

7th INTERNATIONAL CONFERENCE ON APPLIED STATISTICS, BUCHAREST UNIVERSITY OF ECONOMIC STUDIES

PROGRAMM – preliminary version

Friday – 15 November 2013

9.00 - 9.30 – Registration (room 2013, Virgil Madgearu building)

9.30 - 10.00 – Opening ceremony (room 2013, Virgil Madgearu building)

10.00 - 10.30 – Coffee break

10.30 - 13.00 – Session A (room 2013, Virgil Madgearu building) – Chair persons: Cristian Litan & Miruna Mazurencu-Marinescu

10.30 - 13.00 – Session B (room 2416, Virgil Madgearu building) – Chair persons: Zizi Goschin & Monica Roman

10.30 - 13.00 – Session C (room 2607, Virgil Madgearu building) – Chair persons: Daniel Pele & Liviu Begu

13.00 - 14.30 – Lunch (Cafeteria, 3rd floor, Ion Angelescu building)

14.30 – 17.30 – Session D (room 2607, Virgil Madgearu building) – Chair persons: Constanta Mihaescu & Ileana Niculescu - Aron

18.00 – Dinner (Howard Johnson Grand Plaza, Avalon Restaurant)

Note: All participants have up to 10 minutes to present their papers and 5 minutes for comments and discussions.

SESSION A

1. A PROCEDURE FOR SELECTING THE BEST PROXY VARIABLE USED IN PREDICTING THE INDEX OF CONSUMER PRICES IN ROMANIA

Authors: Constantin, Mitruț, Mihaela, Bratu (Simionescu)

Bucharest University of Economic Studies

Abstract

The purpose of this research is to propose a procedure for selecting the most suitable proxy variable that explains the best the evolution of another variable and that generates the best predictions. These two criteria suppose the combination of the econometrical approach with the one based on the assessment of forecasts accuracy. In Romania, the BIM unemployment rate proved to be a better proxy than the number of unemployed people for the following reasons: a better lagged model was obtained to explain the evolution of the index of consumer prices (higher R-square and a lower value for Akaike informational criterion) and the predictions based on this model on the horizon January 2012-December 2012 are more accurate (the accuracy measures are lower and the accuracy tests indicates more accurate predictions). The monetary policy interest rate was an exogenous variable for both models. However, naïve forecasts based on random walk are more accurate than the predictions based on the proposed econometric models. So, a double analysis is recommended for the predictions based

on econometric model: the selection of the best model and the selection of the most accurate prediction.

2. GROWTH MODELLING OF METROPOLITAN PERFORMANCE ANALYSIS, WITH AN ILLUSTRATION IN R SOFTWARE

Authors: Karima Kourtit^a, Miruna Mazurencu Marinescu^b, Peter Nijkamp^a,

^a**Department of Spatial Economics, VU University, Amsterdam**

^b**Department of Statistics and Econometrics, Bucharest University of Economic Studies, Bucharest**

Abstract

The current study aims at explaining the metropolitan performance by using a new approach to the field, namely the growth models, which are an important variation of a much broader technique known as multi-level modelling.

Extensive data bases on 40 world cities were derived from the so-called GPCI-data base created by the Institute of Urban Research of the Japanese Mori Memorial Foundation (2012), which served as input data for the proposed models. An illustration in R software was also carried out.

3. GOAL PROGRAMMING FORMULATION WITH MULTI TARGETS

Authors: Mostfea Belmokaddem, Hocine Mouslim†, Sakina Melloul***

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Abstract

The essential activity of a manager is decision making which is becoming more complex, mainly in the multi-criteria problems. Goal programming (GP) is considered as an operational research tool to solve this type of problems. In GP models, each goal contains one target. However, in some practical cases, the decision maker is interested in setting multi targets for each goal. The classical models including GP and FGP cannot be applied directly. To deal with such situations, Chang (2011), and Ustun (2012) have recently proposed a new method that is called multi-choice goal programming (MCGP) in which the targets are considered as precise. Notwithstanding, in some of the decision-making problems, it may exist situations that the decision maker could not be interested in presenting his preferred targets in a precise manner, and he does not have complete information of some parameters. In this paper, new ideas are presented to reformulate (MCGP) model in an imprecise or fuzzy environment in which the decision maker's preferences are taken into consideration. The concept of indifference thresholds is used in the new formulation for characterizing the imprecision and the preferences associated with all types of the goals. The proposed formulation provides useful insight about the solution of a new class of problems. A numerical example is given to demonstrate the validity and strength of the new model.

4. CONTRIBUTIONS FROM INCOME COMPONENTS TO INCOME INEQUALITY AMONG HOUSEHOLDS

Authors: Michele Zenga , Leo Pasquazzi

Abstract

In this work we illustrate an application to income data from Eurostat's ECHP-survey an additive decomposition of Zenga's inequality measure. Our scope is to assess the contribution from income components to inequality in the distribution of household income in the 15 countries included in the 2001 wave of the survey and to perform cross-sectional comparisons among the countries. Our results

confirm that the decomposition rule gives rise to reasonable results which allow for straightforward interpretations.

5. USING THE THEORY OF PLANNED BEHAVIOUR TO STUDY FERTILITY INTENTIONS IN ROMANIA

Author: Raluca Caplescu

Bucharest University of Economic Studies

Abstract

Fertility intentions are considered an important determinant of behaviour. Using binary logistic regression on a sample of 1851 women aged 18-44 years from the Generations and Gender Survey 2005 wave in Romania, the present paper analyses the factors influencing intentions to have a child on the short-term. The results indicate that age and the number of children already born to a respondent, together with her attitude and the woman's perception of her significant others' attitude towards having a birth in the near future are important in determining the odds that a woman will intend to perform the analysed behaviour. Also, the use of contraception plays an important role, but its impact is complex.

