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# Recent Advances in Risk Management, Assessment and Mitigation and Mitigation

Proceedings of the International Conference on Risk Management, Assessment and Mitigation (RIMA 210)

Universitatea Politehnica, Bucharest, Romania, April

Recent Advances in Electrical Engineering A Series of Reference Books and Textbooks

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Proceedings of the International Conference on RISK MANAGEMENT, ASSESSMENT and MITIGATION (RIMA '10)

Universitatea Politehnica Bucharest, Romania, April 20-22, 2010

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#### Preface

This year the International Conference on RISK MANAGEMENT, ASSESSMENT and MITIGATION (RIMA '10) was held at Universitatea Politehnica, Bucharest, Romania, April 20-22, 2010. The conference remains faithful to its original idea of providing a platform to discuss technological risk management, assessment evaluation and mitigation; risk management, assessment evaluation and mitigation in civil engineering; environmental risk management, assessment evaluation and mitigation; energy production and use risk management, assessment evaluation and mitigation; projects and investments bankability evaluation management, assessment evaluation and mitigation; climate changes projects risk management, assessment evaluation and mitigation; general evaluation, management, assessment and mitigation risk on human communities; risk management, assessment evaluation and mitigation contributions etc. with participants from all over the world, both from academia and from industry.

Its success is reflected in the papers received, with participants coming from several countries, allowing a real multinational multicultural exchange of experiences and ideas.

The accepted papers of this conference are published in this Book that will be indexed by ISI. Please, check it: www.worldses.org/indexes as well as in the CD-ROM Proceedings. They will be also available in the E-Library of the WSEAS. The best papers will be also promoted in many Journals for further evaluation.

A Conference such as this can only succeed as a team effort, so the Editors want to thank the International Scientific Committee and the Reviewers for their excellent work in reviewing the papers as well as their invaluable input and advice.

The Editors

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#### **Plenary Lecture 1**

#### **Basic Concepts of Macroeconomic Development Marketing**



#### Professor Liliana Duguleana

Statistics and Forecasting at Faculty of Economic Sciences University TRANSILVANIA of Brasov, Romania E-mail: ldugul@unitbv.ro

Abstract: The New Economic Crisis which shakes all the national economies, causing deep consequences over

The affairs' marketing approach was perceived al micro level to ensure more profit for organizations and their owners, based on analyzing the consumers' behaviour.

Later the social marketing has been developed for changing the beneficiaries' attitudes and behaviours for satisfying their market interests, promoting rather ideas instead of products and services. Separate marketing directions are developing fields as: education, health, culture, sports, religions, public administration and others as eco-marketing or electoral marketing.

At macroeconomic level, the beginning of economic crisis revealed some marketing actions of some public personalities, experts and party's leaders to act for changing the people expectations concerning the difficult changes of life. Using marketing tools, some of them succeeded in changing their nation's behaviour to consume mostly in the same manner as before the crisis started, even promoting the national consumption. These actions were accompanied by political measures to sustain the effects obtained by their macroeconomic marketing actions.

The paper analyses the real GDP and real consumption for Romania during a long period starting with 1990, using a model of adaptive expectations to explain and forecasting the final consumption. The correlation between the two macroeconomic indicators can explain a national weakening to fight with the causes of economic crisis. The model can be applied for the economies of other European economies, where government and their leaders used macroeconomic marketing actions to reduce the effects of economic crisis.

#### Brief Biography of the Speaker:

people life incites to challenge marketing development.

Liliana Duguleana graduated in 1982 the Faculty of Planning and Economic Cybernetics at Academy of Economic Studies, Bucharest, Romania. She has PHD Economic Statistics specialization (1999) at Faculty of Cybernetics, Statistics and Economic Informatics, at Academy of Economic Studies, Bucharest, with the thesis "Strategies of Market Research using Statistical Methods with Application at S.C. ROMAN S.A. Brasov".

