Challenges for Analysis of the Economy, the Businesses, and Social Progress

Társadalmi és Gazdasági Folyamatok elemzésének módszertani kérdései

**International Scientific Conference
Szeged, November 19-21, 2009**

Abstract Book

Edited by

**Péter Kovács
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Szeged, 2009

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PLENARY SESSIONS

Emergence of new branches of statistics
(Science, technology and innovation statistics)

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Statistical information and their analysis are key factors of any kinds of decision-making process. Modern societies are demanding lot of information and developed various branches of statistics to provide detailed and timely information to decision-makers. One of the relatively young branches of statistics is the science, technology and innovation (STI) statistics.

When the importance of science policy as a new policy area was recognized (Bernal 1939, Bush, 194.) the need for R&D indicators for policy making came into the light. (Lundvall and Borrás 2005 p.)

The main difference between pre- and post-war S&T statistics was in conceptual framework, the covered issues of STI statistics and actors in producing statistics changed significantly around the war. The measurement concept for RDI became economic in character. The result is a collection of economic indicators that are compatible with other economic datasets. (Many dimensions of RDI activities remained out of measurable field.)

Demand for S&T statistics and involvement of stakeholders has changed. In early post war years S&T policy became immanent and independent part of the governmental policies.

In the development of this new branch of statistics the emergence of innovation in scientific work and as policy issue was another breakthrough in second half of 20 century. Beside science policy, technology policy and innovation policy also emerged in 1950s and 1960s and they also created new demand for statistics. RDI data has a complex background in the scientification of innovation. (Smith 2005 p. 150)

At the beginning of 21st century the complex economic and societal needs calls for more international and interdisciplinary R&D and globally open innovation. Many national programs promote stronger linkages between universities/public research organisations and industry as a means of strengthening their contribution to innovation and economic growth. Beside a wide range of governmental policies that are fostering university/non-university public research organisations (PRO) and industry collaborations, governments are also encouraging international collaborations. Governments can contribute to international collaboration directly through programmes and internationalised public procurement. Third generation of foreign direct investment (FDI) policy is also facilitating cross national public-private research collaborations.

Improving the design of the governmental programmes that can help enhance their effectiveness and increase value for money is making statistical information an inevitable element of policy-making. Evidence-based policymaking requires indicators for assessment and evaluation of research programs and STI policies. The quality of information depends on improving the availability of data and the development of indicators that reflect the complexity of STI process.

The available indicators shed so little light on the dimensions of university/PRO-industry relationships and their internationalisation.

Improving the measures on the internationalization of STI is critical to provide new tools for policy-making. This process requires additional internationally comparable databanks as well as better understanding of currently unmeasured factors in STI internationalization process.

One of the candidate measures is the *patent indicators*. 'Patents play several important roles in innovation systems to encourage innovation and investment in innovation, and to encourage dissemination (diffusion) of information about the principles and sources of innovation throughout the economy.' (Granstrand 2006, p. 280) It is not an objective to evaluate whether a patent system should exist. Rather the investigation works from the starting position that the system is there, and so the main things to coop with it.

As policies in many countries are attempting to stimulate university patenting and licensing activities put in the limelight these indicators.

Methodology

The patent indicators have some advantages and disadvantages. 'Compared to other indicators such as publications, patents are a more proper indicator of activities closer to technology development.' (OECD 2009, p.30.) The real advantage of the patent indicators is their international comparability and length of time series. Patent data can provide quite rich information about the technology and agents taking out the patent. Availability of international patent databank is back up the development of new patent indicators.

The disadvantage of patent indicators as general measures arises from the differences in the importance of patents by sectors. The patents play very different roles in various sectors and in some sectors they might be more relevant for judging performance than in others. In the evaluation process it is important to keep in mind this limit of the indicator.

The lecture deals with quantitative information and investigates how can develop better and more detailed quantitative information through exploiting international patent databases. The improvement in quantitative analysis is crucial.

eNAQ II: A Prototype for an electronic Version of the UN National Accounts Questionnaire for SNA 2008

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The study is the result of 1.5 man-years software development and engineering efforts under the guidance of Lenz. Requirement engineering was mostly done by Müller for SNA 93 being temporarily hosted by NA/UNO headquarters at New York, and by Chorus for SNA 2008. The design of eNAQ valid for SNA 93 was done by Eichler and Müller as part of a diploma thesis, and its implementation was performed by Eichler at the Dept. of Production, Information Systems and Operations Research, Freie Universität, Berlin. The overall objective was and still is the development of a prototype and proof-of-concept of an electronic National Accounts Questionnaire (eNAQ) for the United Nations, Statistics Division and its about 220 membership countries. Presently, Chorus is reengineering the eNAQ system under some guidance by Lenz and Müller. The talk will focus on the analysis of the present NA system – especially, SNA 2008 - and the requirement engineering for the new eNAQ, called eNAQ II. Some details about the system design and implementation of eNAQ II will presented. The present platform used for the prototype eNAQ and eNAQ II is an IBM pseries 620, on top of which a DB/2 database engine under AIX is used. Note, that this paper only summarises the main features of the current prototype of an electronic National Accounts Questionnaire to be used, but not massive technical details of software engineering. The authors hope to proceed by stepwise improvements, and to get support jointly by UNO and Freie Universität Berlin for maturing eNAQ II in such a way that its quality, performance and user-friendliness by the UN staff and a NA expert of any UN membership country will meet expectations. This talk consists of four main parts. Part 1 presents the hors d'oeuvre. Part 2 describes the current communication, collaboration and data production system at the NA/UN headquarter, New York, and its challenges and limitations. Part 3 presents the gross design and a flavour of implementation of the prototype with SNA 2008 perspectives. The last part 4 presents some major benefits of the new system eNAQ II. It should be noted that this talk due to the authors' scientific independence does not necessarily represents the view of NA/UNO.

New developments of Non Symmetrical Correspondence Analysis for two and three way contingency table

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The identification of meaningful relationships between two or more categorical variables is an important element to the analysis of contingency tables. It involves detecting categories of the variables that are similar and/or different to other categories of the same, or of a different, variable. Generally, such relationships are identified by first isolating those categories that do, and not, exhibit characteristics consistent with the departure from independence.

For the graphical analysis of these departures, correspondence analysis is a very popular tool that can represent the strength of dependence between the rows and columns of a two-way contingency table. When two categorical variables are assumed to have a two-way relationship, symmetric or simple, correspondence analysis can be performed. When it is evident that there is a one-way relationship between the variables, then non-symmetrical correspondence analysis can be used (D'Ambra L. and Lauro, 1989; Takane and Jung, 2009, Sarnacchiaro and D'Ambra A., 2007).

When, there is a directional association the Pearson chi-squared statistic can't be use and the Goodman Kruskal or Light-Margolin (1971) index are preferred to analyse the non symmetrical relationship.

Let N and $P = \dfrac{N}{n} = \left[n_{ijk}/n = p_{ijk} \right]$ be the absolute and relative three-way contingency tables, respectively, of dimension $I \times (J \times K)$, with I categories of the response variable, $J \times K$ categories of the composite predictor variable generated matching the two predictor variables and $n = \sum_{i=1}^{I} \sum_{j=1}^{J} \sum_{k=1}^{K} n_{ijk}$.

Let $p_{i\bullet} = \sum_{j=1}^{J} \sum_{k=1}^{K} p_{ijk}$ and $p_{\bullet jk} = \sum_{i=1}^{I} p_{ijk}$ be the marginal row and column frequencies, respectively.

In order to analyze this structure of data, we use Multiple Non Symmetrical Correspondence Analysis (D'Ambra and Lauro, 1989), particularly we decompose the Grey-Williams index.

Starting from Multiple Non Symmetrical Correspondence Analysis (MNSCA), in this paper we show some statistical tools (Confidence regions, statistical tests and graphical instruments) that allow to have further information about the statistical significance of the relationships between the response and predictor variables.

In MNSCA is possible to reconstruct the original frequency table by using the following formula:

$$p_{ijk} = p_{\bullet jk}\left[p_{i\bullet\bullet} + \sum_{\alpha}\left(\frac{1}{\sqrt{\lambda_{\alpha}}} \right)\pi_{\alpha i}\varphi_{jk\alpha} \right] \tag{1}$$

where, λ_{α} is the αth, with $\alpha = \{1,...,\min[(I-1);(J \times k)-1]\}$, eigenvalue, $\pi_{\alpha i}$ and $\varphi_{jk\alpha}$ are the row and column coordinates, respectively.

The $\varphi_{jk\alpha}$ represents the coordinates of the $J \times K$ categories on the αth axis and each value includes the interaction effect between the modalities.
In order to eliminate the interaction effect we use the two-way Analysis of Variance without interaction to compute a $\hat{\varphi}_{j,k(\alpha)}$. Then we substitute these last values in (1) and we obtain an estimate matrix $\hat{P}$.

The matrices P and $\hat{P}$ have the same marginal frequencies and the inertias are linked by the following important relationship:

$$In\left[\left(\frac{p_{ijk}}{p_{\bullet jk}} - p_{i\bullet\bullet} \right)p_{\bullet jk} \right] = In\left[\left(\frac{\hat{p}_{ij,k}}{p_{\bullet jk}} - p_{i\bullet\bullet} \right)p_{\bullet jk} \right] + In\left[\left(\frac{p_{ijk}}{p_{\bullet jk}} - \frac{\hat{p}_{ij,k}}{p_{\bullet jk}} \right)p_{\bullet jk} \right]$$

An application with real data will end the paper.

New directions in the measurement of social progress

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The assessment of the measure of social progress (development, well-being) and its changes has been on the agenda of science (and politics) for many decades. Despite numerous initiatives, proposals and tentatives, the concepts themselves have not been clarified yet. At the same time, the demand to measure progress is stronger than ever before.

In the past decades GDP and its value measured at purchasing power parity have played the role of the principal indicator of development. Today, as a consequence of the growing importance of environmental considerations and the sharpening of social inequalities, it has become clear for science and politics that the multidimensional notion of social progress must be examined and managed in a complex way, and its measurement requires also new initiatives.

The current initiatives aimed to measure social progress develop in four directions:
-    The „correction" of GDP calculations with environmental aspects
-    Establishment of indicator sets
-    Development of composite indicators
-    Measurement of well-being (happiness) with subjective indicators

In 2007, the OECD launched an international project to measure the progress of societies. The Hungarian Central Statistical Office has also joined the project. In September of this year, the European Commission issued a Communication on the tasks of measuring social progress. A Commission comprising prominent Nobel Prize laureates and renowned experts was set up to clarify the notion of progress and elaborate proposals for its measurement. In October, a world conference will deal with the subject.

The lecture gives an overview of the initiatives aimed at measuring social progress. It presents statistical methodological issues, dilemmas and expected tasks related to the creation and development of the measurement.

The Heterogeneous Effects of Training Incidence and Duration on Labor Market Transitions

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This paper estimates the impact of training incidence and duration on employment transitions accounting for the endogeneity of program participation and duration. We specify a very flexible bivariate random effects probit model for employment and training participation and we use Bayesian Markov Chain Monte Carlo (MCMC) techniques for estimation. We develop a simulation approach that uses the estimated coefficients and individual specific effects from the MCMC iterations to calculate the posterior distributions of different treatment effects of interest. Our estimation results imply positive effects of training on the employment probability of the treated, lying between 12 and 21 percentage points ten quarters after program start. The effects are higher for women than for men and higher in West Germany than in East Germany. Further, we find that the effect of training versus waiting underestimates the effect of training versus no training in the medium and long run by a third. Finally, our results show that longer planned enrolment lengths of three and four quarters as opposed to just two quarters lead to an increase in employment rates in the medium and long run by four to eleven percentage points.

Keywords: evaluation, active labor market programs, dynamic non–linear panel data models, MCMC

APPLICATION OF INFORMATION TECHNOLOGY

16 tons of petition-data mining in the on-line administration system of the University of Szeged

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Related to using services, with the increasing spread of ICTs it is more and more common that some electronic service parts will be integrated into the process of the service. Since the service is not linked anymore to personal interactions, the behavior of the persons involved often changes as well. Our article examines the extension of electronic services, from the frame-giving e-commerce model of the services, through on-line services, to a higher educational on-line public service case-study, which analyzes the data files of the on-line administration at the University of Szeged, Faculty of Economics and Business Administration. It studies the appearance of the 7/24 impact and demonstrates the development of the organizational culture which can also be an effective tool of reforming business processes.

Keywords: information management, 24/7 effect, e-commerce, high-education management

A statistical Approach to Assess IT-Consumer Satisfaction: Developing Indices using Structural Equation Modelling

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Companies are expecting a lot of benefits by using information technology (IT). The relationship between information technology and better productivity is widely discussed. In fact there are a lot of resources such as man power and money directly linked with IT in every company. This paper is about measuring the efficiency of an IT-system and focusing on business demands. Applying various multivariate statistical methods based on economic theory we are able to detect main drivers and hidden variables that influence the value of many IT-systems. Using these findings two indices are defined to measure and improve the effectiveness of IT-spending.

Keywords: IT productivity, business profitability, critical success factor analysis, priority analysis, consumer satisfaction, structural equation modeling, PRELIS, LISREL

AGRI-LIFE Project. Good products obtainable with a click

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In Milan, 13 November 2008, there will be a meeting to present the Agri-Life
service, an "online market" where each consumer can easily and quickly search the
products they need, verify their availability and to find the quickest way to collect
them.
The project, devised by Prof. Mauro Preda, teacher at the Catholic University of
the Sacred Heart of Milan, and a group of students of the course of Economic
Geography, tries to propose a management of the offer/demand of the network of
"direct sale" so as to create a relation between the companies that carry out this
type of sale and the potential clients.
Until now, in fact there is not a single channel that unites the needs of purchasers
and cultivators. The consumers have to research, on the territory, the various
agricultural companies, without knowing beforehand if having once reached the
company they will have what they need, and at what price: this results in many
consumers giving up on the whole idea, discouraged by the difficulty in
researching the companies, and even more the products. Also the agricultural
company is in a disadvantaged position, since it risks of accumulating non-sold
goods.
The Agri-life service wants to offer a service using the new technologies like
Internet, computers, cellular phones, in order to erase all those inefficiencies that
keep away possible consumers nowadays and to offer a single channel of
interaction instead. Agri-life offers an "online market" where each consumer can
easily and quickly search the products they need, verify their availability and to
find the quickest way to collect them.
Small steps, a few clicks are the secrets that bring the direct sale to all and are the
way simplest and quickest way to do your shopping.