6. AN EMPIRICAL ANALYSIS OF REGIONAL POLES FROM THE PERSPECTIVE OF ROMANIAN SUSTAINABLE DEVELOPMENT

Authors: Davidescu Adriana, Strat Vasile Alecsandru

Bucharest University of Economic Studies

Abstract

Today, the new concept of sustainable regional development is extremely important for Romania when discussing the general framework of the European Union. Moreover nowadays when the reorganization of the administrative division of the country is a very hot topic, identifying the poles that can coagulate, at regional level, the available resources, is of capital importance. Thus, in this paper we will try, using statistical methods and aggregate data available in the Tempo database to identify the counties that can fuel the future sustainable regional development of Romania.

7. REVISITING THE RELATIONSHIP BETWEEN UNEMPLOYMENT RATES AND SHADOW ECONOMY. A TODA-YAMAMOTO APPROACH FOR THE CASE OF ROMANIA

Author: Davidescu Adriana

Bucharest University of Economic Studies

Abstract

Shadow economy (SE) is a controversial topic that has aroused the interest of the specialists from the 60's, when the phenomenon took a great extent. Formed in the literature under various names, the shadow economy exists in a more or less extent in all countries, regardless of their level of development, enjoying an enduring existence, although as area of research is a new "young" area.

The paper aims to investigate the relationship between the size of the shadow economy (SE) and the registered and ILO unemployment rates for the case of Romanian data using Toda-Yamamoto approach for quarterly data covering the period 2000-2010.

The size of the Romanian shadow economy based on the currency demand approach was estimated using multivariate cointegration and vector error correction models (VECM) in order to investigate whether a long-run equilibrium relationship exists between currency demand and its determinants.

In order to investigate the relationship between the unemployment rates and the size of the shadow economy for the case of Romania we use an innovative econometric methodology to study the direction of causality between the two variables, namely Toda and Yamamoto (1995).

Dell'Anno and Solomon (2007) stated that there is a positive relationship in the short-run between unemployment rate and U.S. shadow economy for the period 1970-2004. Using SVAR analysis, they

investigate the response of the shadow economy to an aggregate supply shock (impact of the shadow economy to a temporary shock in unemployment). The empirical results show that in the short-run, a positive aggregate supply shock causes the shadow economy to rise by about 8% above the baseline.

According to the Toda-Yamamoto causality test results, there is strong evidence of causality running from the registered and ILO unemployment rates to the shadow economy when a sufficiently high lag order is selected.

8. EVALUATIONS OF DRIVING EFFECTS OF THE AUTOMOTIVE INDUSTRY IN THE ROMANIAN ECONOMY – A QUANTITATIVE ANALYSIS

Authors: Anca Dachin , Felix-Constantin Burcea
Bucharest University of Economic Studies

Abstract

After a decade of transformations experienced by Romania on its way to the market economy, the sustained economic growth in the period 2000-2008 marked a positive change of path. Structural changes of the production system were expected under the impact of technological upgrading and of the integration to the European Union. The paper is focusing on the analysis of inter-industrial linkages, as well as on the evaluation of direct and indirect technological requirements, by using the Input-Output model. Since the automotive industry had a very good dynamic in the last years, its position in the system is of great interest. The research reveals its linkage intensities during the growth period and under the shock of the crisis. The results show that this export oriented industry has reduced its upstream linkages and increased its downstream linkages, while becoming more dependent on the international flows.

9. APPLYING FUZZY LOGIC AND MACHINE LEARNING TECHNIQUES IN FINANCIAL PERFORMANCE PREDICTIONS

Author: Adrian Costea

Bucharest University of Economic Studies, Statistics and Econometrics Department

National Bank of Romania, Bucharest Regional Branch, Statistical Reporting and Business Surveys Unit

Abstract

In this article we apply a fuzzy logic technique, namely Fuzzy C-Means clustering, and artificial intelligence algorithms for evaluating comparatively the financial performance of non-banking financial institutions (NFIs) in Romania. The NFIs' performance dataset consists of indicators that define the capital adequacy, assets' quality and profitability performance dimensions. The class performance variable is obtained by applying on the performance dataset the Fuzzy C-Means algorithm and obtaining clusters with similar performance. We attach to each input dataset observation a performance class depending on which cluster contains the observation given the characterization and hierarchy of the clusters in "good", "medium" and "poor" performance clusters. Finally, we apply artificial neural networks (ANNs) trained with genetic algorithms in order to find a function that maps the input performance space on the newly constructed performance class variable. The classification model obtained can be used by different beneficiaries (e.g.: the Supervision Department of National Bank of Romania) to classify new NFIs as having a "good" or "poor" performance so that the limited resources of the supervision authority to be better allocated.

10. SCORING FUNCTIONS AND BANKRUPTCY PREDICTION MODELS – CASE STUDY FOR ROMANIAN COMPANIES

Author: Cimpoeru Smaranda

Bucharest University of Economic Studies

Abstract

The purpose of our study is to test the performance bankruptcy prediction models in the recent financial crisis context. We will refer to classic score models, like Altman or Taffler and also logistic regression methods. We apply them on a sample of SME data collected from a central-east European emerging economy, at the end of 2009. The results are in line with the literature – in a financial crisis context, the classical models have to be re-estimated and the financial ratios reconsidered.

