

**The Bucharest University of Economic Studies
Department of Statistics and Econometrics**



**The 9th International Conference on Applied
Statistics (ICAS)**

Friday, November 13, 2015

The 9th International Conference on Applied Statistics (ICAS9-2015)

**The Bucharest University of Economic Studies &
Department of Statistics and Econometrics**

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**Conference Program
Friday, November 13, 2015**

9.00-9.30 Registration, Room Virgil Madgearu

9.30-10.30 Opening Ceremony, Room Virgil Madgearu

10.30-14.30 Paper presentations

Section 1 – Room Virgil Madgearu

Section 2 – Room no. 2416

Section 3 – Room no. 2607

14.30-15.30 Lunch

15.30-17.00 **Workshop:** “Statistical Research for the Evaluation of University Teaching” *Prof. Luigi D'Ambra, University of Naples Federico II* – **Room Virgil Madgearu, ASE-Bucharest**

www.simpstat.ase.ro , <http://dse.ase.ro/>

SECTION 1- Room Virgil Madgearu

Chairs: **Miruna Mazurencu Marinescu, Ciprian Şipoş**; Scientific secretary: **Lavinia Ţoţan**

1. A QUANTITATIVE APPROACH TO ASSESSING THE MAIN INDICATORS FROM RESEARCH-DEVELOPMENT ACTIVITIES USING INFORMATION MEASURES

Luiza Bădin, Bucharest University of Economic Studies

Silvia Dedu, Bucharest University of Economic Studies

Florentin Şerban, Bucharest University of Economic Studies, University of Bucharest

Abstract. The assessment of research and development sector performance has become a topic of major concern for governments, managers and executives. An effective performance measurement system can be very important for motivating researchers and for increasing the scientific production, the capacity to attract funds and the visibility of academic institutions. Recently the relevance and accuracy of scientific research performance measurement methods attracted the interest of academics and practitioners. However, a relevant quantitative evaluation of research outputs that are of a heterogeneous nature is not a simple task. This reason motivates the need to improve the existing methods and to test their efficiency. Information measures are widely used to quantify the degree of disorder in a system. Also these measures provide useful instruments to evaluate the quantity and effect of the information provided by certain criteria used to construct a composite indicator. The aim of this paper consists in the study of some quantitative methods for measuring the efficiency of the scientific production in research institutions. First we present a comprehensive approach of the main indicators used for assessing the activity of research-development entities. Further we propose some performance measurement indicators for evaluating the efficiency of the scientific production, based on information theory approach. Determining the weight of different indicators by using an information measure allows us to set the weight of each indicator, based on evaluating the discrepancy between the values of this indicator. When an object has a high degree of difference between its components, the value of entropy is small. Consequently, the weight of an indicator will be larger if it provides more effective information. We also propose an algorithm for computing the weights of different indices, which allows us evaluating the degree of importance of each criterion considered in the analysis. Computational results are provided. *This work was supported by a grant of the Romanian National Authority for Scientific Research and Innovation, CNCS – UEFISCDI, project number PN-II-RU-TE-2014-4-2905.*

2. FINANCIAL PERFORMANCES IN ROMANIAN FOOD RETAIL – A STATISTICAL ANALYSIS

Lucian Belascu, Lucian Blaga University of Sibiu

Abstract. The Romanian retail has changed its „face” after 1990, with stores improving their appearance and design, a significant increase in the number of stores and a gradual arrival of predominant chains such as Metro, Lidl, Kaufland, Profi etc. in Romania. Nowadays, Romanians prefer different formats for new food and non-food stores and frequently visit the new "temple" of consumerism - shopping centres. Recent years have also brought increased competition, a typical phenomenon for a growing market. Interesting, though, there was no entry of new "players" on the market, but rather a strengthening of existing ones. Overall, the new market conditions have led to a professionalization of retail. The paper aims at characterising the Romanian companies in the food retail domain by taking into account a number of financial ratios. These ratios are grouped in four categories, as follows: (i) liquidity ratios – current ratio and quick ratio; (ii) solvency ratios – debt to total assets and debt to equity; (iii) efficiency ratios – total assets turnover and inventory turnover; and (iv) profitability ratios – return on assets and return on equity. Our statistical analysis follows their changes in time and tries to evaluate their development possibilities. In the absence of performance standards within each industry in Romania, it is difficult to assess the performance of a company. We propose in this paper the first step towards building such standards for the food retail sector, by identifying homogeneous groups of companies based on their financial performance, which will support the subsequent observation of companies' performance analysed in relation to the groups thus formed. The research method we employ is hierarchical and k-means cluster analysis, while the period under analysis is 2005 – 2013, with annual frequency of data (the annual frequency is helpful for removing any seasonality in data). The cluster analysis progressively groups the companies, according to two main criteria: objects' similarity within the groups and groups' differentiation. We use, as clustering procedures, the single linkage method and the Ward's method and we also construct a number of clusters using the k-means method.

3. NATURAL RESOURCE ABUNDANCE, INSTITUTIONS AND ECONOMIC GROWTH: AN EMPIRICAL INVESTIGATION IN ALGERIA

Belmokaddem Mostefa

Mellal Rabiaa

Benramdane Anissa

Abstract. Paradoxical growth rates and conditions of resource rich countries, is one of the issues challenging scholars in economic development areas. According to empirical evidence, resource rich countries specially oil usually have lower rates of growth compared to resource poor countries. In development economies literature, this paradox is referred to as the « paradox of plenty » also known as the theory of « resource curse ». In this study, we try to test the resource curse hypothesis in Algerian economy applying a VAR model using annual data over the period

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1970-2012. Our results indicate that procyclicality of fiscal policy is a result of the bad institutions and corruption, and that the negative growth effects of oil price volatility offset the positive impact of oil boom, therefore, we argue that oil price volatility and lower institutions quality, rather than oil abundance per se, drives the resource curse paradox in Algeria. Therefore, solutions should be diversify the Algerian economy through the construction of a dynamic private sector which contributes to providing employment opportunities, and enhance the quality of institutions to attract and stimulate much investment. And this is what will ensure economic stability in Algeria.

4. APPROACHES TO IMPROVED USE OF STATISTICS IN REGIONAL DEVELOPMENT

Jose Luis Cervera Ferri, Devstat, Statistical Consulting Services S.L., Spain

Ion Partachi, University of Economic Studies of Moldova

Liliana Olivia Lucaciu (Gotiu), Bucharest University of Economic Studies

Marian Nica, Bucharest University of Economic Studies

Abstract. A large number of stakeholders are involved in regional development policies, programmes and projects being involved in planning, implementation monitoring and evaluation at all levels, national, regional and local. The aim of regional development policies to reduce the existing regional disparities, especially by stimulating the well-balanced development and the revitalization of the disadvantaged areas (lagging behind in development) and by preventing the emergence of new imbalances, requires credible, up to date evidences to cover a large range of social and economic features of the regions and intraregional territories. The literature highlights concerns of both producers and users of statistics and regional statistics in particular, for a better reciprocal understanding of supply and the demand of regional statistics, the evolving needs of users and improved capacity of users to use regional statistics for more effective interventions in the regions. The present paper is focused on the use of statistics, particularly on regional statistics, by the regional development policy makers at three levels, national, regional from the point of view of the capacity of users to make the best use of the available of statistics and to participate in a productive dialogue with producers. The conclusions of the research indicate the need for integrated measures to support users of regional statistics, including facilitation of the dialogue with producers, awareness regarding a proactive role, training programmes based on a tailored competency framework. The competency framework is designed on two levels "basic", entitled "Data fluency" and "advanced" addressing responsibilities linked to key phases and products of policies, programmes, projects cycles such as: strategic planning, impact evaluations. The research also provides key recommendations for an effective dialogue with the producers such as a continuous managed process, a mix of measures at central and local level, adequate tools and systems, platforms for communication.

5. FACTOR ANALYSIS FOR EVALUATING THE EFFECTS OF THE GLOBAL FINANCIAL CRISIS

Cimpoeru Smaranda, Bucharest University of Economic Studies

Abstract. The burgeoning literature enhanced by the recent global financial and economic crises has raised many research questions. Most of the studies deal with finding the causes that lead to the economic and financial stress context in 2008. The generalization of the crisis indicators found to be statistical significant is however questionable and quite risky considering that these are identified after the crisis has occurred. Another drawback of the recent studies is the definition of the crises variable, which varies for different types of crises: banking, currency or debt crises. Moreover, there are two approaches for defining the crises: either as a binary or as a continuous variable, with the former having the prevailing position in the specialty literature. Although considerable research has been devoted to the global crises originators, rather less attention has been paid to the associated contagion effects of the global crises. This study was designed to evaluate the impact of the 2008 events on the European economies situation through a factor analysis on a set of macroeconomic indicators, resulting in a comparative review of the sample countries before and after the eruption of the global crises. The factor analysis was developed on a set of macroeconomic variables: GDP and industrial production growth, current account deficit, exchange rate, capital market index, capitalization, and revealed two principal factors which can be defined, based on factor loadings, as the economic performance and the financial market evolution of the sample countries. We analyze the position of the economies upon the two resulting factors in three periods: before the eruption of the financial crises, immediately after the global crisis and for the most recent data available. This conveys important findings regarding the migration and contagion effects within the countries, but also patterns and similarities identified based on the two factors' mutations after the crises. It draws attention to the fact that macroeconomic policy measures should take into account the particularities of the affected economies and be applied accordingly.

The index derived from the factor analysis could also be assimilated to a continuous variable for evaluating the impact of the crises and used in further studies as the dependent variable to develop macro econometric models.