Keywords: GIS, GeoMarketing

Different Clustering Techniques – Means for Improved Knowledge Discovery

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Each clustering technique, sometimes even the same algorithm applied several times on initial data set, can result in different source data set partitions putting an accent on a specific aspect of resulting clusters. Apart from diverse outputs, clustering algorithms use different visualization techniques that enable better insight into the structure of derived clusters and grouping relationships of similar entities. This variety of visualization techniques, that different clustering techniques offer, makes possible for a much broader and even non-technical audience, to understand the discovered relationships among data. Furthermore, each clustering technique comes with some specifics; one can denote clustering centers, other will emphasize typical representatives of resulting clusters or least typical cluster instances, etc. Each additional information attained from different tools is very useful for analysts, given the fact that they have a great responsibility to successfully carry out an interpretation of the results gained through some of the available tools and to give meaning to what makes a qualitative set of clusters.
In this article we presented the clustering results of small and medium sized enterprises' (SME) data in the province of Vojvodina, attained in DataEngine, Weka and iDataAnalyzer tools for intelligent analysis. Each tool supports a different clustering algorithm. We proposed the composite approach that implies diversity of tools and hence we obtained results that we believe significantly simplifies a work of analysts in knowledge discovery, facilitates results interpretation and derivation of detailed and clear conclusions.

Keywords: DataEngine, Weka, iDataAnalyser, clustering techniques

Enterprise grid computing

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Referring to the grid, we can affirm that describe a real application which involve heterogeneous resources with the objective to achieve high performance calculations or to offer a transparent access to great volume of knowledge's being indifferent the place of holding in the network or Internet. We make mention that the technologies and the applications for grid needs the solutions of scalability, flexibility performance and security problems.

Similar with power grids, the grid computing term appeared in the early 1990s and is used to propose a calculation infrastructure and it is destined scientific and industrial projects.

In this way that support offered for the search and the find of information indifferently is the place where it is physically. In the same time, task of many machine executions allow, like a single computer.

Keywords: grid, computing, computer, performance, calculation, Internet

ERP Customization

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Enterprise Resource Planning systems integrate all data and processes of an organization into a unified system. Because of their wide scope of application within a business, ERP software systems are typically complex and usually impose significant changes on staff work practices and also involve the customization of the ERP. ERP customization is a major source of concern for organizations implementing or using ERP systems. Customization has been used to explain implementation failures for years. This paper attempts to answer the question of which types of customization have negative effects and which types of customizations have positive effects.

ERP. The standard cost in a manufacturing company

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A key distinction between companies in supply chain (i.e. distribution and manufacturing sectors) and service companies is that the former provide tangible goods and as a result hold inventories. Common in both distribution and manufacturing companies is that their inventory accounting is based on classifying capitalized costs into capitalized inventoriable and capitalized noninventoriable costs.

General View over Neverfail Heartbeat Solution

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In this paper I try to present the concepts of Neverfail Heartbeat software providing a product overview and detailed description of the concepts, which play an important role in the Neverfail solution. Neverfail Heartbeat replicates disk updates from one server, called the active server to another server called the passive server. If the active server fails, the passive server can take over processing and it will assume the full identity of the active server. The active and passive servers can be located next to each other so protection is offered against hardware component failures or software crashes. Alternatively, the passive server can be placed at a remote location. This additionally offers protection against site failures. Neverfail Heartbeat allows full flexibility in selecting what data is replicated to the passive server: the application data, the application itself, or even the operating system. It is also possible to configure the protection level and guarantee that no updates or no updates from committed transactions are lost after a failure of the active server. Neverfail Heartbeat can be optimized for the lowest overhead with the chance that some updates may be lost after a failure of the active server.

Keywords: Active server, passive server, data protection

Increased situation awareness in major incidents – Radio frequency identification (RFID) technique: a promising tool

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Introduction Management systems in disasters are constantly challenged to improve situational awareness in multi-casualty situations. In this study we evaluated a system that utilizes commercially available, low-cost components, including Radio Frequency Identification (RFID) and mobile phone technology.
Methods The feasibility and the direct benefits of the system were evaluated in two separate simulated mass-casualty situations; one in Finland involving a passenger ship accident resulting in multiple drowning/hypothermia patients and another at a major airport in Sweden with a plane crash scenario. Both simulations involved multiple agencies and functioned as a test setting for comparing the disaster management's situational awareness using the RFID-based system. Registration of triage was done by using both an RFID-based system, where the data automatically was sent to the medical command, and also a traditional method using paper triage tags. The situation awareness was measured directly by comparing the availability of up-to date information at different points in the care chain with both systems.
Results Information about the numbers and status or classification of the casualties was available over an hour earlier using the RFID system compared to the traditional method.
Conclusions The tested system was quick, stable, easy to use and proved to work seamlessly even in harsh field conditions. It surpassed the traditional system in all respects. It also improved the general view of mass casualty situations and enhanced medical emergency readiness in a multi-organizational medical setting.

Keywords: Disaster Management, RFID, Triage, Mobile Technology, Situational Awareness, Simulation, Mass Casualty situation, Smart Tag, National Triage Tag, Emergency medical services, EMS

Mobile under social in small business

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The world has already been moved from the industrial economy to the networked, digital economy. In this new informational era, characterised by the fast growth and development of ICT (Information and Communication Technologies) and the Internet, a further and faster expansion and necessity of new management alternatives can be witnessed. The economic world has moved from being a cluster of national economies to a global, wide, international marketplace. Though, the emergence of new, global e-business models based on digital technologies and the Internet has become an imperative for the management of companies of all size.

Aware of the enormous influence of ICT and the Internet on the overall organizational transformation, and knowing the fact that in the biggest economies in the world small business are the power jets, managers are obliged to adjust the way they are managing their business initiatives and apply e-business applications in their small business.

In this sense, the main objective of this paper is to present and show the possibilities of innovation in the small business by using certain level of e-business applications. The idea is to develop a web portal that will provide both a virtual community and mobile services. It is a portal oriented to use novel technologies in order to provide services to the general public and/or different institutions.

This web portal will provide information via Internet, SMS, MMS or video content for mobile devices to people who are interested in sports, sport events and sport results. Accordingly, the target audience will be divided in two (or more) focus groups: people who are just interested in sports and people who are addicted to betting.

Keywords: social networks, mobile technologies, information system e-business management, e-business applications

Social Technologies and business development

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New social technologies like blogs, social networking, and RSS are changing the media and business landscape. This paper investigates how to understand business professionals and customers use of social technologies, which business objectives can be met, which strategies to develop, and when it is appropriate to use these tools. The paper not only discusses these new tools, and also develops a framework to create a coherent strategy around five specific business objectives: listening, talking, energizing, supporting, and embracing customers. The paper aims to gain a better understanding of how to use social technologies for business development, and more importantly, a workable plan for what to do today, particularly during the current period of the global financial crisis.

Keywords: Social Media, Social Technologies, Business Development, Information Industry

Using Web Technologies and Online Databases to Develop Research Methodology for Determining Level of Integration of Effective Sales Management and Marketing from a relational approach point of view

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In today's complex environment, every organisation has to cope with a multi-facets and dynamic environment. In order to maintain effective relationships with its stakeholders and develop long term relationship, organisations are to better organise, store and value their key data about those. These relationships can be nurtured and capitalised maximising customer lifetime value through professional sales management that uses relational databases. Most of local SMEs companies have a vague notion of marketing and operate sales as a total distinct activity. Traditionally sales is arguing that marketing is only interested in sophisticated budgeting, new product development, market findings and setting the prices too high, while short term sales are neglected. On the other hand marketing points out that sales department tend to have a myopia, being focused only on short-term goals, neglecting market signals and even not seizing long term advantages. Too often, these realities lead to poor coordination, reduced control, higher costs, lengthens sales cycles and increase total costs of sales. Developing an integrative model of work between marketing and sales departments and teams improves overall company performance by sharing their performance metrics, and also results in reduced internal misuse of energies and focus, enabling former combatants to aim towards same goals. The aim of this paper is to use web technologies and online databases in developing a methodology for determining correlations between the integration level of relationship marketing approach and effective sales management at the level of SMEs companies in western region of Romania.

Keywords: web technologies, databases, correlation methods, data analysis, relationship marketing, sales management, integrative model, sales teams

CONSUMER BEHAVIOUR

A Consulting View on the Statistical Consulting Process

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„Even though there seems to be a consensus that statistical consulting should be well structured and target-orientated, the range of activity and the process itself seems to be less well-understood" (Kauermann, Weihs 2007: 344). The consulting process can be described as a seven-step approach, which is commonly observed in management consulting. Using it as a frame, allows for reflecting the approaches on statistical consulting suggested by authors published in AStA volume 91, and for improving the understanding of adding value to statistical consulting.

Attitudes towards OTC Pharmaceuticals (results from empirical research in the Republic of Serbia)

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The pharmaceutical market is one of the most prominent, but also the most controversial markets in the world. The industry itself can be considered as a truly global discovery process (clinical research, R&D activities, manufacturing, sales and marketing challenge, existence of national borders and legislations).

Marketing activities of pharmaceutical companies relate directly to specific consumer behaviour patterns choosing and using OTC pharmaceuticals (analgesics or painkillers being one of most widely used therapeutic categories of pharmaceutical products sold without prescription). Research was conducted on 330 respondents, at selling points – pharmacies, in the northern region of Vojvodina, Serbia, in August 2006. The instrument of research consisting of 25 questions gave insight in the following areas:

- Circumstances in OTC analgesics usage, most common usage, pain tolerance and habits in seeking appropriate help, attitudes towards packaging insert, frequency and quantity of usage
- Attitudes towards OTC analgesics, quality features, price, safety and side-effects, validity of marketing information, distribution channels
- Sources of information that influence product/brand choice, image and trustworthiness of producers, future of market

Since the Serbian pharmaceutical market lacks international sales monitoring of different pharmaceutical categories, numerous global companies very often use pharmaceutical market data on neighbouring Hungary to access dimensions of the Serbian market. Geographical proximity, similar climate conditions, demographical structure and eating habits bring these two nations close regarding morbidity statistics. Hence, this contributes to actuality and validity of the topic for the entire Central European region, and markets legging in development can benefit from understanding development patterns.

Keywords: OTC pharmaceuticals, pharmaceutical industry, consumer behaviour, consumer attitudes, marketing research

Entrepreneurship education in the knowledge society: A study of University students' attitudes toward new venture creation as career choice

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Nowadays, European governments have become increasingly aware of the relevance of new venture creation as source of sustainable development, at both economic and social levels. On one hand, it is largely assumed that entrepreneurship impacts on the economic growth of a country since it represents a channel to transform ideas into economic opportunities, strengthens the competitive basis through the revitalization of the productive nets, and is a source of productivity. On the other hand, entrepreneurship is also conceived as a mean to reach social aims, such as employment generation, increase of the purchasing power of citizens, labour insertion of marginal collectives and, definitively, improvement of the quality of life in a community. Moreover, new venture creation represents a promising career choice for young people, given the current dynamics of the labour markets in Europe, characterized by the growing privatization of public enterprises, the reduction of the civil servant post available in the administration and the high requirements of professional experience imposed in most selective processes in private organizations. For these reasons, European governments claim explicitly the objective of encouraging entrepreneurial initiatives by young people and developing training programs for small enterprises by educational institutions, particularly at secondary and university levels, in so far as they are focused towards service of individuals and society. Without a doubt, the university represents the organization with the greatest capacity to generate and disseminate knowledge and to transform it into economic and social utility. It is largely assumed that the educational level acquired must qualify college students to practice a professional activity, which in turn should satisfy the demands of human capital required by the productive sector, in order to contribute to the socioeconomic welfare. Nevertheless, most university academic programs are much more centered on training wage-earner managers or technicians, than offering qualified and responsible entrepreneurs and enterprises to society. That's why in the middle of the process of adaptation of the European university systems to the requirements of the new European Space of Superior Education, it is important to reconsider whether the transformations undertaken, both in the university aims and in the way in which these must be reached, will enable a better response to the afore-mentioned social needs and expectations frequently assigned to the public university. In this paper, we revise the guidelines marked by the European Commission with regards to entrepreneurship education in public universities, and present the results from a quantitative study carried out in a Spanish University in order to analyze the preferences and attitudes of students toward business start-up as professional occupation. In our opinion, this

methodological approach is very useful in the study of the new role and responsibilities of public systems of superior education in the knowledge society.

Keywords: Entrepreneurship Education, Career Choice, Non-profit Organizations, European Space of Superior Education, Entrepreneurial Attitudes

Floating utility criterion in problem of optimal budget distribution

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The paper contains the research of neuroeconomics results such as formulation and analysis of Ultimatum game (see Alan G. Sanfey, 2003) and neuromarketing (see Patrick Renvoisé, 2005). As a result the rational behavior of consumer during the decision-making of consume object was prejudiced. In particular the axiom of reflexiveness of the rational utility theory was disproved. That axiom maintains that the fixed set of goods is not worse than itself. A conclusion is that consumer choice based on the utility criterion depends not only on the set of goods but on the consume environment also. The hypothesis of irrational behavior had allowed to formalize floating utility criterion of good and correlation between the basket of goods utility and consume environment during the consumer decision-making. Based on floating utility criterion the problem of optimal consumer's budget distribution in conditions of integral utility maximization on limited time interval and consideration of the predicted environment factors value was posed. The solution analysis of that problem had allowed to draw a conclusion of a significant influence of the predicted environment factors value exactness on an optimal solution and a dependence of that exactness on a consumer satisfaction.

