public agents. Our empirical studies of all decisions made by 35 provincial governments from 2006 to 2009 show how de facto individual accountability, culture, and village identity influence government responsiveness to local development and other governance indicators.

## **4. THE EMPIRICAL ANALYSIS OF VIETNAM’S ACCOUNTABILITY SYSTEM**

### **4.1 Case study**

The organization of local government in Vietnam has experienced significant changes in tandem with several revisions of the constitution over the past 75 years. The most visible change occurs in institutional designs of the accountability system. Despite this structural change, there are those factors that seem persistent and explain the variation in the local agent’s behavior and performance; they are norms of accountability. The following part will analyze this reality.

Local government in Vietnam was first institutionalized in two decrees number 63 and 77 issued in 1945 and then formalized in the 1946 Constitution. Under these laws, local government was organized into four levels: *ky* (departments), *tin* (cities or provinces), *huyen* (districts), and *xa* (communes), of which cities/provinces and communes were complete governmental levels while departments and districts were middle levels. A complete governmental level consists of both the People’s Council and the Administrative Committee. At the middle governmental level, only the later is established as the executive agency for the central government and a supervisor over the performance of the lower-level governmental agencies. A noted point is that Administrative Committees played a more important role and were awarded with more discretions than the People’s Council at the same level although the former was the executive agency of the later. The organization and operation of the later was closely supervised by the central government and the upper-level local governmental agencies. The role of the people’s representatives of the People’s Council seemed ambiguous and weak.

The strength of local governmental structure during that time was its compact, flexible organization and relative clear accountability. The size of People’s Councils and Administrative Committees was small, 15-30 agents for the former and about 5 for the later. Not all levels were organized as a complete model. For example, at the departmental level, only an administrative agency was set up with transparent tasks and responsibilities: implementing mandates of the central governments, supervising lower-level People’s Councils and Administrative Committees to guarantee the macroeconomic coordination and political cohesion, and other national defense tasks. Similarly, only administrative committees were established at the district level, and they function as a middle agency, coordinating the upper governmental agencies with the lowest ones, or communal People’s Councils and Administrative Committees. Provincial Administrative Committees are responsible for implementing upper-level mandates and resolutions issued by the same-line People’s Council, and controlling lower-level governmental agencies. Communal agencies mostly act as the implementers of higher-level decisions. Rules of coordination between People’s Councils and Administrative Committees at each level were clearly stipulated in legal documents. For example, when the Administrative Committee at the lower level presented the

resolutions issued by the People's Councils at the respective level to the upper level's administrative committee for approval, the response should be returned in writing within 5 days upon their receipt. If there was no formal response from the upper level, these legal documents are automatically enforced.

There were some changes in local governmental organization following the revision of the 1959 Constitution and the introduction of Law on the Organization of the People's Councils and Administrative Committees in 1962. Under these laws, local government in Vietnam had only 3 levels. The departmental level was not recognized any more. Different from earlier years, all three sub-central governmental levels are complete, with the presence of both People's Councils and Administrative Committees. Accountability started to be formally stated in legal documents and political forum or informally incorporated in governmental organizational design. The size of these agencies increased significantly, from 20 to 40 for communal People's Councils, from 30 to 50 for the district level, and from 50 to 120 for the provincial level; or from 5 to 15 agents for administrative committees. This change was based on the norm of large-number democracy. Vertical and horizontal accountability in the central-local relations was made clearer along with administrative decentralization initiated in this period. The relative power of the People's Council was enhanced significantly over the respective administrative committee. The latter was also required to directly give account to the former at the same level. The upper-level administrative agency did not have the authority to cancel the resolutions of the lower-level People's Council, but only withhold them temporarily. This is the right of the direct upper People's Council. This is the difference compared to the era of the Constitution 1946. Accountability was also shown in the way local governmental agencies were defined in the Constitution 1959 and other legal documents: "The People's Council is the state power agency in local government", and the Administrative Committee takes dual roles of 'an executive agency' of the responding People's Council and the state administrative agency in local government. Obviously, formal accountability was purely up-ward and highly centralized. Down-ward accountability and democracy were not virtues of the political system at the time being in both discourse and reality.

Some of accountability ambiguity was clarified in the 1980 Constitution and the Law on the Organization of the People's Councils and Administrative Committees in 1983 and the revised in 1989. The People's Council was added one more role – the people's representative as its name reflects. Down-ward accountability started to be institutionalized. At the same time, both local government agencies were assigned many more tasks and responsibilities in both public goods provision and economic administration. Although accountability was stated as a demand in laws, there remains short of mechanisms to facilitate the account-giving and account-holding processes in this period. Even recent revisions of the constitution have lifted some of them. First, the Law has also revised the internal structure of the People's Council and Administrative Committee toward blurring accountability. Under these laws, the permanent section of the Administrative Committees at all levels was dismantled. This agency has been called a new name, the People's Committee, and makes their decisions on the 'consensus' principle. Almost local issues should be discussed in a monthly meeting and solved to the majority's view. The idea for this change in local governmental organization follows the norm of collective ownership. However, this new design of local government is not suitable for the nature of an executive agency where many local issues need rapid actions and decisions. The consensus principle also blurs the individual accountability of the head of the People's Committee and other Committee's members as well as

their creativity and flexibility in governance. The same decision-making principle has also applied to all types of governmental institutions, not excluding the People's Council.

Second, if the decrees number 63 and 77 in 1945 and the Law 1962 included some stipulations on the internal organization of the People's Council and the Administrative Committee and the division of tasks and authorities for these agencies at different levels, they were not incorporated in the revised laws thereafter. This is the main difficulty in determining the account-giver when a local issue arises. This became worse when a permanent section, including the chairman, deputies and a secretary of the Council, was set up to solve daily work. Ridiculously, such a permanent team was not organized at the lowest governmental level which has the direct contact with local people. It is also fruitless when the executive agencies of these Councils do not have respective permanent sections.

Third, ambiguous laws have created a dangerous norm of loose internalized sanctions in local performance. Previous constitutions and laws aimed to design the accountability system on the basis of "dual subordination". For example, the People's Committee was held accountable to both the People's Council at the same level and the next upper executive agency (either the people's committee or the central government). However, the 1980 Constitution and its follow-up laws in 1983 and 1989 seemed to get the councils and committees involved in a horizontal accountability relation. That means the upper executive agency was not directly held accountable to the next upper executive agency or the government even when the committee or its chairman and deputies breached the central rules and regulations. Only the council at the same level had the right to dismantle its respective committee. However, this exclusive right was rarely realized for many reasons, some of which have mentioned above such as blurring accountability or ambiguous allocation of tasks and responsibilities. In fact, the council performs as a nominal unit. People's Committees have substantial autonomy in making decisions, even fence-breaking central laws in the shadow of a kind of norms of loose internalized consequences. The behavior of these local agents is guided to their belief that in the end they may suffer soft and informal sanctions such as notice or criticism (Malesky, 2004). Hard and formal sanctions such as dismissal or court attendance are generally rare. That is why fence-breaking was popular since the 1980 constitution came into effect. The 1980-1992 periods also witnessed an economic crisis in the country with the inflation rate reaching its record in 1986 at 435.5 percent (IMF).

Local government has been restructured once more in the latest revised Constitution in 1992 with several additions in 2001 and the Law on the Organization of People's Councils and People's Committees in 1994 and 2003. Under this law, local government continues to be organized into three complete layers of the People's Council and the People's Committee. Until May 2008, the country has 64 provinces, 690 districts, and 11055 communes<sup>ii</sup>. Figure 4.1 gives an overview of the central-local relations under the current constitution and laws. It exhibits two kinds of relationship: leadership and accountability. Figure 4.1 shows accountability is a network of vertical and horizontal relations. The centralism of power is still a milestone in the political structure whatever models it is built on. Although the People's Council at all levels is elected by local people and has a permanent leadership, the constitution states clearly that it is a state organ of power in local government in addition to the role of a representative for its voters. The dual role, blurring identity, and overlapping accountability and interests are immense obstacles in local governance. The same problem also occurs to the functioning of the People's Committee. Despite a lot of criticisms about the organizational constraints for the People's Committee in the 1980 constitution, the 1992 and 2001 constitutions keep blind eyes to all of those. First, although the committee is an executive arm of the local council, the constitution also defines it as an

executive arm of the central government in the local government. At the same time, the committee implements the task assignment from and is held accountable to two levels of government. However, accountability to the local community is only an indirect or discretionary factor that influences the committee's performance. Centralism principle in the organization of local government also makes the council-committee accountability relationship seemingly nominal. Although the committee is the elected executive arm of the council and directly accountable to the council, the latter does not have the genuine right to decide sanctions levied on the former in case of misconducts being found. This right belongs to the Prime Minister or the chairman of the next higher level Committee.

Second, although the party leadership is not institutionalized in the organization and functioning of any organs of the central and local government, it is a powerful informal institution that directs their account-holding behavior. The Communist Party becomes an informal accountee in the central-local relationship. If one looks at the profiles of chairmen of the provincial People's Committees, most of them take a dual role of the deputy of the provincial organ of the Vietnam's Communist Party, and some of them even have their multi roles in the People's Council, the National Assembly, the Central Committee, and many other civil societies<sup>iii</sup>. Account-giving turns out to be a costly process when the degree of overlapping identity and interests among various account-holders in the central-local relations is high. In other words, coordination, supervision, and account-giving become too costly when the People's Committee has to deal with the increase in the interest and identity divergence. It makes sense of more cost-effective coordination, given information asymmetry, if the difference in roles by layers reduces. A network-type of account-holders will increase the extent that identity and interests overlap and hence facilitate the accountability process.

Third, local governance performance depends mainly on the accountability of the chairman of the People's Committee in the lack of formal mechanisms of individual accountability even after various revisions of the Constitutions. In reality, the chairman of the Committee has a lot of power in local political and socio-economic life. He has the final say in most of administrative decisions and plans of specialist units of ministries in his localities. Of 168 domains under local administration, the provincial People's Committee has the authority to issue legal documents in 153<sup>iv</sup> administrative areas concerning fiscal, investment, trading, enterprise, human resources, public services, natural resource policies, and many other issues. Although People's Committees have a lot of responsibilities and many of them require rapid responses from the executive agencies, this ability faces objective constraints such as monthly meetings, collective decision-making, or double subordination. In many provinces, these meetings only formalize legal documents or decisions prepared by individual chairmen of the Committee. The nominal representation of state power and the lack of flexible accountability mechanisms in local government over the past decades have created good conditions for the 'village' culture dominating the fashion policies are made and implemented in localities. Many fence-breaking decisions have been made by the chairmen of people's committees and legalized in the name of collective knowledge.

The above case study reveals some controversial points in the way the accountability system of Vietnam has been built. After several revisions of the Constitution, the organization of local government has not changed significantly. First, local government has been stated to be organized on the democratic centralism principle; yet, democratic institutions are rare, and centralism becomes the irreversible basis in designing the political system. Second, building accountability mechanisms on the basis of norms is the typical feature of the country, and in the

end, accountability turns out to be partial, half-way, or simply a show. Decentralization of administrative tasks and responsibilities to three lower governmental tiers on the basis of informal ‘loose’ internalized sanctions is such an example. In other words, centralism of state power acts as a guarantee that the possibility of sanctions is not institutionalized, but subject to the sentiment of the central government. Another example is the use of ‘Vietnam’s Communist Party’ (VCP) identity, or showing a sentiment for the VCP and participating the VCP’s network, as an informal norm of accountability. It carries some values of accountability such as loyalty and responsibility. Third, the norm of large number democracy, or the increasing democracy to the expansion of the local government size, has resulted in overlapping functions and responsibilities and blurring accountability. Finally, ‘village’ culture affects the way down-ward accountability is held and committed by local leaders. A lot of local developmental policy innovations have been made in this way when central policies were perceived unbeneficial to localities. The excessive offer of investment incentives beyond the central framework is such a case. To some extent, this culture remains persistent because it has resulted in local-specific developmental policies, both in the short term and in the long term.

Obviously, the prevalence of informal accountability mechanisms reflects two issues: weak formal accountability and emerging informal mechanisms out of reach of the central government such as ODA providers, NGOs, and foreign-related and non-state professional reports. What political agency literature concerns is to investigate the agent’s behavior change in response to the emergence of a certain accountability mechanism and how their behavior influence the organizational adjustment of the accountor-accountee relationships. The following section is an empirical analysis of the impact of some formal and informal accountability mechanisms on the policy allocation of 35 provincial governments between two types of goals: responsibility and responsiveness, and the follow-up institutional change in governmental organization.

#### **4.2 Accountability, Policy Allocation, and Local Government Performance: Empirical Analysis of Provincial Governments in Vietnam.**

The impact of formal and informal accountability institutions varies across provinces. The first possible one is on the choice of identity of local authorities, and hence their policy allocation. Tenev et al. (2003) observed that some provinces were identified themselves as arms of the central government, others as representatives of the localities under their governance. Accordingly, some provinces accepted central mandates; some made their decisions on the basis of their generous interpretation of a central mandate, especially fiscal and development policies; and the others deviated from central will and made their own development policies. An example of the variation in the behavior of local authorities in the selection of identities is the case of pro-market policies.

Figure 4.2 shows in the 1990 when Vietnam initiated its administrative and fiscal decentralization to lower tiers of government, the number of provinces with over 50 percent of their industrial output produced by State-owned enterprises (STATE provinces) was higher than that by the non-state sector (NS provinces). The loyalty to STATE identity lasted until 1999 along with the introduction of the Enterprise Law and the increasing empowerment to provincial governments over a wider range of policies. The 1999 Enterprise Law works out an institutional framework for state accountability toward the private sector. Market decentralization in public services such as education, training, healthcare, legal consultation, and others has been launched since 2003 (VDR, 2010). Provinces are given significant autonomy in planning local socio-

economic development, fiscal policy, public investment, human resources, land, public goods and service provision, and legislature. Along with state commitment to pro-market accountability, the entrepreneurial role and function of provincial governments were separated from their bureaucratic role and function. Provincial authorities are no longer leaders of SOEs; they are state ownership representatives in these firms only. The overlapping identity of provincial authorities as SOE ‘owners’ and local leaders used to be a political constraint in their allocation of local and private resources. What matters is that the allocation of merits or private resources of provincial leaders to NS identity is not the same across provinces despite the uniform formal accountability mechanism of identity overlapping. What are they if not formal institutions at work?

The SOEs and their strength have always been a guarantee for the legitimacy of the single-party (VCP) regime in Vietnam. Even though the private sector has been acknowledged as an economic actor in a level-playing field with SOEs and provincial governments are no longer entrepreneurial bureaucrats in SOEs or the leadership of VCP has never been institutionalized in legislature, the loyalty to STATE identity or VCP is a norm among politicians and bureaucrats. In reality, most leading positions in both central and local governments are VCP members. With the use of this informal accountability mechanism, the VCP expects to maintain the loyalty of the country’s politicians and bureaucrats at all levels at a very low cost. However, the decision of loyalty to or deviation from STATE identity or the one of adopting ‘local representative’ identity versus ‘state arm’ is the individual choice. Their option will be the determinant of policy allocation to pure implementation of central mandates or responsiveness to local development needs.

The link between identity and accountability has been an issue of interest in political and governance literature (Akerlof, Kranton 2000; 2005). The authors argue that when employees identify with the organization, they have a loss in utility if they do not follow the rules of their superiors and act in the interest of the organization. Identity is shaped through their internalization of organizational formalities, goals and ideals through education and training, and a firm (internal) position in the organization. Identification is problematic when they work for a multi-level organization and identities and interests of each level are overlapping or even conflicting. Akerlof and Kranton suggested a model of loose supervision with emphasis on work group identity, autonomy and trust be more productivity-enhancing than a tight supervisory model with emphasis on the organization’s identity.

Current literature argues that organizations shape identities and the choice of certain identity (identification or the choice of self-image) is determinant of an accountability relationship. However, whether actors in such a relation benefit from their identification has not much quantitative explanation. Section 4.1.1 has presented various formal accountability mechanisms that the central government uses to shape STATE identity for lower-tier governments and agencies, figure 4.1 shows it is the desired option of a certain number of provinces. Other provinces identify themselves as ‘local representatives’ and choose to enhance their NS identity thanks to their autonomy. Although the goals of the two identities are not always seriously conflicting, their choice acts as an accountability commitment and as an incentive to make administrative and responsive decisions and policies towards those they are identified with.

Another vivid example of identity choice is through the study of decision-making practice by the chairman of the Provincial People’s Committee. Figure 4.2.2a illustrates the variation in the number and distribution of legal documents of 35 provincial authorities in Vietnam<sup>v</sup>. Law on Issuance of Legal Documents of the People’s Councils and People’s Committees enacted in 2004

has formally institutionalized the authority of local governments to promulgate binding rules of conduct applicable in their localities over a wide range of socio-economic and defense areas in the form of resolutions (for the former) and decisions or decrees (for the later). The supervision report 2012 by the Steering Committee of the National Assembly shows provincial governments are entitled to promulgate and implement legal documents in almost areas (55 for the provincial people's councils and 153 for the provincial people's committees). The authority of district and communal governments is restricted in certain areas and in fact their issued documents simply copy those of the upper-level agencies (SCNA 2011). Under this law, provinces are of the highest power in the system of local government, and they are also our key subject of research.