6. AN EARLY-WARNING SYSTEM FOR PREDICTING THE UNDERPERFORMANCE OF FINANCIAL INSTITUTIONS

Adrian Costea, Bucharest University of Economic Studies

Abstract. In this paper we employ unsupervised neural networks in terms of Kohonen' Self-Organizing Maps algorithm in order to evaluate comparatively the performance of non-banking financial institutions (NFIs) in Romania. Our objective is to create a benchmarking model in the form of a two-dimensional map (a self-organizing map) that can be used to assess visually the performance of non-banking financial institutions based on different performance dimensions,

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such as capital adequacy, assets' quality and profitability. The second objective is to use the map as an early-warning system that would accurately forecast the NFIs future performance (whether they would stay or be eliminated from the NFI's Special Register three quarters into the future). The results are promising: the model is able to correctly predict NFIs' performance movements.

7. WHAT DO PEOPLE WANT FROM THEIR JOBS? A DUAL FACTOR ANALYSIS BASED ON GENDER DIFFERENCES

Marji Tania Issa Eid

Abstract. Motivation is a decisive factor in the process of training the attitude towards work. The behavior at the workplace is a result oriented process, which derives from motivation. Motivation assign those elements – formal or informal, economic or moral – spiritual – that the owners or managers administrate to the company's employees, satisfying certain individual and group needs, in order to determine them, by means of their attitudes, efforts, decisions, actions and behavior to take part to the execution of the activities and to the fulfillment of the company's objectives. In terms of motivation, money is not the only motivator. There are other incentives which can also serve as motivators such as: the level of benefits, perceived fairness of promotion system within a company, quality of the working conditions, leadership and social relationships, employee recognition, job security and career development opportunities. The paper aims to determine empirically the motivator-hygiene factors that have a significant impact on the overall level of Romanian employee job satisfaction using logistic regression models, as well as to compare the existence of differences in the key dimensions of satisfaction according to workers' gender.

8. STATISTICAL ANALYSIS OF THE EVOLUTION OF HIGH SCHOOL GRADUATES IN ROMANIA, DURING 2000-2014

Emilia Gogu, Bucharest University of Economic Studies

Mihaela Mureșan, UCDC București

Marinella Sabina Turdean, UCDC București

Abstract. The thematic approached in the paper refers to the upper secondary system, in order to identify its strong and weak points, in relation with the completion of the secondary educational cycle and with the graduation rate to the bachelor exam. The paper aims at analyzing the main characteristics of the upper secondary system, taking into consideration the input and output indicators, for a better view of the efficiency of the system. The desk research has been focused on the identification of the actual context of the upper secondary system, from both perspectives, i.e. infrastructure and human resources. Simultaneously, the research has been conducted in the direction of specific system results, namely the number of graduates with bachelor degree.

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9. INTERNATIONAL MOBILITY OF STUDENTS, DURING 2000-2013

Emilia Gogu, Bucharest University of Economic Studies
Mihaela Mureşan, UCDC Bucureşti

Abstract. The paper is aimed at identifying the role of the students' and teachers' mobility within the academic area, though an in depth analysis of the educational mobility flows. The dynamic of the students' mobility rate in Europe is highlighted, based on the statistical data analysis (official Eurostat and Unstat data), taking into consideration the actual globalization trend. Moreover, the findings illustrate the tendencies and differences concerning the students' mobility between developed and developing countries.

10. STATISTICAL METHODS USED IN ASSESSING REAL ESTATE IN ROMANIA

Costel Marian Ionaşcu, University of Craiova
Carmen Radu, University of Craiova

Abstract. Assessing of real estate is one of the consuming resources activities that each of the parties involved in the real estate market (buyers, sellers, owners, real estate agencies etc.) must do it in order to achieve their own goals. Doing that activity repeated, fast, with low costs and possibly involving a few human resources is a goal that the actors listed above are trying to achieve. Several statistical methods present solutions to this problem, but practically, in reality the existing limitations regarding on the data but not only, are factors that restrict the selection of methods which may be applied and the accuracy of their results. This article tries to present both the existing real framework from Romania and some of the statistical methods used to asses real estate.

11. SMALL SAMPLE PROPERTIES OF PANEL COINTEGRATION TESTS IN THE PRESENCE OF STRUCTURAL CHANGE

Georgi Marinov, University of Economics, Varna

Abstract. Panel tests for non-stationarity have become increasingly popular in recent years, and their application widens also towards macroeconomic data. Most popular for testing for panel cointegration are the Pedroni (1999) tests, which are a generalization of the classical Engle-Granger approach for the panel case, with use of bivariate and multivariate types of data. Pedroni (1999) test statistics continue to be widely used even nowadays, despite the concerns about requested spatial independence in data, so the interest in them is to be justified. Given that panels used in practice are rather small, there is a need of exploring their small sample properties in various cases. For macroeconomic studies, data available to researchers is often limited to 20 or 25 years back – going back further makes no sense for plausible results. Thus for annual data the N dimension of the panels is limited to no more

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than 25, and seasonality is an issue, especially in nonstationary panels. Spatial dimension is also limited, because of the nature of studied entities. In cross-country studies rarely a larger than 20 or 25 members group can be successfully explored, almost the same is the situation with regional (single country) studies. So, main concern for researchers remain the relatively small panels – in these cases theoretical critical values should be applied with caution, given that they are taken in limits. An additional feature of macroeconomic panels are cycles – with business cycles one can expect even more than one structural break in the series, because in a series with $T=25$ can fit up to 3 major cycles. In the paper small sample properties for the three “group” statistics of Pedroni (1999) are explored. A set of Monte Carlo experiments is applied to processes with a structural break for three possible break dates at $0.3T$, $0.5T$ and $0.7T$. Tested is for size and power against the general alternative.

12. LEARNING FROM MISTAKES: AN ANALYSIS OF THE PROGRAM OUTPUT INDICATORS OF THE SECTORAL OPERATIONAL PROGRAMME -HUMAN RESOURCES DEVELOPMENT 2007-2013

Daniel Traian Pele, Bucharest University of Economic Studies

Miruna Mazurencu Marinescu, Bucharest University of Economic Studies

Abstract. The purpose of this paper is to make an advanced analysis of the program output indicators of the Sectoral Operational Programme -Human Resources Development 2007-2013 in order to avoid the recurrence of the same slip-ups at the beginning of the new programming period. This exercise is of a particular importance not only for all potential beneficiaries but also for the coordinating authorities, as very often the vast part of ex-post analysis are merely qualitative, hence it appears the need for a more in-depth one.

13. STOCK MARKET, BOND MARKET AND FX MARKET – A PANEL DATA APPROACH

Andrei Rădulescu

Daniel Traian Pele, Bucharest University of Economic Studies

Abstract. The purpose of this paper is to analyse the interdependencies of the four major international players (USA, EU, Japan and China) by studying the correlation between stock market returns, real exchange rates, exports and bond rates.

14. MIGRATION INTENTIONS OF TEENAGE ROMANIANS

Monica Roman, Bucharest University of Economic Studies

Maria Denisa Vasilescu, Bucharest University of Economic Studies

Abstract. The decision to migrate and the factors that determine the individuals to take this decision have been an important topic for researchers. The existing information on adolescents' migration is limited. Social programs and research focus more on children (0-18 years) affected by migration, without emphasis on youth (ages 12-18) who migrate with their families or independent. There is need for more information about the characteristics of migrant adolescents, age and sex composition of migrant flows, their educational and socio-economic situation and the conditions of fulfilling adolescents' rights both in the country of origin and the host country. Most studies on migration don't usually concentrate on children and adolescents, unless they relate to adolescents as victims of trafficking or abuse of various forms. The paper aims at determining the factors that influence the decision to migrate of young Romanians. We employ a survey-based analysis on data provided by FES Foundation and use a logistical regression model to estimate the significant factors that motivate young individuals to migrate. The research is focused on adolescents, 15-19 years old, as they are the most willing to emigrate. The results provide interesting evidence on the determinants of the Romanian teenagers' probability to emigrate: the social class of the respondents parents, the internet access and the number of hours spend on the internet, as well as the perception on the migration are factors that increase this probability; on the other hand, factors as education, gender, age, residence area no not significantly affect the probability to emigrate.

15. REGIONAL ISSUES ON DEVELOPMENTS IN THE POST-CRISIS UNEMPLOYMENT IN ROMANIA

Țoțan Lavinia- Ștefania, PhD, Academy of Economic Studies, Bucharest

Tudose Gabriela, CS II, Phd, National Institute for Labor and Social Protection, Bucharest

Abstract. The article analyzes the regional aspects of the dynamics of unemployment in the post-crisis in Romania, based on general factors influencing the unemployment rate and the specific processes as a result of local resources are consumed skills, materials and financial services. The originality of this paper is to analyze these characteristics and their correlation with labor market forecasts of short and medium term.

16. LONG RUN MULTIPLE CAUSALITY MEASURE ON ECONOMIC GROWTH

Ioana Viașu, West University of Timisoara
Ciprian Șipoș, West University of Timisoara

Abstract. In a recent published paper, the first author studied the problem of causality between economic growth and investment in education, by using the method developed by Dufour and Taamouti. In this paper we intend to extend this analysis by considering the case of three variables: gross domestic product, investment in education and investment in physical capital, all variables being considered as per-capita quantities. We try to highlight the explicit form of a VAR model, to emphasize the evolutionary dynamics and to make a comparative study of different types of economies: Germany and France on the one hand and Romania on the other. The main aim of this paper is to determine the measure of causality effect of the two types of investments on economic growth. The results largely confirm the theoretical assumptions of the endogenous models.

17. TOTAL AND SYSTEMATIC RISK IN THE PERFORMANCE OF SOCIALLY RESPONSIBLE INVESTMENTS

Lucian Belascu, Lucian Blaga University of Sibiu

Abstract: Socially responsible investments (SRI) have seen an unprecedented growth in the last decades, as the company in the modern economy relies more and more on intangible assets to create value and investors are more concerned about the companies' social involvement. The role of socially responsible investments relies in integrating in company's valuation the new value-creation assets, such as relationships, innovation, reputation and access to new markets. These investments emerged in the '60s, but they began to draw the attention of the academic environment worldwide recently. Our paper builds on the assumption that SRI's performance captures the results of companies' socially responsible actions and aims at understading the relevance of screening criteria – inclusive and exclusive screening – applied by these funds when constructing their portfolios.