Keywords: Utility, floating criterion, decision-making, optimality

Household Consumption Behaviour: A cross-country comparison for Italy and the UK

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This paper provides a full comprehensive cross-country comparison of household consumption behavior disaggregated into its components for two countries, Italy and the UK, over the period 1970-2007. Cross-country comparison of household final consumption expenditure is traditionally based on either individual or few divisions of commodities, and normally gives partial and biased descriptions of household spending habits. This paper provides a detailed assessment of the phenomenon by considering simultaneously all the first twelve divisions of the Classification Of Individual Consumption by Purpose (COICOP), and is developed through two broad levels of analysis. The first is an analytic description of the key patterns of Italian and British consumption in volume terms, budget shares and relative prices, and a full qualitative assessment of cross-country differences and similarities in household consumption behavior is provided. The second level of analysis is an empirical evaluation of the way by which price and income influenced consumer demand in Italy and the UK: this is obtained by using the Indirect Translog System as defined by Christensen, Jorgenson and Lau (1975). The empirical findings show significant results in terms of elasticity, and specific country patterns in consumer behavior, mainly driven by three factors: consumption habits, income and relative price differentials. In particular, the paper demonstrates that deep-rooted consumption habits characterize consumer behavior in Italy much more than in the UK.

Keywords: Household consumption behavior, Indirect Translog System, Cross-country comparison.

How Can Gold Collar Workers Become Gold Medalists – The Most Important Factors of the Successful Consulting Policy

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Kelley (1985) regards the gold collar workers as the third group of the employees, beyond white and blue collar workers. The gold collar workers, who promote the use and transmission of knowledge in various fields of life, nowadays also have to face difficulties. This situation can mostly be interpreted by the low incidence of the recourse of the consultants' services, and by the fact that the customers' expectations are also not evident. In our work, we tried to define to what extent is the policy of consultants in accordance with the expectations of the current and potential customers, as the knowledge and satisfaction of these expectations are the most important factors of the successful consulting policy.

Having reviewed international and Hungarian literature, respectively earlier case studies and projects, we could outline a wide spectrum of the peculiarities of services and consultancy. Leaning on previously mentioned pieces of secondary information, we built up our primer research in which we collected qualitative and quantitative information on the three main groups of actors of consultancy: consulting companies, present customers, potential customers (university students). We asked the consulting companies by using interviews (11 interviews in the research), examined the present (77 people) and potential (120 people) customers by the help of questionnaires, and with potential customers we implemented a conjoint analysis (547 people). Increasing the representation of the primer research, we prepared a time-series of the conjoint analysis, thus having three samples in different years (113 people, 241 people and 193 people, so the whole sample was 547 people) to examine and compare the results. As we analyzed the market of consultancy from the point of view of all the actors, we had an opportunity to define the relationship between the policy of consultants' and expectations of customers'. Finally, with the analysis of the collected information we were able to determine how can gold collar workers become gold medalists…

Keywords: gold collar workers, consulting policy, expectations of present and potential customers, interview, questionnaire, conjoint analysis, most important factors of the successful consulting policy: price, fame, relationship, flexibility in time/availability

Measuring the value of increased energy supply security in the Hungarian natural gas system

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Increasing natural gas supply security was always on the agenda in the Central and Eastern European region, but it became a real hot issue gaining wide audience since the January gas dispute between Ukraine and Russia. Infrastructure investments that lower the exposure of a country to import supply disruptions are highly preferred. However up to date the benefit side of the investments' relating cost-benefit analysis was never calculated numerically in Hungary, but rather it was 'assumed' to be high enough to justify the costs. In my paper I attempt to cover this gap and quantify how much supply security is really worth to the Hungarian consumers with the use of proxy methods, questionnaires, analysing implicit decisions, and conducting case studies of the January gas crisis.

Multi-project management as a mean to increase the capacity for the integration and functional capability of organizations

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This article represents a short synopsis of the diploma thesis "Multi-project management as a mean to increase the capacity for the integration and functional capability of organizations"

Multi-project management (MPM) is a highly contemporary issue for the conceptual design of an improved (multi-) project organization. It is based less on a uniform standard but rather on a variety of ideas for improved and integrated project work. Existing approaches vary in relation to their areas of application, consistency, and operationalizability through which the creation of a uniform multi-project management design only partially exists. Many organizations are now facing the challenge to realize diverse and complex projects such as the introduction of a quality management, the implementation of multiple valuations, finance controlling, IT projects, and process optimizations. Multi-project management can be the concept utilized to respond to these challenges. The purpose of this work is to demonstrate how this concept must be designed and used to support the project work and how it can result in an increase in efficiency and significant cost savings within organizations.

We begin the process by establishing a general perspective and examine the tasks aided by use of MPM, regardless of whether it is the introduction of new software, the execution of surveys, or the expansion of a department. Therefore, we have extensive literature studies and the isolation of problems as well as the allocation of measures and tasks.

We define the components of MPM to ensure a common understanding of the concept. This includes the naming of the main roles and the allocation of their duties. The interaction of all MPM parties can only function, if there is a clearly defined role description. Accordingly, the primary focus of this approach is to define the line of activities that reflect the essential theme of this work: the "integration and functional capability of MPM". These tasks must then be determined in a suitable way so that they do not overlap between the project- and multi-project management as well as among themselves. Only under this condition, MPM can make a major contribution to the improvement and effectiveness of project work.

Multi-project management if used effectively can contribute to an increased efficiency and effectiveness of the project work. But these improvements can only be achieved when the multi-project management starts, where the individual project management reaches its limits or when problems arise which require a higher-level of control. Both, multi-project management and project management are complementary. However, the areas of activity but must be considered in isolation insofar as the multi-project management will never be engaged in the actual tasks of the project management.

Researching Marketing Orientation using PLS methodology

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During their activities, business players establish short or long-term, tight or loose relationships, co-operation with each other and with their customers for the sake of achieving organizational objectives and to provide customer satisfaction. Today, enterprises exploring a sustainable edge in the field of competition find it more and more important to have strong relationships with their key customers, suppliers, different partners and other stakeholders as the establishment and maintenance of long-term, strong relationships can have a serious role in finding a favorable position in amongst the competition (Hunt, Morgan 1999, Gummesson 2002). After realizing the significance of relationships, the number of approaches emphasizing the importance of relationship marketing has been rising in the academic literature. Thus, based on the results of these researches we may state that there is significant difference in the relationship orientation of the companies that serve different customer segments, or companies with different size, or companies operating in different fields of business. The concept of relationship marketing appeared in the business-to-business market and the service sector earliest, and these two areas play an important role in the spreading and development of the theoretical field ever since. Countless amounts of theoretical models and empirical studies have been published that examine the relationship orientation of marketing practice. In this study we use the model of Coviello et al (1997, 2002) and we analyze the marketing orientation of Hungarian companies with a methodological approach that is less common in the field of marketing research. To analyze the five different marketing orientation of the Contemporary Marketing Practices (CMP) model in Hungary we use the Partial Least Squares (PLS) path modeling methodology. In our study the results of the adaptation of PLS path modeling to the CMP marketing orientation model are highlighted.

Keywords: Relationship marketing, marketing orientation, CMP model, PLS path modeling

Sampling techniques and marketing researchers in Nigeria

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This paper examined the challenges and several decisions involved in selecting sampling techniques; found out how sample size is determined; and identified sampling techniques used in marketing research in general and those used by marketing researchers in Nigeria. Both primary and secondary data were used for this study. Primary data were sourced from administration of unstructured questionnaires to marketing researchers in Nigeria. Data Collected were analysed using both descriptive and qualitative analysis. It was found out that: in sampling, the researcher must first decide whether to use a Bayesian or traditional sampling approach, to sample with or without replacement, and to use non-probability or probability sampling; that sample size may be determined by using either subjective methods like rule of thumb, conventional or cost basis approach; or statistical formulae such as confidence interval approach. The paper also revealed that stratified random sampling is the most widely used sampling techniques by marketing researchers in Nigeria; other techniques used by them are simple random, systematic, sequential, convenience and panel sampling. The paper concluded that the choice between non-probability and probability samples should be based on considerations such as the nature of the research, relative magnitude of non-sampling versus sampling errors, and variability in the population, as well as statistical and operational considerations.

Segmentation of teenagers in terms of their buying behavior and their attitudes towards commercials

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In my research, I intend to explore the consumption of teenagers and their attitude towards commercials and ads. My aim is to establish segments among teenagers according to their relation to commercials, their buying behaviour and their financial state. The segmentation of teenagers is peculiar and sometimes problematic, because the common segmenting methods – based on status and values – usually does not result in stable and understandable segments. The parents and the friends are the common opinion leaders of teenagers, but we should not forget the infulence of the media and the commercials within it. I conducted my research using a sample of 911 teenagers between the age of 14 and 19 from Csongrád county in Southern Hungary. In the first step I examined the teenagers relation to commercials and ads. Factor analysis were used for revealing the mean components of the commercial valuables. These mean components were: Commercial loving; Commercial reality; Commercial manipulation; Commercial status. Using these factors, five segments were made up according to the teenagers relation to commercials. In general they think commercials are manupulative and sometimes even stupid. However we can find some commercial loving segments as well. In the second step, I set up a goal of establishing complex segments based on financial, commercial and buying variables. I used factor analysis for the teenagers buying behaviour, which yielded seven factors. Applying this seven buying factors, the commercial factors and the financial variables, six segments were identified. These segments differ in location, in type of school, in financial state, in buying behavior and also in their relation to commercials. According to the research – although traditional segmentation often yield confusing results between teenagers – an acceptable way of grouping the youngsters could be found.

Keywords: segmentation, teenagers, commercials, buying behavior

The effect of MBTI type to consumer behavior

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Over the last half of the century the MBTI has grown to be the worlds most well-known and wide-spread personality typology.

The MBTI helps us to understand people by identifying their psychological preferences. The MBTI sorts our psychological preference differences into four opposite pairs, or dichotomies describing:

- Energizing - how a person is energized
- Perceiving - what a person pays attention to
- Deciding / Judging - how a person decides
- Living - the "lifestyle" a person adopts

In my paper (and lecture) I (would) identify the profound effect of our belonging to one certain personality types - out of 16 possibilities - on our consumer behavior. I showcase how differently extroverts and introverts buy, I pinpoint shopping differences and buying motive differences between the so-called sensing and intuitive types and highlight that what sells to a so-called „T" personality type, would never be successful with an „F".

My paper is not only descriptive, but readers from marketing will be able to apply the recommendations put forward in their daily practice.

Keywords: MBTI, consumer behavior, customer(s), buyer(s)

The retail market in Romania

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This paper presents the retail market in Romania, using statistical data offered by national and European institutes, comparison of data and field research. We try to show who are the retailers in the market, the tendencies, some strategies used by them and the dynamics of these economic agents. In this industry, we assist to an evolution from traditional trade to a modern one, dominated by supermarkets and hypermarkets. The market includes also Cash & Carry and discount stores. Consumer behavior led to the increasing of the modern retail, because the attitudes changed a lot in the last decade. Some of the main operators in the market are Metro and Selgros in the field of Cash & Carry stores. In the field of discounters, we can mention Penny Market and Plus, and the greatest hypermarkets we can mention are Carrefour, Real, Kaufland and Cora.

Keywords: retail, market, cash & carry, discount store, hypermarket, supermarket

ECONOMIC & BUSINESS STATISTICS

A comparison of simulation softwares in modelling crop structure management with a stochastic linear programming model

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A stochastic linear programming model was created based on crop structure data. As to determine the optimal structure, an MCMC simulation was performed by using WINBUGS and two other Risk Analysis softwares. Values and coefficients of the goal functions, provided by different softwares, were analysed and compared. A deterministic linear programming solution was also compared to all the results of the stochastic simulations. Evaluating the results WNBUGS proved to be the most suitable software for establishing management decisions in crop structure modelling. In my study I also presented the way for implementing stochastic linear programming models in WINBUGS.

Keywords: Winbugs, Bayessian Statistics, crop structure, risk analysis, Marcov Chain Monte Carlo

A New Approach to DCF Valuation - Company Valuation via Iterations

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DCF is the most respected method of company valuation. However, it does have a flaw related to the fact that the weights (share of debt and equity in total financing) that are used are based on book value. Technically, the following problem is encountered:
1. One has to know the cost of capital WACC (and both its components: cost of debt and cost of equity) in order to calculate the value of a company.
2. One has to know the capital structure, that is the value of debt and equity, in order to calculate the cost of capital (cost of equity or WACC).
3. One has to know the value of interest payments, which is the value of debt, in order to calculate cash flows.
We are dealing with a logical loop once again: *WACC* is still unknown, the value of the company cannot be calculated without *WACC*, so we don't know the value of equity either, which means we do not know the capital structure of the company, which we need to find the cost of capital (*WACC*). The problem may be overcome by using a technique based on iterations. It may seem technical, but as a matter of fact, it is a profound shift in the way the value can be found.
In case of a company represented by a perpetuity finding the company's value by solving a system of equations is quite viable. In a real-life case, however, when one has to deal with numerous parameters and time periods, a numerical solution seems to be the only feasible approach. It is a chain of formulae that becomes so integrated that the information between cash flows and cost of capital moves freely. Depending on whether debt or capital structure is given, loops will additionally run along columns (from *V* to *WACC*, and from *E* to *k*) and lines (from one year to another). The cost of capital "tracks" the capital structure and changes accordingly, while *CF* is a reflection of future profits and also the level of debt in the company. The valuation is recursive, going backwards in time. To conclude, calculating the value of a company without using iterations is tantamount to applying the wrong weights to *WACC* and leads to an inner contradiction.
In general, the recursive method of company evaluation overcomes a fundamental problem that is often ignored by many other methods: the fact that the cost of capital depends on the financial structure. It creates additional technical problems in form of a logical loop, but this was also remedied. Admittedly, there are also many simplifications: one is that we often use perpetuities as the last resort, and second is the assumption that the required rate of return is equal to the expected return (determined by cash flows). However, the latter does not seem far from true; an expected return that is higher than required would lead to a positive NPV, an opportunity which when confronted with competitive markets quickly ceases to exist.