11. DETERMINANTS OF ECONOMIC GROWTH IN CITIES ACTING AS GROWTH POLES IN REGIONS FROM ROMANIA

Authors: Ramona Camelia Bere, Adrian Otoiu, Ioana Precup

Bucharest University of Economic Studies

Abstract

In the present study we analyse the human capital determinants of growth poles in Romania: number of university students, unemployment, investment in research and development, population and migration. Using panel models, we explore the dynamics of economic growth for seven cities, namely Brasov, Cluj, Constanta, Craiova, Iasi, Ploiesti and Timisoara, for the period 1996-2010. The selection of the growth poles has been made taking into consideration the Romanian Government decision from 2008 decision to declare these seven cities as growth poles, one per region (except for the Bucharest Ilfov region), as these cities are considered to have the capacity to induce rapid economic growth outside the country capital, create jobs, stimulate increase of productivity, influence the development of medium and small-sized towns and rural areas from neighbouring areas, and thus contribute to the overall development of the regions. We found that R&D expenditures have a positive effect, and that unemployment diminishes economic development. Migration tends to be associated with higher growth, while population increases do not translate in higher growth. The unexpected insignificant influence of higher education enrolment numbers on economic growth deserves future research.

12. CHALLENGES IN ANALYZING CORRELATION BETWEEN WATER INFRASTRUCTURE AND ECONOMIC DEVELOPMENT

Authors: Simona Frone^a, Dumitru Florin Frone^b

^a**Institute of National Economy, Romanian Academy, Bucharest, Romania**

^b**University of Agricultural Sciences and Veterinary Medicine, Bucharest, Romania**

Abstract

Availability of infrastructure significantly influences the development of regions and countries, hence theoretical and empirical research on the relationship between infrastructure capital and economic growth should provide answers to an important question: increasing the stock of public capital can stimulate economic growth? The issue of investment in infrastructure is critical as infrastructure development in Romania is supported by the EU Structural and Cohesion Funds. Channels and models of economic growth with one factorial variable characterizing the infrastructure will be compared, analysing their approaches, features and limits. Also, our case study will present some results for the impact of selected categories of public infrastructure sectors on the recent economic growth performances in some EU new member states. Thus, we hope to identify and discuss some conceptual and methodological challenges of grounding policies of development for various types of infrastructure. For Romania, we estimate the correlation between water supply and sewerage infrastructure and economic development indicator GDP per capita, at the regional county level.

SESSION B

13. FROM TRADITIONAL TO DIGITAL: THE LABOUR MARKET DEMANDS AND EDUCATION EXPECTATIONS IN AN EU CONTEXT

Authors: Emilia Țițan, Andreea Burciu, Daniela Manea, Andreea Ardelean
Bucharest University of Economic Studies

Abstract

The world we live in is crossing an era of a digital revolution, which transforms everything and keeping up to these changes is important for every economy. The Internet, the globalization trend, the new ways of working and interacting are raising new challenges. This paper's aim is to provide an overview of the connection between education, the digital environment and the labour market. Our focus will be the strategy of the European Union to minimize the gap between the demand and the offer of the labour market of employees with developed digital competences. Also, we will study how important computer literacy is and how the educational process can be updated to meet the expectations of a growing and constantly changing digital environment. Using data from Eurostat, World Bank, the paper provides a fair analysis of the level of digital competences and their influence on labour market, emphasizing the role of digital education.

14. THE PERSPECTIVES OF THE DEVELOPMENT OF MOLDOVAN STATISTICS

Authors: Oleg Cara, Ion Partachi
Academy of Economic Studies of Moldova, Chisinau

Abstract

The biggest challenges which producers of official statistics are now facing are to provide reliable, relevant statistics for major user groups, but also to support the public with statistical knowledge, to help the users to take appropriate decisions. Moreover, the European Union's (EU) integration aspirations of the Republic of Moldova dictate the need for harmonization of national statistics with the European standards and best practices. Modernizing the system of production and dissemination of Moldovan official statistics in compliance with EU standards is a challenge, but also a great opportunity to improve the quality of national statistics, including its comparability at the European level, responding to user's needs. The process of reformation of statistics implies a review of dissemination and communication practices, making them more users oriented, the redesign of statistical production system, making efficient use of new information technologies and of available administrative data.

The paper reflects the authors' vision on the main activities needed to be fulfilled by national statistics to better meet the information demands in quality statistics in the European context.

15. PATTERNS OF FOREIGN DIRECT INVESTMENT IN ROMANIA: LOW TECH INVESTMENTS VERSUS HIGH TECH INVESTMENTS

Authors: Danciu Aniela Raluca, Strat Vasile Alecsandru
Bucharest University of Economic Studies

Abstract

Foreign direct investment (FDI) has gained significant importance over the past decade as a tool for accelerating growth and development of economies in transition. The Eastern-European countries were the destination of some significant capital inflows because of some important features of each market, as: development level of the infrastructure, labour force characteristics, market size and its future

development potential, regulation level of the market, liberalization level of the prices, tax policies and technology absorption capability.

When talking about foreign direct investments it is very important to analyse the level of technology of the investment because that particular characteristic can provide a very clear description of the development level of the chosen region. Therefore the main goal of this research paper is to provide a clear description of the similarities and of the differences of the two investor types (low tech, high tech), both at national and regional level.