Our investigation of investment funds with social involvement, which use inclusionary or exclusionary screens on companies they contain in their portfolios, envisages a total of 85 SRI funds of different sizes, with domestic exposure to the US market or with international exposure, and which use single or multiple criteria for companies' selection. Data is extracted from the database offered by www.socialfunds.com, available on site for a period between 2002 and 2013. SRI funds used in our research have different characteristics from the perspective of assets' size, of their investment strategies, and of the types of CSR initiatives of companies that are included in their portfolios. We explore the relationship between the returns they provided to investors between 2002 and 2014 and their total and systematic risk, respectively. Also, we investigate the performance of these funds using risk-adjusted measures of performance, such as Jensen's alpha and Sharpe ratio, based on their performance as implied by the Capital Asset Pricing Model and

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relative to the S&P 500 stock market index. We find that the type of screening applied is relevant for the risk-return profile of these funds and that funds that use an exclusive screening have displayed a better performance comparative to funds that apply inclusive screening. Our results are relevant both for companies involved in social activities, as well as for SRI funds' management, as they may guide corporate policy decisions regarding corporate social responsibility activities or investment decisions made by funds' management and aimed at improving their risk-adjusted performance.

SECTION 2- Room no. 2416

Chairs: **Codruta Mare, Constanța Mihăescu**, Scientific secretary: **Gina Cristina Dimian**

1. ECONOMIC AND FINANCIAL ANALYSIS OF ROMANIAN INTERNATIONAL TRADE

Constantin Anghelache, Bucharest University of Economic Studies, "Artifex" University of Bucharest

Alexandru Manole, "Artifex" University of Bucharest

Mădălina Gabriela Anghel, "Artifex" University of Bucharest

Abstract. This paper describes the evolutions of the international trade of Romania during the recent period. The authors rely on official statistical data, drawn from the publications of the National Institute of Statistics and the results are presented using graphs of proper structure. The data are analyzed depending on the Combined Nomenclature, as reference for grouping statistic data. These elements are usually encountered in the case of countries of low level as development. On an annual basis, the foreign trade activity has developed slowly from the point of view of the volume, which is negative as well as considering both components, import and export. The evolution of imports and exports has been stimulated also by the slight appreciations of the national currency. At the same time, the positive element of currency appreciation implies a negative effect on the exports. Along with the effects of the economic and financial crisis, another element which has generated a slower rhythm evolution for imports and exports consists of the fact that the process of privatization and restructuring, involved the closure of a number of companies. In our paper, we have used official data, published by the National Institute of Statistics. Those data were analyzed and interpreted, based on a system of indicators which reflects the evolutions and perspectives of economic international exchanges. Also, we focused on the structure of the foreign trade, having in mind the geographic space, goods and services structure, structure of partners and volume of imports and exports of the same goods or from/to same country. As methodology, we used econometric and statistical methods and models, adapted based on the data series. In order to cover many aspects of the international trade, we provided out some data, from different periods and, after analysis, we took out some pertinent conclusions. The analysis was performed from the economic and financial viewpoints. On the other hand, the

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analyses of international trade were made in connection with the evolution of the Gross Domestic Product. The data on GDP were considered for the same period, and all data are deflated.

2. SOME ASPECTS REGARDING THE INFLATION EVOLUTION DURING THE LAST PERIOD

Constantin Anghelache, Bucharest University of Economic Studies, “Artifex” University of Bucharest

Mădălina Gabriela Anghel, “Artifex” University of Bucharest

Alexandru Ursache, Bucharest University of Economic Studies

Abstract. This paper develops on the evolution of the consumer prices, that give the measure of inflation. The case study is based on the situation of the Romanian economy. One of the main phenomena that affects a national economy is the inflation, therefore the authors considered that a thorough analysis of the situation in Romania, based on official data, is useful both from the theoretical and practical viewpoints. In this paper, the authors started from the old definition of the inflation, considered a process to multiply additional money without any correlation of the increase in output (production). On the other hand, the economists considered that we get nominal and real prices. That means that from one period to another, the price for the same good is different. Starting from that theoretical aspect, we used the data published by the National Institute of Statistics in order to show how the modification of the prices changed the nominal prices in real prices. Normally, the increase of prices leads to the need for more money for persons in order to satisfy their need for consumption. In our paper, we analyze the possibility to use some statistical-econometric models to have some indexes able to express the correlation between proper variables. In our case, we might consider the correlation between inflation, on one hand, and nominal or real earnings. In fact, we can reduce that study to the correlation which might exist between the nominal (real) salary, and gross (net) earnings, on the other hand. After confirming that aspects based on the statistical series of data, published by the National Institute of Statistics, we calculate the estimators of the regression in the case of correlation between the inflation, as resultative variable, and average gross earnings, and average net earnings, as factorial variables. Finally, the regression parameters were analyzed in order to get a clear possible evolution of the phenomena. Some conclusions were presented, too.

3. MODEL REGARDING THE DYNAMIC MANAGEMENT OF SHARES PORTFOLIO

Constantin Anghelache, Bucharest University of Economic Studies, “Artifex” University of Bucharest

Mădălina Gabriela Anghel, “Artifex” University of Bucharest

Marius Popovici, Bucharest University of Economic Studies

Abstract. The treatment of dynamic management of share portfolio is part of a theoretical approach and research that were started at the end of the 60s by Merton and Samuelson. They

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explored and defined the dynamic portfolio within a continuum economy with HARA utility functions. In 1968, Mossin demonstrated that HARA functions are the only one functions for which myopic approach is optimal when there are no serial correlations for the profits. In the 90s, Deaton and Carroll examined the effect of liquidity constraints on the optimal saving behaviour. Later, in 2000, Barberis estimated the significance of return predictability on the American exchange market. In 1999 and 2000, Campbell, Viciera and Barberis estimated this hedging demand numerically. The effect of profit predictability on the optimal structure of the initial portfolio became surprisingly important for an agent with risk aversion equal to 10 and a time strategy developed on ten- year time horizon. The optimal investment in shares represents 40% of the current wealth without predictability. This will climb up to 100% when mean-reversion is considered. But, still in 1986, Detemple already examined the asset demand problem under incomplete information and learning.

4. THE STATISTICAL ANALYSIS OF THE DETERMINANTS OF CREDIT RISK IN ROMANIA

Simona Andreea Apostu, Bucharest Academy of Economic Studies
Vergil Voineagu, Bucharest Academy of Economic Studies

Abstract. This paper presents the results of a macroeconomic analysis regarding credit risk and its factors of influence. The study of credit risk of a country is important for evaluate its economic development. The identification of the determinants of credit risk for a country and the specificity of its actions could offer useful information in taking decisions for national development. In the last decades, credit risk has significantly increased and the forecasts show that will continue to increase. In this paper, we aim at identifying the determinants of credit risk in Romania. The study is based on the data registered by the National Bank of Romania (www.bnro.ro), for the period 2007-2015. The data treatment was done with SPSS and Eviews softwares. We used regression analysis in order to identify the factors with significant influence on credit risk in Romania. The study showed that the determinant with the biggest impact on credit risk is nonperforming loans ratio.

5. UNDERGROUND ECONOMY – ANOTHER SIDE OF THE WORLD

Liviu-Stelian Begu, Bucharest University of Economic Studies
Andreea Oana Enache, Bucharest University of Economic Studies

Abstract. Underground economy represents all economic activities carried out organizations, violating social norms and economic laws, aiming some revenues that cannot be controlled by the state. The appearance coincides with the emergence of the underground economy and the state imposing rules, norms and laws, and development of the phenomenon is correlated with the historical stages of development of the state. The scope of activities that you can include underground economy is particularly comprehensive but are accepted and considered as

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components of the underground economy: tax fraud, illegal employment and criminal activities. This article aims to show the characteristics of phenomena negative, which are corruption, tax evasion and the underground economy, for Romania. Data on these phenomena are current and capture characteristics of our country compared to other EU member states. The behavior of economic agents not to pay taxes and contributions, because they are not sanctioned by the state, equivalent to growth taxation upon those who are honest and pay those obligations. Reduction tax evasion and corruption, and tax arrears will amount to real tax reduction.

6. MIGRATION IN THE EUROPEAN UNION – APPEARANCE AND REALITY

Liviu-Stelian Begu, Bucharest University of Economic Studies

Denisa Maria Vasilescu, Bucharest University of Economic Studies

Andreea Oana Enache, Bucharest University of Economic Studies

Abstract. In this paper we analyze the dynamics of migration in the EU in the period 2000-2014. The analysis is based on the theory of Markov chains. Also, based on the model we predict migration for 2015 and 2016. In the end, we want to show that there are differences between appearance and reality in terms of migration. A Markov process or a Markov chain is a stochastic process which has the property that, given its present state, future states are independent of the past. The current status of such a process holds all information about the whole evolution process. A Markov chain is a multistage experiment consisting of a sequence of trials in which the state, or outcome, of each trial depends on the state of the trial that immediately precedes it. The method is applied in the analysis of migration. The analysis results show appearances versus reality phenomenon of emigration phenomenon.

7. MULTIDIMENSIONAL ASPECTS IN THE UNEMPLOYMENT ANALYSIS ON AGE GROUPS IN ROMANIA

Elena Bugudui, Artifex University

Abstract. The present paper includes the results of an analysis of different aspects which influence the unemployment evolution in Romania; the analysis was conducted using exploratory multidimensional techniques such as Principal Component Analysis, Factor Analysis and Cluster Analysis. Most of the previous studies about unemployment are focused on a singular dimension, on the interaction between dimensions or on the relative power of the influence of one dimension. The present research aims to extend the comprehension of the labor market state, offering a formula which reflects the unemployment multidimensionality, the simultaneous action of more factors and establish a framework for the evaluation of the labor market conditions. There are presented different typologies of unemployment, extracted according to the level of education, the unemployment duration and gender for the period 1996-2014 for four age groups. The analysis highlights the specific behavior of the young generation and also of the generation over 50 years.