Keywords: DCF valuation, iterations, logical loops, capital structure

Adaptation of Artificial Intelligence into Economic Modelling

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The conventional techniques of system analysis seem to be inappropriate to manage "human" systems: such affects human judgments, feelings, emotions and approaches. As the complexity of a system grows, we have even less ability to make precocious, significant statements; furthermore, significance and exactitude become mutually exclusive characteristics of the system. We have to face the same dilemma when making a model, which should be very plastic and adaptable for learning new things, but stable enough to preserve the well-established knowledge. In this recent study, I would like to show a hybrid neuro-fuzzy system, which is able to handle the above mentioned problems with success, and can give approximation for innovation potential making a synergy of effectiveness of neural networks and "blurred" fuzzy sets.

Keywords: Neural networks, fuzzy logic, innovation, management

Comparative development analysis of Serbia and European countries using multivariate statistical methods

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In this paper the actual position of Serbia is presented by detailed quantitative analysis of employment, together with the level of gross domestic product and investments that are the major factors affecting economic development. The comprehensive study on a current situation in the state is followed by comparative analysis of development factors in surrounding countries, which are still not members of the European Union. Separate analysis is done to compare trends in Serbia with development in neighbor countries that recently joined the European Union (Hungary, Romania and Bulgaria). Moreover, indices of Serbia's level of development are compared to the European Union average in order to imply the real position of the country.

Furthermore, index of development, for Serbia and European countries, is calculated using statistical methods of multivariate analysis. Factor analysis is used to create the index of development, as an integral indicator, that represents influences of ten variables: gross domestic product per capita, labor productivity, unemployment rate, average monthly wage, length of motorways, research and development expenditure per capita, number of students, number of patent applications, level of internet access by households and enterprises.

Finally, countries are ranged by the index of development and the position of Serbia is compared with other European countries.

Keywords: Factor analysis, development analysis, multivariate statistical methods

**Considerations on the validity of NAIRU for an economy in transition -
Romania's case**

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Using quarterly data series recorded for Romania for various macroeconomic
variables such as the inflation rate, the unemployment rate, the exchange rate leu
(national currency) per euro, the growth rate of labor productivity, etc. we try to
find answers for the following questions: 1) Which is the optimal level of inflation
for a country in transition, 2) Which are major causes that lead to inflation on long
term for an economy in transition. To find the answers at these questions we'll use
VAR methods.

To determine the cyclical component of inflation and unemployment, in this paper
will be applied two methods: Hodrick-Prescott (HP) (Harvey (1985), Morley
(2002)) and Beveridge-Nelson (BN) (Beveridge-Nelson (1981).

In the case of HP filter, used to determine the permanent component (TR_i) of the

series (y_i), the main problem is to minimize the series' variance around

permanent component:

$$\sum_{t=1}^{T}(y_t - TR_t)^2 + \lambda \sum [(TR_{t+1} - TR_t)^2 - (TR_t - TR_{t-1})^2], \lambda \in R.$$

[1]

For the two data sets used is chosen a value of the parameter: $\lambda = 14400$.

For BN filter is considered the series $y_t \rightarrow I(1)$, which allows the
representation:

$$\Delta y_t = \alpha + C(L)\varepsilon_t,$$ [2]

where: $\varepsilon_t \rightarrow N(0, \sigma_\varepsilon^2)$ and $C(L)$ is a first degree polynomial, defined by the
following equality: $C(L) = C(1) + (1-L)B(L)$. This equality is derived from
Taylor series' expansion of the $C(L)$.polynomial.

By the integration (2) we obtain the following results:

$$y_t = C_t + TR_t,$$ [3]

where the cyclical component is $C_t = B(L)\varepsilon_t$ and the component $TR_i = t\alpha + C(1)\sum_t \varepsilon_t$ represents the series' trend, which is a sum of a deterministic and a stochastic component. This one is satisfying the following recurrence relation:

$$TR_i = TR_{i-1} + \alpha + C(1)\varepsilon_t.$$ [4]

Using specific methods we analyze the causal relationship that exists between the two variables. For this purpose we apply the EG (Engel-Granger) test for the initial data series, for the un-cyclical series and for the corrected inflation rate.

Keywords: NAIRU, cointegration, inflation, unemployment

Corporate Governance and Financing Decisions in Small Growing Firms in Sudan

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Corporate governance issue has gained significant attention in management research especially among large listed firms. However, research has seldom been conducted on small and medium sized firms. Therefore, the objective of this paper is to investigate the link between corporate governance and financing decision and its impact on firm performance across a sample of 25 small growing firms operated in Sudan.

Specifically, the paper examines how ownership structure and corporate control affect financing decisions through a theoretical framework that links owner profile, financial planning, control characteristics and practice. The empirical findings show that managers are concerned with cash flow and profitability to maintain high internal sourcing of finance, which ultimately, affects financing decisions. The centralization of decision in the hand of the owners gives clear evidence that financing decisions are influenced by their knowledge, experience and typology. The existence of the family at the higher echelon of the hierarchy affects the way in which the business is operated, managed and controlled. These empirical findings provide confirmation that ownership structure and degree of financial control affect financing decisions and have an impact on firm performance.

Keywords: Corporate Governance, Financing Decision, SMEs, Sudan

Development of the statistical process control methods

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Statistical process control represents a statistical procedure using control charts to examine if any part of production process is not functioning properly and could cause poor quality. Process control is achieved by taking periodic sample from the production process and plotting these sample points on a chart, to see if the process is within statistical control limits. Statistical process control prevents quality problems by correcting the process before it starts producing defects. This paper encompasses an application of statistical process control methods with numerous modifications in order to make possible appropriate process quality improvement of the soft drink production line via detecting out-of-control process or unusual patterns in a sample. Used methods corresponding with the total quality management require a never-ending process of continuous improvement that covers people, equipment, suppliers, materials and procedure. The goal is perfection, which is never achieved, but always sought.

Keywords: Statistical process control, control charts, total quality management

Development of the strategic plan for Aragon's Shoe cluster

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The current study exposes the status of the footwear market at international, national and regional levels and demonstrates the difficult position in which the sector currently lies and uncertainly of future activities.
The consequences of this process could be devastating for the production infrastructure of the Aranda region. The disappearance of the footwear activity would represent a great loss, since a significant proportion of its textile industry is dedicated to the production of footwear.
In order to face this challenge, a number of recommendations and future courses of action will be established.

Keywords: cluster, shoe, alternative strategies, objectives, international status, national, Aranda region

Economic growth and convergence in the world economies: an econometric analysis

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Economic growth and convergence is one of the most discussed fields in economics, as the long-run growth basically determines the welfare of countries. Actually, it is assumed that countries with lower GDP per capita tend to grow faster than richer ones. This process is called catching-up. Developing countries might be able to converge toward high income countries, as they can e.g. adopt new technologies. These factors might lead to higher rate of economic growth exceeding the growth rate of developed countries. However, the significant convergence process of lower income countries is not guaranteed. There are many problems leading to divergence, e.g. expenditures are not efficient.

At the same time, several studies found empirical evidence of convergence among countries but mostly conditional convergence – usually a convergence rate of (approximately) 2% – is confirmed. This means that economies are converging but the steady-state level is rarely common, so countries are converging to different / own level of steady-states.

On the basis of recent statistical data I am trying to demonstrate, whether divergence or convergence can be observed among world economies and the number of expected years essential for significant catching-up has been calculated (by ARIMA models). As the growth rate of GDP per capita is a good proxy for economic growth, the analysis is based on this indicator. Data on PPS GDP per capita (and population) are available from IMF for 171 countries for the period from 1992 to 2008. However, group-specific variables (e.g. dummies and clusters) have also been applied, as significant differences can be observed among country groups. In such a way, not only the absolute but the conditional and club convergence can also be measured. For the classification three groups have been chosen: least developed countries (defined by the United Nations), OECD countries and rest of the world.

As the term 'convergence' can be interpreted by several ways, different, both econometric and purely statistical methods have been applied: sigma convergence, beta convergence, panel modelling and stochastic convergence. I have also created an indicator called omega and analysed the convergence process by a new approach. At the same time, the classic methods of convergence have slightly been modified (e.g. specific weights and different types of sigma).

The initial hypothesis of convergence can be confirmed by all of the indicators. The countries are converging to their own (group) level of steady-states but only very slow catching-up can be measured for low income economies (and also for developed countries). This means that the convergence is rather conditional and primarily applies for middle income countries. Long-run catching-up process is also expected to take place: at least 30 years are needed for significant convergence. But this primary applies for middle income countries, which mainly confirms the existence of conditional / club convergence.

Economic transition and financial accounts

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Was there a transition at all in Hungary? Did the system changed at all in 1990? The answer of the author is yes. Not in the sense that from the society's top became bottom- as during the transformation after 1945- but in the sense that private property became again to be the basic feature of the economic system.

We can follow the evolution of the economy in the mirror of the financial accounts. The players of the market, households, state and financial and non financial enterprises have changed their financial account positions during the period 1990-2006 markedly. The study based on HNB data follows carefully the changes in the asset and liability structures of households, state and enterprises and the financing capacity of each sector. The state's asset position has diminished, the households' has grown. But the great winner is the foreign owner's sector. It has an influence on the per capita GDP and GNI creating a marked difference between them.

It is very important to have internal financing capacity because state budget has a deficit since decades. We don't have enough in the household sector therefore the country needs external financing. The study examines the roots of the international indebtedness of the country, the role of the economic policy and the banking sector's strategy (selling foreign-financed mortgage loans to the households). Today the state is in a much worse situation than before transition: State debt (and foreign debt of the country) is even higher than in 1990 and state's ownership (covering the national debt) is now on a minimum level.

Keywords: asset and liability structure of firms, state and households, financing capacity, economic policy, foreign financing, international indebtedness

Economies structural reforms and macroeconomic success: A study on transition

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The group of countries in which market-based neo-liberal reforms achieved throughout the world in the 1980s are observed most obviously and most clearly are countries with transition economies. In fact, this change process in the countries trying to switch to the market system prevailing at the opposite end of socialist system from 1980s onwards has assumed the nature of an important "laboratory" for economics. This research aims at revealing how macroeconomic variables are influenced from market-oriented structural reforms that countries which were not included in the market system previously and which were governed by the socialist system have launched to transform their economies. To this end, various structural reforms and impacts of these structural reforms on certain macroeconomic variables are examined statistically, covering the period between 1989-2009. For the purposes of this research, the "Descriptive" and "Relational" research model was applied in order to examine the relationship between structural reforms and chosen macroeconomic variables. In other words, inter-variable relationships and level of these relationships were examined while the issues regarding the subject of the research were figured out. Multiple linear regression method was used in analysis of the data. Main findings of the research are as follows: i) Structural reforms have influenced all of the macroeconomic magnitudes in the following countries: Albania, Georgia, Kazakhstan, Moldova, Mongolia, Rumania, Russian Federation, Ukraine and Uzbekistan. ii) Countries where structural reforms have influenced the least number of macroeconomic magnitudes were Armenia and Azerbaijan. iii) The number of the countries in which relationship between structural reforms and unemployment is significant is 23. This equals to 85% of transition economy countries. iv). The number of the countries in which relationship between structural reforms and consumer prices is significant is 21. This equals to 77% of transition economy countries. v) The number of the countries in which relationship between structural reforms and general public balance is significant is 12. This equals to 44% of transition economy countries. vi) The number of the countries in which relationship between structural reforms and external trade balance is significant is 17. This equals to 63% of transition economy countries. vii) The number of the countries in which relationship between structural reforms and GDP per capita is significant is 24. This equals to 88% of transition economy countries. viii) The number of the countries in which relationship between structural reforms and external debt/GDP per capita is significant is 17. This equals to 63% of transition economy countries.

Keywords: Structural Reforms, Transition Economies, Macroeconomic Performance

Estimating agricultural demand for electricity in Iran (1975-2007)

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High electricity consumption in agricultural sector is an important issue in Iran economy. The main reason is the low price of electricity. In this study we estimated demand function of electricity in agriculture sector (1975-2007) using ARDL method. Results indicated that (1) the short-term & long-term price elasticity is -0.1 and -0.49, respectively, (2) short-term & long-term income elasticity is 0.43 and 2.07, respectively, and (3) the lagged error correction term was significant with expected negative sign (-0.21).The CUSUM and CUSUMSQ tests have been done and the results showed a stabilization of coefficient in confidence level 5%.

Keywords: electricity demand, ARDL, elasticity

Expectations and realities of Romanian European integration of Romanian SME sector

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SME is the most numerous and important business, performing multiple economic, technical and social functions. After Romania joined the European Union came into force many acts and a large part of their obligation regulate business (in competition, consumer protection, labor relations, health and safety at work, environmental protection, etc.). It is therefore very important to know the level of information of the Romanian SMEs in relation to regulations introduced after 1 January 2007. This work paper is structured in three parts: the first chapter is a short presentation of SME sector evolution – from centralized economy to open market, the second chapter evidences the factors of success of Romanian SME sector in pre-accession of European Union period and the third part reflects the expectations and realities of EU integration of Romanian SME sector. The analysis is based on the results of a survey conducted nationwide on the SME sector, putting in evidence the perception of small and medium enterprises on the adhesion of Romania to the European Union, on opportunities and threats arise with.

Keywords: SME, threats, opportunities, Romanian integration, European policies

Export of raw material and social choice

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Present article is devoted to problems of economy of the social choice, connected with influence of raw specialization on social and economic development. In work the idea is defended that raw specialization is the main reason of totalitarian modes in a number of the countries of the third world and decrease in a level of democracy in some other countries. The given idea is proved by means of the comparative analysis of empirical data and William Lewis's modified model.
We believe that the wages in such type of economy will depend least on personal qualities of the worker but on his position in public hierarchy. Stability of an average level of a payment cannot stimulate growth of investments (and the last will not find to themselves application because of stability on consume demand).

Keywords: Economy of a social choice, raw specialization of the countries, world economy, economic sources of totalitarianism

Extensive margin in international trade: empirical analysis for Visegrad countries

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This paper deals with empirical analysis of international trade between Visegrad countries and EU-15 during the past two decades. The goal of the paper is to find out if the growth in export is of intensive or extensive type. We follow methodology of Kehoe and Ruhl (2002) and use detailed trade statistics on the value of trade flows by commodity according to Standard International Trade Classification (SITC) codes. We find out that the goods that were traded the least in the benchmark year account for disproportionate share in trade after liberalization and reduction of trade barriers. The most significant increase was found in Hungary. The set of goods which accounted for only ten percent of trade in 1993 accounts for about forty percent of trade following the liberalization. Similar patterns were identified also in other Visegrad countries. The countries thus began to export goods that they had not been previously trading. This is growth on the extensive margin and it should be reflected in models of international trade.

