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STATISTICAL ANALYSIS OF THE EVOLUTION OF VALUES IN HUMAN RESOURCE PERSPECTIVES

Abstract: *The paper discusses the relationship between honour, faith and happiness, both in a diachronic perspective, taking into account its dependency on national cultures and on the communication between them, and in a contemporary perspective, using survey data from the ESS, round 3, second wave, 2006/ 2007. The answers to the survey are statistically processed, in an attempt to objectify concepts which belong to the fuzzy realm of the spirit, and to draw conclusions regarding the evolution of the European culture, on these coordinates. While happiness is more often discussed, in relation to consumerism and to wealth, which led to the emergence of a recent trend trying to recover its immaterial nature, the relationship between happiness, religiosity and honour is seldom examined. This may serve as a motivation for the present study, whose conclusions show that apparently secular concepts, as honour and happiness, are instilled with a religious understanding of the world, which needs, after millennia of faith and deceit, to be redefined and explained.*

Key words: values, European culture, factorial analysis, OLS method, European Social Survey.

JEL classification : C83, O57, P46

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ROBUSTLY FORECASTING THE BUCHAREST STOCK EXCHANGE BET INDEX THROUGH A NOVEL COMPUTATIONAL INTELLIGENCE APPROACH

Abstract. *In this paper two computational intelligence approaches are contrasted: the common approach, based on one-value-ahead neural network forecasting methods, and a novel approach, based on a mix of computational intelligence techniques (noise filtering with wavelets, fuzzy clustering, neural mapping of fuzzy transitions between cluster prototypes and robust prediction) for one-subsequence-ahead forecasting of stock market indices. The first approach serves to demonstrate that emerging markets are deeply affected from global influences such as external shocks or signals and at least with neural network models the inclusion of exogenous variables from well established global markets significantly improves the forecasting performance of the emerging market model. However, one-value-ahead forecasting of price levels is not as useful as the shape of middle-term up and down movements, due to their inherent short-term randomness. The second approach proposes a novel one-subsequence-ahead forecasting framework that allows the prediction of stock index movements in a more robust way, focusing on predicting one price subsequence rather than one price level at a time.*

Keywords: Computational intelligence, Subsequence time series fuzzy clustering, Neural mapping, One-subsequence-ahead forecasting of time series.

JEL Classification: C22, C45, C51, C53, C63 G17

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NATIONAL ACCOUNTING CULTURE AND EMPIRICAL EVIDENCE ON THE APPLICATION OF CONSERVATISM

Abstract. Prudence in accounting is a corner-stone concept which has shaped accounting theory, as well as ordinary financial reporting. Thus, on the quantitative side of the study, we developed a proxy for accounting conservatism, namely the degree of uncertainty associated with the settling of a company's obligations. Accordingly, we hand-collected the relevant accounting data for 388 business groups from 17 European countries. For these companies we computed the provisions-to-liabilities ratio (PLR) and performed several group tests, according to the following original qualitative classification of national accounting cultures. The results indicate that companies incorporated in countries that are classified as 'conservative' do assign a significantly higher degree of uncertainty to their total amount of liabilities.
Keywords : mixed research methods, accounting conservatism, European companies, national accounting culture, international harmonization

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INVESTMENT RECOVERY AND RETURN (I)

Abstract. The production of goods and services is directly dependent on the use of large quantities of producer goods: machinery and equipment which require considerable investments. Nevertheless this investment has as effect the increase of productivity. Still it will remain a major problem for the economy: it has to cover the reduction in value of the equipment as it is consumed in the production process. Therefore in evaluating different alternatives of capital investment it is important that the cost of capital consumed to be considered.
Key words: capital investment, capital recovery, return.