16. LABOUR MARKET AND EDUCATIONAL MISMATCHES IN ROMANIA

Author: Gina Cristina Dimian

Bucharest University of Economic Studies

Abstract

The objective of this paper is to study Romanian employees' perceptions on the relationship between education system performance and labour market requirements. The research was focused on the analysis of the labour market in Romania in terms of the skills required by the current job. The questions were aimed at studying three main aspects related to the current jobs of Romanian employees: general characteristics (length of service, source of information about current job, the degree of satisfaction related to different aspects of it), mismatches between the level or type of education and job requirements (time to become effective, how they acquired knowledge and skills held, the contribution of education and training to improve performance in current job, over-qualification versus under-qualification, over-education versus under-education), situation in terms of skills held and those required by the workplace (skill obsolescence, skill shortages, skill gap). The results show that even in a crisis period when unemployment is at high values, employers have difficulties in finding appropriate qualifications for some jobs, or the right candidate for the vacancies. Even current employees lack some important abilities or skills such as: motivation, loyalty or responsibility.

17. REGIONAL INEQUALITIES AND SIGMA DIVERGENCE IN ROMANIA

Author: Zizi Goschin

Bucharest University of Economic Studies, Institute of National Economy

Abstract

Starting from the need to understand the economic context that fuels increased regional inequalities, this paper addresses the question of long-term regional divergence in Romania focusing on the effects of the recent economic crisis. The study uses a standard regional investigation tool, measuring variation in inequalities from the perspective of sigma convergence. It also addresses the impact of economic growth and crises on inequality. The results indicate territorial divergence in Romania on the long-run and narrowing regional inequality in the last few years, in the context of the economic and financial crisis. The main explanation for this new trend is higher resilience to the crisis of less developed counties/regions, due to the specific sectorial structure of their economies.

18. REMITTANCES AS AN ECONOMIC DEVELOPMENT FACTOR. EMPIRICAL EVIDENCE FROM THE CEE COUNTRIES

Authors: Zizi Goschin, Bogdan-Vasile Ileanu

Bucharest University of Economic Studies

Abstract

Empirical studies on remittances revealed their key role for the household consumption of the receiving families, as well as their investment potential, with direct influence on economic development in the country of origin. This paper focuses on the second approach, treating remittances as capital flows that

have significant macroeconomic growth potential. Aiming to test this hypothesis, we constructed a simple growth model including remittances as the variable of interest, alongside the traditional production factors. The model had been tested using aggregate data covering 10 CEE countries over 1995-2011. Panel estimation methods were employed to account for cross-section heterogeneity.

19. EARLY WARNING SYSTEMS – ANTICIPATION`S FACTORS OF BANKING CRISES

Author: Strachinaru Adina Ionela

Bucharest University of Economic Studies

Abstract

Banking crises in the last decades have led to the need for early warning systems, who lay in a timely the macroeconomic indicators` weaknesses. Its were designed as instruments for anticipating imminent mass influx of banking crises.

The present paper aims to capture the macroeconomic indicators` impact, that create an effect on the health of the banking system and which historically have shown internationally, episodes of economic and financial collapse.

The reason I chose this theme is because of the importance of prudential supervision in order to ensure the financial stability of the whole banking system, with the help of early warning systems, designed to anticipate the emergence of banking crises.

20. DOES AGING INFLUENCE MIGRATION IN ROMANIA? A COMPREHENSIVE ANALYSIS

Authors: Emilia Titan, Adrian Otoiu

Bucharest University of Economic Studies

Abstract

An integrated analysis of the impact of population ageing on migration is done for Romania. The effects of aging are examined with respect to emigration and immigration. Results show that there is a significant relationship between emigration flows and the dependency ratio for Romania and the EU, but that dependency ratio does not act as a pull factor in the case of Romania. There is no significant link between aging and immigration to Romania. Knowing these relationships will help to better model the impact of migration on mitigating the effects of ageing, determine how migration will evolve given the age structure of the population, and how these influences can be incorporated into standard migration analyses.

21. FOREIGN DIRECT INVESTMENT MODELS, BASED ON COUNTRY RISK FOR SOME POST-SOCIALIST CENTRAL AND EASTERN EUROPEAN ECONOMIES

Authors: Gheorghe Săvoiu , Marian Ţaicu

Accountancy Department, Faculty of Economics, University of Pitesti, Pitesti, Romania

Abstract

This paper identifies several econometric models of Foreign Direct Investment (FDI) focused on the country risk, which can also signal other macroeconomic indicators in Czech Republic, Hungary, Poland, Romania, Russia and Slovak Republic, using data from World Bank and major rating agencies after 1996. The first section presents a brief literature review of FDI`s theories and conceptualization. Some methodological aspects and database section provides the statistical and econometrical support of this article and the results consist in several econometric models, parameterized in the Eviews and discussions. The modelling focused on major rating agencies (Euromoney and its Country Risk - ECR, the best known European agency, using an average value of Moody`s, Fitch, Standard & Poor`s country risk) has proved to be competitive not only for Romania, but also for the other post-socialist Central and Eastern European countries. In order to analyse the background of the econometric modelling of FDI,

during a long period of transition, two different trends can be identified: the first emphasizing the importance of R squared in the selecting factor's process for the econometric model and the second stressing the primacy of factors' diversity or the factorial eclecticism. The findings justify the importance of FDI models, as a development factor even in times of recession, highlighting the increasing importance of the country risk signal in different countries, not only of the European Union, but even of global economy. Some final remarks of similitude and alternative constructions close this step by step thought about econometric models of FDI, for the benefit of the future econometric models and new original researches of the authors.

22. THE EFFICIENCY OF HEALTHCARE SYSTEMS IN EUROPE: A DATA ENVELOPMENT ANALYSIS APPROACH

Authors: Laura Asandului^a, Monica Roman^b, Puiu Fatulescu^a

^a**Alexandru Ioan Cuza University from Iasi**

^b**Bucharest University of Economic Studies**

Abstract

This paper aims at evaluating the efficiency of public healthcare systems in Europe by applying a nonparametric method such is Data Envelopment Analysis. For this purpose, statistical data for 30 European states for 2010 have been used. We have selected three output variables: life expectancy at birth, health adjusted life expectancy and infant mortality rate and three input variables: number of doctors, number of hospital beds and public health expenditures as percentage of GDP. Findings reveal that there are a number of both developed and developing countries on the efficiency frontier, while the great majority of the countries in the sample are inefficient.