Figure 4.2.2a shows the number of legal documents, including resolutions, decisions and decrees varies a great deal across provinces despite the uniform law-making policy and accountability system. The variation is mainly for those issued by the provincial people's committees and particularly those by their individual chairmen. Figure 4.2.2a also shows for decisions of the same content, the accountor differs across provinces. They may be either the decision or decree of the collective people's committee who meets once a month for approval or that of the individual chairman of a province. The norms of consensus and democratic centralization of decision making have no longer been appreciated in some provinces and accountability has encouraged the proactivity of some chairmen of the provincial people's committees in making local development decisions and policies with personal accountability and autonomy. Obviously, there is a division in the cadre of provincial leaders, some of whom are identified with the consensus rule of the central government while the others have decided to be identified with the community under their governance and make full use of their autonomy in making policies for the community's interests. The former group makes fewer decisions and their issued legal documents only formalize the central mandates and programs. The later makes more decisions, especially those with high feasibility and responsiveness to local-specific development.

Figure 4.2.2b shows the number of legal documents issued by provincial governments also differs by types. The process of promulgating legal documents at the provincial level is nationally uniform and subject to the Law on the Issuance of Legal Documents of the People's Councils and the People's Committees in 2004. Accordingly, the People's Council is entitled to issue resolutions on making local socio-economic development plans, land use, education and training, culture, population, and defense. A standing section of the Council will divide the drafting tasks of these resolutions in certain domains and assign them to the People's Committee and other professional agencies. Resolution drafts are then submitted to the Council for approval at their meetings organized twice a year, normally in July and December. As the Council's executive arm, the provincial people's committee is responsible for formulating policy details based on the former's plans and policy lines and organize the their implementation. Under this law, the committee is entitled to issue decisions and decrees, but they cover a wider range of legal issues than the council (153 versus 55 out of 168). Although the tasks and authority of provincial government are common for all provinces, the number and especially the allocation of their decisions and policies show a significant variation. Some provinces issues a few hundreds or even thousands of documents covering almost authorized policies; some others only issues tens of documents and fail to make use of their authority.

Figure 4.2.3 illustrates the relation between the number of responsive legal decisions issued by each province and the ratio of the decisions made by the chairman of the respective province. Responsive policies are those that respond to local competitiveness and development rather than bureaucratic decisions. They consist of knowledge economy and entrepreneurial development



policies and administrative innovative decisions. Knowledge economy development includes all legal documents issued by provincial authorities regarding initiatives to improve education, training, information technology, and scientific research. Entrepreneurial development covers all decisions and decrees on promoting all types of local economic sectors such as investment and production incentives, business associations, industrial zones (especially for small and medium sized firms, regardless of foreign or domestic investors), trade village, provincial brand development, local-specific economic advantage exploitation, and the like. The last type of legal documents includes all decisions of implementing or initiating plans and programs to simplify administrative tasks or to increase transparency.

All above evidence leads to the following characteristics of accountability system at the local level in Vietnam:

- 1) Formal and internal accountability mechanisms are not effective enough to motivate all local government to be responsive to local demand for development.
- 2) Under decentralization, local authorities have certain autonomy in making their identity choice and identify themselves through the allocation of policies and decisions. Those who identify themselves as a state arm in their localities tend to be fully responsible for central mandates, plans, and policy lines. Those identify themselves with their own communities tend to be more proactive and innovative in making local development policies.
- 3) Individual accountability is an informal mechanism of accountability that may affect the policy output and allocation.

These findings imply that local authorities are more responsive to informal accountability mechanisms than internal and formal ones. This is also the main hypothesis that we attempt to test in the next section.

### 4.3 Data

The main purpose of empirical analysis in this section is to test what factors determine the allocation of legal documents for administrative and responsive goals and whether provincial authorities are really responsive to external and informal accountability mechanisms given the current formal system, and whether they benefit from their choice.

Governance literature has discussed the use of some informal accountability mechanisms such as administrative culture, values, ethics (Beck, Larsen, 1987; Denhart, 1994; Sinclair, 1995; Tsai, 2007) where formal ones are weak or inefficient. However, along with the increase in the fragmentation of the political system, the central and local values and cultures tend to diverge. This has made it difficult for local public servants to make a choice of what to follow and favor. In case of prevailing a set of contradicting values and cultures, the effect on accountability may be undesirable to one or the other party (Erkkilä, 2007).

Another channel of accountability is dependent on civil societies (Nórlund, 2006). Nórlund (2007) identified four types of civil societies in Vietnam: mass organizations, professional organizations, Vietnamese non-government organizations, and community-based organizations. By nature, civil society should be a forum or *an arena outside the state, the family, and the market where people associate to advance common interests* (CIVICUS, 2005). Many studies have attempted to assess the influence of over 6000 civil societies across all provinces, but the general conclusion is that the most influential ones depend on state funding, or are those whose leadership is a state bureaucrat. Therefore, the increasing number of these organizations is a

democratic show and state discourse. Genuine civil societies are restricted in formation and operation for some reasons.

In the light of growing globalization and dependence on official development aids (ODA), external means of accountability have been introduced with tight supervision of the state. When internal mechanisms, either formal or informal, show their ineffectiveness in creating a democratic arena between the government and the forum independent of state power, accountability initiatives of foreign organizations related to donors seem more powerful channels for policy advocacy, at least in the short term, and stimulates a competition among provinces for foreign finances to ease local hardening budget constraints, especially in those provinces that tend to identify themselves as the non-state. One of such accountability mechanism is Vietnam Competitiveness Initiative (VNCI) – a project funded by the U.S. Agency for International Development and one part of this project is the Provincial Competitiveness Index developed in 2005 in collaboration with Vietnam Chamber of Commerce and Industry (VCCI) – a Vietnamese financially independent NGO. For the first time, the provincial performance of economic governance has been annually measured for all provinces since 2006 from the perspective of private enterprises and quickly become a channel of dialogue between businesses and local governments.

In its first launch in 2005, the PCI survey was conducted in only 42 provinces with 2,020 firms' responses. However, since 2006, the PCI has been conducted in all 64 provinces, attracting the response of about 7,000 firms. The general PCI index is aggregated from 11 sub-indices covering entry costs, time costs of regulatory compliance, land access and tenure security, transparency, corruption, institutional quality, competition environment, proactivity of provincial leadership, labor policy, quality of public services to the private sector, and infrastructure. As an informal means of accountability, the results of the PCI do not lead to any direct rewards or sanctions. They simply provide provincial authorities with robust information regarding their making and implementation of policies as well as their attitude toward private enterprises (accounting for 97.18 percent of total enterprises in all economic sectors in 2006 (GS0, 2009). The annual report of the PCI also analyzes and recommends the type and domain of policies that each provincial government can make reforms to enhance their efficiency. What should be noted about the influence of the PCI are the follow-up consultation requests from over 40 provinces in the form of workshops where provincial leaders work with the PCI team to find out solutions to better their governance and to improve their rankings.

As 2006 was the first year that all provinces were involved in the PCI survey, we start with testing our hypothesis for the 4-year panel from 2006 to 2009. However, only 35 provinces have published relatively fully their legal documents since 2006, so our panel analysis includes only these localities. In order to test for the responsiveness of provincial government to the PCI 2006 report and whether provinces benefit from their efforts, we test whether those provinces allocating more decisions to local development goal out of their total number of legal documents have an improvement in the PCI rankings, controlling for the provincial identity and other economic and social characteristics of the province.

Our empirical analysis is divided in two parts. The first part aims to test our hypothesis of the effect of individual accountability on the responsive policy output and allocation. The second part continues with testing whether such a choice of policy allocation benefits provincial performance. The definitions and sources for all variables are summarized in the tables 4.3.1 and 4.3. 2. The correlation matrix of our variables is presented in table 4.3.3. Below is the description

of the econometrics model and how dependent and independent variables and other controls are formulated in our paper.

#### 4.3.1 The first model

Panel data analysis is the modeling approach adopted in this paper in order to assess the impact of informal individual accountability on the production and allocation of responsive policies. By choosing a fixed effect panel model, we can account for the both observed and unobserved heterogeneity in a sample.

We propose the following baseline equation:

$$RESPONSIVE_{it} = \alpha_0 + \beta_1 CTRL_{it} + \beta_2 INDIV\_ACCOUNT_{it} + TD_t + REGION_i + \varepsilon_{it} \quad (1)$$

where  $i$  indexes the province in the sample,  $RESPONSIVE_{it}$  denotes the number of responsive legal documents made by provincial government  $i$  over the periods 2006-2009.  $INDIV\_ACCOUNT_{it}$  is the de facto individual accountability of the chairman of province  $i$ . The model also includes several control variables,  $CTRL_{it}$ , including the average wage in the state sector, the size of local government employment, education, the contribution of tax revenue to GDP, and dependence on state capital. To control for time and regional invariant factors, we include time fixed effects,  $TD_t$ , and fixed regional effects,  $REGION_i$ , in the regressions.  $\varepsilon_{it}$  is the error term.

Details of the variables in the model are discussed in turn.

##### 4.3.1.1 Dependent variables

The main dependent variable, **RESPONSIVE** is the number of provincial legal documents that respond to the local development rather than those that simply implement administrative functions assigned by the central government. As discussed above, they consist of decisions and initiatives to develop high-quality human resources and economic competitiveness and to restructure public administration process in their own provinces. They are distinguished with routine administrative decisions regarding the management of public servants, organization of meetings, provision of basic public goods and services, or implementation of central laws. Given the joint formal institutional framework and expectation, initial findings from the case study predicted that the sense of personal accountability of local leaders and village culture may act as strong incentives for certain provincial authorities to make more responsive decisions than the others.

The data of decision-making distribution is obtained from surveying the Provincial Official Gazettes (POG) for the periods 2006-2009. The publication of legal documents on the POG is obligatory, so they are considered as a channel of official accountability. The variation in the number of legal documents in each policy domain shows the priority and responsiveness of provincial authorities for their local development needs. Some other authors have attempted to measure policy responsiveness through public goods production (Besley, Burgess, 2002), speeches and public expenditure (Hobolt, Klemmensen, 2008), or ballot initiatives (Bowler, Donovan, 2002). A closer measure of responsiveness to our work is the one by Schattschneider (1942) and Coleman (1999), who studied the relationship between the forms of party control (divided versus unified) and policymaking output (or the number of public and private acts). They argue that a unified government is more productive in making policy initiatives thanks to cost and institutional advantages of coordination and reaching an agreement. Taking this

comparative analysis approach in the within-institutional setting of a unified government, we attempt to gauge the relationship between internal account-giving organization and policymaking productivity.

In this part, compositions of responsive legal documents are also included in the model as dependent variables. The results of these regressions allow predicting those factors that affect the distribution of decisions to administrative reform initiatives, economic growth policies, and knowledge economy development policies. This allows identifying the policy priority given the current structure of accountability. The statistical details and description of these variables are shown in the table 4.3.1.

#### *4.3.1.2 Independent variables*

Given the norm of collective decision-making in the country, many provincial chairmen of the People's Committee have decided to be individually accountable to those legal documents that are issued on behalf of the Committee in other provinces. The identification of a collective versus individual accountor to a legal document is based on the signature. Individual accountability is at the discretion of each provincial government. It is expected that those provinces that are more autonomous in organizing their internal individual account-giving and make more individually accountable legal documents are also more responsive to local development needs. This hypothesis can be explained by an intensive literature on the effect of public management practices on performance (priorities, outputs and outcomes) (Graham, Hays, 1993; Cohen, 1993; Moore, 1997). Although the link between informal individual accountability and public administration performance such as the quality of public service and goods delivery has been investigated and proved (Tsai, 2007), the relation between the former and policymaking productivity is not fully understood.

To fill more in this literature gap, the degree of individual accountability (INDIV\_ACCOUNT variable) is considered as an independent variable of the model. It is the percentage of legal documents made by the chairman of People's Committees in the total number of provincial legal documents published on the Official Provincial Gazettes from 2006 to 2009. Table 4.3.2 shows individual accountability varies significantly from 0 to 96 percent.

#### *4.3.1.3 Control variables*

We also control for other provincial formal accountability and political and socio-economic differences to fulfill the *ceteris paribus* conditions. Public management literature has also claimed for the link between interest group pressure, political ideology, and identity with the proactivity and responsiveness of public agencies (Berry et al., 1998, 2001; Cogburn, Schneider, 2003; Akerlof, Kranton, 2005). We follow Cogburn and Schneider (2003) and use the number of government employment per 1,000 population as a proxy for interest group pressure or the perceived role of state government for making commitments to collectively benefited programs. Empirical studies support the significantly positive relationship between the size of government employment and political accountability in democracies (Dodlova, 2010). However, this relation is uncertain in authoritarian countries.

To capture the government ideology and identification, we use the approach of Malesky (2005). The author was based on whether the majority of provincial industrial output is created by the state sector or the private sector in order to differentiate State provinces from the Nonstate. This identification of provinces has theoretical links to the incentive that the government softens

budget constraints in transition countries (Qian, Roland, 1996). This also influences policy priorities and proactivity of local government to enhance their own competitiveness. The log of the share of state-owned enterprise industrial output in the provincial GDP may predict the likelihood of soft/hard budget constraints and the behavior of local government toward responsiveness and accountability. Those provinces with the stronger state economic sector have lower incentives to be proactive.

We also control for provincial differences in socio-economic conditions. Qian and Roland (1996) explain how subnational jurisdictions actively compete for investment and transfers to soften their budget constraints. Those provinces that contribute more tax revenue to the GDP tend to depend less on central government transfers and become more autonomous and proactive in making locally responsive decisions, especially those that benefit all economic sectors. To capture this argument, we also control for the provincial tax revenue as a share of the Gross Domestic Product (GDP). An intensive research has also provided the theoretical and empirical links of capability of public administrators and governance performance. In this paper, we do not have data about the capabilities of all administrative employees. We use the ratio of high school graduates per 10,000 populations to compare the educational level across provinces. It is expected that those provinces with higher educational level put more pressure on local government to be accountable.

A conventional incentive to the proper behavior and conduct of public agents is wage. To fulfill the *ceteris paribus* conditions, we also control for the variation in the average wage in the state sector across provinces. Public agents are expected to be more proactive and accountable where their wage is higher on average.

#### *4.3.1.4 Results and Discussions*

Governance literature has discussed the possibility of using informal mechanisms to provide intrinsic incentives for public agents to be accountable when formal ones are weak. In democracies, norms of transparency and individual accountability in decision and policy making along with democratic elections and deliberation are the basis for responsiveness to the citizens. However, many studies have also emphasized the lack of accountability in authoritarian states due to the absence of these democratic institutions. Our case study of Vietnam in section 4.1 has provided evidence to this argument and found that some informal institutions such as *de facto* personal accountability and ‘village’ culture have strong forces in explaining the variation in the extent of government responsiveness to local development demand across provinces. Table 4.4.1 presents the results for different estimation methods for the baseline model using the number of responsive legal documents and the number of administrative restructuring legal documents as dependent variables.

For the model of responsive legal document output as the dependent variable, the specifications (1)-(3) of Table 4.4.1 present the results of three estimation methods, fixed effects, ordinary least square (OLS), and two-stage least square (2SLS), respectively. A random effects estimator is not reported in our model because the Hausman test (see Hausman, 1978; Greene, 2008) P-value (0.0042) suggests the fixed effects estimator be used. This is the reason why the first column is chosen to present the fixed effects regression results. As the multivariate analysis in specification (1) shows, once other determinants are controlled for, informal individual accountability of the chairmen of provincial people’s committees has a statistically significant positive impact on the responsive policy output. The coefficients and their signs show several

interesting findings. Consistent with our prediction from the case study, those provinces with higher educational level on average tend to put a higher pressure on local government to make more responsive decisions, and those which have bigger state sector industrial production seem to be less responsive in terms of developmental policy outputs. These three first coefficients are all significant at less than 1%. Two other controls, the average wage of government employees and the contribution of tax revenue to the local GDP, have a negative impact on the responsive policy output at less than 5% of significance level. The results can be explained by the limited role of financial incentives in the performance of government agencies (Dewatripont, Jewitt, Tirole, 1999). However, they are not significant in the specifications using other estimators. Different from some earlier studies, we do not find the influence of the government size on responsiveness. This may be linked to Lassen (2000)'s argument that a larger government will be more difficult to control and their responsiveness is subject to their own discretions.

When the Hausman test supports the selection of fixed effects estimators in the model of responsive legal documents as the dependent variable, the 2SLS using instrumental variables to our independent variable is often used to check the result robustness of the FE model. In accountability comparative analysis, the authors tend to use a lagged variable or political culture, education, ethnographic features or climate conditions as instrumental variables (Torgler, Schaltegger, 2006; Tsai, 2007), arguing that they are not correlated with the error terms. We do not have information of informal individual accountability before 2006, so the lagged variable is not our choice in the 2SLS model. One of the other difficulties in within-country comparative studies, using the instruments, is the relative stability of cultural and ethnographical conditions across regions in the short term. Surveys of these characteristics are not conducted annually and the selection of instruments for the 2SLS regressions for a 4-year panel data is not easy in a developing economy like Vietnam, at least at the time being. However, this is absolutely feasible in the near future.

In order to check the robustness of the positive impact of informal individual accountability on legislative responsiveness, we run the same model, using different estimators such as OLS and 2SLS for this OLS model. One of limitations of the OLS estimation method in panel data models is the endogeneity problem. In other words, the OLS may produce inconsistent estimates when there is a causal relation between informal individual accountability of the executive leader and responsive policy output. It is possible that the more productive government in making accountable policies suffer higher agency costs on average, and the use of informal accounting process induces lower marginal costs of issuing one more legal document than collective formal decision-making. As a result, informal accountability tends to increase in use. To take into account this feed-back effect from policy-making productivity to informal individual accountability, we also present the model estimations, using the 2SLS approach. The two instrumental variables for informal accountability are distance of the province to the two major economic centres in the North and in the South (Ha Noi capital city and Ho Chi Minh city) and the ratio of the provincial Buddhist population. Distance and ethnics are also two popular instruments for accountability in their cross-country or cross-sub-national political studies (Torgler, Schaltegger, 2006; Tsai, 2007).

