

SYNTHETIC SCIENTIFIC REPORT

*regarding implementation of the project
„Uncertainty, Complexity and Financial Stability”
in the period October 2011 – October 2013*

Bucharest

• **GENERAL FRAMEWORK OF ACHIEVING THE PROJECT**

The worldwide economic-financial crisis started in 2008 marks **a crucial point** in the history of human civilization. Unlike the other crises traversed by the world economy, the present crisis is characterized by the fact that it was triggered by the *Financial System*, not the real economy. This fact is outlined by the famous professors *Carmen M. Reinhart* and *Kenneth S. Rogoff* from *Harvard University* in the work „*This Time Is Different: Eight Centuries of Financial Folly*”, published in 2011, at *Princeton University Press*. The work, which was awarded **numerous international prizes**, proves, along five hundred pages, the distinct character of the present economic-financial crisis.

Besides its devastating effect on the world economy, the present economic- financial crisis had an extremely powerful impact on *economic sciences* and, especially, on the *field of financial-monetary sciences*.

The economic-financial crisis highlighted the fact that the topics of *Financial Stability*, of *Systemic Risk*, of *Sovereign Risk*, of *phenomena of banking contagion* etc. are not known in their whole complexity. It is known that the *Financial System* represents an extremely complex dynamic system, whose subsystem are connected through millions of direct and inverse connections (feed- backs), and its topology changes according to laws that are not well understood yet.

As it was shown in the *Report for 2012 of OFR (Office of Financial Res.earch* – newly created organism within the US Government), the present crisis highlighted significantly the fact that we do not possess yet an adequate knowledge of the Financial System (“The financial crisis made clear that the understanding of the financial system was deficient in many respects”).

Under these circumstances, numerous national and international organizations and institutions, such as the *International Monetary Fund*, the *World Bank*, *G-20*, the *Financial Stability Board (FSB)*, the *European Commission*, the *European Central Bank (ECB)*, the *Basel Committee for Banking Supervision (BCBS)*, cooperate in order to achieve a better understanding

of the functioning mechanism of the Financial System, of its topology and of the conditions that assure Financial Stability. It is hoped that, on this basis, new types of financial policies can be substantiated, which could assure sustainable economic growth. This is a difficult task, having in view that financial conditions were lately very agitated for the whole world economic space, but especially for the Eurozone and the European Union. Numerous vulnerabilities manifested worldwide led to an increase of the volatility of financial markets, to reducing the credibility of governmental decisions and to an unprecedented augmentation of investors' caution. In this period, rating agencies reduced their qualifications for numerous countries of the EU. The tensions from the Eurozone propagated also to the countries of Central and Eastern Europe (CEE), including on Romania. Our country suffered these shocks, which led to an increase of the *spread* of bonds, of CDSes, of the volatility of exchange rates, etc. For example, the CDS fluctuated, in the period January 2011 – July 2012, in the interval 215- 492 base points, and the *spread* of bonds denominated in euro fluctuated in the interval 285 – 591 base points, with respect to similar bonds issued by Germany.

The European Commission adopted numerous measures for limiting the effects of the financial and economic crisis, among which the *Fiscal Treaty*, an attempt to create a *Banking Union*, the *European Semester*, etc. Unfortunately, adopting certain measures lacking a consistent scientific substantiation did not have the effects that were hoped for, although these measures involved huge expenses.

To assure Financial Stability, powerful organisms were created within the European Union, such as the *European Stability Mechanism (ESM)*, having a subscribed capital of 700 billion EURO, the *European Systemic Risk Board (ESRB)*, etc.

In Romania, the task of assuring Financial Stability is assumed by the *National Committee for Financial Stability (Comitetul Național pentru Stabilitate Financiară (CNSF))*, which comprises the Governor of the National Bank and the Minister of Finance, the *National Bank of Romania*, as well as the recently founded *Authority for Financial Supervision {Autoritate de Supraveghere Financiară}*.

Most scholars, including Nobel Prize Laureats, as factors of economic decision agree that, at present, *the most important problem of economic sciences is that regarding Financial*

Stability. Starting from this axiomatic truth, numerous and powerful institutes and research centers were founded worldwide, aiming at studying the topic of Financial Stability. They function within universities, central banks or international organisms. We mention, in this sense, the *Institute for Monetary and Financial Stability (IMFS)*, functioning within *Goethe University* in Frankfurt, *The Financial Stability Institute*, functioning with the *Bank of International Settlements (BIS)* in Basel, *Financial Markets Group Research Centre* within *London School of Economics (LSE)* in London, *Institut für Banking und Finance* functioning within the *University of Zürich*, *Shanghai Advanced Institute of Finance (SAIF)*, etc.