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8. REGIONAL BETA CONVERGENCE IN ROMANIAN LABOUR MARKET. A SPATIAL ERROR MODEL

Zizi Goschin, Bucharest University of Economic Studies, Institute of National Economy

Abstract. Drawing on our previous research on territorial convergence in Romania, we analyze long-term variations in real wages at county level (NUTS3) starting from the traditional model of beta convergence introduced by Barro and Sala-i-Martin (1995). In order to account for spatial dependence across counties (as indicated by Moran's I) this paper adopts a spatial econometric perspective. Both spatial lag and spatial error models have been tested and the results have been compared to the ones provided by the classic OLS convergence model. We found no evidence of absolute convergence, but all model specifications strongly supported conditional beta convergence in Romanian territorial wages over 1991-2013. Model diagnostics for spatial dependence indicated the spatial error model as the best choice for our data.

9. UNEMPLOYMENT IN SOME MEDITERRANEAN COUNTRIES - FACTS AND POLICY IMPLICATIONS

Bogdan Vasile Ileanu, Bucharest University of Economic Studies

Gina Cristina Dimian, Bucharest University of Economic Studies

Mirela Ionela Aceleanu, Bucharest University of Economic Studies

Abstract. The main objective of this paper is to study the driving factors of unemployment in Mediterranean countries most affected by this phenomenon. The present study focuses on the particularities of the economic sectors and tries to capture the differences between them. Descriptive statistics and mismatch indexes are used to outline the economic and labour market structure in the four countries analyzed (Greece, Italy, Spain and Portugal) and the econometric model built on panel data tries to capture the impact of factors such as GDP growth, labour market mismatches on the unemployment rate at five economic sectors level. The results are used to identify causality and solutions to improve the current conditions in which the labour markets function in these countries, but also in other EU countries facing similar problems.

10. THE EUROPEAN UNION SOLIDARITY FUND: AN IMPORTANT TOOL IN THE RECOVERY AFTER LARGE-SCALE NATURAL DISASTERS

Maria Ionciă, Bucharest University of Economic Studies

Eva-Cristina Petrescu, Bucharest University of Economic Studies

Abstract. This paper analyses the situation of the European Union Solidarity Fund (EUSF), as an important tool in the recovery after large-scale natural disasters. In the last millennium, the

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European Union countries, among which Romania, have faced climate change, which lead to events with disastrous consequences for the population, with effects that were hard to counteract, on their own, by the affected people. In view of socio-economic and climate changes Rojas et al. (2013) indicates that Czech Republic, Romania and especially Hungary will likely experience large flood damages by the end of this century and the United Kingdom, France and Italy in Western Europe as well as Romania, Hungary, and Czech Republic in Eastern Europe show the highest absolute damage estimates and are likely to bear the highest costs of adaptation. There are several financial ways to respond to the challenges posed by large-scale natural disasters. There are ex-post sources of financing following a disaster among which government funds, budget reallocation, donor assistance, domestic and/or external credit and the European Union Solidarity Fund. The European Union Solidarity Fund was created in 2002 after the massive floods from the Central and Eastern Europe. The European Union Solidarity Fund finance operations undertaken by the public authorities alleviating non-insurable damages (e.g. putting infrastructures back in operation). Romania has received financial assistance from the European Union Solidarity Fund after the occurrence of major disasters, regional and neighbouring country disasters. The aid granted covered a part of the damages after the floods in 2005, 2008, 2010 and 2014 and for the recovery after the drought from August 2012. The assessment of large-scale natural disasters in EU can be achieved starting from the evolution of the European Union Solidarity Fund. In order to analyze if there is a concentration of large-scale natural disasters in EU we used the Gini recalculated coefficient. In the paper, the method of the statistical analysis of dynamics and the correlation between several indicators was used to estimate and predict the financial impacts of large-scale natural disasters in EU.

11. ECONOMIC AND SOCIAL EVOLUTION OF ROMANIA DURING THE RECENT PERIOD –MULTIDIMENSIONAL ANALYSIS

Alexandru Manole, “Artifex” University of Bucharest

Alexandru Ursache, Bucharest University of Economic Studies

Marius Popovici, Bucharest University of Economic Studies

Abstract. This paper describes the main evolutions of the Romanian economy during the recent period. The authors provide key analyses on the dynamics recorded by the main macroeconomic indicators, and also for sector – level evolutions over the periods considered. Also, the authors propose a multidimensional database structure, capable to retain the approach indicators and their measures, which would enable the users to perform significant analyses on the values. All the measures of the indicators are presented as deflated value, operation made on the basis of proper price indices. The main indicator approached in our analysis is the GDP, calculated via the additive model that sums the measures of the components, in current prices and constant prices. For each deflation, the most significant price indices were used. The gross domestic product at current prices is calculated as the sum of its components’ values in current prices. Similarly, the GDP at constant prices is calculated based on the same relation, with the observation that the value of each component is estimated at constant prices by using appropriate price indices. The price

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index of GDP is calculated as a ratio between its value at current prices and its value at constant prices and includes the effects of all the changes in prices taking place in the economy. We pay attention to the evolution of the industry, investments, agriculture, constructions, tourism, labor force, unemployment, pensions and other aspect having an important role in the evolution of the economic and social fields. The analyses are based on data series published by the National Institute of Statistics. As methodology, we have used statistical and econometrical models, and the interpretation of results was made according to the correlations which exist between various indicators from the selected system. From that specific analysis, it is easy to extend the study and to forecast the future evolutions of phenomena studied.

12. SPATIAL ANALYSIS OF THE LIFE INSURANCE MARKET CONVERGENCE IN THE EUROPEAN UNION

Codruta Mare, Babes-Bolyai University

Dragos Simona Laura, Babes-Bolyai University

Ingrid Mihaela Dragota, Bucharest University of Economic Studies

Muresan Gabriela Mihaela, Babes-Bolyai University

Abstract. Due to interactions that exist in the European Union, convergence processes have been emphasized in many areas of the economic life in the form of β -convergence. Starting from this idea, we have implemented a range of Spatial Econometrics methods to assess the occurrence of absolute, conditional or club β -convergence on the life insurance market in the European Union member states. For this, the life insurance density was used as a proxy. Due to data availability, were considered 27 members, except Croatia, on the period 2002 – 2014. The absolute β -convergence was accepted by the spatial regression analysis. The coefficient of the initial life insurance density shows that this process is valid and is stable, its value being negative and lower than 1 in modulus. Additionally, several control variables were considered in order to see if this convergence process is dependent on different aspects of the member societies. Hofstede's cultural dimensions and the Index of Economic Freedom were taken into account because life insurance products are characterized by uncertainty and ambiguity, and consumers are more likely to react according to their cultural prescriptions. Additional spatial influences were accounted for by using the longitude and latitude as exogenous variables, together with the spatially lagged variable for the dependent. Out of the control variables used, only uncertainty avoidance proved to be statistically significant. The model obtained with this variable is the most significant, as shown by the information criteria values. The positive value of the coefficient shows a direct influence upon the growth rate of life insurance density in the European Union. This means that countries that have a higher level of uncertainty avoidance will experience higher growth rate. Transposing this on the insurance market, we can state that insurance companies, especially those focused on life related products should construct their development strategies with emphasis on such economies that have a high level of uncertainty avoidance. These countries usually manifest a high level of anxiety facing new technologies and their population reacts negatively at new brands entered on

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the market, whose names are not known. Some cultures accept the innovation process going to risk assumption (Denmark, Ireland), while other cultures try to avoid risk at the highest level (Greece, Portugal).

13. EXPLORING THE INFLUENCE OF COMPUTER-RELATED INDUSTRY ON EUROPEAN REGIONAL LABOUR MARKETS

Adrian Otoiu, Bucharest University of Economic Studies

Ramona Silvestru (Bere), Bucharest University of Economic Studies

Catalin Silvestru, Bucharest University of Economic Studies

Abstract. In pursuit of providing an economic assessment with regard to the impact of innovation industries at regional level, we focus our analysis on specific knowledge-intensive services from EU member states. The exploratory analysis is conducted using panel data modelling, based on Eurostat data for NUTS2 regions from EU member states with regard to wages per capita for J62 - computer and related activities industry under NACE (rev. 2) classification. The results of the analysis confirm that higher levels of wages/capita in computer and related activities goes together with higher levels of total employment for young workers and with lower unemployment for all workers. Higher wages per capita in computer and related activities do not cause displaced workers effects, likely due to its size, which allows companies to increase salaries in this industries without affecting the general level of regional employment.

The positive effects on unemployment rates are stronger for mature workers than for young workers, indicating strong potential spillover effects. We identified the need to conduct a more thorough investigation on the nature of employment by using other relevant explanatory variables.