23. MIGRATION AND PRIVATE CONSUMPTION IN EUROPE: A PANEL DATA ANALYSIS

Authors: Raluca-Maria Bălă, Elena Prada

Bucharest University of Economic Studies

Abstract

The aim of this paper is to investigate the bilateral relationship between the migration rate and household final consumption expenditures through the perspective of an econometric analysis. Migration phenomenon and consumption of households are two important effects and parts of macroeconomic stability, first of all because they are mostly generated by the macroeconomic stability of a country, and second they are a part of it because involves both positive and negative consequences in the broad socio-economic context. Starting from the hypothesis that the main part of the Romanian migrants remittances are directed toward the consumption of the population, and that the remittances are positively correlated with the number of emigrants, the article examines the impact of private consumption on migration process and vice versa, capturing the transition period, the economic boom and the financial crisis, using panel data analysis over the period 1996-2011 for 26 European Union countries.

Session C

24. THE EFFECT OF ECONOMIC CRISIS UPON CONVERGENCE AND COHESION IN THE EUROPEAN UNION

Authors: Begu Liviu-Stelian, Spătaru Silvia, Constantin Oana

Bucharest University of Economic Studies

Abstract

In the summer of 2007 the U.S. economy began to deteriorate, once the Lehman Brothers episode unravelled, despite numerous government interventions, U.S.A. and the European Union entered the recession. This study uses Markov chains to study the effects of the global economic crisis on European Union member states, taking into account the aspect of convergence. The first stage of the analysis is based on the indicator GDP/capita and we came to the conclusion that it cannot provide a comprehensive understanding of the crisis. This led to extending the analysis by including the following terms: Corruption Perceptions Index, Index of Economic Freedom, the government's external debt and FDI. Results of the analysis showed that the real growth was higher than the estimates made. Markov chain analysis also proved to be effective in revealing the trend of probability of belonging to groups meaning it can estimate a good trend for considered variables. European economic convergence has suffered from the economic crisis especially in financial terms.

25. ROMANIAN LABOUR MIGRATION: EMPLOYEES PERSPECTIVE

Authors: Cristina Boboc^a, Valentina Vasile^b, Simona Ghiță^a, Mihaela Covrig^a

^a**Bucharest University of Economic Studies**

^b**Institute for National Economy**

Abstract

The Romanian labour market has faced over time with an irregular transition, resulting in an increase of labour shortages. One reason for this phenomenon is the increase of emigration. This paper aims to identify: the employee profile, for those who would like to migrate for work abroad; the preferred emigration ways for employees, and the characteristics of employees who would like to work abroad for higher earnings. Therefore a survey of SME employees in urban areas of the country is developed with the support of the Romanian Institute of Public Opinion Survey (IRSOP Market Research & Consulting). The survey respondents were asked about their opinion on the major problems facing the Romanian labour market: discrimination, external migration and undeclared work. Survey results show that potential migrants' profile in Romania is similar to that of European migrant: male individuals with low education, young and without experience. The analysis revealed a significant influence of the regional factor on migration. The authors mentioned some social and economic measures needed to be implemented to reduce Romanian external migration.

26. STATISTICAL ANALYSIS OF THE BEHAVIOR FOR MOBILE E-LEARNING

Authors: Alin Zamfiroiu, Cătălin Sboră

Bucharest University of Economic Studies

Abstract

Evolution of mobile devices has led to the development of Mobile E-Learning. E-Learning platforms have been developed to be accessed from personal computers. Now the question is how to organize the content so that it can be accessed from mobile devices. To solve this problem is required a statistical analysis on accessing e-learning platforms on mobile devices. It was developed an E-Learning platform with automated data collection and information on how it is accessed by the users. The application has

been provided for testing to the students. Based on data obtained automatically building statistical analyses highlight trends of use of Mobile E-Learning environment.

27. STATISTICAL METHODS APPLIED TO THE FINANCIAL ANALYSIS OF A PUBLIC GRANTS FINANCED INVESTMENT PROJECT

Author: Ramona Mihaela Bănică

Bucharest University of Economic Studies

Abstract

The article shows how to prepare financial analysis for an investment project financed from public grants. Given the economic and financial context of the enterprise and the risk analysis related to its deployment, financial analysis aims, in accordance with the principles and rules of the applicant guide, to provide the necessary information to evaluators to determine whether investment financing is opportunistic or not. Data are presented from the synthesis of the last 3 years of the evolution of economic and financial situation of the company and its financial performance indicators. Based on projections thus obtained were established cash flows that determine the net present value and internal rate of return, which are the leading indicators in the evaluation process. Also there have been identified the risks, determined by statistical methods for the analysis of sensitivity, by setting the critical variables that might influence these indicators.

28. A MODEL FOR ASSESSING TOURISTS' SATISFACTION OF THE EXISTING INFORMATION ON ONLINE ENVIRONMENT

Authors: Anamaria – Catalina Radu, Andra Ileana Dobrescu

Bucharest University of Economic Studies

Abstract

The present study aims at creating a conceptual model to determine the level of satisfaction experienced by tourists on the information found in the online environment.

The research aims to identify the impact of such factors as: confidence, the existing advantages / disadvantages in the digital environment and the data security at the current satisfaction degree of the users.