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STATISTICAL EVALUATION OF SPATIAL CONCENTRATION OF UNEMPLOYMENT BY GENDER

Abstract. *This paper studies the spatial distribution of unemployment by gender, in the counties of Romania, in 2008.The Lorenz curve and Gini index are used to identify a pattern of spatial concentration of unemployment, differentiated by gender. Evaluation of gender differences in unemployment spatial concentration model shows significant differences. There is a greater spatial concentration of unemployment for female population. Based on results of grouping counties by cluster analysis applied for unemployment rate, one could explain the gender differences in spatial concentration correlated with spatial distribution of the workforce and the characteristics of territorial development of counties in Romania.*
    Keywords*: unemployment, gender differentiation, spatial concentration, cluster analysis, territorial development, Romania*

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PORTFOLIO OPTIMIZATION USING CLASSIFICATION AND FUNCTIONAL DATA ANALYSIS TECHNIQUES

Abstract. *In this paper, we propose an algorithm for hierarchical classification, based on an ultrametric distance. We study its properties and develop an application in Microsoft Visual Studio, based on the algorithm proposed, using C# language. The software obtained will be used to classify the shares from Bucharest Stock Exchange which had profit during the last two years, in order to find similarities and differences between these shares and build a diversified portfolio. We prove that this portfolio is representative for the shares from Bucharest Stock Exchange and study the evolution of the obtained portfolio at different moments of time, using functional data analysis methods (STATIS) . In order to evaluate our methodology, we provide a numerical experiment .We demonstrate the performance of the proposed algorithm by comparing the obtained results with the evolution of BET index, BET-C index or BET –XT index, which are representatives for the capital market in Romania.*
    Keywords: *classification, algorithm, software, portfolio management.*

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ANALYZING THE PERFORMANCE OF DATA LOADING AND PROCESSING IN RELATIONAL DATABASES

Abstract. *In this paper we are analyzing the performance of XML processing in different scenarios involving receiving large quantity of such documents. We are analyzing the loading and processing speed in four different scenarios involving an adapter written in an universal programming language and a relational database.*

Keywords: multi-thread; XML; integration; distributed systems

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THE ADJUSTMENT OF THE CONAN & HOLDER MODEL TO THE SPECIFICITY OF ROMANIAN ENTERPRISES – A LOCAL STUDY FOR BUILDING SECTOR

Abstract. *The paper presents the adjustment of the Conan & Holder model of assessing the risk of bankruptcy, to the specificity of Romanian enterprises. In this approach has been started to the variables of the model referred to and from the score function which for has tried the determination of the parameters, that define the model for classification of enterprises in non-bankruptcy and bankruptcy. In the development of the model has been used information from the balance sheet of 11 enterprises that had been acting in the building sector during 2001-2006 and for testing it have used data from the other 10 businesses. The model has shaped a rate of success of 81,82% for enterprises in the a priori sample and the 77.78% for enterprises in the a posteriori sample, which shows the relevance of the resulted model.*

*Key-Words**: *Conan & Holder model, risk of bankruptcy, discriminate analysis, Z score, parameters, rate of success.*

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ABOUT A COUPLED POISSON PROCESS APPLIED IN ECONOMY AND BIOLOGY

*Abstract. We prove the equivalence of the algorithms **A1** and **A2** which are very used in economy, biology and demography for estimating the behavior of the coupled Poisson processes.*
*Some concrete implementations of the algorithm **A2** could diminish significantly the running time of the classical Gillespie's procedure applied frequently in biology to simulate complex molecular processes.*

Key words : Poisson process, exponential distribution, random variable, Monte Carlo stochastic simulation.

JEL Classification: C15, C32, C 63, Y80.

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THE ROLE OF FINANCIAL FRICTIONS IN THE DYNAMICS OF ROMANIAN ECONOMY

Abstract. I estimate a New Keynesian model augmented with a financial accelerator on quarterly data from Romanian economy. The approach is Bayesian, which is very useful in the context of a limited sample of data. The estimation indicates that the financial accelerator is significant. The presence of financial frictions leads to an augmentation of the volatility of production and investments. The monetary policy shocks as well as the productivity shocks lead to ampler and more persistent shocks than in previous basic New Keynesian models estimated on Romanian economy.

Keywords: financial frictions, business cycles, dynamic stochastic general equilibrium models, monetary policy, Bayesian techniques.

JEL Classification:E30, E40, E50.