She is professor of Economic Statistics and Forecasting Methods at Faculty of Economic Sciences, Transilvania University from Brasov. Her competence fields are: Statistics, Forecasting and Econometrics; she is PhD coordinator in Marketing specialization (since 2005). She is coordinator of academic program "International Affairs" - distance learning education form (since 2005), coordinator of the scientific research master program "Marketing Strategies" (since 2008) and directory of interdisciplinary scientific research and forming platform/laboratory ASPECKT - "Economic Forecasting, Statistical Analyses and Marketing Research" (since 2006).

She is member of Economic Commission at Quality Assurance Romanian Agency in Higher Education (since 2006). She authored or co-authored 12 books, 63 scientific articles in specialized reviews and economic publications and 36 scientific papers presented at international conferences and published in their proceedings.

#### **Plenary Lecture 2**

## **Emerging Microfinance Solutions for Response and Recovery in the Case of Natural Hazards**



# Professor Gabriela Prelipcean Faculty of Economic Sciences and Public Administration University STEFAN CEL MARE of Suceava, Romania E-mail: gabrielap@seap.usv.ro

**Abstract:** The serious floods caused by heavy rainfall at the end of July 2008, affected many densely populated areas in Romania. Over 5900 houses, of which 1600 totally destroyed, and more than 21000 people were reported by local authorities to have been affected by the floods. The most affected areas were situated in Maramures, in Moldova, along the Prut and Siret rivers. These areas include critical infrastructure elements (town halls, border police offices, roads, dams, civil protection facilities) and had a negative impact on the economic activity.

The assessment of the effects of the disaster, conducted by the Operational Centre for Emergency Situations (OCES) under the Romanian Ministry of Environment and Sustainable Development, have demonstrated the increase of the risk level with implications as systemic risk. Considering the multiple effects and the serious micro and macroeconomic implications, the intervention of the governmental institutions must be prompt and efficient. The lack of experience in the case of these extreme risk events, but also the budgetary restrictions, require, on the one hand, the reassessment of the insurance solutions through the introduction of a new financing scheme based on PPP, or the use of the microfinance products specifically created for natural hazards risk management, on the other hand. Microfinance institutions could be efficient both in disasters, and also in events that correspond to the disaster response and the recovery process. Microfinance institutions could be easily informed on the potential consequences

response and the recovery process. Microfinance institutions could be easily informed on the potential consequences of natural hazards at different levels: clients, institutions, sectors. Microfinance products and services could be robust solutions, because they respond more directly to clients' needs in the aftermath of extreme events. Identifying the optimal lending program is a difficult task and it is closely related to the global recovery process.

The design of these specific products represents an important contribution in order to develop an efficient recovery process, as the funds will be used more efficiently and promptly, and we consider that innovative solutions should be used for Romania and for other emerging countries.

#### Brief Biography of the Speaker:

Gabriela Prelipcean graduated in Economic Cybernetics at the Academy of Economic Studies (1988). Ph.D. in Economics awarded by the Academy of Economic Studies, Bucharest, with the thesis: Restructuring and Regional Development (2000) and published at Economica Publishing House, Bucharest (2001). She is Professor and PhD coordinator in Economics at "Stefan cel Mare" University of Suceava. Her research and teaching covered an extended area of Economics and Business, Cybernetics and interdisciplinary domain as Economics of Disasters, Extreme Risk Events (natural disasters and terrorism), and Economics of Migration. She is vice-dean of the Faculty of Economic Sciences and Public Administration. Fellowships awarded and academic programs: NEC Fellowships, financed by the New Europe College (NEC), Institute for Advanced Study, Bucharest, research theme: Contributions Regarding Optimal Migration Policies after European Enlargement, 2008-2009; Fulbright Postdoctoral Fellowship, Elizabethtown College, PA, USA, Extreme Events Risk Management, 2006-2007; Research grant at University of Bologna, Italy, in the field of Regional Development and National Politics of Attracting Foreign Direct Investment (2001-2001) - Romanian Governmental grant (OG 697/1997); Postgraduate courses organized by the University of Luxembourg, International Economics "Regions of Europe. Europe of Regions", 1997 - Soros Foundation grant; Postgraduate training program at the Dublin Institute of Technology, Ireland, 1996 - Tempus grant; Visiting professor at University of Sussex, Sussex Centre for Migration Research, Marea Britanie, 2009-2010; Visiting professor and researcher at Institute for the Study of Labor, Bonn and University of Bonn, 2009; Visiting Professor, University of Bologna, Italy, lecture on Assessing and Managing Extreme Events in Emerging Countries, 2005; University of Applied Sciences BFI Vienna, Austria, 2004; University of Bari, University of Modena, Italy, University of Torino. Participation at Conferences and Symposia in the Economics and Business fields in Romania, USA, France, Germany, United Kingdom, Italy, Denmark, Greece, Czech Republic, Austria, China, Ukraine, Moldova. Author and co-author of 15 books, over 100 papers published in professional journals and conference proceedings in Romania and abroad and a frequent reviewer for international and national conferences and journals and research institutions and foundations. I have received many research grants and awards as director. One large-scale project was funded by the European Union. 10 grants and research projects were funded by Romanian sources (CNMP, ANCS,