14. EVOLUȚII DEMOGRAFICE ÎN JUDEȚUL SIBIU – IMPACT ECONOMIC ȘI PERSPECTIVE VIITOARE

Alma Pentescu, Facultatea de Științe Economice, Universitatea “Lucian Blaga”, Sibiu

Abstract. Populația unei localități / zone / țări reprezintă o resursă fundamentală, o precondiție necesară existenței oricărei comunități umane. De asemenea, aceasta poate fi un factor dinamic, schimbările intervenite în structura acesteia putând avea un impact semnificativ și de durată asupra climatului economic și social din comunitatea respectivă. În acest context, studierea acesteia este necesară în vederea evidențierii evoluțiilor sau involuțiilor care au loc din punct de vedere demografic, respectiv conturarea strategiilor viitoare. Astfel, în condițiile în care la nivelul României are loc o scădere a populației, concomitent cu îmbătrânirea acesteia, lucrarea de față studiază în ce măsură aceste tendințe se regăsesc și la nivelul populației din județul Sibiu, considerat unul din județele cu cel mai ridicat nivel de trai din România. Conform informațiilor din presă, municipiul Sibiu este pe locul 5, la nivel național, în privința PIB-ului pe cap de locuitor și pe locul 6 din punct de vedere al salariului mediu net (forbes.ro). De asemenea, acest județ „se află pe primul loc în topul celor mai mari marje totale de profit înregistrate de companii în 2014

(cu un nivel de 8%, peste media națională de 6%), potrivit datelor Registrului Comerțului, iar rata șomajului este cu aproximativ 1% mai mică față de restul țării” (stiridesibiu.ro). Cu toate acestea, există discrepanțe de dezvoltare economică și socială între nordul județului, zona Hârtibaciului și municipiul Sibiu sau Mărginimea Sibiului. Folosind datele secundare puse la dispoziție de Institutul Național de Statistică (prin baza de date TEMPO și diferite studii) am realizat previziuni pentru următorii ani, referitoare la evoluția populației totale, populației active și a produsului intern brut în județul Sibiu. Rezultatele obținute arată o creștere a acestora, fiind în contradictoriu cu estimările realizate la nivel național. În acest context, atragerea de investitori concomitent cu consolidarea mediului de afaceri existent ar trebui să fie unele din principalele preocupări viitoare. Această continuare a dezvoltării economice a județului și implicit creșterea calității vieții vor spori probabil atractivitatea județului pentru persoane din alte orașe, ceea ce ar putea determina migrație. Astfel, este necesară și conturarea unei strategii de integrare a acestor persoane în viața comunității. Nu în ultimul rând, consider oportună crearea unor politici sociale care să încurajeze creșterea natalității.

15. STUDY OF THE PERCEPTION OF MANDATORY HOME INSURANCE AS INSTRUMENT FOR PROTECTION AGAINST NATURAL RISKS IN ROMANIA

Eva-Cristina Petrescu, Bucharest University of Economic Studies

Maria Ionciă, Bucharest University of Economic Studies

Abstract. This paper analyses the perception of mandatory home insurance (PAD) in Romania, as instrument for protection against natural risks. In Romania, the mandatory home insurance was introduced by the law 260/2008 requiring that homeowners insure their buildings against three natural risks: earthquake, landslide and flood risk. In order to study the opinions regarding the natural disasters, the instruments necessary in the recovery and in the protection against natural catastrophe and the way in which mandatory home insurance is perceived in Romania in May 2015 a survey was conducted on a sample of 461 people (with a probability of 95% and a margin of error of +/- 4,56 %). The main objectives of the research were: studying the perception of natural risks and of main instruments in recovery and in protection against those risks; analysing the way in which mandatory home insurance is perceived by the potential insured in Romania; studying the main factors influencing the opinion regarding that mandatory home insurance and the perception regarding the insurance premium and the sum insured for this type of insurance; studying the perception regarding the quality of the relationship between the population, public authority and insurance companies; the results of the surveys indicate that in the opinion of home owners the risks perceived as the most dangerous are earthquake and floods. The main role in fighting natural catastrophes is played by: local authorities, but the perception is that also the central authority, the insurance companies, the population and the EU institutions are important in the prevention and recovery following natural catastrophes. The respondents consider that the population, the local and central authority are not well prepared to fight natural disasters. The research showed that mandatory home insurance is perceived as being opportune and necessary, but the respondents consider that it is not sufficient for protection against natural disasters and

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there are several weaknesses of the instrument. Moreover, the research revealed the fact that the subjects interviewed consider that the State plays a major role on the insurance market.

16. MIGRATION AND ITS DETERMINANTS: AN EUROPE 2020 PERSPECTIVE

Prada Elena Maria, Bucharest University of Economic Studies

Abstract. The main theories of migration argue that migration is caused by the level of development of the host countries. This fact is also confirmed by the empirical analyses from the scientific literature. Due to the changes occurred after the economic crisis the main concern of European Union is focused on Europe 2020 perspectives. This analyse merge migration with four of five major domains regarding Europe 2020: employment, research adn development, education, poverty and social exclusion. The method employed is the regression model for panel data set, data used in this study comes from Eurostat and includes a time span of 10 years starting with 2004, for all 28 countries of the European Union.

17. THE ANALYSIS OF SOME TIME SERIES USING MARKOV-SWITCHING MODELS

Silvia Spătaru, Bucharest University of Economic Studies

Abstract. In this paper we analyze several economic time series which present changes in their mean value or their volatility, using the Markov-Switching models. The importance of the application of the Markov-Switching models comes from the fact that these models are able to represent many nonlinear dynamic patterns, such as asymmetry, amplitude dependence and volatility clustering.

These models involve multiple structures that can describe the time series behaviours in different states or regimes and can allow for multiple shifts. The switching mechanism from one regime to another regime is controlled by an unobservable state variable that follows a first-order Markov chain. A Markov-Switching model is useful for modeling the asymmetrical time series behaviour because it allows the process to evolve differently in each regime.

18. QUANTITATIVE MODELING OR HOW CAN SOMEONE CONSTRUCT A UTOPIC REALITY?

Vasile Alecsandru Strat, Bucharest University of Economic Studies

Abstract. A model is a theoretical construct representing economic processes using a set of variables and a set of logical and/or quantitative relationships between them. An economic model is a simplified description of reality, designed to yield hypotheses about economic behavior that can be tested. An important feature of an economic model is that it is necessarily subjective in

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design because there are no objective measures of economic outcomes. All economic models, no matter how complicated, are subjective approximations of reality designed to explain observed phenomena. It follows that the model's predictions must be tempered by the randomness of the underlying data it seeks to explain and by the validity of the theories used to derive its equations. A good example is the ongoing debate over existing models' failure to predict or untangle the reasons for the recent global financial crisis. Insufficient attention to the links between overall demand, wealth, and — in particular — excessive financial risk taking has been blamed. During the coming years there will be considerable research into uncovering and understanding the lessons of the global crisis. This research will add new behavioral equations to current economic models. It will also entail modifying existing equations (for example, those that deal with household saving behavior) to link them to the new equations modeling the financial sector. The true test of the enhanced model will be its ability to consistently flag levels of financial risk that require a preemptive policy response. No economic model can be a perfect description of reality. But the very process of constructing, testing, and revising models forces economists and policymakers to tighten their views about how an economy works. This in turn promotes scientific debate over what drives economic behavior and what should (or should not) be done to deal with market failures.

19. MODELING VOLATILITY – A COMPARISON BETWEEN HARRV AND EGARCH MODELS

Vergil Voineagu, Bucharest University of Economic Studies

Simona Adăscăliței, Bucharest University of Economic Studies

Abstract. This paper examines the potential better performance that realized volatility models (HARRV models) have compared to heteroskedastic models (EGARCH models) when high frequency data are used. We applied HARRV and EGARCH models for data sets of stock prices. The stocks were issued by the most 32 socially responsible companies and for the most 32 socially irresponsible companies (the hierarchies were published by the Corporate Responsibility Magazine Review) listed on NASDAQ (National Association of Securities Dealers Automated Quotations). Our hypothesis was verified meaning that, for 97% cases, realized volatility models have a better fit and a better forecast power compared to heteroskedastic volatility models. The High Frequency Data sample is for January – March 2015 period.

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SECTION 3- Room no. 2607

Chairs: **Niculae Mihăiță**, Ph.D. Professor; **Adriana Davidescu**, Ph.D. Senior Lecturer; Scientific secretary: **Denisa Vasilescu**, Ph.D. Assistant

1. ASSESSING THE FOREIGN CHILDREN' SITUATION INTO THE ROMANIAN EDUCATIONAL SYSTEM. AN EMPIRICAL APPROACH FOR THE REGION BUCHAREST-ILFOV

Aurica-Iris Alexe, Bucharest University of Economic Studies

Abstract. Immigration in Romania is a rather recent phenomenon as Romania remains a net emigration country with more than 3 million people that left to work abroad. According to data provided by the Romanian General Inspectorate for Immigration, in 2015, in Romania lived around 100,000 immigrants, out of which 40,000 represent EU citizens and around 60,000 third-country nationals. Family and study represent the major reasons for non-EU immigration in Romania, while labour migration has dropped significantly (from 15,000 to 2,500) following the economic crisis. There is a slight increase in asylum seekers in the period 2012-2015, however, even considering the refugee crisis that hit recently the European Union, Romania has registered less than 1700 asylum applications with an approval rate of 47% that received international protection. This research paper analyses the situation of the foreign children in Romania as regards their access and participation into the Romanian educational system. It is an empirical approach with a special focus on foreign children in the public and private educational system in the region Bucharest-Ilfov where more than a half of the third-country nationals are to be found. The paper provides a quantitative analysis regarding the number of non-EU children in the public and private education system in Bucharest-Ilfov, their distribution by age groups and types of school: primary, secondary, high-school as well as the schools with high agglomeration of foreign pupils and their distribution in the areas of Bucharest-Ilfov. One set of data that is used for the quantitative analysis in this paper is represented by primary data collected during the year of 2013, when a number of 60 schools in the region Bucharest-Ilfov were approached by phone, through emails and face-to-face meetings in order to find out whether they had foreign pupils enrolled in their school and what was the situation on the ground in those schools that reported foreign pupils. In addition, for the quantitative analysis there were also used information retrieved from a mix of sources of data available at national, European and international level such as: Eurostat, National Institute for Statistics, World Bank, European Commission, Migrant Integration Policy Index, International Organization for Migration, Romanian General Inspectorate for Immigration, Romanian Ministry of Education and Research, Bucharest School Inspectorate, public and private schools in Bucharest-Ilfov, as well as data collected by nongovernmental organizations that implemented migration research projects or projects in the field of immigrants' integration in Romania. The innovative elements of this paper consist in the fact it represents an exploratory study of the situation of foreign children in the Romanian education system, a field that has almost

not been researched before in Romania while another added-value of this paper is the sources of data used to perform the analysis.