Multivariate analysis that was conducted aimed at creating and testing a model to determine on one hand the satisfaction level experienced by tourists, on the other hand the factors that have the ability to influence it.

For model testing, data were processed using IBM SPSS Statistics 20.

29. A MODEL OF CONSUMERS' SATISFACTION REGARDING THE OPERATING COMPANIES IN THE DIRECT SALES MARKET IN ROMANIA

Authors: Anamaria – Catalina Radu, Andra Ileana Dobrescu

Bucharest University of Economic Studies

Abstract

This study aims to create a conceptual model which identifies the key factors that influence the level of satisfaction felt by those who acquire products from the direct sales market.

The study was conducted among people who buy various products from the Herbalife Company.

The multivariate analysis aimed at creating a conceptual model and its testing in order to identify a number of variables such as: company image, image of the sales point, the existing product range, consulting and other methods of information received. These variables may influence the level of satisfaction of the respondents.

For model testing, data were processed using IBM SPSS Statistics 20.

30. A SAS APPROACH FOR ESTIMATING THE PARAMETERS OF AN ALPHA-STABLE DISTRIBUTION

Author: Daniel Traian Pele

Bucharest University of Economic Studies

Abstract

Although there are several software products dealing with the issue of simulating and estimating a stable distribution, SAS has no procedure for stable distributions. In this paper we propose two macros for estimating the parameters of a stable distribution using McCulloch method and Kogon-Williams method; further developments are required for implementing a procedure for estimation of stable distribution using maximum likelihood method.

31. SOCIOECONOMIC STATUS AND RISK OF TYPE 2 DIABETES MELLITUS AMONG AN ELDERLY GROUP POPULATION IN ROMANIA

Authors: Maura Gabriela Felea^a, Mihaela Covrig^b, Iulian Mircea^b, Laura Naghi^b

^a**Universitatea de Medicina si Farmacie Gr. T. Popa, Iasi**

^b**Bucharest University of Economic Studies**

Abstract

Disregarding age, type 2 diabetes mellitus represents a major health problem for patients as well as for their families. Complications induced by the evolution of diabetes and the related conditions have a negative impact on the autonomy and quality of life, and imply a heavy burden on health and social care. The increase of life-expectancy has induced higher disease prevalence in elderly population together with a strong financial contribution, which sometimes exceeds their resources. Firstly, we aimed to study whether the socioeconomic status explains the tendency for the hypertension status, both for elderly and for adult groups studied. Secondly, we focused on hypertension and other risk factors that may increase these patients risk of developing diabetes. The analysis was carried out on a number of 259 people included into the study. They were selected from two primary care offices in the urban area of Iasi, Romania. Using logistic regression for the hypertensive status, we found that the variables describing the socioeconomic status are all significant predictors, except for the current level of income. For a cut-off level of 0.5 for the predicted probability, in the groups with high and medium education, the threshold age of becoming hypertensive is around 50 years old, about 10 years earlier than for people with low education level.

32. REGRESSION MODELS APPLIED IN THE ANALYSIS OF THE ROMANIAN CAPITAL MARKET

Authors: Gabriela Victoria Anghelache^a, Alexandru Manole^b, Mădălina Gabriela Anghel^b

^a**Bucharest University of Economic Studies**

^b **"Artifex" University of Bucharest**

Abstract

The analysis of the activity of the Bucharest Stock Exchange can be realized with the help of a complex system of indexes. Out of these, an especially important role in the creation of a real image on the performances of the main stock exchange institution of Romania is held by the BET (Bucharest Exchange Trading) index. One of the factors with significant influence on the value of BET is the stock exchange capitalization. This is an indicator on the potential of a stock exchange which reflects the market value of listed companies and can be determined as sum of the product between the number of shares issued by each listed entity and its corresponding market price. This paper describes the analysis of a data series (daily frequency) regarding the value of BET index and stock exchange capitalization in 2012. The 250 terms of the series subjected to econometric analysis are collected from official sources.

33. USING THE REGRESSION MODEL IN THE ANALYSIS OF FINANCIAL INSTRUMENTS PORTFOLIOS

Authors: Constantin Anghelache, Mădălina Gabriela Anghel
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Abstract

An especially important aspect in the analysis of performance for financial instruments is the determination of the correlation existing between the evolution of its performance and the overall trend of the capital market. The determination of such econometric model ensures, for capital investors, a series of information necessary in order to establish their behaviour in the subsequent periods. Within the research, the regression econometric model was used with the aim to evaluate the relation between the performance of a portfolio of financial instruments and the evolution of the corresponding capital market. The portfolio is made of ten financial titles, quoted on the main market of the Bucharest Stock Exchange. The dataset which offers the source data for analysis includes details regarding the daily evolution in 2012 of the selected shares.

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34. THE UKRAINIAN COMMUNITY IN BANAT – SHORT QUANTITATIVE ANALYSIS

Authors: Claudiu Herțeliu, Tudorel Andrei, Bogdan Vasile Ileanu

Bucharest University of Economic Studies

Abstract

More than over 100 years ago, hundreds of Ukrainian families decided to start a better life – hundreds of kilometers away from their native lands – in the south of the Austro-Hungarian Empire, in the historical region of Banat. Thus, a few villages were established with a population belonging to this ethnic group. This article intends to detail the way in which these flows in population were reflected in the official statistics of the last century.