We mention that, within the Project, we succeeded creating scientific contacts with many of the researchers working in the field of Financial Stability in these centers. These scientific contacts were created on the occasions of participation of our team members at several international conferences or research stages. Many of the scientific contacts were facilitated by Professor *Iftexhar Hasan* –the Project director –who is, at the same time, *co-director* of the *Center for Research in Contemporary Finance* and, also, *managing editor* of *Journal of Financial Stability* –ISI journal with impact factor 2012: 1.463, published by Elsevier Science Inc., whose board comprises many of the most prestigious specialists in the field of Financial Stability.

Taking into account the topical importance of Financial Stability and the great complexity of the Project, we included in the team, besides researchers with great experience in the field of Finance, an important number of young PhD and master students, who worked out their PhD theses and dissertations, respectively, under the scientific coordination of the senior researchers within the Project.

2. RESULTS OBTAINED WITHIN THE PROJECT

The results obtained in the period October 2011- October 2013 in the research activity carried out within the Project materialized in:

BOOKS: 1 BOOK

Hasan, I. and Altăr, M. (coord.), **"Financial Stability"**, PRO UNIVERSITARIA publishers, Bucharest, 2013, ISBN: 978-606-647-830-4, 480 pages

- **BOOK CHAPTERS: 3 CHAPTERS**

1. Altăr, M., Necula, C., Bobeică, G., (2013), "Fiscal Policy and Economic Growth in Central And Eastern European Countries", in Socol C. (ed.), **Emerging Macroeconomics. Case studies - Central and Eastern Europe**, Nova Science Publishers, Inc., New York, 2013, pp 1-16 (Chapter 1), ISBN 978-162-25-7354-7
2. Necula, C., Radu, A-N., (2013), "The Dependency Structure of Stock Market Returns in Central and Eastern European Countries", in Socol C. (ed.), **Emerging Macroeconomics. Case studies - Central and Eastern Europe**, Nova Science Publishers, Inc., New York, 2013, pp 33-56 (Chapter 3), ISBN 978-162-25-7354-7
3. Anghelache, G-V., Radu, A-N., (2013), "Portfolio Selection Under Downside Risk Constraints in Central and Eastern European Emerging Markets" in Socol C. (ed.), **Emerging Macroeconomics. Case studies - Central and Eastern Europe**, Nova Science Publishers, Inc., New York, 2013, pp 57-80 (Chapter 4), ISBN 978-162-25-7354-7

- **PAPERS PUBLISHED IN SCIENTIFIC JOURNALS : 10 PAPERS**

1. Necula, C., Radu, A-N., (2012), "Quantifying the Recapitalization Fund Premium Using Option Pricing Techniques", **Economics Letters**, Vol. 114, Issue 3, pp. 249 – 251, ISSN 0165-1765, ISI journal, DOI:10.1016/j.econlet.2011.11.002
2. Francis, B., Hasan, I., Wu, Q., (2012), "Do Corporate Boards Matter During the Current Financial Crisis?," **Review of Financial Economics**¹, Vol. 21, Issue 2, pp. 39-52, ISSN 1058-3300, DOI: 10.1016/j.rfe.2012.03.001
3. Yao, Y., Yang, R., Liu, Z., Hasan I., (2013), "Government Intervention and Institutional Trading Strategy: Evidence From a Transition Country", **Global Finance Journal**², Vol. 24, Issue 1, pp. 24-68, ISSN: 1044-0283, DOI: 10.1016/j.gfj.2013.03.003
4. Necula, C., Radu, A-N., (2012), "A Worldwide Assessment of Bank Resolution Fund Premiums," **Procedia - Social and Behavioral Sciences**³, Vol. 62, pp. 1001–1005, ISSN: 1877-0428

¹ Journal indexed in international data bases: EconPapers (RePEc), Elsevier, ScienceDirect, Scopus