Keywords: international trade, trade barriers, liberalization, export growth, intensive and extensive margin, Visegrad countries

Housing allowance: subsidy to the landlords

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This paper deals with incidence of housing subsidies. This property is analyzed using Finnish panel data from biggest Finnish cities. The main data set includes 50 000 households that have received housing allowances for the period 2000-2008. Preliminary results suggest that a part of subsidies will indeed go rents. A conservative estimate of the size of shift is 15 per cent but it is well possible that the number is even 25 per cent. On the other hand, the subsidy seems to have increased housing demand more than the subsidy-induced income effect would have implied which is in accordance with the goals of the subsidy program. Our results seem to be consistent with other research results that have also ended up with relative high rent effects. If this is indeed the case, it is well founded to reconsider the need for reforming the system of housing subsidies at least with respect to the share of costs that remains on households' own account.

Intra-Industry Trade and Revealed Comparative Advantage: Empirical Analysis of New Members State`s Economic Competitiveness (UE-8) on a Single Market between 2000 and 2007

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This article analyzes changes in the intensity of intra-industry trade between the new Member States (EU-8) and the EU-15 in the period of 2000-2007. The authors claimed that the results should help to assess adaptation processes which had taken place in these countries before and after the accession to the EU. By analysis of revealed comparative advantage and horizontal and vertical intra-industry trade further research examines the real adjustment processes in terms of EU-8 state economic competitiveness, which occurred during the pre- and post-accession period in order to prepare them to maximize the benefits of the Single European Market. Shares of intra-industry trade, and their dynamics was calculated on the basis of the Grubel and Lloyd`s intra-industry trade (IIT) index. Analysis of the competitiveness of goods from EU-8 in a trade with the EU-15 was based on Balassa`s revealed comparative advantage index, RCA. Three trade types (one-way, two-way trade in similar products, two-way trade in vertically differentiated products) indictors were calculated using the Freudenberg and Fontagné methodology.

Is Free Market Access Enough for Development? – Lessons of the Lomé Conventions

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Nowadays, international organizations emphasize the free market access to promote development in the least-developed countries. Similar initiatives took place in the past – perhaps the greatest one was the Lomé Conventions between the EU and the African, Caribbean and Pacific (ACP-) countries. The Lomé Conventions granted the most privileges among the European initiatives: the contracting developing countries could enjoy free and non-reciprocal market access to the European markets along with industrial development. I would test this attempt by cluster analysis to identify the relatively homogeneous (successful and unsuccessful) countries within the ACP-countries and to compare their achievements with control countries getting less favourable preferences. Therefore this analysis would reflect whether free market access could be enough for achieving development.

Keywords: Lomé Conventions, free trade, trade and development, cluster analysis

Liquidity and Short Term Asset-Liability Structure: Evidence from a Panel of Hungarian Firms

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Financial crisis has made a hard effect on the solvency and liquidity position of companies. The increasing number of bankruptcies is signaling that less liquid companies can easily come to unsafe situation. We analyse the features of short-term liquidity conditions of the Hungarian manufacturing companies. The liquidity condition is interpreted broadly, connecting with the asset-liability structure. We investigate whether the short-term assets structure is determined by particularity of sectors of industry and liabilities by general financial conditions. The features of asset-side analyse is confronted by liability-side, and we make conclusion on trends of liquidity position of Hungarian manufacturing sectors. We use AMADEUS company level database. The balance sheet and income statement data from 2004 to 2007 provide information for panel data analyse.

Keywords: Company liquidity, working capital, financial constraints

Modelling some Entrepreneurship factors

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Entrepreneurship is increasingly recognized as a major factor of economic growth, productivity and competitive economy. Many countries are making efforts to support entrepreneurship and are interested in knowing how government policies and other factors can influence the amount and type of entrepreneurship. For this purpose they need to understand the determinants of and obstacles to entrepreneurship.

In spite of the large interest on entrepreneurship, due to the lack of internationally comparable data, the understanding of this phenomenon and its determinants remains still an open problem.

In 2006 OECD launched the Entrepreneurship Indicators Programme (EIP), which was joined by Eurostat in 2007.In *Measuring Entrepreneurship: A Digest of Indicators* (2008) - a report published within this project – a common set of concepts and definitions is presented. Furthermore, consistent data across different countries on firm start-ups, survival and growth firms, including gazelles (young high-growth companies) are provided in a OECD database. These data, even if they do not represent the whole set of indicators which is needed for studying the entrepreneurship process, represent a preliminary database of internationally comparable statistics.

Using this database (Structural and Demographic Business Statistics (SDBS)) and others (R&D database, Market Regulation database and Education at a Glance) we perform initial analysis of entrepreneurship across countries. Our interest is in understanding its determinants and in particular those related to education. Considering different measures of entrepreneurship, we perform regression analysis to identify the main determinants of entrepreneurial performance. The analyses are carried out for the manufacturing sector and for the total industry and market services sectors separately. In our models, we consider the following variables: employer enterprise birth rate, rate of high-growth enterprises, barriers to entrepreneurship, SME share of business R&D, tertiary educational attainment, upper secondary educational attainment and at least upper secondary educational attainment.

To shed further light on the relationship among countries and variables we apply multidimensional scaling techniques to produce a spatial representation of the data. The obtained mapping shows the 'hidden structure' of the data and allows to understand the degree of relation between variables and countries.

Preliminary conclusions about the role of different educational level on entrepreneurship are obtained as a reference theoretical frame for more detailed analyses based on single country data.

Keywords: Entrepreneurship, education, regression analysis, multidimensional scaling

Modelling of Factors Influencing Corporate Performance on the Bases of Domestic Empirical Studies

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In this paper, I reviewed the development, from year 2001 to 2006, of the effects influencing the performance of businesses operating in the Hungarian economy. Studying the international special literature, I discovered a number of works focusing on this subject using a wide range of methodologies and tools. The novelty of my study is reinforced by both the subject group of businesses, and the sector, in which the same operate. Small and medium size enterprises account for a considerable economic weight in Hungary as well, just like in the European Union. The advancement of the service sector being the focus of my study is devoted particular attention not only in the United States, but in the Asian countries showing outstanding development. The sector's contribution to the gross domestic product, as well as the ratio it represents in terms of employment has become the growth indicator of the national economy during the past decades. Nevertheless, studies focusing on the valuation and assessment of the service providers' performance are quite scarcely found among the domestic scientific publications.

In my research, I took the results of studies covering the English-speaking world and published in renowned special papers as a starting point, and I examined to what extent the theses widely spread in the international practices could be applied in the Hungarian economy. When choosing the limits in the course of the analyses, I always endeavoured to follow the paths travelled by international research efforts, while struggling with a number of difficulties. I assessed the performance of the businesses through the conversion of accounting figures and procedures obtained from the knowledge base into information.

The analysis of the data shows correlation, where in practice, the parties concerned also assume and perceive – without sufficient theoretical background – that the intensifying competition makes the price-cost margins – and therefore profitability as well – decrease. Through the analyses performed on the database containing the data made available to me, and related to the subject period, I managed to support this unequivocally. My former studies already indicated the verifiability of the assumption related to the effect of labour productivity on profitability. There may be a positive relationship between labour productivity and profitability, meaning that an increase in labour productivity brings about increase in the profitability, while companies demonstrating a decreasing labour productivity also show decrease in their profitability.

I managed to build such a model, the foundation whereof has been developed and published by several researchers during the past decades. The regression model obtained as a result, which works well with the Hungarian company data, also complies with the methodological requirements applicable to regression analysis. I managed to prove the reliability and validity of the regression equation in several studies.

While extending my investigations, I also aimed at reinforcing my assumptions, by starting from the data aggregated on a national economic and sectoral level, and progressing towards the custom information obtained from individual companies.

Multidimensional analysis of determinants of global economic crisis

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Global economic crisis is a major challenge for economic analysis. While its process and main elements have been described with details in both professional media and general circulation publications, many questions have not been properly addressed yet. This paper attempts to present detailed analysis of peculiarities of the functioning of financial organizations, which led to development of critical situation as well as of the judicial, political, criminological, sociological and psychological factors which had created an unprecedented circulus vitiosus.

What was motivational background of erroneous strategic decisions, made by top management of major financial corporations? What was institutional framework, which implemented these decisions into banks operations? What is the corporative culture, which enables undertaking of excessive operational risk? Does ownership structure effect operational principles? What was the role of governmental agencies? Who was supposed to execute control and why there were no effective control measures? Who and why had taken controversial decisions related to providing governmental funds to private enterprises? Why some banks were saved, while others were left to collapse? These, and other questions, related to the mechanisms of global crisis will be discussed.

Chronologically the crisis might be divided into five stages. Each stage is going to be interpreted in terms of interaction between stakeholders of financial organizations.

1. Foundations of the crisis were laid down between 2003 and 2006. Recovery from financial crises of 1997-98, and 2001-02 was swift and produced no lasting effect on decision-makers. First subprime credits were awarded already in 2003, and their number had increased to at least 3 millions by 2006.

2. First signs of the crisis per se had appeared in the spring of 2007. This stage had lasted till the end of the year with huge losses of major US banks, Citigroup in the first place setting up the basis for global crisis. These signs were neglected for many months, no actions were taken.

3. Six months between fall of such major investment corporations as Bear Stearns in March of 2008 and Lehman Brothers in September of the same year had shown the extent of losses.

4. US Government had made a decision to bail out major financial institutions. More than 1000 billions dollars were allocated, and transferred to banks, principal realtors and insurance companies, as well as to largest car makers. Other governments (Russia and China among them) and EU had also stepped in, assisting banks and trying to stimulate consumption plagued by recession.

5. Seemingly last stage of the crisis had started in the summer of 2009, losses of banks are diminishing, production grows, trust has been at least partially restored. Recovery however will take long time. Some facets of economy are still indicating worsening of the situation. Unemployment should be mentioned in the first place.

There are several attempts to address conditions, which lead to the crisis. Legal regulations and tougher state control over financial institutions should be mentioned. The author advocates application of basic Keynesian principles in creating international crisis preventing system.

Keywords: crisis - banks- analysis – risk management – crisis management

Outward FDI and the Investment Development Path in Romania

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Outward foreign direct investment (FDI) represents the present way for Central and Eastern European countries reintegration in the global economy, coming next after foreign trade and FDI inflows liberalization. The most important theoretical contributions on multinationals location factors are presented in the paper, and especially the eclectic paradigm and Investment Development Path (IDP) theory of Dunning. Dunning explains the relationship between a country's development level and its net international investment position, identifying five stages of development. This relationship was recently empirically tested for some CEE countries (Antaloczy& Elteto, 2002; Kalotay, 2004; Svetlicic& Jaklic, 2006). Since Romania is not concerned by these studies, we are interested on characterizing the outward FDI phenomenon in Romania under Investment Development Path theory. A series of indicators are used in this purpose, concluding that nowadays, Romania is situated in the second stage of IDP. Further more, we found that the IDP paradigm is generally applicable to Romania case; the particularity consists in bigger growth rates for FDI inflows than for GDP in the first stages of IDP. Some policy implications are drawn at the end.

Keywords: Outward FDI, international investment position, IDP theory, descriptive analyses

Partially closed (extended) input-output models: Some theoretical issues

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Partially closed (extended) input-output models are widely used in applied I-O analysis of economic structures. The closure of foreign trade activity (exports and imports) is especially important in analyzing an open economy. Extending the input-output model with the foreign trade implies, in short, that the analysis will connect exports to imports in order to keep the balance of trade in equilibrium. The presentation will critically review the basic concepts and the economic theoretical interpretation of the additional variables and equations of such extended I-O models.

Perfect planning or the lack of effective lobby? The analysis of models and participants of European gas market liberalization

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The EU has great medium term goals according to the common energy market. Its aim is to create a competition based productive, competitive gas market with respect to environmental aspects as well. Our aim is to examine with all of our restrictions, what (may) happen on this special field of energy market, closer on the gas market, by all the changes made within the framework of EU directed liberalization.

More precisely, the aim of this study is to find out whether is it possible to handle the EU as a unity and to create one energy policy for the 27 member states of the EU – actually 3 different groups by the models offered by the EU? Using around a dozen of indicators chosen from OECD studies and national characteristics of countries we would like to classify EU member states into some possibly homogeneous groups. We try to find out, whether it is possible to make exactly three homogeneous clusters, which can create the chosen models in their own markets, or there may be some member states left, as outsiders, which do not produce the expected conditions for example in state control, public ownership, entry regulation, and so on? In other words, are there really three types of adaptive environment for the three European gas market liberalization models? By the help of this research we would like to get closer to answering our basic question, which refers to that, whether it is possible to extract a real EU level competition by liberalization in a market which has so different characteristics within member countries?

Keywords: cluster analysis, three models of gas market liberalization

Price transmission in Serbian milk commodity chain

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Serbian formal milk market is developing in recent years. In 2008 it reached 53.8% of total milk production intended for human use. Milk production is traditionally based on family farms and was stable in last 10 years. Focus in the paper will be on analyzes milk price transmission for three products: white yoghurt, pasteurized milk and UHT milk. Those products participated in formal milk market with 65%. Monthly data are collected from three levels of milk chain: farm level, processors and retailers. Previous researches had shown that market power is shifting to the processors and retailer levels. Approach to identify market power through milk supply chain is based on price transmission analysis. It will be applied price transmission elasticity between market levels. National market is not isolated from price signals from world market and transmission of farm gate prices will be analyzed with prices in chosen neighbor countries and regions. Turbulent dynamics of world milk prices in recent three years influenced eventually in some degree almost all national markets.