2. OBSERVAREA ALEGRILOR INDIVIDUALE PRIVIND CREDITAREA SI ECONOMISIREA IN DOUA CONTEXTE DIFERITE

Dana Mihaela Anastasiu, Bucharest University of Economic Studies

Abstract. În alegerea acestui tip de cercetare, am ținut cont de faptul că economia comportamentală crește puterea explicativă a economiei, demonstrând-o prin fundatii psihologice realiste. Economia comportamentală a reușit să explice anomalii de piață, fapte pe care teoria economică clasică nu le-a putut explica. Prin aceasta lucrare imi doresc să testez o ipoteză a economiei comportamentale, conform căreia am fi *influențați de context* în alegerile noastre dar și că de cele mai multe ori ne comportăm irațional. Am considerat ca interval de criză intensă cu impact direct, perioada: decembrie 2007 – iunie 2009 și urmatorul interval, mai relaxat (non criza) perioada: iulie 2009-decembrie 2014 (cele doua context economice). Pentru a afla daca criza economică a avut sau nu impact semnificativ asupra volumului total de credite și a volumului total al depozitelor voi folosi metoda statistică ANOVA si OLS (metoda celor mai mici patrate), cu ajutorul carora voi putea raspunde pe rand, la intrebarile: A avut criza economică un impact asupra volumului de credite/depozite acordate? Si care a fost ponderea variabilelor independente relevante asupra volumului total de depozite/credite acordate în cele două perioade de timp (criza/non criza). Am considerat variabilă criza, o variabilă de tip dummy, o variabilă binară. Acest tip de variabilă poate lua decât două valori 1 dacă evenimentul s-a produs și 0 daca evenimentul nu s-a produs. Ca serii de date am corelat volumul total de credite/depozite în funcție de variabila binară. Toate seriile de date le-am preluat de pe siteul BNR. *Variabila dependentă* a modelului este, pe rând: volum credite acordate/volum depozite acordate populației. *Variabile independente:* variabila dummy: criza care poate lua doar valoarea 0=nu a fost criză și 1= este criză, rata dobânzii și câștigul salarial mediu. În urma analizei pe baza regresiei între creditele/depozitele acordate populației și variabile macroeconomice relevante: câștigul salarial, rata dobânzii și criza economică, am constatat că cel mai mare impact asupra variabilei dependente, l-a avut câștigul salarial si fenomenul de criză care a produs un impact semnificativ, negativ. Iar rata dobânzii, nu a avut un impact semnificativ. Rezultatele ne pot duce la concluzia că o parte a populației nu a luat atât de mult în considerare costurile unui credit sau beneficiile unui depozit bancar. Criza economică a temperat dorința de consum a românilor. Perspectiva pierderii locului de muncă, tăierile salariale, evoluția ratei dobânzii sau inflația i-au făcut pe mulți să fie extrem de prudenți în a contracta un credit de teamă că nu mai pot rambursa, dar a și ajutat românii să economisească mai mult. Deci, se poate spune că elemente precum teama și nesiguranța, induse de un context economic negativ, pot avea un asemenea impact asupra deciziilor privind creditarea/economisirea.

3. STATISTICAL TECHNIQUES TO TEST THE QUALITY OF THE ESTIMATED MULTILEVEL MODELS IN THE CAPITAL MARKET

Loredana Anton, Bucharest University of Economic Studies

Claudiu Vaida, Bucharest University of Economic Studies

Abstract. This work fits into the broader context of multilevel statistical data quality and consistency. Specificity of these statistics, treated in this paper, leaves its mark on the appropriate construction techniques patterns and their impact. This is why special attention is paid to the quality and validity estimators multilevel models. In this context, a thorough comparison is made on the use of quasi-likelihood methods, numerical approximation and simulation.

4. STUDY OF BAYESIAN SINGLE INDEX QUANTILE REGRESSION

Ali Sadig Mohommed Bager, Bucharest University of Economic Studies

Adriana Alexandru, Bucharest University of Economic Studies

Abstract. Since the pioneering research of Koenker and Bassett (1978), quantile regression models have been the topic of major theoretical interest as well as many practical applications in many different areas such as: economics, survival analysis, Microarray study, growth chart, finance, biomedical studies, a comprehensive account of these recent applications can be found in Koenker (2005), Yu et al. (2003), and Cade and Barry (2003). Quantile regression, as introduced by Koenker and Bassett (1978), may be viewed as an extension of classical least squares estimation of conditional mean models to the estimation of an ensemble of models for several conditional quantile functions. It is well known that the estimation methods are many parameters linear regression model. Each method has properties recognize. There are methods considered fixed parameters regression model for example, method of least squares or maximum likelihood there are method considered parameter regression model random variable that has a statistical distribution for example, Bayesian method, which we will adopt in this paper, dependable on Lasso methods used for the estimation and those predictors which are the most active in the regression. Quantile regression characterized by its ordinary least squares and its flexibility for modeling data with non normal errors and outliers. Quantile regression provides a more strong investigation of the entire distribution of the relationship between a dependent variable and its independent variables. To this end, Quantile regression is a very important approach and has gradually emerged as a comprehensive extension to ordinary least squares. Single index Quantile regression has attracted much attention in recent literature. It provides an efficient way to recapitulate the effect of covariates within a single variable to overcome the dimensionality problem because of the Bayesian methods enables exact inference even if sample's size is small. Bayesian single index Quantile regression uses asymmetric Laplace distribution for the errors, which has been a well-developed model selection plays a crucial role in building a multiple single index Quantile regression model. In this paper, we develop an efficient algorithm for single index quantile regressions from a Bayesian perspective by using simulation.

5. FACTORIAL DESIGN OF EXPERIMENTS FOR IMPROVING RELIABILITY WITH SKEWED DISTRIBUTIONS

Bahr Kadhim Mohammed, Bucharest University of Economic Studies
Vasile Strat, Bucharest University of Economic Studies

Abstract. Experiments' Design (**DOE**) can be termed as one of the most common, useful statistical tools in the product, quality design and life testing, as well as, **DOE** can be applied to improve the product's quality and reliability. This paper aims to develop an integrated method which in turn will help a lot in improving both of the quality and reliability of the product, when the failure time for the product as a response variable in the experiments are from asymmetric distribution (non-normal distribution). There are several objectives of reliability experiments, the improvement of reliability and the reliability robustness, more over by adopting the methodology of DOE for reliability (**DOER**) which in turn can help a lot in specifying the important factors which can directly affect the product itself. Reliability analysis can be used as a useful tool to design robust product. As we know the experiments' design tools can be used when the failure time (response values) variable at any treatment level distributed normally, i.e., the error term is normally distributed. In the practice, a violation of normality assumption can be found, so we develop reliability design of experiments analysis with non-normality. The design of experiments and its traditional analysis of variance assumes that the error is a normal distribution. Thus, the dependence on the value of calculated **F** in the analysis of variance as a base to an estimated model. But when we combine the subject of experiments designed with reliability, we assume that, random errors are not normally distributed, because they represent the product's times of life, which is usually up or equal to zero. So we will not depends on the **F** value to test the fitting model, instead, we are going to use (likelihood ratio test). Finally, we can give some concepts about the relationship between experiment of design and reliability in addition of some asymmetric probability distributions and method of model estimation, which is a Maximum likelihood method, (**MLE**). By using the statistical software **R** and **SAS**, we can design an experiment to generate the distribution that is going to be used in this paper, which is epsilon-skew Laplace Distribution (**ESL**). In this paper, we will use the reliability for an experimental design that contains two factors with two levels by using simulation, to determine the important factors that can directly affect the product itself, by the use of (likelihood ratio test) to determine the variance of every estimated parameter. In addition to estimate the covariance between every two parameters through calculating Fisher matrix.

6. QUANTITATIVE TECHNIQUES FOR DETECTING ANTICOMPETITIVE BEHAVIOURS OF THE UNDERTAKINGS

Mihai Busu, Bucharest University of Economic Studies

Abstract. Anticompetitive agreements are usually made by undertakings that interact frequently during their day by day activities. Although some agreements are necessary for the good development of their businesses, some economic operators are concluding secret agreements that are harmful for competition as well as for the final consumers. detecting such behaviours is in the responsibility of the worldwide competition authorities. They are using either direct proofs, got through down raids, or through indirect evidences, obtained by using analitical methods for detecting anticompetitive behaviours. This research paper reveals a series of quantitative methods for detecting cartels and some case studies where this methods have been applied.

7. ANALYSIS DEVELOPMENTS AND STRUCTURAL CHANGES THAT INFLUENCE AND CHARACTERIZE THE UNIVERSITY SYSTEM IN ROMANIA IN ORDER TO ALIGN IT TO EU STANDARDS

Silvia Elena Cristache, Bucharest University of Economic Studies

Daniela Serban, Bucharest University of Economic Studies

Florica Georgeta Rotaru, National School of Political Science and Public Administration

Abstract. The presentation of the general frame of the Romainan educational system has as its purpose the identification of the Romainan educational system's general traits in order to establish the areas where one can take measures to improve the quality of the system. In Romania records the lowest level of spending on education as % of GDP, compared with European Union countries and new member states. Besides this, we can note the fact that the situation regarding loans and scholarships private study is deficient. **The objective** of this study was to evaluate and measure the effectiveness of higher education in Romania, based on the need for re-training of graduates, in accordance with the requirements of the labor market. Thus, a challenge at the moment is the addressing new needs in terms of quality of higher education in the context of achieving European space for higher education and Romanian system for higher education quality standards imposed by the European Commission through the implementation of the Bologna Process.