Specifications (2) and (3) present the regression results for OLS and 2SLS models. The coefficients and signs still support the impact of informal accountability on responsive legal document output, even at a higher level of significance than in the FE regressions. Education remains an influential determinant of responsive policy-making. However, average government wage, size, and tax revenue no longer take a significant role for responsiveness. Contrary to the

fixed effects model, those provinces with higher contribution of state industrial output to the local GDP witness their government making more responsive legal documents. In the OLS and 2SLS regressions, we also control for the North-South variation in responsiveness directly and it turns out that Southern provinces are more productive in terms of signs, but the coefficient is only significant in the 2SLS model.

The users of the 2SLS method concern the validity of the instrument variables. We report two tests to prove it in table 4.3.1. First, F-test statistics of excluded instruments in the first stage regression is 14.45<sup>vii</sup> and is considered sufficiently reliable. Second, we run the overidentification test when the number of instruments is higher than that of endogenous variables. The P-value of Sargan statistics, 0.4839, shows the null hypothesis of no overidentification cannot be rejected.

Table 4.3.1 also presents the same logic of empirical analysis and methodology in case the dependent variable is a sub-category of responsive legal documents. Although responsive legal documents are categorized in three groups, economic development policies, knowledge economy development policies, and public administrative reforming initiatives, the regression results of the last category is reported in specifications (4)-(7). We do not find the strong impact of individual accountability on the policy output in the first two groups. This also shows the private effort priority of local government to a narrow goal in this period.

We also stand at the choice of random effects or fixed effects estimators for the model with the number of public administrative reforming legal documents (PARLD) as the dependent variable. The Hausman test reported in specification 4 suggests the selection of the random effects, with p-value of 0.8648 (Hausman, 1978; Greene, 2008). We, hence, do not report the FE results. We continue to run Breusch and Pagan Lagrangian multiplier test to decide whether random effects or OLS regressions produce more reliable estimations. With the p-value is 0.0001, we have evidence to reject the null hypothesis and conclude that the difference across provinces is significant. Therefore, the random effects estimator is more appropriate.

Specification (4) presents the results of random effects regression. Informal individual accountability has a positive impact on PARLDs at 1.2% of significance level, controlling for other determining factors. Education is still a significant factor that influences PARLD output. As North dummy is time-invariant, we include it directly into the model regressions. As predicted about the difference in policymaking culture between the Northern and Southern provinces, we also find that the number of PARLDs is higher in the autonomous South than reserved and passive North with less than 1% of significance. Similar to the total responsive policy output model, those provinces with larger state sector contribution of industrial output and less tax revenue contribution to the local GDP tend to have more PARLDs at less than 10% of significance. However, they are not significant in our robustness check. Government size and wage do not have a significant effect on PARLDs.

Specifications (5)-(7) report the results of the model, using 2SLS and OLS estimators as a way to check the random effects regression robustness. For the 2SLS regressions, we use distance dummy and Buddhist population percentage as instruments and their validity in the regressions is also tested, acknowledged and reported in Table 4.3.1. with the same arguments in the first model. All three specifications show consistent estimations with the random effects. The results support informal individual accountability, education, and the North-South cultural difference as strong determinants of PARLD outputs. Other controls such government employment size, wage, tax revenue, and state sector strength are not significantly influential for the production of PARLDs.

#### 4.3.2. The second model

As stated above, we also test whether more responsive provincial government benefits from their private effort. As the results of the first model regressions support the role of individual accountability of the chairmen of provincial people's committees for the production of administrative restructuring initiatives only, we would like to test whether this effort of provincial government increases public trust in their governance. Similar to the first model, the fixed effects is chosen to account for the both observed and unobserved heterogeneity in a sample. In order to test how policy output influences public trust in local governance, we continue to appraise the fixed effects model below.

$$PROACTIVITY_{it} = \alpha_0 + \beta_1 CTRL_{it} + \beta_2 PARLD_{it} + TD_t + REGION_i + \varepsilon_{it} \quad (2)$$

where  $i$  indexes the province in the sample,  $PROACTIVITY_{it}$  is a sub-index in the Provincial Competitiveness Index (PCI) survey from 2006 to 2009;  $PARLD_{it}$  denotes the number of legal documents on public administrative reform made by provincial government  $i$  over the periods 2006-2009. The model also includes several control variables,  $CTRL_{it}$ , including GDP per capita, education, population density, and expenditure decentralization. To control for time and regional invariant factors, we include time fixed effects,  $TD_t$ , and fixed regional effects,  $REGION_i^{viii}$ , in the regressions.  $\varepsilon_{it}$  is the error term.

Changes in government due to the increasing fragmentation of power and successive accountability crises on both national and international scale have challenged traditional formal mechanisms of accountability. The New Public Management doctrine is grounded on alternatives, resembling the market-based or client-oriented mechanisms and self-regulation (Behn, 2001; Mulgan, 2003). This new governance perspective regards performance as a mechanism of accountability and a standard of government efficiency. The PCI Vietnam survey, albeit an independent ranking of government performance, has quickly become an informal dialogue channel between the private sector and local authorities since 2006 (see the introduction of Section 4.3 for an overview). It has even motivated formal communication and policy responses at all levels of government, particularly provincial authorities.

Of sub-indices of the PCI, *Proactivity* is built on annual questionnaire surveys of over 7000 private enterprises in all provinces about the degree of flexibility and responsiveness of local government in policy-making. Private firms normally have low political connection, and hence are expected to give less biased evaluation of government quality. The *Proactivity* index is aggregated on three questions. Question H7.8 asks firms whether policy initiatives are taken at the sub-central level. The question H7.3 asks firms whether local government where they are domiciled is flexible and innovative in implementing central policies to solve firm-related problems. Question H7.5 takes the opinion of firms about whether good policies initiated by sub-central governments are then overridden by the central government. *Proactivity* index is calculated, aggregating three indicators above based on the methodology suggested by PCI 2006<sup>ix</sup>. Each indicator is standardized on a ten-point scale and the final index is the average value of equal weight indicators. Table 4.3.2 shows *Proactivity* varies significantly across provinces in the range of 2.32-9.20. It is expected that those provinces making more PARLDs have a higher degree of public trust in their responsiveness and proactivity. For this argument, *Proactivity* index is selected as our dependent variable, and PARLDs (in both absolute number and percentage) are independent variables.



In order to fulfill the *ceteris paribus* conditions, we also control for other socio-economic factors that may impact the public perception of local government proactivity. We follow earlier empirical works about the determinants of the government performance (La Porta et al., 1999; Knack, 2002; Treisman, 2002; Bardhan, 2002), controlling for the per capita income, educational level, population density, and expenditure decentralization of each province. Higher-income citizens with higher education are more likely to put pressure on local government to be efficient. In those provinces, local government has a larger tax base to pay higher salaries to their employees and a better pool to recruit more capable and talented officials. Those provinces with larger population density also pose more challenges to government to cope with a wider range of interests and needs. The relation between decentralization and quality of government remain controversial. Bardhan (2002) has made several arguments to explain why decentralization does not encourage downward accountability and responsiveness, especially to the mass, in developing countries. Elite capture, corruption, initial endowment condition heterogeneity, and partial decentralization (e.g., expenditure assignments unaccompanied by revenue-making devolution) all may undermine the advantages of decentralization as an effective mechanism of political accountability in the democratic world.

Table 4.4.2 presents the fixed effects regression of the second model. Specifications (1)-(3) report the estimation result of the model with the number of PARLDs as the independent variable. We follow the same methodology presented in the first model, running the Hausman test to decide whether a fixed effects or random effects estimator is relevant. P-value of this test (see Table 4.4.2) supports the selection of the fixed effects estimator. Therefore we do not report the random effects regressions in this section.

Specification (1) shows those provinces making more PARLDs, controlling for other relevant influences, have a higher level of acknowledgement of the private sector about local government efforts to make responsive and innovative policies. This impact is significant at less than 1% for the panel data of 2006-2009 periods, excluding the effect of expenditure decentralization. Consistent with earlier empirical studies, those provinces with more educated citizens and smaller population density are more proactive and responsive to local needs, from the perspective of private enterprises. However, richer provinces are not those that have higher rank of trust in local government responsiveness and proactivity. The problem of elite capture, corruption, or missing local revenue-making power may misallocate the tax base to meet the needs of the mass, especially more disadvantaged stakeholders and account-holders. Even when expenditure decentralization is controlled for, the coefficients and significance of all independent and control variables just vary slightly (see Specification (2)). This also means the insignificant impact of fiscal decentralization on public trust in local government proactivity in terms of policy making.

To ensure the robustness of the baseline regressions, we follow the same approach of the first model and use an instrumental variable for the endogenous variable. To instrument for PARLDs, we use the percentage of PARLDs in the total number of responsive legal documents. The change in the percentage of PARLDs in the total number of responsive legal documents may be associated with a variation in the absolute number, but there is no evidence of a correlation between the percentage of PARLDs and the governance variables and other observed and unobserved ones. It is the size of the pie, not the percentage, will decide the significance of the relationship. The validity of the instrumental variable is presented in specification (3). With the F-test statistics of excluded variables from the first stage regression being 72.52, the instrument is sufficiently strong for the 2SLS to be reliable. The positive relationship between PARLD

output and trust in local responsiveness is still significant with even higher coefficient. Other controlled influences are the same, except education which is not significant in the 2SLS model. Our empirical analysis supports the role of some informal accountability mechanisms for the production of responsive legal documents in local government in an authoritarian system. Some formal institutions such as decentralization and taxation have an insignificant impact on responsive decision-making of provincial government. The first model also implies an important aspect in the current local organization in Vietnam: informal individual accountability of the chairman of the province is associated with the higher responsiveness. This challenges the collective decision-making and accountability norms persistent in the authoritarian regime of Vietnam. This also implies the need to change the internal organization of government in the way that institutionalizes the role of individual accountability in all functions and tasks of government bodies at all levels. Another noted point is the weakness of formal accountability means. It is possible that governance based on democratic centralization and dual subordination may be the ground for low trust in local governance, and this is also the basis for partial decentralization scheme of the central government in relation to sub-central governments. The inefficiency is the inevitable consequence of low trust being accompanied with loose formal sanction norms as discussed in section 4.1. The results of the second model also imply the need for internalizing or institutionalizing effective informal means of accountability. For example, the PCI or similar performance-based mechanisms should be considered as a formal measure of accountability of local government and all other public organizations. This is a step forward a high-trust formal accountability mechanisms and tight sanctioning in authoritarian regimes.

## **5. CONCLUSION**

The transition in Vietnam has shown a vivid interaction between formal and informal institutions in government organization at both central and local level. The evolution and experimentation of formal mechanisms based on embedded norms rather than on rules have undermined their effectiveness and made way to the prevalence of ‘village’ norms and other self-regulation mechanisms in governance. In this transitional period, external and informal institutions have shown their positive effect on local government performance in complement to the current weak formal system. However, in the long term, the internalization of this externality will be a step to enhance the efficiency of formal institutions.

The variation in the number of responsive legal documents in general and the public administrative reforming decisions across provinces shows some provincial governments are more proactive and responsive to local needs than the other, despite in the same institutional settings. Our empirical analysis has proved that this variation is explained more of the difference in informal institutions such as individual accountability of the chairman of the people’s committee, policy-making culture, or the PCI surveys than formal ones. At the moment, individual accountability is only a de facto decision of local government chairmen, or local responsiveness is still based on ‘village’ culture, or performance as a measure of accountability is an optional and informal choice in local governance. The dominance of norms in governance has signaled the deviation of certain provinces from state identity (identified with the exclusive leadership of the Communist Party) and caused the increasing fragmentation of state power and the undermining trust in the single-party regime. Our empirical study also illustrates the dynamism of local government organization in response to their communities. The authoritarian

regime in Vietnam is suggested to head for the organization of local government that honors the leadership and accountability of individual chairmen, the clear division of responsibilities and authorities between legislative and executive bodies and among different layers of government, or a new management approach based on performance-based accountability. The legitimacy of the single-party regime is better guaranteed by modern management instruments rather than avoiding them by centralizing its power.

## REFERENCES

- Akerlof, G. A., Kranton, R. E. (2000). Economics and Identity. *The Quarterly Journal of Economics*, 115(3): 715-753.
- Akerlof, G. A., Kranton, R. E. (2005). Identity and the Economics of Organizations. *The Journal of Economic Perspectives*, 19(1): 9-32.
- Anechiarico, F., Jacobs, J. B. (1994). Visions of Corruption Control and the Evolution of American Public Administration. *Public Administration Review*, 54(5): 465-473.
- Bardhan, P. (2002). Decentralization of Governance and Development. *The Journal of Economic Perspectives*, 16(4): 185-205.
- Beck, J. T., Larsen, B. (1987). Control – An Attempt at Forming a Theory. *Scandinavian Political Studies*, 10(4): 279-299.
- Behn, R. D. (2001). *Rethinking Democratic Accountability*. Washington, DC (USA): Brookings Institution.
- Benner, T., Reinicke, W. H., Witte, J. M. (2004). Multisectoral Networks in Global Governance: Toward a Pluralistic System of Accountability. *Government and Opposition*, 39(2): 191-210.
- Berry, W. D., Evan, J. R., Richard, C. F., Russell, L. H. (1998). Measuring Citizen and Government Ideology in the American States, 1960-93. *American Journal of Political Science*, 42(1): 327-348.
- Besley, T., Burgess, R. (2002). The Political Economy of Government Responsiveness: Theory and Evidence from India. *The Quarterly Journal of Economics*, 117(4): 1415-1451.
- Bovens, M. (2005). 'Public Accountability', in E. Ferlie, L. Lynne and C. Pollitt (eds.). *The Oxford Handbook of Public Management*, Oxford: Oxford University Press, 182-208.
- Bovens, M. (2007). Analysing and Assessing Accountability: A Conceptual Framework. *European Law Journal*, 13(4): 447-468.
- Bovens, M. (2010). Two Concepts of Accountability: Accountability as a Virtue and as a Mechanism. *West European Politics*, 33(5): 946-967.
- Bowler, S., Donovan, T. (2002). Democracy, Institutions and Attitudes about Citizen Influence on Government. *British Journal of Political Science*, 32(2002): 371-390.
- Burke, J. P. (1986). *Bureaucratic Responsibility*. Baltimore, MD (USA): Johns Hopkins University Press.

- Caiden, G. E. (1988). The problem of Ensuring the Public Accountability of Public Officials. In J. G. Jabbara, Dwivedi, O. P. (Eds.). *Public Service Accountability: A Comparative Perspective*, 17-38. Hartford, CT (USA): Kumarian Press.
- Coggburn, J. D., Schneider, S. K. (2003). The Quality of Management and Government Performance: An Empirical Analysis of the American States. *Public Administration Review*, 63(2): 206-213.
- Cohen, S. A. (1993). Defining and Measuring Effectiveness in Public Management. *Public Productivity and Management Review*, 17(1): 45-57.
- Coleman, J. J. (1999). Unified Government, Divided Government, and Party Responsiveness. *American Political Science Review*, 93: 821-836.
- Denhart, K. (1994). Organisational Structure as a Context for Administrative Ethics. In T. Cooper (Ed.). *Handbook of Administrative Ethics*. New York (USA): Marcel Dekker.
- Dewatripont, M., Jewitt, I., Tirole, J. (1999). The Economics of Career Concerns, Part II: Application to Missions and Accountability of Government Agencies. *Review of Economic Studies*, 66(1): 199-217.
- Dodlova, M. (2010). Political Accountability and Size of Government Bureaucracy: Panel Data Evidence. *Working paper*.
- Dubnick, M. (1998). Clarifying Accountability: An Ethical Theory Framework. In C. N. P. Sampford, Bois, C-A. (Eds.). *Public Sector Ethics: Finding and Implementing Values*, 68-81. Leichhardt, NSW, Australia: The Federation Press/Routledge.
- Dubnick, M. (2003). Accountability and Ethics: Reconsidering the Relationships. *International Journal of Organisation Theory and Behavior*, 6(3): 405-441.
- Dubnick, M. (2005). Accountability and the Promise of Performance: In search of the Mechanisms. *Public Performance and Management Review*, 28(3): 376-417.
- Dwivedi, O. P., Jabbara, J. (1998). Introduction: Public Service Responsibility and Accountability. In J. Jabbara, Dwivedi O.P. (Eds.). *Public Service Accountability. A Comparative Perspective*. Harford (USA): Kumarian Press.
- Erkkil, T. (2007). Governance and Accountability – A Shift in Conceptualisation. *Public Administration Quarterly*, 31(1/2): 1-38.
- Gibson, C. C. (2001). Forest Resources: Institutions for Local Governance in Guatemala. In J. Burger, Ostrom, E., Norgaard, R. B., Policansky, D., Goldstein, B. D. (Eds.). *Protecting the Commons: A Framework for Resource Management in the Americas*, 71-89. Washington, DC: Island Press.
- Graham, C. B, Jr., Hays, S. W. (1993). *Managing the Public Organization*. Washington, DC (USA): CQ Press.
- Gray, A., Jenkins, B. (1995). From Public Administration to Public Management: Reassessing a Revolution? *Public Administration Review*, 73(1): 75-99.
- Greene, W. H. (2008). *Econometric Analysis*. 6th ed., Upper Saddle River, N.J.(USA): Prentice Hall.