Keywords: price transmission, milk and milk products, milk supply chain, market structure

Producer price forecasting in beef cattle sector

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The goal of this paper is to introduce a model which creates a system by using a chain of simple statistical methods. This model is able to give an approaching estimation from the inputs' price changes to the prices of the output(s) (which of the inputs have the biggest effect on the output). By this way we are able to define the measure of the risk of the entrepreneurs, the companies or even the agricultural producers. The defined risk factors serve as a basis of the later analyses where the decision makers can classify these risk factors to choose the best methods to risk management. The model is tested on beef cattle sector where the authors are making an experiment to explain the changes of the beef producer price with the price changes of the predefined key input factors.

Keywords: beef cattle sector, forecasting model, risk management, price forecasting

Russian SMEs in different types of settlement:
what is the influence of global crisis?

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The aim of the paper is analyzing of the changes in the structure and strategies of small early entrepreneurs under crisis.

The research structure is based on the Global Entrepreneurship Monitor (GEM) definition of entrepreneurship and its application to the analysis of entrepreneurship potential in Russia.

GEM methodology points out the following stages of entrepreneurship:
-   potential entrepreneurs (active planning and organizing of business)
-   early-stage entrepreneurs
    -   nascent entrepreneurs (starting business, income less than 3 months)
    -   new business owners (income from 3 to 42 months)
-   established business owners (functioning more than 42 months).

Novelty of this work would include the differentiation of some important issues of early entrepreneurship by settlement types. GEM Russia APS data file for 2006-2009 was divided into five groups: rural areas, small towns (population under 100 thousand), medium-sized towns from 100 to 500 thousand people, big cities and megapolises.

Basing on the results of made experiments we can formulate a number of hypotheses:

1. The extent of entrepreneurship optimism in their estimation of expected business prospects effect on the growth of involvement in the entrepreneur potential.

2. Due to the worsening of macroeconomic situation the rate of business discontinuation increases in small and medium-sized towns.

3. Due to the growth of unemployment rate more people in rural areas would start their own business and the level of necessity entrepreneurship would increase.

Dynamic analysis of rates of early-stage entrepreneurship activity in 2006-2009 has shown the decrease of average Russian rates during this period. The group of megapolises was the only one where the rate of total early-stage entrepreneurial activity rose since 2006 more than one and a half time.

Dynamics of potential entrepreneurship activity was positive. We expect an average 12% rise since 2006 and the highest growth in the group of medium-sized towns.

Businessmen estimate future conditions for business in their region worse compared with previous three years. Only one third of entrepreneurs is expected to estimate next 6 months as favorable for starting a business in 2009.

The impact of socio-psychological characteristics of Russian potential and early-stage entrepreneurs on total business activity is rather ambiguous. On the one hand, the fear of failure is very strong: the maximum level is expected among potential entrepreneurs in rural areas. On the other hand, the vast majority of potential and

early-stage entrepreneurs considers to have knowledge and skills to open a new business. The rate of "fear" is higher in small towns and rural areas.

Finally, the hypothesis 1 can be confirmed, whereas the hypothesis 2 is disproved (the changes in the discontinuation rate are not statistically significant across different settlement types, T-criterion, 95%). The hypothesis 3 is not confirmed, too (In the contrary to the initial assumption, the rate of necessity entrepreneurship has fallen in rural areas since 2006).

The results of the research can be applied in various governmental and regional assistance programs in Russia where the type of settlement would be considered as one of the main differentiating factor.

Sampling techniques for sampling units with different size

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Usually it is a not too difficult problem to select efficient sample from a population, which includes units with different size. Stratified sampling might be a proper solution for this matter. The situation is getting more complicated if the statistician has to observe more characteristics of the unit, and these characteristics behave in various ways. Homogeneous strata cannot be created from every point of view. The field of my concrete research is the livestock surveys in Hungary.

If we "only" keep in mind the official requirements of the European Union, data in 5 categories of different livestock have to be provided by given reliability level. It means in practice, that one unique sample has to be worked out to suit these requirements. In Hungary there are more than 600 thousand private holdings, of which more than 50 percent raise usually more kinds of livestock. There are very small households, producing mainly for their own consumptions, and there are also huge units, which produce at company scale. The deviation of the indicators is extremely high in most of the cases.

In my research I attempt to see what would be the optimal solution from every point of view through working out different sampling schemes (simple random, stratified, and concentrated, mixture of these). In the presentation I would like to show the results and the final outcome of the work.

Keywords: Sampling, Statistics of agriculture, Livestock survey

Some Empirical Evidences about the Biphasic Action of e-Government Processes

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The aim of the paper is to investigate - by a Business Economics approach - about the potential correlation between two clusters (or variables): innovation and ethical behaviours related to the life standards in a country. The first cluster (innovation) includes Information Communication Technologies (ICT), Research & Development Expenditure, Education Investment, (etc.); while the second one (ethical behaviours) contains elements such as ethical values, the observance of the law, merit rating system, (etc.).
Inside the first cluster are located the e-government processes that the paper systematizes in the Introduction. The central part of the paper shows the potential correlation between the two clusters by an empirical research concerning the European Union (EU) countries area.
The final pages of the paper are dedicated to comment the research result that shows the biphasic action of e-government processes: on the one hand these processes represent a right way to introduce efficiency and effectiveness in the public sector management (short period), on the other hand e-government applications can have a useful effect on the ethical shared behaviours (long period).

Keywords: Business Economics, e-Government, Ethics, Innovation

Some macroeconomic effects of the financial crisis in Romania

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This paper intends to open a research on the macroeconomic effects of the financial crisis in Romania. Our objective is to measure the impact of the financial crisis upon the economic situation in Romania up to the second semester of the year 2008, based on data availability. Romania, situated in Central and Eastern Europe and new Member of the European Union (since 2007) had a remarkable economic activity in the recent years. During 2006 and 2007 it had a low unemployment rate and an increase of the labor productivity. The dynamic of production was high and it was present in sectors as constructions, trade, and financial activity. This assured for the first semester of the year 2008 the highest rate of the economic growth in the region. There were however some weak points also. The lowest dynamic was a characteristic of the agricultural sector. The great volume of trade that it has inside the European Union determined an increase of the current account deficit in GDP. The negative sold of the current account is an unfavorable fact in the context of the global financial crisis. Associated with the big short term debts, it will determine the risk and will oblige the authorities to react rapidly at the changes from the financial global environment.
By using econometric tools, we intend to see the way in which the normal interdependences that happen inside the Romanian economy can be affected by the world financial crisis. We are aware that the present paper could undoubtedly contain some errors due to its premature stage but this trial could be a useful start in carrying further research on more available data and using more complicated econometric tools.

Keywords: financial crisis, derivate instruments, economic growth, trade, foreign direct investments

Statistical research methods applied describing and measuring Fairness, Equity and Equality in Business Context

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Research on the Fairness, Equity and Equality has their academic roots in sociology, psychology. From the early 2000s, an emphasized focus was placed on fairness among entities participating in business transactions with the objective of identifying the impact of human and business ethical attitude on business interactions not only on tactical, but strategic levels. Measuring fairness by itself has it challenges due to its subjective nature. It is assumed that a business relationship, which is considered fair, is more balanced and stable. As a part of broader research on this topic, it is essential to understand what methods and techniques were used in the last years to evaluate fairness, equity and equality when examining them in business interactions. My objective in this paper is to summarize and evaluate the statistical methods used by the international research community to analyze and interpret fairness, fairness, equity and equality.

Keywords: fairness, business ethics, business relationships, statistics

The Brittleness in the growth models of eastern asiancountries

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Since the 1970s, the world has seen an impressive growth of Eastern Asian countries. With the annual growing rate of 7 percent, and the great efforts in reducing poverty of 70 percent (in comparing with 1990), Eastern Asian economy is known as a special, impressive evidence of a "miracle story". In 1996, Eastern Asia countries experienced a serious breakdown in growth rate, and from July 1997 to the end of 1998, there was a terrible shock for these countries of a financial crisis. The crisis showed us a lively lesson about the bubble economies, about the lack of reality in the growing models of region. In 1997, the lack of confidence of the investors continued to take these countries to situations that are more difficult. Two years later, the growth recovered again, the financial market backed on track, the investors came back and the private investment resource became more optimistic. The good growing figures of recent years have proved these impressive performances, though the brittleness remained. The worsening outlook for major industrial economies is buffeting developing Asia's export, equity, and offshore bond markets. The region clearly remains heavily reliant on industrial countries for its exports and has not uncoupled from their business cycles. The loss of investor confidence in industrial countries' equity markets has crossed over to Asia. The risk premium on dollar-denominated offshore bonds of Asian issuers has risen sharply since the outbreak of the subprime crisis in the United States.
The purpose of this paper is to focus on exploring the weaknesses of the regional growth models.

Keywords: exports, and GDP, Economic development; East and Southeast Asia

The comparison of the precision and conventional cultivation from an economy viewpoint

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During the past decade, many people dealt a lot with the Hungarian agriculture, its views and opportunities in the future. If we want the Hungarian agriculture to be competitive on the European market it is necessary to be able to follow the market motions and its changes. To do this, certain areas should be invested in which requires capital. The agricultural production could only be competitive, if the farmers keep an eye on the environmental viewpoints and the sustainable farming. Precision cultivation could be one of the implements of the so-called sustainable development at the field of agriculture. Precision cultivation requires surplus expenditures (purchase devices, operating the devices, etc.) but it has advantages too (yield increase, decreasing of material costs and yield insecurity, etc.). The comparison of the surplus expenditures and surplus yields serves as a basis of a complex economical analysis where not only the costs and revenues but the sowing structure changes are also appearing. The aim of this paper is to introduce an economical model where all these former mentioned factors and its changes are also included.

Keywords: sustainable agriculture, precision cultivation, simulation

The Determinants of R&D Outsourcing and its Effect on Firm's Performance: Firm Level Evidence from Korean Manufacturing

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This paper examines the determinants of R&D outsourcing and its effect on firm's performance. R&D outsourcing has become prevalent under the paradigm of open innovation. However, due to the data availability there have been few previous studies on what triggers R&D outsourcing and whether or not R&D outsourcing contributes to firm's performance.

Heckman two-stage model is used to estimate the determinants of R&D outsourcing allowing for sample selection effects. The model is tested on data from a sample of over 3,500 Korean manufacturing firms during 2002-2007. In order to obtain rich data on R&D activity, we combine financial statement data with R&D Activity Survey conducted by government following OECD's Frascati manual.

Four types of R&D outsourcing are distinguished according to its target: government, public, private and foreign research organization. With reference to determinants, corporate governance, market competition, R&D affordability and industry specific characteristics are considered. Findings suggest that market competition and each firm's R&D affordability are main factors for R&D outsourcing and R&D outsourcing contributes to firm's performance with time lag.

Keywords: R&D outsourcing, Heckman two-stage, Korean manufacturing

The impact of global economic crisis on the operations of Montenegrin economy

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It is more than obvious that the world has become a global village. No economy is fully independent. The most influential countries, such as the United States of America, Canada, China, India, Russia, Japan, Great Britain etc., depend on global trends and oscillations in the world market.

There is an everyday dispute among world leaders, experts, managers of financial corporations, on how deep this crisis is going to impact the world economy. According to the opinion of the majority, it is biggest since the Great Depression from the early 30s of the last century. Financial crisis led to a serious crisis and recession, hence it resulted in decceleration of economic activities and exhaustion of one model of economy. From many countries, including ours, we can almost everyday hear the news on dismissal of workers, reduced production, limitation of spending etc., which represent basic elements and indicators of recession.

Since the crisis emerged, the situation has significantly changed, both in the country and abroad. The money has become more expensive, there are much less foreign investments, the real sector is gradually entering the recession in the majority of developed countries, which makes export more difficult for domestic producers. In addition to that, the investors are now, and they will be even more in the forthcoming period, much more cautious when it comes to investing their funds.

What is the response to recession?

Financial crisis and global recession in the world are just a chance for the development of enterpreneurship. Montenegro, dependent on import and being a small economy, just like many countries with similar features, can ensure mitigation of the crisis consequences by stimulating and developing the enterpreneurship area. Opening of small and medium enterprises would allow the creation of products intended to fulfill the needs of the population and, at the same time, it would reduce dependence on the import and ensure economic development.

In the environment of pessimistic reports on the current situation and future perspectives of the world economy, the enterpreneurship and enterpreneurs appear as a response to the requirements of recession, growth and development. The enterpreneurs use changes as a trump card and they use them in the right way and at the right place in order to achieve their business breakthroughs. Upon that, technological improvements and innovations, although significant, are not the only basis for the ovrall technological progress. They can also include organizational improvements, innovations of marketing pr administrative procedures, which lead to business success, that is, to the changes in the environment in the form of creative destruction. All these changes are carried out in the purpose of placing the high quality goods and services at acceptable prices on the market.

The job opportunities are no longer in the public or local sector, but they are rather in the private sector. The private sector is much more flexible and that makes it more resistant to recessions. That is the case of a Japanese steel processing plant, which faced a reduced demand of its products from the basic assortment, and virtually over night it was reorganized in order to preserve its employees and its profit. The plant identified the demand on the market, reoriented its production, and now one half of the plant produces season salad, which it places on the local market. As you can see, it was a diametrical restructuring.

That kind of flexibility is not achieved over night. It is obvious that the complete program had been designed as an alternative solution long before the recession occured. In that regard, one must bear in mind that the crisis could not be ''survived'' without a strategical and fundamentally new way of thinking and approach. For each product or service, program, project - there has to be an alternative. An optimal alternative always has to be analyzed in the environment of the recession as the one which will ensure efficacy and effectiveness when the recession is over, and the normal economic situation takes its place.