8. STATISTICAL ANALYSIS OF RETENTION STRATEGIES

Mihai Dragnea, Bucharest University of Economic Studies

Niculae V. Mihăiță, Bucharest University of Economic Studies

Abstract. The study aims to discover which the necessary features of retention strategies of intelligent organizations are. As a baseline, we used the four major common features of intelligent organizations: **Adaptability** – meaning, the capacity to respond to external and internal factors as part of an established, stable and organized process; **Knowledge** – even if we speak about knowledge management or about collective intelligence; **Efficiency** – as in net positive contribution the organization has on its environment; **Power** to change and influence its environment – similar to the dynamics of human mental functions. The final objective of this study is to understand and find the statistical correlation between the capability of the organisations to make business according to the main features of the intelligent organisations related to the needs of Customer Retention Strategies and the churn rate.

9. MEASUREMENT AND STATISTICAL ANALYSIS OF THE COMPONENTS FOR PERFORMANCE OF THE SECONDARY SCHOOL GRADUATION REQUIREMENTS WITHIN THE PRIVATE AND THE PUBLIC SYSTEM

Anna Alexandra Frunza, Bucharest University of Economic Studies

Vergil Voineagu, Bucharest University of Economic Studies

Abstract. Education is arguably the most important sustainable resource of an economy. In order to assess the development of an economy, it is relevant to be able to analyse the educational system on the short and on the long term. Within the market there are numerous researches related to the performance of the universities and these are also subject to evaluation on a periodically basis. Nevertheless, in order to evaluate an economy, we must look at the level of education provided in the range of mandatory years of education, so as to know the minimal performance that is expected from the citizens. During this last decade, there has been an emerging market, namely the private educational system that attempts to compete with the dominant supplier on the market – the public educational system. The state-provided education has been thoroughly discussed throughout the time, but little significance has been provided to the private system. As the Bucharest Municipal area hosts more than 100 private educational institutions, we may say that their market share is increasing, thus their performance should be transparent and the average citizen should have access to objective data and information related to their activity. Due to the fact, that there is a lack of academic articles and of studies, this paper attempts to provide an evaluation of these institutions with the focus on high school institutions. These organizations in particular have been confronted with a new Romanian regulation (instituted in the spring of 2015) as part of the quest of the Romanian Education Ministry to standardise the graduation requirements for the private schools, especially as these receive a certificate equivalent to the BAC degree. The purpose is to provide a framework that enables all students to be assessed based on

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similar requirements. Yet, it is difficult to pursue such a strategy whenever the private system has embraced many other international suited alternatives (CIE, EDEXCEL, IB, French Baccalaureate etc.). The paper reflects an in depth study of the graduation requirements for the private educational system in Romania, based on the assessment objectives that every international curriculum provides and a comparison of these with the evaluation made by the Romanian public system – Romanian Baccalaureate. The focus is on level of knowledge acquired throughout the study, the level of analysis undertaken by the subjects and the extent to which the syllabus stimulates the evaluation of the content.

10. THE QUALITY AND THE SENSITIVITY OF STATISTICAL DATA

Anna Alexandra Frunza, Bucharest University of Economic Studies
Vergil Voineagu, Bucharest University of Economic Studies

Abstract. Whenever interpreting statistical data to provide the necessary information within the market a special focus should be on the quality and the sensibility of statistical data. The analysis of the sensibility of the statistical data represents a requirement in the current practice for statistics and econometrics. It works in close connection with the analysis of the uncertainty to provide more transparency to the economic models. The main goal is to stress how the changes in the output can be divided quantitatively to different sources of variation. The usefulness of the analysis can be proven for testing the confidence of the results of a system or model whenever there is uncertainty. The article will also follow through the methods that may lead to uncertainty reduction by identifying model inputs that may cause significant uncertainty in the output with the purpose to increase the robustness of the information for further use or research.

11. SCENARIOS FOR REGIONALIZATION: ANALYSIS ON ROMANIA'S SERVICES USING ONICESCU INFORMATIONAL STATISTICS

Ioana-Ruxandra Lie, Bucharest University of Economic Studies
Niculae V. Mihăiță, Bucharest University of Economic Studies

Abstract. As part of a more extended study, we have shown that the decision on Romania's regionalization needs to be taken considering more than one criteria. One of the purposes for regionalization is to stimulate development, and we consider that services are an important criterion to take into account. The aim of this paper is to study Romania's services; the variables we analyse are related to telephone, mail and railway transportation services. With the help of Onicescu's informational statistics we prove that regarding these domains, Romanian regions are not homogeneous, and we conclude that this criterion can be used in a multi-criteria model for deciding on Romania's reorganization.

12. SELECTION OF VARIABLES AND THE SOURCES OF DATA FOR AN EFFECTIVE DESIGN OF IMPACT EVALUATIONS USING QUANTITATIVE METHODS

Liliana Olivia Lucaciu (Gotiu), Bucharest University of Economic Studies

Abstract. The paper intends to analyse the most appropriate approaches to impact evaluations design for regional development and competitiveness EU funded programmes, with a focus on the selection of variables and availability of data for evaluation. The EU Member States are at this stage at the start of the implementation of the operational programmes funded from European Structural and Investment Funds for the new programming period 2014 -2020. In parallel the operational programmes funded from the EU structural and cohesion funds 2007-2013 are close to the end of the implementation, 31st December 2015. The policy makers and a large range of stakeholders are interested in the results of the programmes finalised with a view to improve the new ones. The interest for using quantitative methods to assess the outcomes of the operational programmes increased in the last few years among policy makers and researchers. There is widely shared opinion in EU and USA that policy making did not use up to date enough data and quantitative analyses. The European Commission addressed this issue more clearly through the guidance documents on monitoring and evaluation. The literature on impact evaluations highlights the fact that evaluations designed at the start of the programme and built into de programme implementation are more likely to produce strong and credible results, than the retrospective evaluations which are assessing the impact based on methods, treatment and control groups designed and defined ex-post. Although limited, the experience of Romania in using quantitative counterfactual methods for evaluating the impact of public policies and programmes, confirmed the difficulties related to availability of data and a more proactive approach with a design in the early stages of the programme cycle is needed. The paper analyses two key elements of the design of the impact evaluations for the ESI Funds 2014-2020, and identify the relevant experiences in the implementation of evaluation of the interventions funded from 2007-2013 operational programmes. The research is limited to competitiveness and regional development interventions and the four corresponding programmes ROP 2007-2013, ROP204-2020, SOP IEC 2007-2013 and COP 2014-2020. The two elements of the evaluation design are: the conceptualization, more exactly the intervention logic analysis which has to provide a clear understanding of the objectives and outcomes as they are perceived by the stakeholders, the causal effect relations and other factors external to the programme. The second area is the selection of independent, dependent (out of which those relevant for the programme outcomes) and control variables and their sources of data. There are a number of positive premises for 2014-2020 interventions, including a stronger intervention logic, a more clear definition of the expected change than in the case of 2007-2013 programmes. The detailed analysis of the 2007-2013 interventions similar to the one intended to be evaluated using impact assessment quantitative methods provides insights for a better understanding on the support mechanism, on cause effect relations, on external factors influences, on availability of data, on how the programme monitoring and evaluation system could better ensure the data for the treated and control groups, depending on the methods that could be adopted. The research captures also the experience of the counterfactual evaluations performed on

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a microenterprises support funded from ROP 2007-2013, adding in the analysis the use of relevant variables for each category and the availability of data.

13. THE SOCIAL INCLUSION INDEX FOR EASTERN EUROPEAN COUNTRIES

Mihaela Mihai, Bucharest University of Economic Studies

Emilia Titan, Bucharest University of Economic Studies

Abstract. Social exclusion, social inclusion and human development are complex multidimensional concepts that are becoming harder to measure against the development and diversity of contemporary life. Considering that evaluating the progress of these processes cannot be done using only one marker, the United Nations, European Council and other international institutions/organizations are in a permanent process of creating new, more or less complex markers meant to reflect said changes. Measuring the multiple dimensions of social inclusion is essential for understanding its components. The Social Inclusion Index provides a holistic approach, objective and transparent measurement of social inclusion, all based on the result of welfare of a country that is independent of economic indicators.

14. ANTREPRENORIATUL SOCIAL ȘI ROLUL SĂU ÎN DEZVOLTAREA DURABILĂ A COMUNITĂȚII

Ana Loredana Neagu, Bucharest University of Economic Studies

Abstract. Societatea actuală trece printr-o perioadă marcată de turbulențe dintre cele mai grave. Fie că le numim criză, recesiune sau doar schimbări, omenirea se află la răscruce de drumuri, oamenii nepierzând doar averi, ci și valori morale. În aceste condiții, este de preferat a ne îndrepta spre valorile morale, creștine ce ne îndeamnă să dăm din avutul nostru spre a-i face fericiți pe semenii de lângă noi. În sprijinul acestor opinii vin și reglementările legislative europene și globale ce se exprimă în sensul susținerii activității antreprenoriale, ca parte esențială a dezvoltării economice, cu toate că până acum atingerea indicatorilor economice a prevalat în fața creșterii bunăstării sociale a membrilor comunității. Antreprenoriatul social, ca activitate ce implică mecanisme economice pentru rezolvarea unor probleme sociale este o formă contemporană de dezvoltare a societății civile, alături de activitatea desfășurată de organizațiile neguvernamentale și de activitatea de responsabilitate socială a corporațiilor. În aceste condiții antreprenori sociali precum Muhammad Yunus, fondatorul Grameen Bank, Billy Drayton, fondatorul Ashoka și alții se fac remarcăți pentru contribuțiile aduse la creșterea bunăstării comunității. Aceștia, și alții ca ei, au un rol din ce în ce mai important în conturarea procesului de dezvoltare durabilă a unei comunități. Principalul scop al prezentului articol constă în identificarea rolului pe care îl are antreprenoriatul social în dezvoltarea durabilă a comunității, iar pentru aceasta articolul va define termenii “antreprenoriat” și “social” ce reprezintă esența fenomenului antreprenorial. În continuare articolul va prezenta conceptual de dezvoltare durabilă ca rezultat al activității antreprenoriale, continuând cu câteva exemple de antreprenori sociali care, prin afacerile lor, au

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contribuit la dezvoltarea comunității în care au activat. Portretul antreprenorului social, definit de un set de însușiri pe care doar un procent redus din populația globului în dețin, va reprezenta cea de-a treia parte a lucrării. În final, lucrarea va susține importanța antreprenoriatului social în procesul de dezvoltare durabilă al unei comunități pornind de la ideea că, deși interesul antreprenorilor pentru activitatea socială este în creștere, antreprenorul social, ca parte a mediului de business din orice țară își dorește în primul rând să creeze valoare socială, nu profit, acționând ca un agent al schimbării, inovând în vederea îmbunătățirii sistemului, identificând soluții sustenabile, pe termen lung și deschizând noi drumuri în dezvoltarea durabilă a comunității.