- Gruber, J. E. (1987). *Controlling Bureaucracies: Dilemmas in Democratic Governance*. Berkeley, CA (USA): University of California Press.
- Halachmi, A. (2002). Performance Measurement: A Look at Some Possible Dysfunctions. *Work Study*, 51(5): 230-239.
- Hausman, J. A. (1978). Specification Tests in Econometrics. *Econometrica*, 46(6): 1251–1271.
- Helmke, G., Levitsky, S. (2004). Informal Institutions and Comparative Politics: A Research Agenda. *Perspectives on Politics*, 2(4): 725-40.
- Hobolt, S. B., Klemmensen, R. (2008). Government Responsiveness and Political Competition in Comparative Perspective. *Comparative Political Studies*, 41(3): 309-337.
- Jamieson, N. L. (1993). *Understanding Vietnam*. Berkeley/Los Angeles/Oxford: University of California Press.
- Knack, S. (2002). Social Capital and the Quality of Government: Evidence from the States. *American Journal of Political Science*, 46(4): 772-785.
- Koppell, J. (2005). Pathologies of Accountability: ICANN and the Challenge of “Multiple Accountabilities Disorder”. *Public Administration Review*, 65(1): 94-107.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R. (1999). The Quality of Government. *Journal of Law, Economics, and Organization*, 15(1): 222-279.
- Lassen, D. D. (2000). Political Accountability and the Size of Government: Theory and Cross-Country Evidence. *EPRU Working Paper Series 00-20, Economic Policy Research Unit (EPRU)*, University of Copenhagen.
- Li, J. S. (2003). The Benefits and Costs of Relation-Based Governance: An Explanation of the East Asian Miracle and Crisis. *Review of International Economics*, 11(3): 651-673.
- Malesky, E. J. (2005). Gerrymandering – Vietnamese Style: The Political Motivations behind the Creation of New Provinces in Vietnam. Annual Meeting of the Midwest Political Science Association. Chicago, IL (USA).
- Moore, M. (1997). *Creating Public Value*. Cambridge, MA: Harvard University Press.
- Morgan, P. W., Reynolds, G. H. (1997). *The Appearance of Impropriety: How the Ethics Wars Have Undermined American Government, Business, and Society*. New York (USA): Free Press.
- Morrison, E. W., Phelps, C. C. (1999). Taking Charge at Work: Extra-Role Efforts to Initiate Workplace Change. *Academy of Management Journal*, 42: 403-419.
- Mulgan, R. (2000). “Accountability”: An Ever-Expanding Concept?. *Public Administration*, 78(3): 555-573.
- Mulgan, R. (2003). *Holding Power to Account: Accountability in Modern Democracies*. Palgrave Macmillan, London.
- Nórlund, I., Dang, N.D. (2006). *The Emerging Civil Society. An Initial Assessment of Civil Society in Vietnam*. Hanoi: CIVICUS, VIDS, SNV, UNDP. Retrieved from [http://www.civicus.org/new/media/CSI\\_Vietnam\\_report%20.pdf](http://www.civicus.org/new/media/CSI_Vietnam_report%20.pdf)

- O'Connell, L. (2005). Program Accountability as an Emergent Property: The Role of Stakeholders in a Program's Field. *Public Administration Review*, 65(1): 85-93.
- O'Donnell, G. (1998). Horizontal Accountability in New Democracies. *Journal of Democracy*, 9(3): 112-126.
- Qian, Y., Roland, G. (1996). The Soft Budget Constraint in China. *Japan and the World Economy*, 8(2): 207-223.
- Rambo, T. A. (1973). *A Comparison of Peasant Social Systems of Northern and Southern Vietnam: A Study of Ecological Adaptation, Social Succession, and Cultural Evolution*. Center for Vietnamese Studies, Southern Illinois University at Carbondale.
- Royle, M. T., Hochwarter, W. A., Hall, A. T. (2008). The Mediating Effect of Informal Accountability for Others. *International Journal of Management and Marketing Research*, 1(1): 1-22.
- Schattschneider, E. E. (1942). *Party Government*. New York (USA): Rinehart.
- Schedler, A. (1999). Conceptualizing Accountability. In A. Schedler, Diamond, L., Plattner, M. F. (Eds). *The Self-Restraining State: Power and Accountability in New Democracies*, 13-29. Boulder, CO (USA): Lynne Rienner Publishers.
- Shearer, T. (2002). Ethics and Accountability: From the For-Itself to the For-the-Other. *Accounting, Organizations and Society*, 27(6): 541-573.
- Sinclair, A. (1995). The Chameleon of Accountability: Forms and Discourses. *Accounting Organizations and Society*, 20(2): 219-237.
- Taylor, K.W. (1983). *The Birth of Vietnam*. Berkeley (USA): University of California Press.
- Tenev, S. (2003). Informality and the Playing Field in Vietnam's Business Sector. Mekong Project Development Facility.
- Tetlock, P. E. (1992). The Impact of Accountability on Judgement and Choice: Toward a Social Contingency Model. *Advances in Experimental Social Psychology*, 25: 331-376.
- Torgler, B., Schaltegger, C. A. (2006). Tax Morale: A Survey with a Special Focus on Switzerland. *Swiss Journal of Economics and Statistics (SJES)*, Swiss Society of Economics and Statistics (SSES), 142(3): 395-425.
- Treisman, D. (2002). Decentralization and the Quality of Government. Mimeo. USA: UCLA.
- Tsai, L.L. (2007). Solidary Groups, Informal Accountability, and Local Public Goods Provision in Rural China. *The American Political Science Review*, 101(2): 355-372.
- VDR (2010). *Vietnam Development Report 2010: Modern Institutions*. Joint Donor Report to the Vietnam Consultative Group Meeting, Hanoi.
- Vu, T. T., Zouikri, M., Deffains, B. (2012). The Interrelationship between Formal and The Interrelationship between Formal and Informal Decentralization and Its Impact on Sub-Central Governance Performance: the Case of Vietnam. *CESifo Working Paper*, No. 3714.

West, W. F. (2004). Formal Procedures, Informal Processes, Accountability, and Responsiveness in Bureaucratic Policy Making: An Institutional Policy Analysis. *Public Administration Review*, 64(1): 66-80.

## APPENDIX

Figure 4.1. Leadership and accountability relations in the authoritarian state of Vietnam  
 (Source: Author's illustration based on the Constitution 1992 and its revisions in 2001, Law on Governmental Organization in 2001, and Law on Organization of People's Councils and People's Committees in 2003.

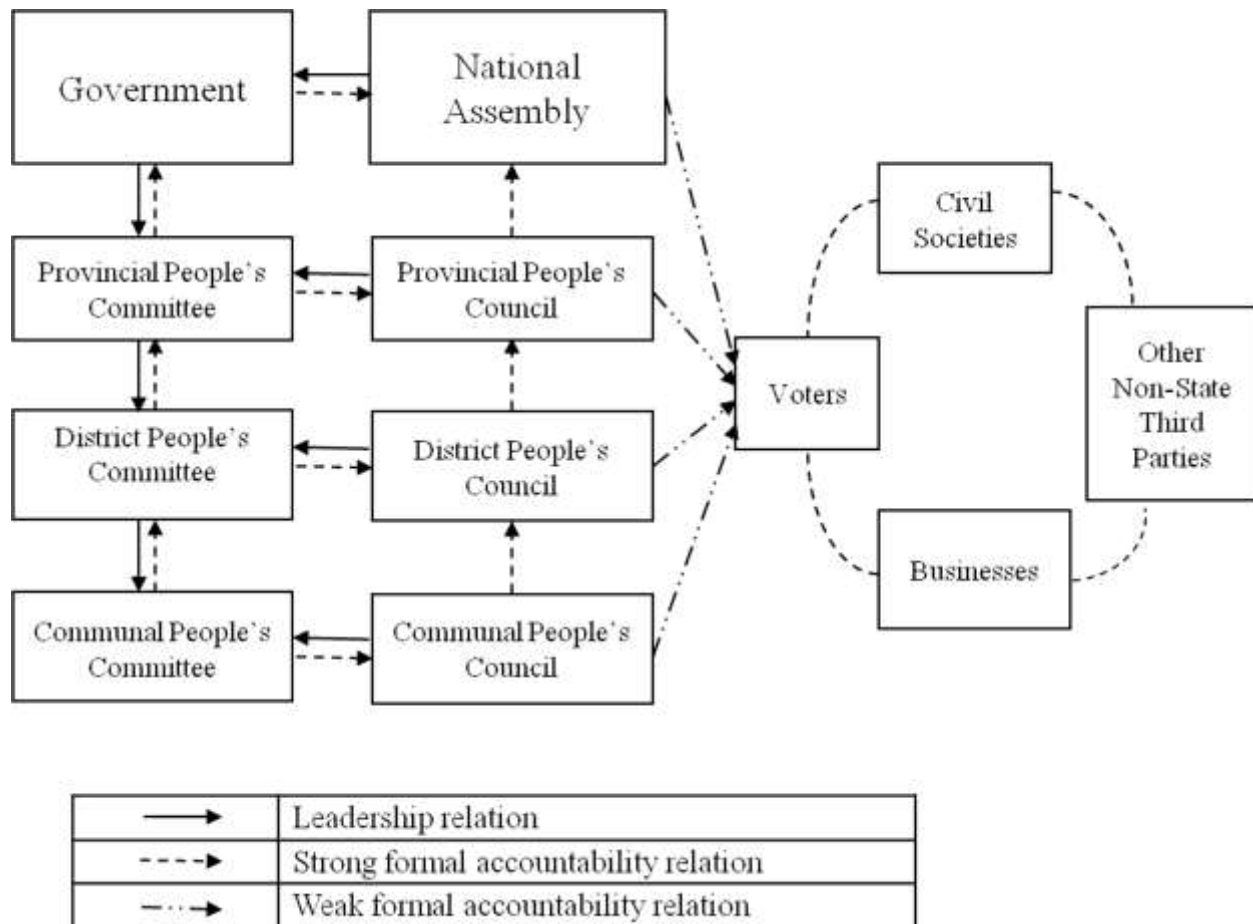




Figure 4.2.1. The change in the number of STATE provinces (S) and NONSTATE provinces (NS) from 1990 to 2009 (Source: Calculated with the data provided by The General Statistics Office of Vietnam.)<sup>1</sup>

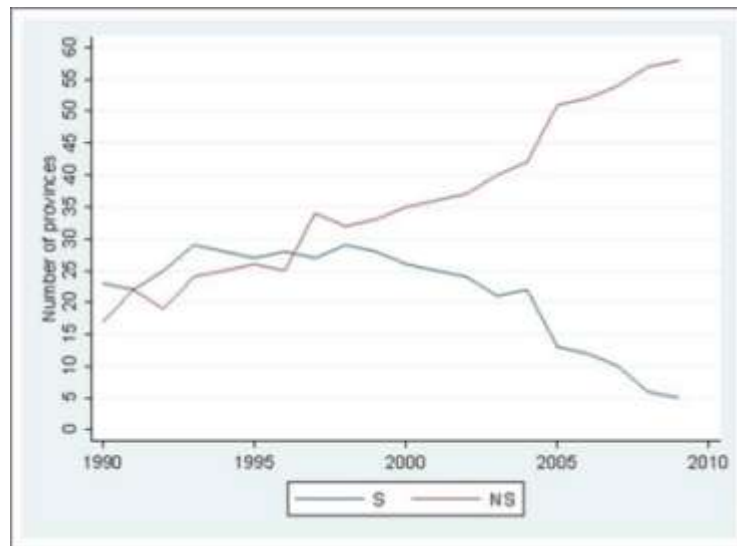
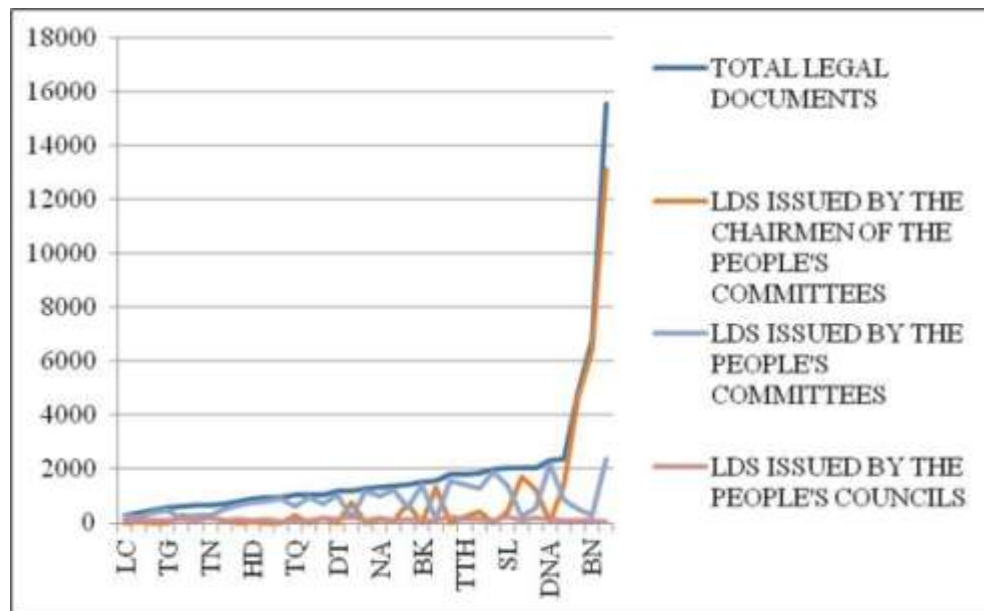


Figure 4.2.2a. The number of legal documents issued by 35 provincial governments in Vietnam from 2006 to 2009, classified by the accountant (Source: Official Gazettes of 35 provinces from 2006 to 2009 in both printed and electronic forms).



<sup>1</sup> S: The provinces with over 50% of their industrial output made by state-owned enterprises.

NS: The provinces with over 50% of their industrial output made by the non-state sector (including household businesses, private firms, and foreign-invested companies).

Figure 4.2.2b. The number of legal documents issued by 35 provincial governments by content in Vietnam from 2006 to 2009 (Source: Official Gazettes of 35 provinces from 2006 to 2009 in both printed and electronic forms).

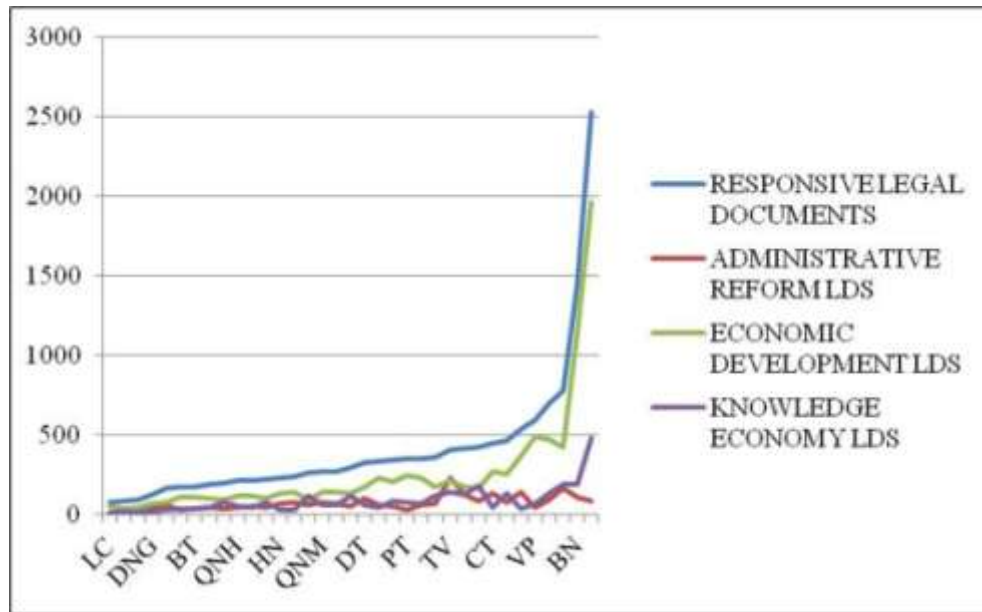


Figure 4.2.3. The distribution of responsive policies by individual accountability and by the state capital investment share in 35 provinces in 2006 (Source: Author's calculation based on analysis of the list of legal documents issued on the provincial Official Gazettes in 2006).