Also, the employees in the government and in the local authorities may have their opportunities in launching their own businesses. The current crisis and possible threats that the employees could be dismissed from their jobs, in the conditions when the chances for getting a new job are scarce, put us all in a temptation and check the character and strength of a personality. Those who are positive, proactive, and who believe in the power of the entrepreneurial spirit and their own ability, think of turning that loss of a job into a new challenge and new opportunity, launching their own businesses and finding alternative jobs. An attitude that can often be heard – that the global crisis is in fact a new opportunity – describes just those who are thinking of starting their business and test themselves in the entrepreneurship. Upon that, one must bear in mind the following:

- You must plan!
- Invest in yourselves now!
- Maintain and take care of the long-term investments
- Act like an entrepreneur and an innovator
- Spend less
- Reexamine your liaisons, contacts and
- Don't panic!
- Create a demand
- Separate your company from your personal or family expenditures

Running your own business is much more complex than working for somebody else. If you lose your business or fail, you can lose much more than just a job. At the same time, your own business provides you with much more freedom, opportunities and possibilities. That is why we hope that these few pieces of advice will serve as a brief and a simple tool, intended to warn you and to help you.

The prepared entrepreneur and his half-fought battle –How do native and immigrant entrepreneurs prepare for the entrepreneurial process?

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Entrepreneurs, receiving more recognition with their innovative contributions to the development of markets, societies and communities in the last decade, expand their span of responsibility and influence, parallel to the evolution of the phenomenon as a multidisciplinary research area. Although entrepreneurial success and survival have been discussed in many research papers, not enough emphasis has been given the preparation for the entrepreneurial process, which is essential to reach the resources needed, to overcome the challenges in the formation phase and to make the strategic decisions in a newly formed enterprise. The aim of this paper is therefore to examine the role of preparation in the entrepreneurial process, to show how different groups of entrepreneurs prepare for self-employment considering different resources, capital forms, strategies preferred by native and immigrant entrepreneurs in the process. This paper focuses on a large-scale qualitative research based on 42 interviews with open questions applied to entrepreneurs and experts/consultants in 2009 in Berlin, Hamburg, Essen, Dortmund, Duisburg and Gelsenkirchen. The questionnaire has a narrative character with a problem centred emphasis allowing firstly the entrepreneur transfer his entrepreneurial motivation, understanding, strategies, competitive advantages his own way and secondly the expert/consultant reveal both his experience in different phases and describe different entrepreneurial contexts through his observations. Commons and differences were explored firstly through a classic qualitative analysis -coding process carried out by the student research group IM-MA-NEA (Immigration, Markets, Innovation) at the Berlin Institute of Technology, whose members were natives, immigrants & from diverse ethnic communities of Berlin. Authors aim to link this primary coding process which delivers invaluable insights about the preparation paths of entrepreneurs, with the method of latent class analysis developed by Lazarsfeld (1950). The method enables clustering the heterogeneous data through estimating the probability of group membership for individual cases and authors will be using the LATENT GOLD software for the application. To contribute to building bridges between qualitative and quantitative research methods is one of the principal scientific purposes of the paper. Authors find it essential as the both approaches evolve in their own research communities although they should be complementing each other to understand the new meanings in such rapidly changing contexts and to bring them to a certain scientific level enabling measurement. Finally, the outcomes should contribute to the entrepreneurship research concerning the preparation both from the native and immigrant perspectives and provide input for future research. For practice, they should help formulating suggestions for a better consulting considering the characteristics of different groups analyzed in the study and thereby serve to higher rates of survival and entrepreneurial success.
Keywords: Latent Class Analysis, Cluster Analysis, Entrepreneurial Success

The United States Subprime Crisis

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The paper talks about the current crisis from the United States and its impact on the world markets.

However something bad happens, it doesn't take too long before blame starts to appear. In the instance of subprime crisis, there is no single corporation or individual to blame for what happened. So who's to blame?

At present, this scenario begins to change and looks like the one in September 2001. But now, there are different causes. The United States crisis began to spread from the real estate market to the import of goods, affecting the sales of many companies. The rise of credit costs has affected the markets all around the world and it has a big impact on the stock markets.

The subprime crisis diffuses from United States of America to Europe and to all major financial and stock markets. Some mortgage credit institutions have to protect the most dubious loans, transferring the risk to the commercial banks and hedge-funds in America and the Old Continent.

The subprime crisis is based on the securitization – the „packaging" and selling of risk, based on ratings. Two factors underlie the process of securitization - external ratings and internal ratings. Both have become the subject of important debates, marking a collapse of the whole current concept regarding securitization.

The collapse of the financial titles in the United States had caused great losses for credit institutions all over the world. The international financial crisis, which has caused serious problems to some of the strongest financial institutions in the world, turns over Romania too. It is expected that the credit conditions should be harsh and their costs should increase.

The evolution of the subprime crisis shows that there is still a "winning" technique for settlement and reducing its effects, as that there is no estimation that this crisis could stop.

This article comes to show the impact of the United States Crisis and to propose some measures to keep out all the effects of the international crisis.

The verbal crises management statistical approach in the Parliament

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The financial and economic crisis reached Hungary. The science of the economics sooner or later tries to find the most accurate answers to the causes of the phenomenon. The politics not this much leisurely: the rapid reaction compulsory provisions in terms of the survival, the adaptation essential. The examination of the political and verbal crises management from many viewpoints can be caught. My investigation, based on the reports of the Hungarian legislation institutions, the Parliament's Economic and Informatics-, and the Budgetary-, Financial Commitees. Onto the crisis truth verbal response was over with the grouping of keywords on the committee seats I exemplify it. In the additional ones the descriptor beyond statistics the events I execute the analysis of time series, took shape concerned as a result of the effect of the crisis I analyze the shift of the reactions extending over on parties, institutions with the multidimensional scaling of the remarks.

Transition Countries: What Factors Determine Wages?

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The paper examines main macroeconomic factors of wage growth in 28 transition countries in the period 1997-2008. Because of the very different time paths and of the transition processes in these countries and the lack of some relevant data throughout the period, the methodological framework of cross-sectional analysis is used instead of panel modelling. Nevertheless, the dynamics of the dependent variable and the most important explanatory factors were included by use of growth indices, and some of the distinctive individual effects were represented by dummy variables. In that way different effects on wages through different groups of transition countries can be investigated. The research goal is twofold. Firstly, it is to determine the main factors that influence wages in transition countries using cross-sectional estimation, and secondly to test whether slower vs. faster transition process influence faster vs. slower wage growth. Thus the main hypothesis to be explored is that countries which transited to market economy faster, had slower wage growth, due to the more rigorous reforms and stabilisation policy.

Most of the wage models in developed countries, suggested by the theoretical and empirical studies, include various independent economic variables such as: unemployment, productivity and GDP *per capita*. According to these results, it appears that wage growth is higher in countries with initially lower level of GDP *per capita*. Additionally, wage growth seems to be negatively related to unemployment, but strongly positively related to productivity. Our model includes the suggested variables and confirms validity of these relationships in transition countries as well.

However, as a specified study of wage determination in transition countries, our model is broadened with other explanatory variables related to the progress in transition, but according to the principles of congruence and parsimony. In order to assess the change from rigid centrally planned economy to industrialised market economy, a set of EBRD transition indicators is used, indicating levels of macroeconomic stability, competition, price liberalisation and privatisation. The permanent and fast improvement shown by these factors is the key determinant of successful economic transformation, but also possibly grounds for a slower wage growth, since with the transition reforms redistributions in favour of investments and at the expense of consumption are evident. On the other hand, according to our results, faster transformation to a market economy is likely to eventually bring about positive effects on the average wage level.

The paper is organized as follows. The introductory part gives an overview of the literature on wage determination, especially the factors that influence wages in transition countries. The next section presents methodology framework for the empirical analysis and provides the information on the data set, with explanation of the period chosen for the analysis. The main estimation results and the final model

specification based on the relevant tests are given in the following section, and in the final section the conclusions.

Twostep cluster analysis: Segmentation of largest companies in Macedonia

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One of the important procedures for segmentation and classification of the largest Macedonian companies is twostep cluster analysis. This clustering method is very efficient in classification of large data sets, has the ability to create groups using categorical and continuous variables and it is provided with automatic selection of number of clusters. These are all advantages of twostep analysis compared to the traditional clustering methods.

The goal of this paper is to present valuable application of the twostep cluster analysis in segmentation of the Macedonian companies. Every year, the Ministry of Economy presents a publication that reveals the 200 largest and most successful companies in Macedonia. In order to reveal the structure of the Macedonian companies, twostep cluster analysis is performed using the following continuous variables: total revenue in 2007, total revenue in 2006, earnings before taxes in 2007, revenue growth rate 2007/2006 and number of employees. Also, one categorical variable is included, type of industry.

The analysis successfully manages to create solution of four clusters or four different types of companies on the Macedonian market. The first type represents the most successful companies with significantly high revenues, earnings and stabile growth. These companies come from industries such as communications, electricity and manufacturing, and provide significant employment of the work force. The second type are companies with relatively smaller revenues and earnings compared to the first type, but yet higher than the country's average. These are all manufacturing companies with steady growth. The third group has slightly smaller revenues and earnings than the second group, but the difference is that this group represents companies with high revenue growth rate, representing developing companies with significant potential. These are companies that mostly provide services, companies that provide telecommunication and transport, and also few companies from other industries. The last group represents the smallest companies from the analyzed 200 largest companies, having the smallest revenues, earnings and number of employees. These companies will develop further, but with much smaller rate than the companies in the third group. These are all companies that deal with retail and wholesale trade.

These findings are useful because mainly they provide the general structure of the largest Macedonian companies. For the potential foreign investors this analysis is an insight to the most lucrative industries in the country. For the government, the presented results give information about which industries dominate in the most successful companies, in order to invest in their development through infrastructure, university education, tax relief and deduction of other expenditures.

EDUCATIONAL ISSUES

An experiment on the effects of non-response reweighting on estimators' precision in a web survey

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The paper analyzes reweighting adjustments for non-response in surveys carrying out a bootstrap evaluation of non-response adjusted estimators.

In our study we consider a population made of students from the University of Bergamo graduating between A and B.

This population has been surveyed twice (web mode in both cases), before and after graduation. The ante-graduation survey (hereinafter: AGS) is in fact a census, the post-graduation survey (PGS) aimed at being another "census", but as answering was not compelling anymore, we have a 56% non-response rate. Administrative (archive) data is available for all the students.

We apply the non-response process of the PGS in the analysis of AGS data. In this way, we have a controlled situation in which all survey variables, for both respondents and non-respondents are known. We avoid artificial assumptions on the non-response process.

AGS covers many topics, including student satisfaction for his/her university experience. Using the complete AGS data set, we calculate two satisfaction factors from a set of satisfaction questions. This is done using the factor analysis (via principal components) method. First factor may be interpreted as a "general satisfaction" index; the second is a contrast between software (teaching, exams, graduation organization) and hardware (classrooms, libraries, cafeterias) evaluation. Factors are not directly observable, but we treat them as they are, for simplicity's sake. They are continuous, approximately normal variables.

We have 459 students in the artificial population, 203 among "respondents". Is the non-response process MAR ("Missing at Random")? To say this, we regress the response indicators on all the administrative variables (including sex, age, number of years needed for graduating, graduation mark, high school final mark, faculty, type of course) and the two satisfaction factors. There is slight evidence that the respondents and non-respondents have different distribution of factor scores.

If we have to take any inference on the non-respondents we must assume that they are related to respondents in some way. The way is often the assumption that they are related through the auxiliary information, i.e. through variables known for both respondent and non-respondents.

We bootstrap the population to evaluate the ability of the calibration correction to improve the estimators of non-response. Firstly, we try to use the quasi-

randomization approach to estimate propensity, then use these weights as a basis for calibration. Several combinations for calibration variables are used. The faculty is always included as they are main subdivisions of the University and estimates by faculty are routinely required.

Calibration 1: only faculty and type of course (MoS, G)

Calibration 2: faculty and non-response explaining variables

Calibration 3: faculty and non-response explaining variables, variables significant for the factors

Calibration 4: faculty and non-response explaining variables, variables significant for the factors, but excluding the presence of personal email in the register

Calibration 5: faculty and factors explaining variables.

Analysis of problems and further measures for improving statistical education for e-business students at the Faculty of Economics in Skopje, Republic of Macedonia

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The idea of the paper is to analyse the results from the survey performed at the end of the 2009 semester on the population of 72 students on e-business department concerning their experience for different topics related to statistics module in order to improve the overall experience while teaching/learning statistics. The new department of e-business was established in 2003/2004 as an outcome of a Tempus project and the average number of enrolled students per year is around 80.

The questionnaire was simple, consisting of 27 questions, most of them in relation with attitudes towards statistics for business. Until now, we processed only the basics statistics but still some results are indicative in direction of further changes in order to improve students' perception and knowledge of statistics. In order to get the final mark, statistics students have to pass three tests and 20% of them did fail, so they were obliged to come to retake these tests. When asked, which parts seemed to be the most difficult for them, almost 50% of the students said that probability theory and random variables' distributions, together with regression analysis are the most abstract. Most of the students (78%) said that since the start they were aware of the importance to be present on the lectures so they attended more than 80% of the lectures. Even though 75% answered that they think that 6 hours per week are enough, 30% of them needed extra paid lectures.

The policy of the department is to support project oriented learning, so constant contacts with the students are encouraged. Therefore, one professor taught all lectures and exercises so that the students got more attention and opportunity to take active role in the classes. More than 80% of them responded that they needed more exercises in computer lab, a task that is a priority for the coming generation of students. Almost 70% of the students answered that they would not mind if the subject would be taught in English (16 e-business subjects have been already taught that way in the past) with the recommended text book in English and more than 80% said that they feel prepared to have all subjects in English. Further analysis of those answers showed that they think that with proper English they can easily continue their education abroad. For almost 5 years now, our department has experience in usage of the open source communication and learning platform Zephyr, developed by the University of Gent and 100% of the students said that having all available materials and information online is very useful. The students were asked to evaluate themselves, and the average mark after the self-evaluation was 8,56, which after receiving all final marks will be tested to prove whether they are aware of the level of their knowledge. In the further analysis in the paper we plan to analyze cross-tabulations and to discuss some relationships between

attitudes and students' educational or regional background, as well as comparative analysis.

Keywords: statistics, education, e-business

Data Mining Education from Practical Approach

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This presentation is about the practical use and the results of data mining education at BUTE (Data Mining course) and University of Szeged (Practical Application of Statistics course) as well.

First I mention the theoretical part of data mining courses which ends with a closing test. I talk about SEMMA model, some types of statistical analysis, then I present those data miner software - i.e. SAS Enterprise Miner - which are available in Hungary.