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QUANTILE PANEL-TYPE ANALYSIS FOR LIQUIDITY CONSTRAINTS IN DEVELOPING ASIAN COUNTRIES

Abstract. This paper applied panel data analysis methods to the consumer behaviour data in 10 Asian countries, in order to examine whether liquidity constraints exist and whether the permanent income hypothesis is tenable. We also used quantile regression to check whether the permanent income hypothesis is tenable. The empirical results show that the panel data analysis method demonstrates the presence of liquidity constraints, indicating that the permanent income hypothesis is not tenable. Additionally, quantile regression results show that the marginal propensity to consume will initially rise and then decline as the consumption level quantile increases.

Keywords: liquidity constraints, permanent income hypothesis, panel-type ECM model, quantile panel-type ECM model.

JEL Classification codes: C23, E21

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SEQUENTIAL PROBABILITY RATIO TEST FOR THE GENERALIZED NORMAL DISTRIBUTION

Abstract. In this paper a sequential probability ratio test is set up for testing the hypothesis H_o : $U \leq U_0$ against the alternative H_1 : $U \geq U_1$ (with $U_0 < U_1$) concerning matrix U – the mean of a generalized normal distribution $N(U, \Sigma \otimes B)$, in the case $\Sigma \otimes B$ known. The expected sample size is also given.

Key words: generalized normal distribution, sequential probability ratio test.

JEL Classification: C46, C16

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MODELING EASTERN MEDITERRANEAN REGION'S STOCK MARKET VOLATILITY

Abstract. This paper examines the volatility of eastern Mediterranean region's stock markets. We consider, we add to the scarce literature on the above regional market volatility. To model volatility we use the exponential generalized conditional heteroscedasticity (EGARCH). Our intention is to examine the existence of two features of stock market volatility namely asymmetry and persistence of stocks. We found evidence of asymmetry and persistence of shocks.

Key words: Asymmetry, shock persistence, volatility clustering, asymmetric behavior.

JEL Classification: G15

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INNOVATION EFFICIENCY ANALYSIS FOR ROMANIA

Abstract. Measuring innovation at national level is important because this is one of the main drivers for sustained economic growth. Innovation is a complex process, difficult to measure because it is hard to capture all its relevant dimensions. Estimating the efficiency of this process can be useful for designing national policies related to innovation. This paper estimates innovation efficiency using the instrument developed by the European Commission known as the European Innovation Scoreboard (EIS), for different years in order to introduce time lags between inputs and outputs. A nonparametric technique referred to as Data Envelopment Analysis (DEA) and bootstrap technique are used to estimate the efficiency scores for some countries included in the EIS. Our results include the estimates of the efficiency scores, the bias corrected estimates and also the 95-percent confidence intervals for DEA estimators.
The main goal of this paper is to analyze the performance of Romania and to compare it with other countries. The analysis developed in this paper is based only on some dimensions of the innovation process.
*   **Key words**: efficiency, innovation, bootstrap.*

   JEL Classification: **C14, O31, C67**

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OPERATIONAL RISK IN RETAIL BANKING: MODELING EXTREME LOSSES

*   **Abstract.** The relative infancy of operational risk discipline makes the quantification of bank's operational losses a challenging task, since one has to deal with the problems of heavy tails, limited data sets and intractable dependencies.*
*   This paper demonstrates the application of extreme value theory (EVT) for the model developed under the loss distribution approach (LDA). The implementation of LDA is illustrated by the assessment of credit fraud losses in retail banking. The analysis is performed for two types of operational risk events: internal (employee) and external (client or counterparty) fraud. The data under research mostly consist of losses sustained by Russian and other CIS banks during the retail lending boom in 2005-2008. EVT is applied to the tail of internal fraud losses severity distribution, which contains extreme outliers. The results (i.e. the estimates of expected loss, VAR and Shortfall) clearly indicate the difference between external (high frequency-low severity) and internal fraud (low frequency-high severity) types of events.*
*   **Key words:** operational risk, LDA, EVT, Monte Carlo.*

JEL Classification: G 210