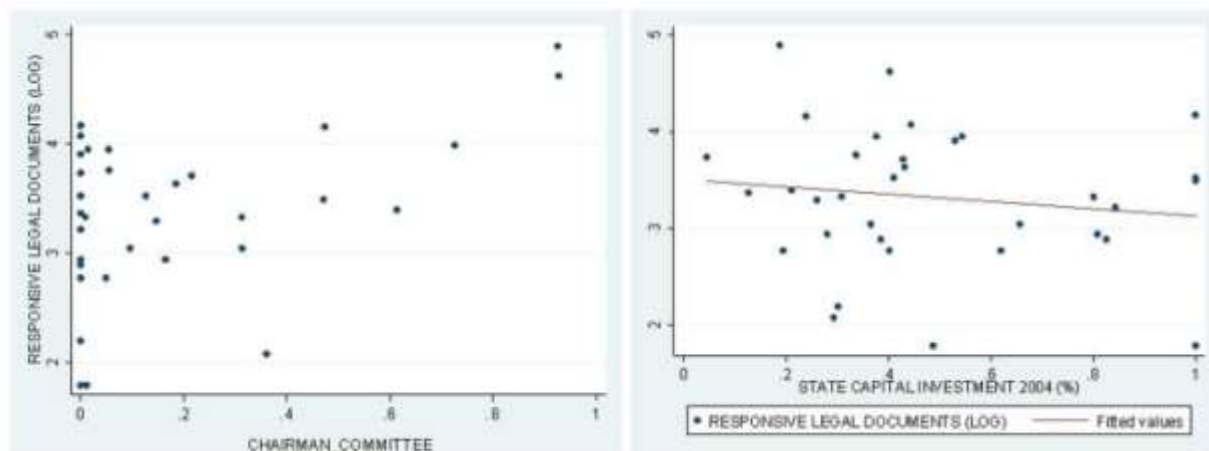


Table 4.3.1. Description of the variables

Variable Name	Description	Source
Responsive Legal Documents	The number of responsive legal documents made by provincial People's Councils and People's Committees. They consist of knowledge economy and entrepreneurial development policies and administrative innovative decisions.	Provincial Official Gazette
Public administrative reforming LDs (PARLDs)	The number of provincial responsive legal documents that introduce public administrative reforming initiatives.	Provincial Official Gazette
PARLDs/Responsive LDs	The ratio of administrative reforming initiatives in the total number of provincial responsive legal documents.	Provincial Official Gazette
Individual Accountability	The percentage of legal documents made by the chairman of People's Committees in the total number of provincial legal documents.	Provincial Official Gazette
Proactivity	A measure of the provincial autonomy in interpreting central laws and regulations in response to the private sector, using the <i>Proactivity</i> sub-index of the PCI Vietnam 2006-2009.	PCI <sup>i</sup>
Government Size	The share of provincial government employment in the total provincial population.	GSO <sup>ii</sup>
Government Wage	The average wage in the state sector of a province.	GSO <sup>ii</sup>
Industrial Output/GDP	The state sector industrial output as a share of the gross domestic product in a province.	GSO <sup>ii</sup>
Tax Revenue/GDP	The provincial tax revenue as a share of the gross domestic product.	MOF <sup>iii</sup>
North	The dummy variable with 1= North and 0 = South.	GSO <sup>ii</sup>
Education	The ratio of high school graduates per 10,000 populations.	GSO <sup>ii</sup>
GDP per capita	The gross domestic product per capita of each province at the constant price of 1994 (million VND).	GSO <sup>ii</sup>
Population density	The provincial population per square kilometer of area.	GSO <sup>ii</sup>
Expenditure decentralization	The provincial public expenditure as a share of the total central and local government expenditure.	MOF <sup>iii</sup>
Distance	The distance of the province to the two major economic centres (Ha Noi and Ho Chi Minh City) with distance dummy=1 if it will fall over one-half of one standard deviation below the national mean; =2 if within one-half of one standard deviation of the national mean; =3 if over one-half of one standard deviation above the national mean.	GSO <sup>ii</sup>
Buddhism	The percentage of the provincial population is Buddhist.	GSO <sup>ii</sup>

i) PCI: [www.pcivietnam.org](http://www.pcivietnam.org); ii) GSO: General Statistics Office of Vietnam; iii) MOF: Ministry of Finance of Vietnam.

Table 4.3.2. Summary statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Responsive Legal Documents	140	82.54	92.61	8	647
PARLDs	140	14.17	13.40	1	88
PARLDs/Responsive LDs	140	0.22	0.13	0.01	0.75
Individual Accountability	140	0.26	0.32	0	0.96
Government Wage	140	2015.22	461.58	1135	3340.90
Government Size	140	0.03	0.01	0.02	0.06
Industrial Output/GDP	140	0.16	0.17	0.01	0.81
Revenue/GDP	140	0.22	0.19	0.06	1.59
North	140	0.43	0.50	0	1
Education	140	2864.37	882.12	912.82	4841.27
Proactivity	140	5.59	1.36	2.32	9.20
GDP per capita	140	17.55	22.85	3.76	169.66
Population density	140	5.42	8.73	0.40	69.29
Expenditure decentralization	140	0.0077	0.0089	0.0028	0.0555

Table 4.3.3. Correlation matrix

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Responsive LDs (Log)													
2. PARLDs (Log)	0.67*												
3. PARLDs/Responsive LDs (Log)	-0.48*	0.34*											
4. Individual accountability	0.54*	0.29*	-0.35*										
5. Education	0.26*	0.15	-0.15	0.07									
6. Government size (Log)	-0.24*	-0.20*	0.07	-0.19*	-0.06								
7. Government wage	0.15	0.33*	0.20*	0.00	-0.16	-0.05							
8. Tax revenue/GDP (Log)	-0.14*	-0.04	0.13	-0.26*	0.15	0.39*	0.33*						
9. State industrial output/GDP (Log)	0.28*	0.16	-0.17*	0.06	0.26*	0.11	-0.11	0.05					
10. GDP per capita (Log)							0.50*	0.15	0.19				
11. North dummy									*				
12. Expenditure decentralization (Log)							-0.22*	0.11	0.20				
13. Population density (Log)													
14. Proactivity													

\* Indicates 95% confidence interval, N=140

Table 4.4.1. Regression results: The impact of informal individual accountability on responsiveness<sup>2</sup>

Dependent variables	Responsive IDs (Log)			PARLIDs (Log)			
	FE	OLS	2SLS	RE	2SLS	OLS	2SLS
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Individual Accountability	0.600* (0.35)	1.253*** (0.168)	1.245** (0.411)	0.585** (0.233)	1.156* (0.606)	0.642* (0.168)	1.264*** (0.428)
Government Size (Log)	-0.426 (0.748)	-0.294 (0.247)	-0.267 (0.27)	-0.056 (0.361)	0.093 (0.404)	0.088 (0.262)	0.233 (0.27)
Government Wage	-0.0005** (0.0002)	0.0002 (0.0002)	0.0000 (0.0002)	0.0000 (0.0002)	-0.0001 (0.0003)	0.0001 (0.0002)	-0.0001 (0.0002)
State Industrial Output/GDP (Log)	-0.473* (0.016)	0.193*** (0.043)	0.166*** (0.049)	0.129* (0.078)	0.095 (0.076)	0.158*** (0.051)	0.125** (0.052)
Revenue/GDP (Log)	-0.253** (0.105)	-0.152 (0.127)	-0.130 (0.127)	-0.196* (0.115)	-0.156 (0.119)	-0.197* (0.111)	-0.075 (0.128)
Education	0.0003* (0.0001)	0.0002** (0.0001)	0.0002*** (0.0001)	0.0002** (0.0001)	0.0002* (0.0001)	0.0001** (0.0001)	0.0001* (0.0001)
North		-0.187 (0.135)	-0.265* (0.137)	-0.604*** (0.189)	-0.727*** (0.212)	-0.624*** (0.126)	-0.770*** (0.144)
Time Fixed Effects	YES	YES	YES	YES	YES	YES	YES
Regional Fixed Effects	YES	NO	NO	NO	NO	NO	NO
_cons	0.604 (2.791)	1.754* (0.993)	2.730* (1.110)	1.278 (1.222)	2.878* (1.574)	1.853** (0.916)	2.780*** (0.950)
Hausman P-value	0.0042			0.8648			
F-statistics of excluded instruments			14.45				19.96
P-value of overidentification test			0.4839				0.7135
N	140	140	140	140	140	140	140
R <sup>2</sup>	0.3309	0.4702	0.4781	0.3202	0.2913	0.4157	0.3739
p	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

<sup>2</sup> Robust standard errors are in parentheses; \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ ; FE: Fixed effects; RE: Random effects; OLS: Ordinary Least Square; 2SLS: Two-stage Least Square. Two instrumental variables (distance dummy and the ratio of Buddhist population) are used in the 2SLS regressions.

*Table 4.4.2. Policy allocation and proactivity of local government.<sup>3</sup>*

Dependent variables: Proactivity	FE (1)	FE (2)	2SLS (3)
PARLDs (Log)	0.454*** (0.163)	0.456*** (0.165)	0.626** (0.262)
GDP per capita (Log)	0.324 (0.816)	0.242 (0.857)	0.281 (1.015)
Education	0.0005* (0.0003)	0.0005* (0.0003)	0.0005 (0.0003)
Population density (Log)	-1.845** (0.704)	-1.880** (0.799)	-1.835* (0.967)
Expenditure Decentralization		-0.295 (0.912)	-0.316 (0.872)
Time Fixed Effects _cons	YES 3.986* (2.074)	YES 2.650 (4.622)	YES 2.237 (4.919)
Hausman P-value		0.0336	
F-statistics of excluded instruments			72.52
N	140	140	140
R <sup>2</sup>	0.3723	0.3730	0.3670
p	0.0000	0.0000	0.0000

## Sample

An Giang, Bac Giang, Bac Kan, Bac Ninh, Binh Duong, Binh Phuoc, Binh Thuan, BRVT, Can Tho, Dak Nong, Dong Nai, Dong Thap, Ha Noi, Hai Duong, HCMC, Khanh Hoa, Kien Giang, Kon Tum, Lai Chau, Lam Dong, Nghe An, Phu Tho, Quang Binh, Quang Nam, Quang Ninh, Son La, Tay Ninh, Thanh Hoa, Tien Giang, Tra Vinh, TT-Hue, Tuyen Quang, Vinh Long, Vinh Phuc, Yen Bai

<sup>3</sup> Robust standard errors are in parentheses; \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

## Endnotes

<sup>i</sup> Bovens (2007) has differentiated 15 types of accountability subject to the distinction in the nature of the forum (political, legal, administrative, professional, or social), the nature of the actor (corporate, hierarchical, collective or individual), the nature of the conduct (financial, procedural, or product), and finally the nature of the account-giving obligation (vertical, diagonal, or horizontal). This preliminary classification can produce hundreds of sub-types of accountability by making a subset of two or more basic types.

<sup>ii</sup> The data is available on the website of the General Statistics Office of Vietnam at [www.gso.gov.vn](http://www.gso.gov.vn).

<sup>iii</sup> The official website of the National Assembly of Vietnam: [www.na.gov.vn](http://www.na.gov.vn).

<sup>iv</sup> Steering Committee of the National Assembly (2012) ‘Report on the Supervision of the Implementation of the Issuance of Legal Documents by People’s Councils and People’s Committees’, No. 94/BC-ĐGS issued on 09 January, 2012. According to this report, the provincial People’s Council is entitled to issue legal documents in only 55 out of 168 domains. The numbers are much lower at the district and communal levels. The authority of lower-level governments is generally restricted in implementing the decisions issued by the higher-level People’s Committees.

<sup>v</sup> Although Vietnam has 64 provinces, only 35 provinces are the most accountable in announcing their legal documents on the provincial public press in both printed and electronic forms from 2006 to 2009. Law on the Organization of the People’s Councils and the People’s Committees states that all legal documents and other decisions and decrees made by the local government should be publicized on the provincial public press, the official state press agency in local government. The number of provinces obeying this accountability mechanism has been increasing over the past years.

<sup>vi</sup> We differentiate those provinces in the North and those in the South in order to control for the heterogeneity in public administration culture across the two regions. The North is more reserved and dependent on the central government than the open and relatively autonomous South. This distinction was sourced from the less rigid pattern of village organization, more market-friendly mindset and the longer Western dominance in the South than in the North (Rambo 1973, Taylor 1983, and Jamieson 1993).

<sup>vii</sup> F-statistics of excluded instruments are considered “weak” if they are lower than 10.

<sup>viii</sup> See Endnote 9.

<sup>ix</sup> Each indicator is rescaled, using the formula

$$9 \times \left[ \frac{\text{Province}_i - \text{Minimum}}{\text{Maximum} - \text{Minimum}} \right] + 1$$

for those indicators that have positive interpretation and subtracting the above formula from 11 for those negative, where *Province i* is the indicator value of each province, *Minimum* is the smallest value of all provinces, and *Maximum* is the largest value of all provinces. Source: PCI Vietnam Report 2006, available at [www.pcivietnam.org](http://www.pcivietnam.org).



# Policy Response of Brazilian Government to the 2008 Crisis: The Northeast Region Case.

**Inez Silvia Batista Castro**

*Universidade Federal do Ceará, Fortaleza, Brazil.  
e-mail: inez001@live.com; inezsbc@ufc.br; Corresponding author*

**João Bosco Monte**

*Universidade de Fortaleza, Fortaleza, Brazil.  
e-mail: jboscomonte@gmail.com; boscomonte@unifor.br*

*Published online on April 1, 2013.*

*DOI: 10.7350/BSR.V18.2013 – URL: <http://dx.medra.org/10.7350/BSR.V18.2013>*

## ABSTRACT

*This paper aims to evaluate the effects of macroeconomic policy between 2007 and 2011 in the Northeast Region of Brazil, which is the most impoverished region of the country. It focus specifically on monetary and credit policies. The reason for this study stems from the observation that the Brazilian economy did not show the same upward trend of unemployment rates that were recorded in the major countries of the Northern Hemisphere in the aftermath of the 2008 crisis. The countercyclical monetary and credit policies seem to have contributed to maintaining employment levels, revealing that the Brazilian banking system had more strict regulations than comparable ones in the U.S. The Brazilian Central Bank has generated the necessary liquidity to the financial system's agents, especially in the Northeast Region, where credit was expanded more intensively. An analysis of the increased volume of regional credit reveals how the financial sector acted in the Northeast Region. First, the data shows that the BNDES (Banco Nacional de Desenvolvimento Econômico e Social), an essential player to increase the volume of long-term credit in the National Financial System, was not responsible for the trajectory of credit in Northeast Region. Second, the Bank of Brazil and the CEF (Caixa Econômica Federal - specializing in real state credit), two major Brazilian public banks, raised more deposits than they made loans in the region between 2008 and 2011. Third, BNB (Banco do Nordeste do Brasil) and FNE (a Constitutional Fund for Financing of the Northeast Region, administrated by BNB) were the drivers of the countercyclical policy in the Northeast Region (concerning credit). The expansion of long-term credit was due to the action of these institutions (BNB + FNE). In fact, with regard to rural credit, BNB, with its own resources and managing of the FNE, amounts to 75% of total loans in the Northeast Region. The conclusion of this article, as a normative proposition for the federal economic policy, is that in order to decrease regional poverty in Brazil, it is necessary to implement, not only a social policy program, but also a decentralized and regional administration of loans by public banks (BNDES, CEF and BB).*

**Keywords:** Crisis, Regional Credit Policy, Northeast Region, Countercyclical Policy.



## 1. INTRODUCTION

On September 7, 2006, Nouriel Roubini gave a lecture to the IMF (International Monetary Fund) warning about the possibility of the world economy going into a deep recession, accompanied by strong housing sector crisis (Roubini & Mihim, 2010). Despite this alert, 2007 began as a year that promised the continuation of economic growth in the world. IMF's publication "World Economic Outlook (April 2007: XII)" said:

*«It may surprise readers to learn that this World Economic Outlook sees global economic risks as having declined since our last issue in September 2006. Certainly this is at odds with many recent newspaper headlines and commentary, which have focused on problems related to U.S. mortgages, the potential for "disorderly" unwinding of global imbalances, and worries about rising protectionist pressures. Nevertheless, as discussed in Chapters 1 and 2, looking at the big picture, we actually see the **continuation of strong global growth** as the most likely scenario.»* (our emphasis).

Instead of the anticipated auspicious scenario, the world watched as the first signs of a recession appeared. Then, in 2008, we saw the worst downturn since the Great Depression. Just to illustrate, in the United States, from December 2006 to December, 2011, 6.3 million people lost their jobs (Bureau of Labor Statistics, 2012). This was especially prevalent in manufacturing, which was the most affected sector.

In Euro Zone, while the unemployment rate achieved the maximum monthly rate of 9.4% in the 2002-2007 period, it reached 10.4 % on December 2011. Unemployment has raised to astonishing average annual levels in Spain (21.7%), Greece (17.7%) and Portugal (12.9%) and Ireland (14.8%) 2011 (EUROSTAT, 2012, See Figures 1, 2, 3 and 4).

Meanwhile, in Brazil, the unemployment rate continued on a downward trajectory from 6.8% on December 2008 to 4.7% on December 2011 (IBGE<sup>i</sup>, 2012). It was the lowest unemployment rate since the new methodology of Monthly Employment Survey<sup>ii</sup> (IBGE) was implemented in 2002. At this point, the echo of the crisis was restricted in Brazil (See Figure 5).

This article does not aim to discuss the underlying forces that triggered the recession. Among other things, we can say that financial problems emerged in the U.S. subprime market but that they were part of the problems from the deregulation of the U.S. financial sector that was initiated in the late 1980s, when the Federal Reserve (FED) allowed commercial banks to operate with derivatives. 1999 was a landmark in that deregulation; it was the year that US Congress approved the Financial Services Modernization Act. (Roubini and Mihin, 2010).

Stiglitz (2010) describes this Great Recession of 2008 as the *"inevitable consequence of policies that had been pursued over the preceding years."* In fact, Stiglitz attributed a great role to the financial deregulation that was implemented in USA at the outbreak of the current crisis.

However, this paper takes a different approach. It does not focus on USA or Europe. It aims to present the policy response of Brazilian government to the crisis, especially the ones concerning Brazilian banking. And it tries to show what the differences were between Brazilian Economic Policy and European Policy that made the crisis less overwhelming in Brazil (until now). As we shall demonstrate, the evidence shows that the Brazilian economy had unique circumstances that protected the country from a greater downturn.