35. STATISTICAL COMPARATIVE ANALYSE OF THE PUBLIC AND PRIVATE TERTIARY EDUCATION IN ROMANIA, 2000 - 2012

Authors: Emilia Gogu, Mihaela Mureșan, Marinella Turdean

Dimitrie Cantemir Christian University, Bucharest, Romania

Abstract

The development of any educational system is the primary form for directly investing in human capital. Later, the performance of the human capital will represent the main driver for socio-economic progress and welfare. The efficiency of the education system in general and of the higher education in particular, is a complex socio-economic relationship, which is influenced by quantitative and qualitative factors and generates various effects throughout the society.

Taking into consideration the role of the higher education for the development of the society, the paper is focused on analysing the dynamics of the academic system in Romania during 2000-2012. The research is based on the evaluation of potential and existing demand in the higher education system, revealed by the key indicators presented by the National Institute of Statistics, for both public and private higher education systems.

36. STATISTICAL DATA REGARDING THE EUROPEAN HIGHER EDUCATION SPACE IN ROMÂNIA

Authors: Emilia Gogu, Mihaela Mureșan

Dimitrie Cantemir Christian University, Bucharest, Romania

Abstract

The overall education system and especially the higher education one, is a main component of the social system, being subordinated and integrated within the structure of the society. In this perspective, the higher education system in Romania, due to the accession in EU, is no longer just depending on the internal structure and national inputs, but is also influenced by external impulses and social policies. In this context, the paper aims at presenting the evolution of the Romanian higher education system within the European Higher Education Space

Education system, perceived as a whole, refers fundamentally to the institutional form of the education, including all the stakeholders involved or interested in education. Taking into the consideration the main features of the education system, such as its national, historical, political and strategical characteristics, the development of the education system represents a priority for the socio-economic progress. Furthermore, the education system evolves in relation to the economic and cultural specific

context of each country. In this regard, there are common features and also differences among the educational systems within the European Space, which are related to socio-economic and cultural conditions of each country.

37. STATISTICAL INDICATORS FOR MEASURING INNOVATION IN IT PROJECT MANAGEMENT

Authors: Ion IVAN, Mihai Liviu DESPA

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Abstract

The concept of project management innovation is submitted and particular characteristics of IT project management innovation are depicted. The stages of innovative IT project development cycle are described. The characteristics that differentiate innovative IT project management from traditional IT project management are enunciated. The factors that influence the innovativeness level are studied and appropriate indicators are generated. Properties of the above mentioned indicators are analysed. The quality of the proposed indicators is analysed and ways for increasing the degree of innovativeness of the project are proposed. Conclusions are formulated on the topic of innovative project management.

38. STATISTICAL EXPLORATORY MARKETING RESEARCH REGARDING THE INFLUENCE OF CULTURE OVER THE CONSUMERS – CASE STUDY SAMSUNG KOREAN BRAND

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Abstract

In a world ruled by changes and in the same time by diversity, cultural factors exert a real influence over the consumer behaviour, spreading a cultural impact that cannot be contradicted. Therefore, the culture influence through norms and values that society in which every one of us lives establishes, no matter the geographic area.

Culture not only influence consumer behaviour, but it also reflects it under the shape of values and assets held as a result after a buying decision process. Culture influences people, starting from what they eat, wear and up to what and how they say things, how are they living in the society etc., in other words, it determine the entire purchasing and using of products and services behaviour in their search to gain higher satisfaction.

This paper aims to analyse the influence perceived by consumers, whenever they bought or intent to buy a product of an important brand. Also, by this case study about Samsung, we wanted to see after a thoroughly research and a serial of statistics tests, if the culture has any influence or impact on the consumer behaviour and intent of buying.

39. IMPLICATIONS OF HUMAN SETTLEMENTS EVOLUTION

Author: Cărbunaru-Băcescu Mihaela-Angelica

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Abstract

The paper presents an analysis of major issues on human settlement sizes evolution in the XIX-th Century and particularly in the XX-th Century. The starting point is the presentation of population evolution by habitat types, it continues with an analysis of urbanization process costs and further on of de-ruralisation, while the final part includes a presentation of the programmes meant to safeguard urban and rural communities.

40. STUDENT'S PERCEPTIONS ABOUT THEIR RELATIONSHIP WITH ELDERLY IN ROMANIA DURING THE FINANCIAL CRISIS

Authors: Constanța Mihăescu, Ileana Niculescu-Aron, Raluca Dana Caplescu

Bucharest University of Economic Studies

Abstract

Spectacular developments in life expectancy over the past six decades have created a new situation in most European countries with an unprecedented multigenerational cohabitation. More and more families comprise four (or even five) successive generations. Each generation has its own system of values, norms, perceptions and attitudes, resulting from the adjustments to all kind of constraints. In Romania, the generations of 50 years and more have spent most of their lives under the communist regime. All their moral and social values, their conceptions, attitudes and perceptions are profoundly marked by the ideology of the communist period. On the contrary, the generations who have reached their twenties starting with 2010-2013 have new values, attitudes and perceptions, frequently very different from those of their parents and grandparents. In this context, the question raised is how the young people today see their relationship with the elderly. For the ones already retired, is it rather the state or the family (thus the adults and the young) who could help them especially that the financial crisis has diminished the income households and raised the unemployment rate? How do the young people see the role of the elderly in the society and what are the values transmitted from one generation to the other?. The answers to these questions and others regarding this issue were obtained with the help of a survey developed in March 2013, on a sample of respondent, who were students from various universities in Bucharest. Some of these results could give right directions for conceiving policy regarding the harmonization of intergenerational relationships.

41. ON A CASE OF INADEQUACY IN USING THE ARITHMETIC MEAN

Author: Irina-Maria Dragan

Bucharest University of Economic Studies

Abstract

In strong heterogeneous populations, the use of the average indicator is not appropriate in order to summarize the values, because this involves a relatively homogeneous population and a normal, or approximately normal, distribution around the central value.