CNCSIS\_Consortiu, IER, CEEX, Security Program etc). The main focus is on: Assessing, Managing, and Financing Extreme Events; Crisis Management in Natural Disasters and Terrorism; Financial and Currency Crisis, Economic Crisis, Migration Policies and Remittances; Econometrics. Professional affiliations: Academy of Management (2007-); Romanian Management Society (2007-); Risk Management Association (2004-); European Association of Regional Sciences (2004-); Romanian Association of Regional Sciences (2001-); Romanian Statistics Society (2000-); Romanian General Economists' Associations - AGER (1992-).

#### **Plenary Lecture 3**

#### Seismic Risk and Urban Planning



Professor Victor Gioncu
Faculty of Architecture
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**Abstract:** In the last decades the number of catastrophical earthquakes is increasing dramatically. This is due to the fact that the increasing of population and the intense urbanification are mainly situated in the seismic prone areas, and in the undeveloped areas. In these situations a real condition to reduce the seismic risk is the urban planning, which include the analyze from the point of view of vulnerability, to seismic actions of regions, cities, quarters and buildings.

#### Brief Biography of the Speaker:

Acad. Prof. Dr. Eng. Victor Gioncu graduated in the year 1957 the Politehnical Institute from Timisoara, at the Faculty of Civil Constructions in the domain: Civil, Industrial and Agricultural Constructions. In the year 1971 he presented his PhD paper at Politehnical Institute of Timisoara, at The Faculty of Architecture, obtaining the title doctor engineer, with the distinction "Cum Laudae" in the specialization: civil engineering. He is member of the Academy of Technical Sciences of Romania. His positions started with being a structural designer at DSAPC Arad, with structural design made for many important buildings between 1958-1964. He made research in the field of structures made of bars with thin walls, stability of metalic and concrete structures between 1964-1971. Between 1971-1985 he has been lecturer at the Politehnical University Timisoara. At Faculty of Architecture, he has taught courses of "Mechanics and structural design" and "Structures in architecture". Head of National Institute of Research in Construction INCERC Timisoara (1985-1994). Professor at the Politehnica University Timisoara, Faculty of Architecture (1990-2003), teaching courses of "Structural design", "Methods of restoration of historical buildings", "Antiseismic architecture" and "The esthetic of structures". Since 2003 consultant professor at the Faculty of Architecture of Timisoara and honorific professor of the Technical University from Budapest (since 2004). He is member in 6 national and international professional associations. He teached courses as invited professor at Universities in England, Brazil, Hungary and Italy. He has 14 written books, 8 written in English, 3 as author and 5 as publisher, 6 books in Romanian as author, 8 special chapters in different books, 5 manuals for students at Faculty of Architecture. The number of papers published in conferences and international journals are over 250 in all the above mentioned domains of research.