Three aspects will be analyzed in this paper. First, it will focus on general characteristics of Brazilian Foreign Policy. Second, it will explain some features of the Brazilian Financial System, such as tighter banking regulation than in the United States and that this protected the

Brazilian economy from a greater shock. And, since Brazil is a country with continental proportions and five majors regions, the target of this paper is to evaluate how Brazilian Macroeconomic Policy spread differently in one region: the Northeast Region. The Northeast Region was selected for analysis because it has 27.8% of Brazil's population (Table 1) and 59% of Brazil's poorest citizens (IBGE, 2010).

As we know, space is a dimension we cannot ignore. Its study sheds significant light on economic development. Therefore, this paper outlines the main features of Northeast Region's Banking System and its specific response to 2008-2012 (?)<sup>iii</sup> crisis.

Due to this fact, this paper may be useful to macroeconomists as well as those interested in Regional Science and International Relations.

## 2. GENERAL CHARACTERISTICS OF BRAZILIAN FOREIGN POLICY

Thanks to its special geopolitical position, natural, potential and multilateral policies, Brazil has occupied a central place in the stability of the region (South America) and international relations, which was accentuated with the arrival of democratic governments.

While the characteristics of Brazil's foreign policy may be different depending on the time and perspective, it is important to keep in mind that the concept of foreign policy is lines of conduct imposed by a country to achieve its objectives in the international context.

Given this context, there are some permanent or irrevocable features that allow us to identify a Brazilian foreign policy that is consistent and stable, which may be reflected in the integration and economic and political cooperation, given the interest to reaffirm Brazilian leadership in many organizations, such G-20, IMF (International Monetary Fund), WTO (World Trade Organization), Brics (Brazil, Russia, India, China and South Africa) and Mercosur.

Stability in this sense refers to the continuity of the external policy despite changes taking place within the Brazilian political system. This continuity is due to the seriousness with which Brazil conducts its foreign policy which is aimed at both a short and long term vision to achieve its objectives. According to Lampreia (2004):

*«[...] Brazil a country with global interests, a diplomatic presence across all continents and a style of diplomacy that aims at promoting efforts towards stabilization, opening up and providing better access for Brazil to foreign markets, productive investment and the technologies that are indispensable to the nation's development.»*

The main characteristic of Brazil's foreign policy has been to show unconditional respect to the basic principles of international law. This has been an effective means of gain credibility in the world. The respect shown to the legal instruments of dispute resolution has caused other countries to trust Brazil to act as an intermediary in international conflicts, which it has done through peaceful championing, condemning aggression and defending the principles of sovereignty and legal equality between nations. The inclination towards international cooperation and compliance with the laws is an essential basis of its policy.

Thanks to this feature, Brazil has been recognized as a reliable country that is respectful of the rules of operation in the global context. This commitment to "playing by the rules" demonstrates that Brazil wants to build its own conceptions of overall situation and remain independent of the various interpretations that other countries may have.

The modern diplomacy of Brazil is designed to ensure the country's independence and defend its objectives of economic and social development, in an increasingly competitive, yet interdependent, world.

Therefore, the objectives of Brazil's foreign policy can be summarized in essentially two aspects. The first aspect is ensuring a favorable international environment for the economic development of Brazil. It seeks to do this by adopting multilateral investment programs that help industrialization and economic growth, while also trying to make full use of domestic resources.

The country has had successful bids as host of the World Cup in 2014 and the Olympics in 2016 and beyond an agricultural powerhouse, Brazil is becoming a global player in the oil market, as corroborated by the recent discovery of sub-salt oil field in its coast.

The second aspect is avoiding any appearance of submissive compliance to the United States of America and its major allies. This has been demonstrated through the reaction by the Brazilian bureaucracy to leave behind the policies of "automatic alignment".

Thanks to multilateralism, Brazil has been able to diversify its markets and areas of action, facing competitive scenarios.

Due to this commercial diversity Brazil has been able to meet the needs of its market and population, independent of a specific country or area. In terms of bilateral and regional integration of markets, this has reinforced the role of trade and promoted economic growth.

Additionally, Brazilian foreign policy has paved the way for reforms to improve the economy and trade and to make advances in the challenges of regional integration (where Mercosur invariably becomes the central factor in its trade policy), without disadvantaging other international agreements with the United States, China, the European Union, India and Africa.

Before finishing with generalizations of Brazilian foreign policy, it is worth mentioning that despite the changes that have been adopted over the different political regimes, there haven't been any significant structural changes.

Based on the above, Brazilian foreign policy is generally consistent and continuous. Brazil is aware that the use of force is not an element or a weapon for profit and as a result of this, cooperation and integration have played key roles in asserting its leadership in the international arena.

Undoubtedly, South America is an area of great importance for Brazil because of the geographical proximity and the complementarity that can have through markets and resources of its neighbors. (Ruiz Caro, 2008).

As a member of Mercosur, Brazil has economic complementarity agreements, which are intended to facilitate the free movement of goods and services with Chile, Bolivia, Mexico, Peru, Colombia, Ecuador and Venezuela. Beyond this, Brazil has preferential agreements which are serving as first steps toward the creation of a FTA (Free Trade Area) with India, Egypt, Morocco, the Southern African Customs Union and South Korea. Furthermore, Brazil has signed a bilateral economic complementarity agreement with Mexico and Suriname.

In 2007, during the Mercosur Summit in Montevideo, the Free Trade Agreement between Mercosur and Israel was signed. This agreement took effect in April 2010, making Israel the first country outside of South America to have a free trade agreement with the bloc<sup>iv</sup>.

Brazil has been a key player in the negotiations of the Free Trade Area of the Americas (FTAA). A process that has been stalled since the IV Summit of the Americas, held in Mar del Plata, 2005.

Brazil is also participating in the process of creating the Union of South American Nations (UNASUR) which aims to create a free trade area among the members of Mercosur, the Andean Community and Chile with the elimination of tariffs on 90% of products.

Another important point is that, as a result of the failure of the Doha round, there has been a revival of bilateral negotiations between Mercosur, the United States, the European Union (in casual conversation), and other countries such as Mexico, India, Turkey, Russia and the Gulf Cooperation Council (GCC).

It has been shown that, especially in South America, the expansion of a mass consumer market anchored in the rise of employment and wages, resulted from a greater supply of credit and income transfer policies even in times of global recession.

The increases in Brazil's relations with developing countries in Africa, Asia, Latin America and Eastern countries have generated criticism that these ties have resulted in a marginalization of the traditional links with the traditional powers (North Hemisphere). However, it is clear that those trade links softened the impact of the current global crisis in Brazil.

There have been some changes in the principle destinations of Brazilian exports in the last decade. In 2000, the USA was the major buyer of Brazilian exports – it bought almost 24% of the total exports. Asia partners were less relevant, according to the value export, than Mercosur and Europe.

2011 data reveals that Asia countries, in particular China (17%), became the largest customers of Brazilian exports. And USA and Mercosur have almost the same amount of Brazilian exports. Between the twenty major trade partners, countries such as India and Saudi Arabia gained importance.

In general, there was a growth in the number of Brazilian trade partners as well as a greater dispersion in the exports/imports to other countries.

Despite such decentralization of international commerce, Brazil and Northeast Region, suffered the impact of current economic crisis in their trade balance, specifically, in 2009 – when exports flows remained almost the same as the ones registered in 2008.

### **3. THE FINANCIAL SECTOR IN BRAZIL**

According to Unicad<sup>v</sup>, the Brazilian financial system is organized through regulating entities (National Monetary Council – CMN, National Council for Private Insurance – CNSP, National Council for Complementary Pension – CNPC), supervision entities (Central Bank of Brazil - BCB, Securities and Exchange Commission - CVM, Private Insurance Superintendence - SUSEP, National Complementary Pension Superintendence - PREVIC) and operators.

On December, 2011, there were 2.218 financial institutions (December 11 position) which play the role of intermediaries. There are multiple banks, commercial banks, savings banks, development banks, investment banks, exchange banks, leasing companies, consumer finance companies, real estate credit companies and savings and loan associations, security brokerage companies, development agencies, mortgage companies, credit union<sup>vi</sup>, micro-financing institutions, consortium managers.

The major actors as intermediaries in the financial system are the multiple banks. They offer resources to commercial, investment, development, consumer and mortgage operations.

It's important to understand that the development of the current configuration of the National Financial System began in 1964 with major changes in the 1980s and 1990s. One specific

example is Resolution 1524, passed in 1988. Until then, the Brazilian Financial System was composed of specialized institutions that could operate only in certain modalities. Nowadays, although the institutions have differences in the functional organization and in the ways they carry on their business, the main institutions can provide their clients with a complete array of financial services.

In the 90's the Brazilian Financial System suffered three major interventions of Central Bank: Proer, Proes and Proef. Mendonça (2005) says that after the inflation rates came down in 1994, the problems in Brazilian Financial System Regulation appeared more clearly. In response, Proer intended to preserve the stability of the system of payments and charge bad practices in the financial system. As a consequence, banks with problems were classified into two categories: "bad" banks and "good" banks. The first category failed and the second was sold to another bank. Three private banks (Nacional, Econômico and Bamerindus) made up the core of Proer.

In the same period, there was the creation of the FGC (Fundo Garantidor de Créditos), a non-profit civil association, incorporated as a private legal entity, which introduced the deposit guarantee system in Brazil. It is an instrument that, nowadays, guarantees deposits and financial applications up to R\$ 70000 (US\$ 38250)<sup>vii</sup>, when Central Bank deems the financial institution insolvent.

Proes was the Program of Incentives for the Reduction of the State Role in Banking Activity. Proes had the objective to reduce the presence of financial institutions that were under control of states. Until then, states governments would get loans from those institutions. Those loans made it harder for the Brazilian Central Bank to control the liquidity and for the treasury to administrate the public debt. So Proes provided restructuring and privatization of banks owned by Brazil's state governments. There were 35 state-owned institutions, 32 used Proes resources and it represented 5.7% of GDP (Goldfajn, Hennings and Mori, 2002).

Proes also provided a better scenario for the establishment of the Fiscal Responsibility Law (FRL). The FRL enforces responsibility in fiscal management, observing limits and "satisfying conditions regarding tax breaks, generation of personnel and social securities expenditures, among others, consolidated and security debt, credit operations, including those involving revenue anticipation, guarantees issued and outstanding liabilities" (Worldbank, 2012). It is applicable to the Federal Government, States, the Federal District and the Municipalities.

So, while European Monetary Zone still tries to enforce fiscal parameters to its members, Brazilian States have been submitted to the FRL for more than a decade.

Another major program that modified Brazilian Financial System was Proef. Proef was a program to strengthen Federal Public Institutions. In 1999 and 2000, Caixa Econômica Federal, Banco do Brasil, Banco do Nordeste and Banco da Amazônia were subject to strict supervision and were made adjust their capital.

According to Maia (2003) these programs (Proer, Proes and Proef) succeeded in avoiding a bank run and punishing bad practices.

But what was different in Brazil Financial System from America's and Europe's, nowadays?

Compared to other economies with a similar level of development, the volume of credit to GDP in Brazil is low. The financial system credit operations in Brazil represented 40.5% of GDP in 2008, 44.4% of GDP in 2009, 45.2% of GDP in 2010 and only 49.1% of GDP in 2011 (BCB, 2012). Beyond this, 43% of all credit operations are held by public institutions. There is also a great concentration of all bank assets in sovereign debt.

Comparatively, according to the World Bank (2012), in the USA domestic credit to private sector is about 200% of GDP and in France, Italy and Germany it is about 100% of GDP.

Brazil had relative high reserve requirements (about 44% over deposits), when the crises started. This gave the Brazilian Central Bank (BCB) a larger margin in order to implement expansionary monetary policy.

And, while many countries have taken the minimum requirements of Bank of International Settlements (BIS) as the norm, Brazil had been through a lot of financial instability in the 80's and 90's which prompted the supervising authority to adopt more strict limits. For example, BIS demands capital ratios as a percentage of assets of at least 8%. In Brazil, the minimum required by Central Bank is 11%. But most banks keep levels of more than 11%.

Decades of high inflation had made banks develop complex information systems and the calendar to implement Basel Agreement (Basel III) is already in process. But since multiple banks in Brazil have a greater capital requirement than was adopted in Basle II, the Basle III requirement will not take a lot of effort.

Among the five largest banks by total assets in Brazil, three are public institutions: Bank of Brazil, BNDES and CEF. Together, these three banks hold 47.6% of the total assets. (Position December, 2011).

The share of earmarked and non-earmarked credit of public banks was 41.8 % on December 2010 and 43% on January 2012.

When we analyze only the earmarked<sup>viii</sup> credit, BNDES, alone, holds 60% of the total credit.

The importance of public institutions in the Brazilian Banking system is that they facilitate the provision of long run resources, despite the high spreads (see Table 3) that Brazilian Banking experiences.

Another characteristic of Brazilian Financial System was the quick response of Brazilian Central Bank (BCB) to credit restriction. In fact, the BCB created a financial innovation. The traditional participants of Foreign Exchange auctions were the brokers in the financial system. During the crisis, the BCB allowed to any bank that operated with International trade to be a participant in the Foreign Exchange auctions.

On October, 21, 2008, the MP 443<sup>ix</sup> (later converted into the Law 11.908, March 03, 2009) established an agreement that provided Brazilian Central Bank the capacity to use currency swaps with the Federal Reserve. This reciprocal currency agreement was part of an action by the Federal Open Market Committee (in the USA) that authorized the total size of swap lines (for Brazil and other emerging markets as well developed economies) of US\$ 620 billion.

The magnitude of these swaps in the International Arena was larger for Japan, United-Kingdom, Australia and European Central Banks. In those countries/currency areas, the operation achieved more than 50% of the international reserves of each country.

In emerging countries, such as Brazil, the swap line was below 50% of the international reserves. In Brazil it was US\$ 30 billion. These swap lines allowed the Brazilian Central Bank to provide dollars directly to the domestic banking system and served as a way of avoiding the negative effects of the sudden stop in capital flows that Latin America countries, specifically: Brazil, Peru and Chile, suffered during 2008 (Kacef and Lopez-Monti, 2010).

The BCB's swaps and the level of international reserves of Brazil helped to solve the liquidity shortage and the large amount of reserves of Brazil facilitated those swaps. Obstfeld, Shambaugh and Taylor (2009) show that "reserve/GDP ratio is a function of the financial openness, the exchange rate regime and monetary depth ( $M2/GDP$ )".

In the case of a financial shortage, if the country adopts a fixed exchange rate regime, a government that intends to defend its exchange rate must be able to convert  $M2^x$  into foreign money.

Brazil's exchange rate regime was flexible during the 2008 financial shortage and, as we have seen before in this paper, it did not have excessive financial openness. Only 17% of total stock of financial credit operations belonged to foreign institutions (see table 4). Therefore, it was not necessary to maintain a large stock of foreign reserves.

Despite that, Brazil has increased its holdings of liquid foreign reserves in dollar terms as well as in relative income levels.

Before the crisis, commentary in economic circles was focused on the possibility that international reserve stocks might have achieved excessive levels. The maintenance of reserves created a burden to the government. The financial remuneration of the foreign currency is far below the remuneration of public internal debt. And, in order to avoid the growth of monetary aggregates, the Brazilian government bought dollars and sold public debt papers at the same time.

Ironically those "excessive" reserves provided the conditions for the BCB's swap line with the Federal Reserve.

#### **4. WHAT HAPPENED IN THE NORTHEAST REGION?**

As mentioned previously, macroeconomic policies do not spread equally in space since productive resources are distributed unevenly in space. Quantitative and qualitative imbalances in the geographical distribution of resources generate different reactions to the macroeconomic policy.

Therefore, it is important to examine how the financial sector has acted in Northeast Region since 2007.

A primary aspect to emphasize is the growth of the credit operations. In face of the change in the international scenario in late 2008, the Brazilian Central Bank sought to ensure adequate liquidity levels, to reduce interest rates by decreasing the reserve requirements and to establish special lines of credit as swaps that were described in the previous section. The interest rate (Selic<sup>xi</sup>), that is a benchmark for the entire financial system, declined from 11.25 % per year in December 2007 to 7.50% per year in August 2012. Meanwhile, the total stock of Brazilian financial system credit operations closed at R\$2.030billion on December 2011, marking real increases of 112.9% in the five years (December.11/December.06) and registering a stronger growth than in the previous period of five years (December/06-December/01) when the real growth achieved 44.3%. This evolution occurred among the segments of earmarked and non-earmarked resources. The most significant rise appeared in the earmarked segment as it is possible to see in table 5.

With respect to earmarked resource credit growth, it should be stressed that half of those operations are a result of BNDES activities. The BNDES is a Development Bank (and a federal government enterprise) with total assets of US\$ 334 billion. Its goal is to provide long-term financing and contribute to the country's development (BNDES, 2012).

It is important to emphasize the magnitude of the BNDES. According to a survey (Martinez and Vicente, 2012), which covered 90 development banks worldwide, five of the largest development banks worldwide are from emerging economies. The second biggest development bank (considering the amount of assets) among the emerging economies is the BNDES.

As we can see, the BNDES' performance during 2007-2011 helped the country to maintain the expansion of investments, allowing Brazil to maintain employment levels and to contain

inflationary pressures. The development bank had a countercyclical role in the Brazilian economy.

Although development is a main focus of the BNDES, its disbursements by regions shows that the geographic centralization of credit was another key focus (Castro and Vidal, 2011). The Northeast region accounted for an average 11% of the Bank's total disbursements in the period of 2007-2011. Therefore, the participation of the Northeast region in the BNDES' disbursement is not in keeping with its contribution (13%) to Brazil's GDP (table 6).