In the case of some genuine economic processes, there is any possibility to apply even the homogenization process of data, by taking into consideration the string boundaries as outliers' values, as it can be proceed with a series of measurements. In such heterogeneous populations, the characteristic respect a Cauchy distribution, which is somewhat similar to Gauss-Laplace distribution, however it has more elongated tails and a specific density of the distribution. For these cases it is appropriate as the middle value to be established through the median.

The case study, conducted and released in this paper, refers to the financial performance of SMEs. This population is characterized by a strong heterogeneity, so in this case the merger at the level of the population is risky by using the mean, because it generates distorted indicators of the shaped reality. The obtained results in this research might represent a guide for the study of situations in which there are heterogeneous populations, moreover where it is not possible to clean their extreme values.

42. A STUDY REGARDING THE MAJOR GEOGRAPHICAL DISPARITIES IN THE ROMANIAN EDUCATION

Authors: Aivaz Kamer Ainur, Vlăducă Ion
OVIDIUS University of Constanta, Romania

Abstract

According to a new report of the European Commission, the European area in which one lives can have a considerable influence on the education and on the life perspectives. The report, which is named "Mind the Gap – education inequality across EU regions" shows significant disparities of the educational opportunities and of the related results between the member states and within them. The geographical inequalities in education persist despite the arrangements undertaken by the member states in order to promote the equality in education and in the professional training. The report - the first one of this kind – urges the member states of the European Union to undertake more efforts in order to reduce these inequalities.

Starting with the results that are included in this report, the current paper aims to move the analysis to the Romanian space, studying the discrepancies between macro regions (NW, Center, NE, SE, South-Muntenia, Bucharest – Ilfov, SW, West) and the residence area (rural or urban) to the principal educational indicators: school units on levels of education, school population on educational levels, teaching personnel on levels of education, infrastructure and graduates on levels of education. The research is going to use the FAC method (The Factorial Analysis of the Correspondents) which is a descriptive method of multidimensional analysis of the data based on the calculus of the 2 distances between the points. Through this method we are going to test not only the independence of the variables, but their association as well.

43. THE ESTIMATION OF THE STUDENTS' OPINION REGARDING THE EXISTENCE OF THE SOUL

Authors: Aivaz Kamer Ainur, Vlăducă Ion
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Abstract

In the present, there are two dominant paradigms in Romania regarding life on earth. The first one is the atheist-evolutionist paradigm, and the Christian paradigm is the second one. On the anthropological level, two anthropological models correspond to these two paradigms. The first model is the materialist model, according to which the human being is completely material and the psychic is the brain's manifestation. The second model accepts the existence of the soul and interprets the psychic as a manifestation of the soul which is connected with the brain.

The aim of this article is to estimate the students' opinion regarding the two anthropological models. Starting from the above mentioned approaches, this paper aims to investigate the students' opinion from two different specializations of the „Ovidius” University of Constanta – the Faculty of Economic Sciences and the Faculty of Theology- regarding the above mentioned problems.

44. MODELLING THE IMPACT OF ECONOMIC, DEMOGRAPHIC AND SOCIAL DETERMINANTS ON HOUSEHOLD SAVING RATE IN THE FORMER SOCIALIST COUNTRIES (CENTRAL AND EASTERN EUROPE)

Authors: Ileana Niculescu-Aron , Constanta Mihaescu
Bucharest University of Economic Studies

Abstract

The main sector of a national economy that saves is the household sector. Its saving behaviour is determined by a complex of economic, social, demographic and cultural factors. Their determination is of utmost importance for the foundation of the policies aimed at stimulating household savings.

Identification of the main determinants of population savings is done using panel data for 6 European countries for the 1995-2010 period.

The present paper aims at analysing and modelling the saving behaviour of the households in the Central and Eastern Europe. Due to the fact that the countries in Eastern Europe, unlike the other European states, are affected not only by the world financial crisis, but also by the transition to market economy after 45 years of hyper-centralized model of the socialist economy.

The empirical results obtained are quantified with the help of a fixed-country-specific effect model that estimates the net saving rate. The model allowed for highlighting some individual particularities of the countries and groups of countries, showing that the type of saving behaviour is influenced by them.

45. A BUSINESS PERSPECTIVE OF A NATURAL CAPITAL RESTORATION

Author: Giani Gradinaru

Bucharest University of Economic Studies

Abstract

The interest for investment with “green” outcomes is increasing worldwide. Its driver could be considered the more and more appealing environmental discourse, but also the development of various economic mechanisms which facilitate the reduction of transaction costs and the emergence of new market opportunities. Some investment funds reached the volume and rate of return that respect the conditions of large institutional investors. Such funds are related to forestry, depending on two important and increasing markets: certified wood products and carbon certificates. Other “green” investment opportunities are biodiversity credits, ecotourism payments, and renewable energy.

Supporting natural ecosystems is not new in environmental protection. Nevertheless, looking to this from a business perspective is a recent development resulting from the increased importance given to environmental economics and how it creates an appropriate framework for more effective and prompt action toward the preservation of life supporting systems of the Earth.

46. AN ECONOMETRIC MODEL FOR ESTIMATING THE US EQUITY RISK PREMIUM

Authors: Andrei Rădulescu, Daniel Traian Pele

Bucharest University of Economic Studies

Abstract

In this paper we estimate the relationship between the equity risk premium and the fundamental macroeconomic and financial variables in the United States during the period 1964-2012, by applying the standard OLS regression and the Hodrick-Prescott filter. Consequently, based on these results and applying the ARIMA models we forecast the evolution of the equity risk premium in the United States for the period 2013-2016.