² Journal indexed in international data bases: Scopus, EconPapers, ScienceDirect

³ Journal indexed in international data bases: Elsevier, ScienceDirect, Scopus

5. Sima-Grigore, A., Sima A., (2011), "Distance to Default Estimates for Romanian Listed Companies," *The Review of Finance and Banking*⁴, Vol. 3, Issue 2, pp. 095-110, ISSN 2067-2713
6. Neagu, F., Mihai, I., (2013), "Sudden Stop of Capital Flows and the Consequences for the Banking Sector and the Real Economy", **European Central Bank Working Paper Series**⁵, Vol. 1591, pp. 1-21, ISSN: 1725-2806
7. Costeiu, A., Neagu, F., (2013), "Bridging the Banking Sector with the Real Economy - A Financial Stability Perspective", **European Central Bank Working Paper Series**⁵, Vol. 1592, pp. 1-21, ISSN: 1725-2806
8. Radu, R., (2012) , "An Estimated Model with Macro–Financial Linkages for the Romanian Economy", **Metalurgia International**, Vol. XVII, Issue 6, pp. 138-146, ISSN: 1582-2214, ISI journal
9. Sima, A., (2012), "Concentration Risk Estimation Under the Internal Capital Adequacy Assesment Process," **Metalurgia International** , Vol. XVII, Issue 2, pp. 124 -126, ISSN: 1582-2214, ISI journal
10. Grigore, A., (2012), "Stress Test with Macroeconomic Factors", **Metalurgia International**, Vol. XVII, Issue 2, pp. 110-112, ISSN: 1582-2214, ISI journal

● ***PAPERS ACCEPTED, IN PRESS: 4 PAPERS***

1. Altăr, M., Samuel, J., Altăr-Samuel, A.N., (2013), "Systemic Risk and Stability of Financial System", **Romanian Journal of Economic Forecasting**, ISI journal
2. Necula, C., (2012), "Currency Option Pricing in a Two-Country General Equilibrium Model with Jumps", **Journal of Futures Markets**, ISI journal
3. Mititelu, B.O., (2013), "An Estimated DSGE Model with Financial and Unemployment Frictions for the Romanian Economy", **Romanian Journal of Economic Forecasting**, ISI journal
4. Sima, A., Sima-Grigore, L.A., (2012), "Default Correlation Estimates for Romania", **Romanian Journal of Economic Forecasting**, ISI journal

⁴ Journal indexed in international data bases: DOAJ, EconLit, IndexCopernicus

⁵ Journal indexed in international data bases: EconPapers, Ideas, SSRN

- **WORKING PAPERS POSTED ON THE SITE OF THE PROJECT**
(<http://finsys.rau.ro>): 8 WORKING PAPERS

1. Moinescu, B.G. , Codirlaşu, A., (2013) "Lending, Economic Growth and Nonperforming Loans: Empirical Evidences From The New EU Member States"
2. Alupoai, A., Codirlaşu, A., Săndică, A.-M.,(2013), "Analysing Dynamics of Risk Aversion in FX Market Using The Heston Volatility Model"
3. Năstase, S.I., (2013), "Changes in the Transmission Mechanism of Monetary Policy in Romania"
4. Niculae, A., (2013), "Public Debt Sustainability: A Probabilistic Approach - The Case of Romania"
5. Oprea, I., (2013), "Sovereign Risk - Quantification and Analysis"
6. Sultanovici, M., (2013), "Testing the Efficient Markets Hypothesis on the Romanian Stock Exchange"
7. Rusu, D., (2013), "Estimating Fiscal Sustainability"
8. Mocanu, M., (2013), "Monetary Policy Transmission Mechanism in Romania - A VAR Approach"

- **HABILITATION THESIS: 1 THESIS**

1. Necula, C., (2012), "**TEZĂ DE HABILITAT**", ASE, Bucharest

- **PHD THESES: 3 THESES**

1. Sima, A., (2012), "Credit Risk Management", PhD Thesis, ASE, Bucharest
2. Radu, R.,(2012), "Monetary Policy In Romania", PhD Thesis , ASE, Bucharest
3. Bobeică, G., (2012), "Modelling Financial Expectations", PhD Thesis , ASE, Bucharest