It is relevant to note that although the Northeast Region's participation in BNDES total disbursements grew from 10.3% in 2007 to 13.5% in 2011, the resources had two main characteristics: 1) They were highly concentrated in the State of Pernambuco and 2) The BNDES performance in the Northeast Region was not enough to explain most of the amazing growth trajectory of the stock of credit operations in the Region (figure 6).

Between April 2012 and December 2007, the stock of credit in the Northeast Region expanded by 2.4 times. It was the Brazilian region with the highest rate of increase, followed by the north region where credit was multiplied by 2.09.

Since Northeast credit growth was not a result of BNDES behavior, it is important to determine what contributed to the augmentation of the financing supply in Northeast Region. The analysis of table 7 addresses this question.

Table 7 describes the total stock of credit operations in the Northeast Region. The types of credit transaction are listed in the first column. In the second column, there are the amounts of the stock of credit operations of the BNB. The BNB is a development bank and the federal government is the main shareholder. It is the fifth largest development bank among emerging countries (Martinez and Vicente, 2012)

In the third column there are the values of the stock of credit operations of FNE. The FNE (Fundo Constitucional de Financiamento do Nordeste) is the Constitutional Fund for Financing the Northeast and is administered by the BNB. FNE resources are determined by the Brazilian 1988 Federal Constitution: they are 1.8% of two major Brazilian taxes: IPI(an indirect tax over industrialized products) and IR(income tax).The fourth column shows the sum of FNE funds and BNB funds, while the fifth column, called SISBACEN, aggregates the credit stock of all financial institutions operating in the region. It should be noted that the FNE is not counted in SISBACEN. SISBACEN is a system administered by the Central Bank of Brazil and according to Brazilian law; FNE must have its own accounting.

As we can see, about 30% of the total stock of credit operations in the Northeast Region has its origin in the BNB and FNE. Moreover, around 75% of rural financing in the Northeast is provided by the BNB and FNE. The growth in the contracted amounts by the BNB and FNE explain the behavior of credit in the Northeast Region. Indeed, the BNB and FNE were the major responsible parties for expansionary credit policy in the Northeast Region during 2007-2011.

Another important feature of the FNE is the geographic allocation of its resources. FNE was established in 1988 on the promulgation of the newest Federal Constitution of Brazil. It was regulated by Law 7827/89 and currently provides about R\$ 11 billion annually (FNE, 2011) in loans to the Northeast Region, North of Minas Gerais and Espírito Santo. At least 50% of FNE's total resources must be allocated to the semi-arid area. The semi-arid in the Northeast Region is 89.4% of all Brazilian semi-arid and takes up 56.2% of the Northeast Region. It is one of the most densely populated semi-arid areas in the world.



Between 2006 and 2010, the stock of loans of FNE represented, on average, 35% of the total stock offered by all financial institutions in the Northeast (SISBACEN).

It should be noted that most of the FNE funds were allocated to rural activities. Among the programs destined to rural area, Pronaf (Programa Nacional de Fortalecimento da Agricultura Familiar) stands out.

The Pronaf finances farmers and agrarian reform settlers. One of its objectives is to improve income and jobs in the rural area. Poverty in rural areas in the Northeast Region is acute. The percentage of the population in extreme poverty is 20.4% while in rural areas of Brazil as a whole, that figure is 12.6%. Average salary in rural areas in Northeast Region is R\$ 388.32, almost 38% smaller than the Brazilian indicator. Therefore, the FNE's disbursements helped to ameliorate the situation.

It is also important to establish that the use of the FNE's resources in new investments creates aggregate activities spillover. An input-output analysis of the impacts, until the total maturation of investments, of the contracts in the first semester of 2012 reveals direct and indirect impacts over the regional income of R\$ 3.9 billion. This includes the generation of 336 thousands of occupations and taxes of R\$ 0.9 billion. (FNE, 2012). Beyond this, there are also effects over other Brazilian regions.

Another aspect to be noted in the financial system in the Northeast is the ratio loan/deposit. Commercial banks should make loans where the sources of these are the deposits. It is expected that banks whose major shareholder is the federal government have among their missions the development of the country. Thus, one would expect them to lend more than received deposits in less developed regions. Therefore, in theory, it is expected that the ratio loan/deposit to these banks is greater than one. The analysis of this indicator in the Northeast shows in all the years (2006-2012), that only the BNB registered ratio loan/deposit exceeded one. So, it appears that Bank of Brazil and CEF has captured Northeastern resources to lend in more economically attractive areas of Brazil (Table 9).

## 5. FINAL CONSIDERATIONS

Macroeconomic policy spread differently in different regions according to the spatial distribution of the assets/economic activities. Since the 2007/2008, recession began, the Brazilian Government has been reducing interest rates and expanding credit. The increase of credit was more significant in Northeast Region, however, it was not an action of the second biggest development bank in emergent countries (BNDES), but a result of the activities of the Banco do Nordeste do Brasil (BNB) and the FNE.

In order to promote Brazilian development and to reduce inequalities in economic and social indicators, the Federal Government should pay more attention on the effects of its macroeconomic policies and how the State Enterprise acts regionally.

The present lemma of the Brazilian's government is a *Brazil - Rich Country is a country without poverty*. How can one reduce poverty if the State Enterprises, such as the BNDES, act towards regional concentration? It is important to analyze the behavior of those elements in order to provide equality over the different regions of the country.

## REFERENCES

- Ariela, Ruiz Caro. (2008). UNASUR and the Challenge of Being South American. En *Americas Policy Program Column*. Washington, DC: Center for International Policy.
- BCB (Banco Central do Brasil) (2012). *BCB Database*. Retrieved April, 08, 2012 from: BCB site, <http://www4.bcb.gov.br/fis/TOP50/ingl/Top50I.asp>
- Bernal-Meza, Raúl.(2012). *Cambios y Continuidades en la Política Exterior Brasileña*. Retrieved 11/09/2012 from: [www.giga-hamburg.de/iik/de/content/publikationen/analysen/la13-04bernal-meza.pdf](http://www.giga-hamburg.de/iik/de/content/publikationen/analysen/la13-04bernal-meza.pdf).
- BNB (2008). *BNB Conjuntura Econômica*, n. 16, jan-mar, 2008, Fortaleza: Banco do Nordeste do Brasil, 2008.
- BNB (2009). *BNB Conjuntura Econômica*, n. 20, jan-mar, 2009, Fortaleza: Banco do Nordeste do Brasil, 2009.
- BNB (2010). *BNB Conjuntura Econômica*, n. 24, jan-mar, 2010, Fortaleza: Banco do Nordeste do Brasil, 2010.
- BNB (2011). *BNB Conjuntura Econômica*, n. 28, jan-mar, 2011, Fortaleza: Banco do Nordeste do Brasil, 2011
- BNB (2012). *BNB Conjuntura Econômica*, n. 32, jan-mar, 2012, Fortaleza: Banco do Nordeste do Brasil, 2012.
- BNDES (Banco Nacional de Desenvolvimento Econômico e Social), 2011. Retrieved 04/08/2012 from: [www.bndes.gov.br/SiteBNDES/bndes/bndes\\_en/Institucional/Press/Noticias/2012/20120123\\_disbursements\\_2011.html](http://www.bndes.gov.br/SiteBNDES/bndes/bndes_en/Institucional/Press/Noticias/2012/20120123_disbursements_2011.html).
- Bureau of Labor Statistics. Labor Force (2012) - *Statistics from the Current Population Survey*. Retrieved 09/08/2012 from: <http://data.bls.gov/cgi-bin/surveymost>.
- Castro, Inez Silvia Batista Castro e Vidal, Antônio Ricardo de Norões. (2011). Desequilíbrios Fiscais na Região Nordeste. *Revista Econômica do Nordeste*, 42(2), 393-407.
- De Sousa, S. (2007). *La India, el Brasil y Sudáfrica: ¿Potencias emergentes o países en desarrollo?* Documento de trabajo FRIDE. Madrid: FRIDE. 2007. Retrieved 09/08/2012 from: <http://www.fride.org>.
- EUROSTAT.(2012). *Statistics Database*. Retrieved 04/08/2012 from: <http://appsso.eurostat.ec.europa.eu/nui/setupDownloads.do>.
- FGC (2012). *Fundo Garantidor de Crédito* . Retrieved 04/08/2012 from: [http://www.fgc.org.br/index.php?conteudo=1&ci\\_menu=48](http://www.fgc.org.br/index.php?conteudo=1&ci_menu=48).
- Fundo Constitucional de Financiamento do Nordeste. (2008) – *FNE – Relatório de Atividades e Resultados 2007*. Fortaleza: Banco do Nordeste do Brasil, 2008.
- Fundo Constitucional de Financiamento do Nordeste (2009) – *FNE – Relatório de Resultados e Impactos 2008*. Fortaleza: Banco do Nordeste do Brasil, 2009.

- Fundo Constitucional de Financiamento do Nordeste (2010) – *FNE – Relatório de Resultados e Impactos 2009*. Fortaleza: Banco do Nordeste do Brasil, 2010.
- Fundo Constitucional de Financiamento do Nordeste (2011) – *FNE – Relatório de Resultados e Impactos – Exercício 2010*. Fortaleza: Banco do Nordeste do Brasil, 2011.
- Fundo Constitucional de Financiamento do Nordeste (2012a)– *FNE – Relatório de Resultados e Impactos – 2011*. Fortaleza: Banco do Nordeste do Brasil, 2012.
- Fundo Constitucional de Financiamento do Nordeste (2012b) – *FNE – Relatório de Resultados e Impactos – Exercício, 2012 – Primeiro Semestre*. Fortaleza: Banco do Nordeste do Brasil, 2012.
- Goldfajn, I., Hennings, K., Mori, H. (2002). Sistema Financeiro no Brasil: Resistência a choques, não dolarização mas com esforço para promover crescimento. *III Conferência Anual CREDPR*. Universidade de Stanford, novembro 2002. : [www.bcb.gov.br/?APRES012](http://www.bcb.gov.br/?APRES012), Download in April, 08, 2012.
- IBGE, *Preliminary data of 2010 Census* . Retrieved 04/08/2012 from: [www.ibge.gov.br](http://www.ibge.gov.br).
- IBGE, 2012.*Monthly Employment Survey*. Retrieved 04/08/2012 from: [www.ibge.gov.br](http://www.ibge.gov.br).
- International Monetary Fund (IMF).*World Economic Outlook, April 2007*. Retrieved 04/08/2012 from: <http://www.imf.org/external/pubs/ft/weo/2007/01/pdf/text.pdf> .
- Lampreia, L. F. (2004). *Brazilian Foreign Policy*. Retrieved 09/12/2012 from:<http://www.tecsi.fea.usp.br/eventos/contecsi2004/brasilemfoco/ingles/relext/polext/apresent/index.html>.
- Luna-Martínez , J. de, Vicente, C. L. (2012). *Policy Research Working Paper 5969 -Global Survey of Development Bank*. The World Bank.Financial and Private Sector Development-Financial Systems Practice, February 2012. Retrieved 04/08/2012 from: [http://www.wds.worldbank.org/external/default/WDSContentServer/IW3P/IB/2012/02/15/000158349\\_20120215153214/Rendered/PDF/WPS5969.pdf](http://www.wds.worldbank.org/external/default/WDSContentServer/IW3P/IB/2012/02/15/000158349_20120215153214/Rendered/PDF/WPS5969.pdf)
- Maia, Geraldo Villar Sampaio. (2003). Reestruturação Bancária no Brasil: O Caso do PROER, *Notas Técnicas do BCB, n°38*. Brasília, Junho/2003.
- Mendonça, Ana Rosa R.(2006). *Regulação Prudencial e Redes de Proteção: Transformações Recentes no Brasil*, pgs. 36-51, Jan.-Jun./2006.
- Monte, Joao Bosco. (2011) *.As Relações Brasil X Angola: Novo Modelo de Cooperação*. Ideação Unioeste, Impresso.
- Obstfeld, Maurice; Schambaugh, Jay C. and Taylor, Alan M. (2008). *Financial Instability, Reserves and Central Bank Swap Lines in the Panic of 2008*.Working Paper 14826. Retrieved 04/08/2012 from: <http://www.nber.org/papers/w14826>. National Bureau of Economic Research.March, 2009.
- Roubini, Nouriel and Mihim, Stephen.(2010). *A economia das crises; Um curso relâmpago sobre o futuro do sistema financeiro internacional*. Editora Intrínseca Ltda. Rio de Janeiro, 2010.

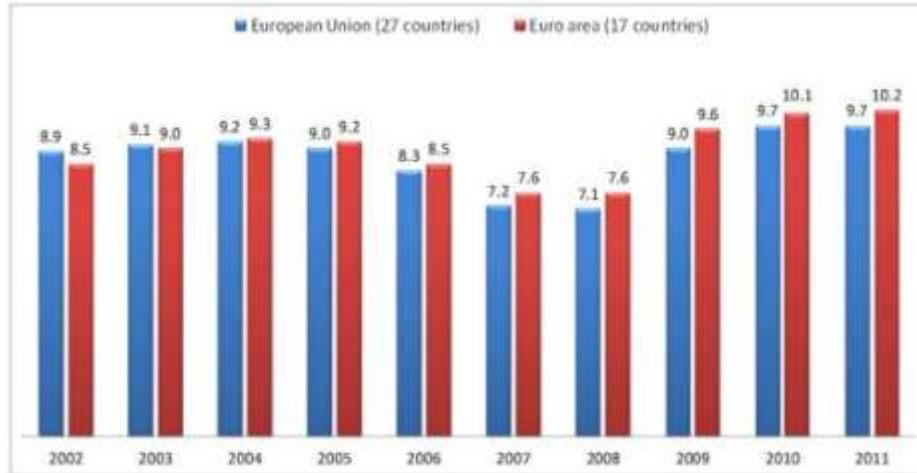
Stiglitz, Joseph E.(2010). *Freefall*. W.W. Norton & Company Inc., United States of America - New York, 443p., 2010.

Worldbank (2012). Database. Retrieved 04/08/2012 from:  
<http://data.worldbank.org/indicator/FS.AST.DOMS.GD.ZS/countries/1W?display=default>.

## APPENDIX

### Figures

*Figure 1 – Unemployment rates, annual average, several Monetary Zones (2002 -2010).*  
(Source: Authors' elaboration on the base of Eurostat, 2012).



*Figure 2 – Unemployment rates, annual average, Germany, France and Italy (2002 - 2011).*  
(Source: Authors' elaboration on the base of Eurostat, 2012).

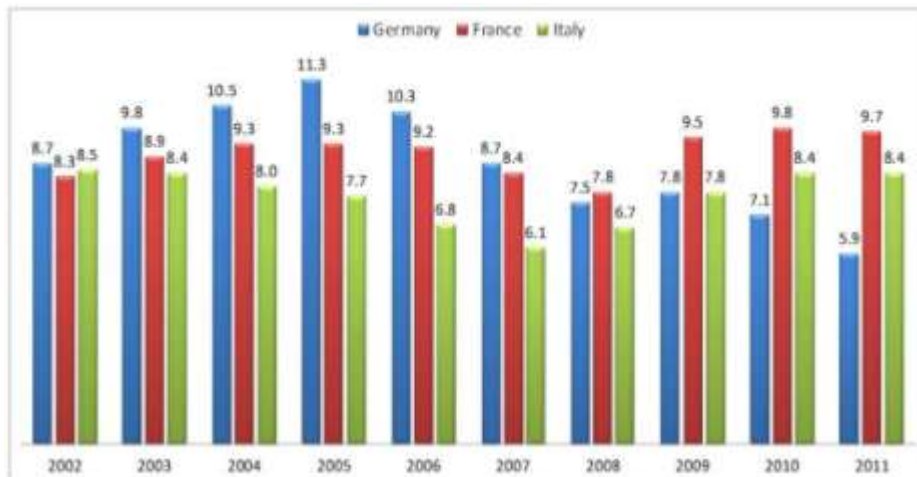


Figure 3 – Unemployment rates, annual average, Portugal, Ireland, Greece and Spain (2002 - 2011). (Source: Authors' elaboration on the base of Eurostat, 2012).

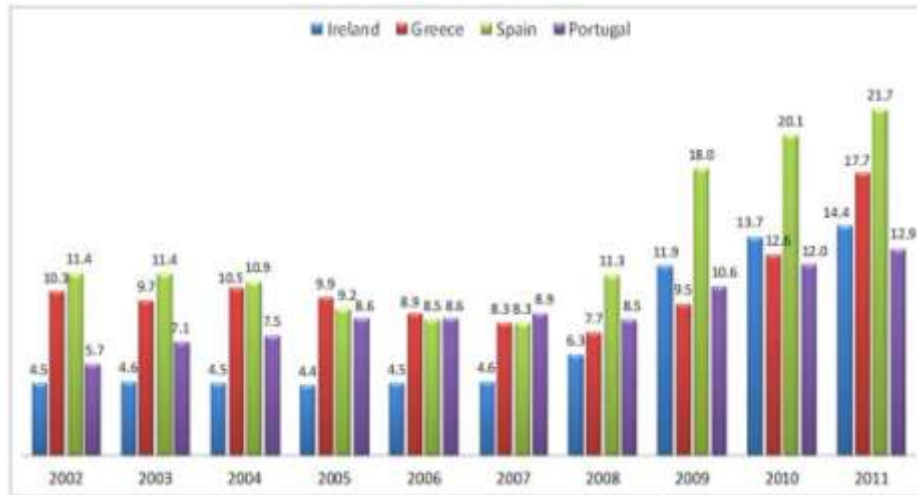


Figure 4 - Unemployment rates, annual average, United States and Japan (2002-2011). (Source: Authors' elaboration on the base of Eurostat, 2012).