15. BIG-DATA ANALYSIS, LINGVISTICS AND THE INTERNET.

Andrei Negescu, Bucharest University of Economic Studies

Niculae V. Mihăiță, Bucharest University of Economic Studies

Abstract. Living in an inter-connected world, one can notice the rapid change of linguistic constructs on a global scale. The easiest way to observe such changes are through linguistic analysis in non-formal environments; and the best way to find a large-scale informal environment is by using the internet. Large-scale communities have formed, without geographical, political or social barriers, throughout the internet. Basing themselves on dedicated websites or forums. Such communities have started using a mixed version of languages. Language is defined as the ability to acquire and use complex systems of communication; and a language is any specific example of such a system. Rooting in English, the newly created language could be considered just a form of ‘internet-slang’, but is it just that? Through the use of cloud computing and big-data analysis, I aim to further understand the creation of this new-age language and to study its impact across the offline environment. Furthermore, language or not, one can observe the fact that adding multiple cultures in a mixed environment creates new semiotical values for its common language. Hence, the data here can help researchers further understand the development of linguistic constructs in a large-scale environment, unburdened by geographical or political borders. When analyzing the data set, a quantitative research will be required. As the dataset gathered is of an extremely large scale, fine-tuning the analysis is a key factor. To be able to reach conclusive results, research of this type will rely on multiple trial and error stages and, taking into account the margin for error, may only scratch the surface of internet linguistics and its semiotical aspects.

16. APPLYING INTERNATIONAL FINANCIAL REPORTING STANDARDS IN ROMANIA - CHALLENGES FOR THE PARTIES INVOLVED IN THIS PROCESS

Nicoleta Pavel, Bucharest University of Economic Studies

Abstract. One can appreciate that the transition to the application of IFRS as the basis of accounts represents a complex process in which the material resources to be allocated and additional human resources. Also in this process can occur some accounting risks (of interpretation) but also some

risks. As regards the economic benefits of applying international financial reporting Standards, they exist but are not always obvious.

17. PREDICȚIA EVOLUȚIEI INDICELUI BURSIER BET, CU AJUTORUL UNUI MODEL ARIMA

Florin Dan Pieleanu, Bucharest University of Economic Studies

Abstract. Încercările de predicții ale cursurilor anumitor acțiuni, indici bursieri sau altor tipuri de titluri financiare sunt destul de des întâlnite, având diverse motivații și bazându-se pe diverse tehnici de previzionare. Articolul de față utilizează în acest scop un model de medie mobilă autoregresiv integrat (ARIMA), fiindcă un astfel de model reprezintă unul dintre instrumentele folosite în acest demers, și care au avut oarecare succes atunci când au fost abordate. The data used is composed of monthly returns of the BET index, in the 2010-2014 period, which gave birth to 60 recordings. Etapele principale ale analizei constau în identificarea modelului, estimarea parametrilor și predicția în sine. După ce fiecare dintre acestea va fi dusă la bun sfârșit, se vor compara valorile oferite de modelul ARIMA cu cele reale din anul 2015, pentru a vedea dacă există oarecare asemănare, sau dacă diferențele vor fi semnificative. Respectiv similitudini sau diferențe majore vor fi explicate, iar concluzia va pune în evidență capacitatea sau incapacitatea modelului ARIMA utilizat de a face o predicție pertinentă în contextul studiat.

18. NIGERIA'S PETROLEUM SUBSIDY: IN WHOSE INTEREST IS IT?

Emmanuel Olusegun, Stober, Bucharest University of Economic Studies

Abstract. Subsidy has been defined as any government assistance, in cash or kind, to private sector producers or consumers for which the government receives no equivalent compensation in return. Fuel subsidy has been in a systematic fashion for almost four decades in Nigeria, hence creating vested interest. The cost of the fuel subsidy has continued to grow exponentially due to the rising cost of crude oil in the international market, exchange rate volatility and the population growth of Nigeria which resulted in increased petroleum consumption; the combination of these three variables therefore made the cost of the subsidy unsustainable. Understanding its current magnitude is critical for advancing reform because it highlights the potential environmental, health, fiscal, and economic benefits to be realized. In addition to the burden fuel subsidy is placing on the national budget, keeping the price below the market value has discouraged additional investment in Nigeria's oil sector because the visibility of recovering their investment under the artificially low price structure is blurring.

19. SILVER ECONOMY AT A GLANCE

Emilia Țițan, Bucharest University of Economic Studies

Mihaela Cazacu, Bucharest University of Economic Studies

Abstract. Previzunea imbatranirii populatiei la nivel European aduce o modificare a piramidei varstelor, ponderea varstnicilor devenind ingrijorator mai mare decat cea a tinerilor, fenomen generat in primul rand de scaderea ratei mortalitatii si a ratei fertilitatii. In acest context se dezvolta conceptul de “economie argintie” privind impactul economic al inaintarii in varsta al populatiei inasa tinand cont de oferirea unor servicii de sanatate performante, implicarea activa a varstnicilor in societate si facilitarea accesului la tehnologii moderne ce le-ar putea usura activitatea de zi cu zi. Scopul acestei lucrari il constituie prezentarea generala a conceptului de economie argintie si implicatiile in cifre statistice ale acestuia la nivelul Uniunii Europene si principalele actiuni intreprinse precum si comparatia statisticilor din Romania cu cele de la nivel european.

20. SOME METHODS OF QUANTILE REGRESSION FOR ANALYSIS THE POVERTY AT IRAQ

Fadel Hamid Hadi Alhusini, University of Craiova

Abstract. World Bank defined states with low income or poor as states that individual is income dropped to about 600\$ a year and the number of these states are 45 state, mostly in Africa, Where was determined the day 17 - 19 October in 2008, as a day of global poverty by the United Nations organization. possible definition of poverty as existing correlation between poverty and the satisfaction for the basic needs of physical or non-physical, or It as a state of physical deprivation which can be translated by low consumption in food, in quantity and quality, and low health status, low educational level and low residential status. World Bank also mentioned that half of the world's poor approximately they live in states with high income and many of these states are oil producing states, Including Iraq, where some reports are showed that the proportion of poverty in Iraq can arrive to about 23% from population. In this paper, we will try to study some of the economic variables that affect on the increasing numbers of poor households in Iraq and these economic variables are - (Unemployment Average) where the Unemployment Average for adults (15 years or more) reaches 19% among poor people; - (Average Monthly per capita income) for poor households are 30 \$ per month 1 \$ per day; - (Average Tunnels monthly per capita on basic food); - (The Rising prices of these basic food goods.); -(high taxes imposed on the Iraqi citizen). We will study the impact of the above mentioned five variables on the response variable (average number of Iraqi households below the poverty line) by using some methods of quantile regression model. First method quantile regression analysis for building the models can represent the relationship between the response variable and set of covariates above mentioned, which can provide an availability of full coverage of all segments of the response variable through a set of quantile regression lines and to choose optimal quantile regression line in the variables

analysis of the under phenomenon study. In this paper, we will use five quantile lines at percentage will be determined through a specific mathematical function every line from these lines represent a regression model independent by itself. And then to use the Bayes Lasso quantile regression as second method for the selection of the important variables that directly affect the increasing numbers of poor households in Iraq and exclude the unimportant variables, , In this paper ,we will use the data taken from economic survey made by the Central Bureau of Statistics in 2007. In data analysis, we will use [R] programming. Through use the packages ("quantreg") and packages("bayesQR").

21. STUDY OF THE BAYESIAN TOBIT QUANTILE REGRESSION MODEL WITH SINGLE INDEX

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Monica Roman, Bucharest University of Economic Studies

Abstract. Tobit quantile regression provides an efficient way of coping with survival data and offers a more complete statistical model than the Cox proportional hazard model. Tobit regression has become a popular technique to illustrate the relationship between a non-negative outcome variable and a set of predictors, it is rapidly gaining popularity, particularly in ecology, econometrics, biology, finance, social sciences, Koenker and Bassett (1978), Quantile regression models have been the topic of major theoretical interest as well as many practical applications in many different areas such as: economics, growth chart, finance, biomedical studies, and A comprehensive account of these recent applications that can be found in Koenker (2005), Yu et al. (2003), and Cade and Barry (2003). Yu and Stander's (2007) were the pioneers who proposed the topic, the Bayesian approach of Tobit quantile regression. This paper will try to address the problem of parameter estimation and variable selection i.e. Tobit quantile regression model with single index. Then, this paper will try to address a single index Tobit quantile regression with the elastic net penalty from a Bayesian perspective. It will propose prior distributions for variable selection. Theoretical and computational properties of the prior distributions will then be derived. Tobit quantile regression method is a type of regression analysis can be used in statistics and econometrics. Whereas the method of least squares result in an estimates that approximate the conditional mean of the response variable giving certain values of the predictor variables, Tobit quantile regression either aims at estimating the conditional median or another quantile of the response variable. A Bayesian framework for Tobit quantile regression, our approach is organized around a likelihood function that is based on the symmetric Laplace distribution, a choice that turns out to be natural in this context. We will discuss families of prior distributions on the quantile regression factor that lead to proper posterior distributions, we will develop methods for Bayesian single index Tobit quantile regression, by the use of simulation.