● **PAPERS PRESENTED AT INTERNATIONAL CONFERENCES: 9 PAPERS**

1. Hasan, I., (2012), "Heterogeneity of CEO Social Networks and Firm Value", **Keynote Speaker, 10th Infiniti Conference on International Finance** - "International Finance Towards 2020: Will The Next 10 Years Be Different?", Dublin, Ireland
2. Altăr, M., Samuel, J., Altăr-Samuel, A.N.,(2012) , „Sovereign Risk, Systemic Risk And Financial System Stability”, **73rd International Atlantic Economic Conference**, Istanbul, Turkey
3. Bobeică, G. (2013) "Monetary Policy In Cee Countries: Is There A Similar Behavior Of The Monetary Authorities?," **75th International Atlantic Economic Conference**, Vienna, Austria
4. Altăr, M., Samuel, J., Altăr-Samuel, A.N., (2012) , "External Debt, Public Debt And Economic Growth", **Eurasia Business and Economics Society (EBES) - 2012 Warsaw Conference**, Warsaw, Poland
5. Jakubik, P., Moinescu, B-G., (2012), "Assessing Optimal Credit Growth for an Emerging Banking System", **10th Infiniti Conference on International Finance** - "International Finance Towards 2020: Will The Next 10 Years Be Different ?", Dublin, Ireland
6. Altăr, M., Samuel, J., Altăr-Samuel, A.N., (2012), "A Study of Sovereign Risk, Using Contingent Claims Analysis", **World Finance & Banking Symposium - "Asian Finance & Banking"**, Shanghai, China
7. Necula, C., Radu, A-N., (2012), "A Worldwide Assessment of Bank Resolution Fund Premiums", **World Conference on Business, Economics and Management (BEM-2012)**, Antalya, Turkey
8. Altăr, M., Samuel, J., Altăr-Samuel, A.N., (2013), "Complexity, Stability and Contagion in Financial Networks", **75th International Atlantic Economic Conference**, Vienna, Austria
9. Altăr, M., Samuel, J., Altăr-Samuel, A.N., (2013), "Stability of Financial Networks", **Eurasia Business and Economics Society - 11th EBES Conference Ekaterinburg**, Ekaterinburg, Russia

SCIENTIFIC CONTENT OF THE WORK: “Hasan, I. and Altăr, M. (coord), Financial Stability”, PRO UNIVERSITARIA publishers, Bucharest, 2013, ISBN: 978-606-647-830-4, 480 pages

- The volume was worked out under the scientific coordination of Professors Iftekhhar HASAN and. Moisă ALTĂR. It contains **19 original studies**, analyzing the most important problems confronting the Financial System in Romania, whose solution could ensure Financial Stability .

The subjects approached include **Systemic Risk, Sovereign Risk**, the **transmission mechanisms and the monetary policy of the National Bank of Romania, budget deficit and fiscal sustainability**. Other topics investigated refer to **evaluation of financial assets, convergence of economic cycles, contagion phenomena in the banking system**, etc.

One of the studies contains the presentation and discussion of a **DSGE (Dynamic Stochastic General Equilibrium) type model** worked out for the economy of Romania, which also takes into account the **financial frictions** occurring in the economic space.

All studies are based on econometric models; the estimation methods include GMM (**General Method of Moments**), **Bayesian estimation methods, VAR and VEC type models, techniques of Markov-Switching type, etc.**

Professors Simon BURKE from the **University of Reading, U.K** and **Peter van der HOEK** from **Erasmus University, The Netherlands**, achieved the **scientific control** of the studies. The volume contains the following studies (chapters):

1. Mititelu, B.O., "An Estimated DSGE Model with Financial and Unemployment Frictions for the Romanian Economy"
2. Oprea, I., "Sovereign Risk - Quantification and Analysis"
3. Dumitrescu, M.E., "Macroeconomic Determinants of Credit Risk"
4. Tănase, I., "A Macroeconomic Credit Risk Model for Stress Testing the Romanian Corporate Credit Portfolio"
5. Rusu, D., "Estimating Fiscal Sustainability"

6. Niculae, A., "Public Debt Sustainability: A Probabilistic Approach - The Case of Romania"
7. Sultanovici, M., "Testing the Efficient Markets Hypothesis on the Romanian Stock Exchange"
8. Alexandru, O., "Detecting Intraday Price Shocks and Their Use in Testing the Efficient Market Hypothesis"
9. Sârghi, I., "Disentangling Exchange Rate Volatility for the CEE Countries"
10. Tașcă, A.G., "Contagion Phenomenon and Volatility Transmission during US Crisis"
11. Temneanu, A.E., "Analyzing the Portfolio Implications of Gold Investment Using Extreme Events, Copulas Functions and VaR: a Comparison Between U.S. and Romania"
12. Kubinschi, M., "Business Cycle Synchronization Between the CEE Countries and the Eurozone"
13. Năstase, S.I., "Changes in the Transmission Mechanism of Monetary Policy in Romania"
14. Lixandru, V., "Current Account Fundamentals and Post-crisis Adjustments"
15. Sava, M., "Business Cycle Synchronization with Euro Area"
16. Stamate, A., "Real Exchange Rate Volatility and Macroeconomic Consequences"
17. Gafar, S., "Credit Scoring Models for Default Probabilities in a Corporate Bank Portfolio"
18. Mocanu, M., "Monetary Policy Transmission Mechanism in Romania - A VAR Approach"
19. Barnea, D.A., "Approaches to Estimating Romania's Potential Output and Structural Budget Balance".

Project Director

Iftekhar HASAN