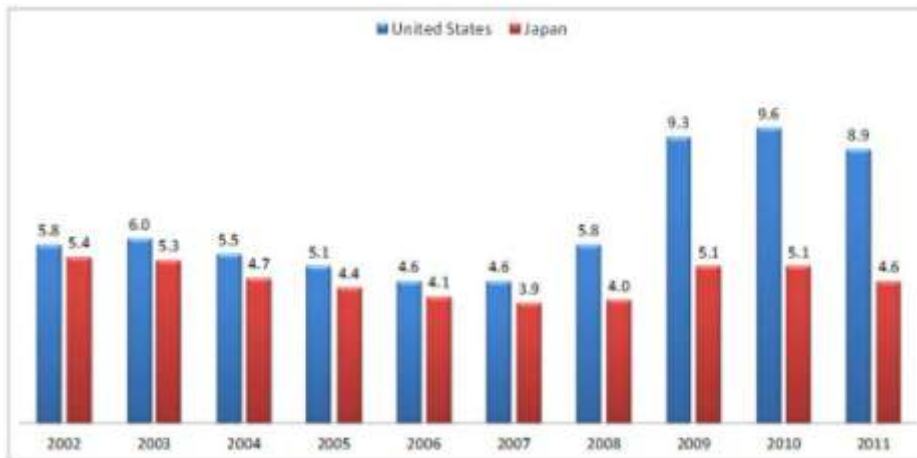


Figure 5 – Brazil, Recife e Salvador - Unemployment rates, December of each year. (2002-2011). (Source: Authors' elaboration on the base of IBGE).

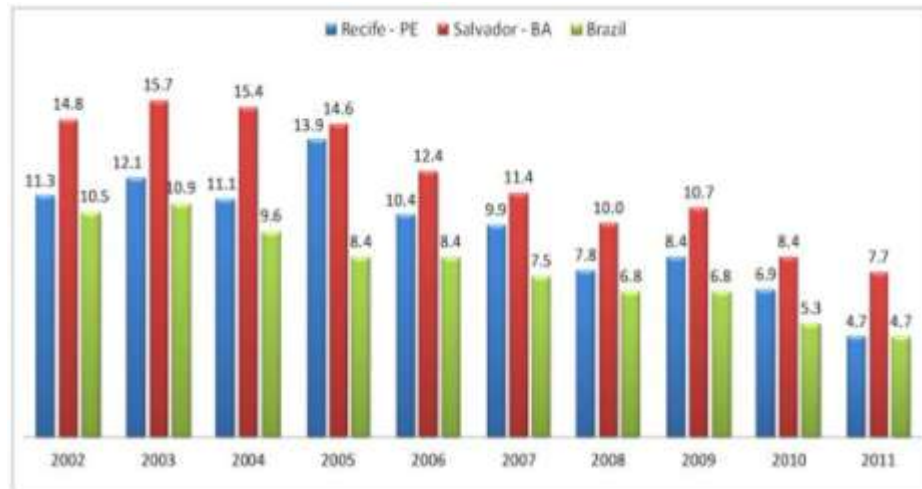
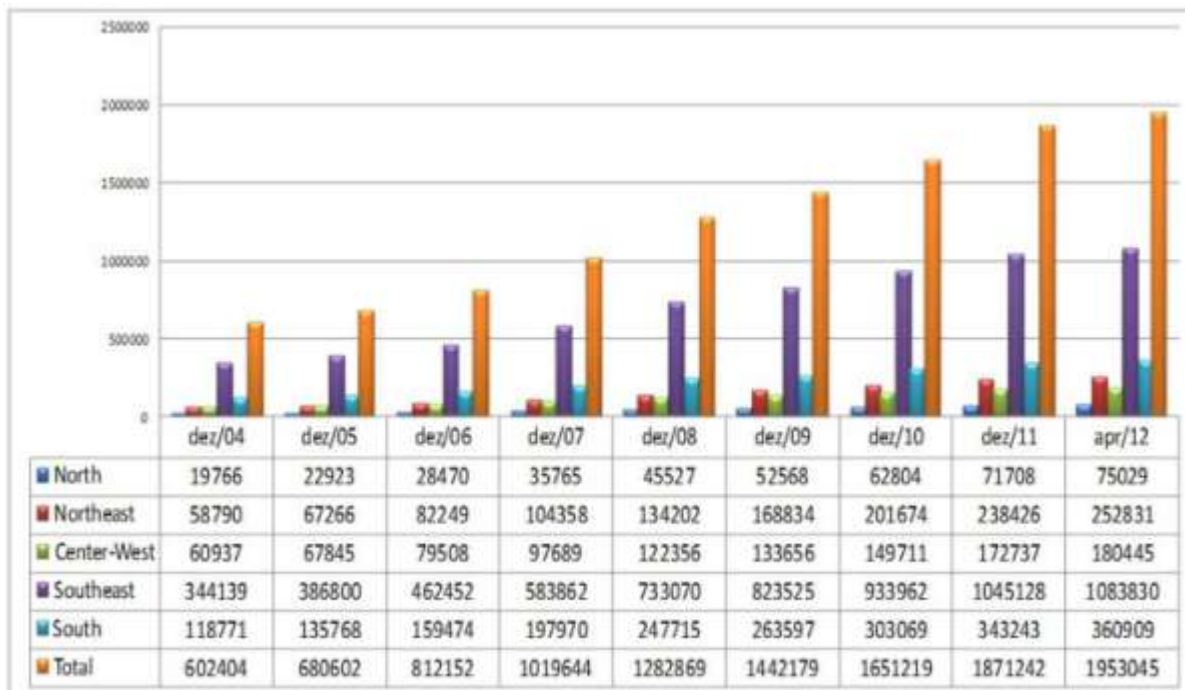


Figure 6 - Regions of Brazil - Total Stock of Financial System Credit Operation – 2004 – 2012 (R\$ millions). (Source: Authors' elaboration on the base of BCB)<sup>1</sup>.



<sup>1</sup> The data contains about 91 to 94% of total stock of financial system credit operations.

### Tables

*Table 1 – Brazil and Regions. Total Population and Population in situation of extreme poverty.2010.* (Source: IBGE – Preliminary data of 2010 Census).

Brazil and Regions	Total Population 2010	Population in Situation of Extreme Poverty	% of total population in situation of Extreme Poverty
Brazil	190755799	16267197	8.53
North Region	15864454	2658452	16.76
Northeast Region	53081950	9609803	18.1
Southeast Region	80364410	2725532	3.39
Center-West Region	14058094	557449	3.97
South Region	27386891	715961	2.61

*Table 2 –Basel Index – Ratio Capital/Assets.* (Source: Financial Soundness Indicators (FSIs), Brazilian Central Bank and International Monetary Fund).

Country	2010	Last Information Available
South Africa	7.41	14.90 jul/11
Germany	4.34	16.90 sep/11
Australia	5.51	11.65 sep/11
Brazil	10.30	17.30 dec/11
Canada	4.60	16.33 jun/11
South Korea	8.19	14.40 jun/11
United States	12.58	15.00 sep/11
France	4.88	12.67 dec/10
Italy	5.41	12.8 jun/11
Mexico	9.81	16.22 aug/11
United Kingdom	5.37	15.89 dec/10
Russia	11.80	15.16 sep/11
Turkey	11.26	16.42 sep/11

*Table 3 – Banking Spreads in Brazil – Fixed-rate Operations.* (Source: Authors' on the base of BCB).

Interest Rates	2004	2005	2006	2007	2008	2009	2010
Credit Operation	53.11	53.33	47.31	40.18	52.91	40.32	39.70
Deposit Operation	17.55	16.93	12.55	11.78	12.93	10.51	11.83
Total Bank Spread	35.56	36.40	34.76	28.40	39.98	29.51	27.87



*Table 4 – Brazil – Total Stock of Financial Credit Operations (R\$ millions) – According to Capital Control.* (Source: Authors' on the base of BCB).

December/	Public Institutions	National Private Institutions	Foreign Institutions	Total
2007	318925	410152	206896	935973
2008	444905	524743	257646	1227294
2009	587600	566678	260027	1414304
2010	713972	695573	296345	1705890
2011	883563	795170	351323	2030056

*Table 5 - Brazil Real Growth of Stock of Financial Credit Operations.* (Source: Authors' elaboration on the base of BCB).

Real Growth Rate (%)	Non-earmarked resources	Ear-marked resources	Total
Dec/11 - Dec/06	101.2	137.9	112.9
Dec/06 - Dec/01	70.5	8.7	44.3

*Table 6 - BNDES – Regions of Brazil - Disbursements- R\$ millions.* (Source: Authors' elaboration on the base of BNDES).

Year	Month	North	Northeast	Southeast	South	Center West	Total	Northeast Share (%)
2001		859.7	3334.2	14493.7	4825.5	1703.4	25216.5	13.2
2002		1880.8	3783.7	23073.6	6091.8	2589.3	37419.3	10.1
2003		712.1	3112.2	20036.1	6841.9	2831.2	33533.6	9.3
2004		1954.1	2737.3	21299.2	8682.8	5160.5	39833.9	6.9
2005		1615.8	3803.0	28739.8	9551.0	3270.6	46980.2	8.1
2006		1625.8	4836.2	31414.6	9782.6	3658.8	51318.0	9.4
2007		3460.9	5322.1	37581.3	12772.9	5754.7	64891.8	8.2
2008		4951.8	7627.2	51010.1	17407.6	9881.3	90877.9	8.4
2009		11213.5	22067.3	71660.4	20677.1	10738.1	136356.4	16.2
2010		11748.2	17210.8	97971.5	30125.6	11366.6	168422.7	10.2
2011		10864.4	18767.9	68238.1	29654.8	11348.3	138873.4	13.5
2012	january	340.9	1027.5	3189.3	1854.1	629.1	7041.0	14.6
	february	931.7	604.4	4124.1	1547.8	917.2	8125.2	7.4
	march	424.3	1156.8	4624.9	1731.1	1379.8	9316.9	12.4
	april	1621.7	1336.9	3934.9	1920.1	856.2	9669.8	13.8
2012		3318.6	4125.6	15873.2	7053.2	3782.3	34152.9	12.1

Table 7 – Brazil – Northeast Region – Total Stock of Credit Operations, R\$ Millions. (2006-2010). (Source: Brazilian Central Bank, 2008, 2009, 2010, 2011 (SISBACEN 2008, 2009, 2010, 2011)<sup>2</sup>.

Discrimination	BNB (A)	FNE (B)	BNB+FNE (C=A+B)	SISBACEN (D)	FINANCIAL SYSTEM (E=B+D)	A/D	C/E
<b>December 2006</b>							
Loans and Bill Discount	542	667	1209	20023	20690	2,7	5,8
Financing	1020	2865	3885	6969	9834	14,6	39,5
Rural financing (1)	1690	9836	11526	4951	14787	34,1	77,9
Other Credit Operations	326	1280	1606	9120	10400	3,6	15,4
<b>December 2007</b>							
Loans and Bill Discount	701	838	1539	25820	26658	2,7	5,8
Financing	1084	3829	4913	9105	12934	11,9	38,0
Rural financing (1)	1809	12309	14118	5612	17921	32,2	78,8
Other Credit Operations	322	1759	2081	10784	12543	3,0	16,6
<b>January 2008</b>							
Loans and Bill Discount	627	862	1489	26153	27015	2,4	5,5
Financing	1038	3968	5006	9131	13099	11,4	38,2
Rural financing (1)	1387	12408	13795	5675	18083	24,4	76,3
Other Credit Operations	327	1786	2113	10728	12514	3,0	16,9
<b>January 2009</b>							
Loans and Bill Discount	1359	2138	3497	33518	35656	4,1	9,8
Financing	1334	6971	8305	7991	14962	16,7	55,5
Rural financing (1)	1354	12244	13598	6407	18651	21,1	72,9
Other Credit Operations	531	1361	1892	16711	18072	3,2	10,5
<b>January 2010</b>							
Loans and Bill Discount	2612	2507	5119	43904	46411	5,9	11,0
Financing	1601	9646	11247	9472	19118	16,9	58,8
Rural financing (1)	1748	13296	15044	7072	20368	24,7	73,9
Other Credit Operations	157	1529	1686	23980	25509	0,7	6,6

<sup>2</sup> (1) It also includes financing agribusiness. (2) FNE, by legal enforcement, has an independent accounting of BNB. Therefore, it is not included in the surveys of BCB/SISBACEN.

Table 8 – FNE - Contracts - R\$ thousands. (Source: BNB - Ambiente de Controle de Operações de Crédito e Ambiente de Coordenação Executiva e Institucional)<sup>3</sup>.

Sectors	Number of Operations	Number of beneficiaries	Value
<b>Contracts - 2007</b>			
Rural	356815	1067892	2066511
Agroindustrial	130	130	125666
Industrial and Tourism	1910	1910	721545
Infrastructure	11	11	437499
Commerce and Services	12450	12450	895280
Total	371316	1082393	4246501
<b>Contracts - 2008</b>			
Rural	309968	927137	2772206
Agroindustrial	224	224	265559
Industrial and Tourism	2627	2627	1752119
Infrastructure	13	13	1299191
Commerce and Services	16440	16440	1579520
Total	329272	946441	7668595
<b>Contracts - 2009</b>			
Rural	359460	1075663	2867874
Agroindustrial	273	273	366950
Industrial and Tourism	2961	2961	1787779
Infrastructure	18	18	1704483
Commerce and Services	17705	17705	2111682
Total	380417	1096620	8838768
<b>Contracts - 2010</b>			
Rural	378434	1132064	3657290
Agroindustrial	261	429	220544
Industrial and Tourism	2893	2893	2866451
Infrastructure	12	12	2020477
Commerce and Services	17640	17640	1990401
Total	399240	1153038	10755163
<b>Contracts - 2011</b>			
Rural	417600	1250098	3906666
Agroindustrial	250	250	336875
Industrial and Tourism	2834	2834	2408693
Infrastructure	22	22	1961311
Commerce and Services	19113	19113	2477109
Total	439819	1272317	11090654
<b>Contracts - first half of 2012</b>			
Rural	196902	590400	2065211
Agroindustrial	118	118	45019
Industrial and Tourism	1413	1413	789069
Infrastructure	-	-	-
Commerce and Services	10073	10073	993868
Total	208506	602004	3893167

<sup>3</sup> Contracts involve disbursements already realized and that will be realized.

Table 9 – Deposit and Credit Operations, Stock in the end of each month, R\$ Millions. (Source: Brazilian Central Bank, 2008, 2009, 2010, 2011 (SISBACEN 2008, 2009, 2010, 2011)).

Discrimination	BB	CEF	BNB	State Banks	Public Banks	Private Banks	Total
<b>December 2006</b>							
Deposits	21099	16187	2648	1271	-	23430	64635
Credit Operations	12395	7868	3578	455	-	15840	40136
<b>December 2007</b>							
Deposits	26012	19523	3117	1437	-	26934	77023
Credit Operations	16115	9115	3916	621	-	20462	50229
<b>January 2008</b>							
Deposits	24982	20369	2854	1499	50206	26529	126439
Credit Operations	16306	9199	3379	649	31197	20490	81220
<b>January 2009</b>							
Deposits	33990	24813	3764	2053	65045	33470	163135
Credit Operations	21788	13486	4578	878	42321	22306	105357
<b>January 2010</b>							
Deposits	39082	28223	4939	1982	74715	52259	201200
Credit Operations	27748	19524	6056	1038	56356	28072	138794
<b>January 2011</b>							
Deposits	43094	33747	7369	2158	86987	49436	222791
Credit Operations	31638	28184	7744	1383	70603	35795	175347
<b>January 2012</b>							
Deposits	48686	41158	7642	2287	100551	53391	253715
Credit Operations	37259	38117	8204	1716	87254	37537	210087

## Endnotes

<sup>i</sup> IBGE (Instituto Brasileiro de Geografia e Estatística) is the official source of Brazilian economics statistics.

<sup>ii</sup> PME, that is referred in this paper as Monthly Employment Survey is a survey on labor and income from work. Data are obtained from a sample in six metropolitan areas: Recife, Salvador, Belo Horizonte, Rio de Janeiro, São Paulo and Porto Alegre. Two of those areas are situated in the Northeast Region of Brazil: Recife and Salvador.

<sup>iii</sup> The interrogation point is because it's impossible to determine, at the moment, the time extension of the current crisis.

<sup>iv</sup> The main trading partner of Israel within Mercosur is Brazil.

<sup>v</sup> Unicad is a system of information of Central Bank of Brazil (BCB).

<sup>vi</sup> Although there are 1.312 Credit Unions, they are responsible for less than 2% of financial credit operations.

<sup>vii</sup> Quotation: 1.83 R\$/dollar – April 2012.

<sup>viii</sup> Earmarked resources operations involve loans with BNDES resources, financing rural activities, credit for housing and cooperatives, among others.

<sup>ix</sup> MP (Medida Provisória). In Brazilian Constitutional law MP (Medida Provisória) is a personal act of the President of Republic. It has the strength of law, but it does not have its origin in the Legislative Power. The Congress will discuss and approve (or not) the MP in a later moment.

<sup>x</sup> M2 is a broad money supply. In Brazil is composed of M1 plus quotas of fixed income funds and operations with federal securities.

<sup>xi</sup> Selic (Sistema Especial de Liquidação e Custódia) is the basic interest rate in Brazilian Economy. It is the rate that Brazilian Central Bank uses to operate monetary policy.