Afterwards I come to the practical point of view. The most important problem of nowadays is how we can apply outdated data sets to actual situations, thus I introduce the methodology of simulation – i.e. the Hungarian Student Loan forecast -, and I talk about the difficulties of modelling demographic changes.

I mention some topics among the studies which are prepared in order to pass the practical part of the course. I present one case study (written by a foreign student), which is a great example of adapting theoretical knowledge in practice. His task was applying data mining techniques for knowledge discovery in order to build a model for fraud detection.

Finally I introduce some examples of applying data mining, credit scoring knowledge in decision support

Keywords: Data Mining, Statistics, Practical use of statistics, Decision support, Modelling, Simulation, Forecast, Credit scoring, Stress test, Case study

Environmental Education and Environmental Sustainability In Bangladesh

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Environmental education is in its early development in Bangladesh. Some traditions of environmental wisdom are quite ancient, but most of these are not recognized by the scientific community. The high level of illiteracy and school dropout create barriers to mass environmental education. Some universities offer courses in environment studies, but these are limited and the universities are under-resourced. Within the community Non Government and mass organizations have begun to change policy and perceptions relating to the environment. One successful example for being a ban on public use of polythene bags. The paper describes some of these programs and makes recommendations for strengthening environmental education in Bangladesh. It highlights the need to deploy environmental expertise in public and private sector management systems as the focus of government policy in Bangladesh matures from a short-term focus on self sufficiency to the pressing issues of sustainability within the environmental opportunities and constraints offered by the environment.

How can statistical analysis prove the existence of an independent foreign language skill?

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Is foreign language mediation an independent language skill? Is it part of our conception of language proficiency and a segment of the language learners'/users' language competence? There have been heated debates in professional circles on the role and function of mediation and the debates have not been settled yet.

The aim of my research was to prove that foreign language mediation is an independent language skill that can be measured by specific criteria and as part of a foreign language examination it contributes to a more complex assessment of the test-takers' language knowledge. Besides other methods the most important part of the research was the descriptive and mathematical statistical analysis of the results of the 18 examination periods covering more than 27000 test results from Budapest Business School Examination Centre. In order to reveal the construct validity of the written mediation task I calculated the intersubtest and the subtest-final test scores correlation coefficients of the examination tasks. As a result of the analysis it was observable that the written mediation task does not behave in a different way when compared with the other examination tasks, and does not show such a high common proportion of variance with them that would indicate that the mediation task measures the same skills as the other examination tasks (subtests). It was obvious that neither the written mediation task nor the other examination tasks can be omitted from the test battery. In all examination periods the reliability analysis of the subtests proved that the omission of the written mediation task would reduce the reliability of the whole test battery. The results of the factor analysis show that foreign language mediation skill represented by written mediation tasks is one of the components of general language ability. It can be clearly separated from other language skills with its high loading of variance and on average it explains 17% of the variance of the language skills in the test battery so it represents an important part of language knowledge. Cluster analyses also confirm that foreign language mediation is an independent language skill as mediation tasks are sharply separated from other examination tasks forming an independent cluster. Multiple regression analyses revealed the common subskills (the proportion of variation in the dependent variable explained by the regression model) between mediation tasks and other tasks. On average 54% of the variance of the mediation task is not explained by other examination tasks so it represents subskills that can be attributed only to foreign language mediation skills. My research verified my hypothesis that written mediation examination task measures a segment of language knowledge independently; skills (subskills) appearing in it are not present in other examination tasks. Foreign language mediation is an independent language skill; therefore bilingual language examinations can measure skills that are not measureable by monolingual examination systems.

Keywords: assessing foreign language competence, language testing, pedagogy

How do test methods affect reading comprehension test performance?

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The research explores the effect of two test method variables of foreign language reading comprehension tests - task type and language use - on test takers' reading comprehension performance. The aim of the investigation is either to support or to reject the hypothesis that neither task type nor native or target language use influences reading performance significantly if the tasks target the same construct. The study compared the participants' performance on two reading comprehension tests including either short-answer questions or multiple choice items: one in English (the target language), and one in Hungarian (the native language). Data were also collected from questionnaires and interviews. Statistical procedures were applied at three stages of the research: in the validation of the main research instruments, i.e. the reading tests (1), in grouping the participants into four comparable groups (2), and in analyzing the participants' test performances (3). The validity of the tests was ensured in several ways. Besides qualitative methods, the statistical analysis of test results in a pilot study (Cronbach alpha, Spearman-Brown split half estimates, item difficulty, etc.) helped in ensuring the validity and the reliability of the research instruments. Two-hundred and sixty-seven students participated in the Main Study from Budapest Business School. On the basis of their TOEFL tests results, they were arranged into four groups of comparable language proficiency. The analysis of variance of the test scores ($F_{3,234} = .168$, $p = .918$) and of the participants ability logits computed in a Rasch analysis ($F_{3,234} = .422$, $p = .737$) both showed that the groups were highly comparable. Each group completed two tests: one in English, and one in Hungarian. Following the traditional line of Classical Test Theory, the scores were regarded as interval data and were processed accordingly. For the analyses the Statistical Package for Social Sciences software was used. As the procedures of Item Response Theory are recommended for much larger sample sizes, their application was limited and complementary in the present study. The test takers' performance on the eight test versions was compared by using both parametric and non-parametric statistical computations because distribution on one of the eight tests was slightly skewed. Three sets of statistics were completed. First, test difficulty was computed to see if there was any statistically significant difference between the test versions. Next, the English and Hungarian versions of the same tests were compared to investigate the effect of native language use. Then, the effect of task type was examined. Statistics show that the research hypotheses gained partial verification only. In most cases no significant difference was found. However, there were exceptions, both in the task type and the language use comparisons. One of the main findings of the research is that although native language use had an enhancing effect on test scores in each test in absolute terms, it resulted in statistically significant differences in the case of the multiple choice tests only. This indicates that test method variables may interact with each other and exert a joint effect on performance.

Implementation of factor analysis in the evaluation of higher education

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In the academic environment, although the competition is tough, market signals do not have enough power to swiftly and efficiently show the difference in quality among universities, faculties and study programs. In these circumstances, especially in the countries conducting radical reforms of higher educational systems, institutions must develop their own methodologies for quality evaluation of HE. Implementation of reliable and robust statistical methods is necessary in order to obtain swift and exact information about the HE institution from all important aspects. Involvement of students as partners represents one of the most important elements in the process of higher education and its reform. Students are one of the most important sources of information for self- evaluation of institution and study programs. The question is how to quantify the student opinion and which aspects of HE to evaluate. In order to find the answers and to handle the significant number of variables, we implemented multivariate statistical analysis and conducted the survey at the University of Novi Sad. The goal is to identify basic aspects for the evaluation of HE from student's point of view. Sample of 1300 students was defined and data set from the survey was analyzed through factor analysis. Eight criteria connected to the different aspect of HE were discovered. This paper shows how factor analysis was conducted and what results were obtained with critical assessment of the implementation process.

Keywords: Factor Analysis, Higher Education, Bologna Process, Student Involvement, Self-evaluation

Methodology of organization of government monitoring of activity of the large social systems

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The economic crisis stimulates the social tension in a society. In these conditions the   increase of quality of public administration in social sphere gains the special currency. To solve this problem we have devised the methodology of monitoring of large social systems activity, which was successfully applied in the development of the computer program of remote control of the state system of preschool education. We are absolutely sure, that the methodology, devised by us, will successfully work in any other social systems. Our methodology consists of universal technology of monitoring organization and universal toolkit of the profound comparative analysis. Let's stop on their description.

Microsimulation in Decision Support

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This presentation is about our latest results in the field of microsimulation. First, I introduce the Microsimulation Research Group which was established as a result of BUTE and Calculus cooperation, then, I intend to refer to some former presentations in the introduction part of my presentation.

Afterwards, I talk about microsimulation from theoretical aspects, then, I present some possibilities of practical application. I introduce the research data set from 2004 in connection with Microsimulation Service System of Calculus. The most important problem nowadays is how we can use research data sets from 2004 to actual problems. Demographic simulation was important, today we have simulated data sets till 2010; the following of changes in economy data is in progress, and we have already had real results of the application of simulated data sets.

Furthermore, I introduce the technological problems of modelling demographic changes.

Finally, I present two cases of practical application of microsimulation in detail. I talk about the Hungarian Student Loan forecast. I close my presentation with microsimulation application in the banking sector.

Keywords: Microsimulation, Frame system for end-users, Governmental application, Financing sector, Telecommunication

Testing Wagner's Law for Eastern European Countries

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This paper aims to illustrate, using quantitative analysis, the most critical transformations between 1990 and 2006 witnessed by the higher education sectors in the new EU member countries. During the last years, the newly accepted countries have witnessed fundamental transformations of the higher education systems, which have been accelerated by the integration processes that needed to be completed in order to join the EU. The Bologna Process will continue to shape changes in the higher education systems of the new EU members.

Within the education literature there is a wide consensus about the connection between human capital and economic growth. Using economic methods we will highlight commonalities and differences in the allocation of public educational expenses by the countries that recently joined the European Union. Empirical studies conclude that there are significant differences in the allocation of such expenses even when one examines countries with similar levels of economic development. Moreover, within each country there are significant variations from one period to another. Wagner's law, first proposed in 1883, posits the existence of a positive correlation between the level of economic development and the size of the public sector.

This study will test Wagner's law for the Eastern European countries using both an aggregate measure of public expenditures and a disaggregated form (education expenditures, military expenditures and health expenditures). For both types of measures we will estimate parameters for the models developed by Peacock-Wiseman, Gupta, Goffman, Musgrave and Mann.

In order to identify the factors that determine the size of educational expenditures, we will estimate the parameters of various regression models using panel data. The parameters of these models will be estimated using fixed effect models and random effect models.

A series of studies conducted using panel type data on a group of countries indicated a weak relationship between education and the economic performance of the analyzed countries. Critical indicators that typically describe the health of the higher education system such as the number of students per 10,000 inhabitants, the number of students per instructor and the number of specializations were extremely unfavorable for the countries from the former socialist block. Through the '90s, most of these countries created and developed a strong private sector as an alternative to the public higher education institutions.

Appling the proposed models we also attempt to identify those factors that had contributed to the expansion of student enrollment in these countries and to identify the economic and social impacts of the change of higher education on labor markets.

The Changing of Curriculum of Elementary Statistics in Social Science Education

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The main goal of the paper is to summarize and analyze the changes of education of elementary or introductionary statistics in the field of social science studies in Hungarian higher education.

In the pre-Bologna period, there was a relatively important differentiation by specialization. Some students had only a one semester course (composed of lecture and seminar), where only descriptive statistics methods were taught. In the case of more methodologically intensive specializations, like sociology, a second semester of inductive statistics was added (this second semester was preceded by a semester of probability theory and consisted of lecture and double seminar). Thereby a total of 60 or 150 contact hours were available to teach the competence of statistical reading.

After the implementation of the Bologna process, the available time slots for statistics have been extremely reduced. As a general rule, only a one semester statistics course is offered including only seminars with a total of 30 contact hours.

In the new situation, the curriculum had to be extremely cut. Between the topics of descriptive statistics one cannot find anymore the index theory and time series analysis. Even if the students do not have any advanced (college level) probability theory, the basics of inductive statistics are included, the concept of interval estimate and hypothesis testing are taught through simple examples.

We think that the large decrease of statistics education is not favorable for the students of social sciences, mainly the lack of differentiation. The necessary knowledge is diverse in the specializations of sociology, politology, international relations, and media and communication studies.

Keywords: statistics education, Bologna process, curriculum

The Importance and Significance of Statistics in Legal Studies and in the Application of Legal Principles

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The science of statistics in regards of its methods and tools has a special relationship to the social sciences, thus sometimes escapes attention of the legal students and the members of the legal profession. In order to understand the structure of the Hungarian legal system, the knowledge of the statistical sciences is essential. For students learning private law the knowledge of statistics is helpful, showing the importance of certain legal statues or the necessity of legal rules in governing social networks. In order to show the mechanism of application of law in everyday life we also need statistical tools.

Our lecture will show the statistical distribution of cases filed to the Hungarian Court System.

Out of the total number of filed court cases every second one will be completed within a year. In the second part of our lecture, we will discuss some aspects of corporate law, showing the incidence of establishing business partnerships and corporations. In Hungary in 2008 the established business partnerships, corporations mainly consisted of limited responsibility and financial asset based partnerships. The science of statistics will help to better understand social life-networks by showing average wages, employment, or workplace contracts, their incidence and frequency. For our students it would be difficult to bet, to find out the real ratio and nature of work-contracts, in reality only 8% of work-contracts will be established with a pre-defined time-limit. It is also interesting to know, that out of 8 employees only 3 are women, the rest of it (5) are men. In the field of family law, in respect of the marriage data it is surprising, that in Hungary since 2004, the ratio of people older that 15 years, living in marriage, decreased, and now they are a minority. In 2008 almost 74 000 marriage ended up, by death of the partner, or divorce, and only 40 000 new marriages were registered. The followings also will show the Hungarian social and legal situation: the changing number of criminal cases, the special structure aspect of felonies, and felons, and the abovementioned and also the evaluation of the law-enforcement, court system, the work of judges, In the modern age of globalization, and connected world, it is of utmost importance that the statistical system, the criminal statistics should work with great precision and with the highest professionalism. As the Internet took over every aspect of the modern societies, it is providing easily and readily accessible communication channels, for professionals and lay people alike. Our lecture will attempt to yield an insight of the recent state and importance of criminal-statistics, taken into account the special circumstances of Hungary. We also would like to emphasize once more, how important is the statistical knowledge for the legal profession and legal student nowadays.

The improvement of the student-teacher relationship using a monitoring methodology of the values hierarchy, interests and behaviours of students

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In the transition to the knowledge-based economy, in which the wealth and power are derived more from the possession of knowledge rather than the material and financial resources, the role of databases as structural component of intellectual capital becomes very important. The fact that they store data related to partners, being also a relationship component of the intellectual capital, gives them a dual role for the any type of organization, including educational institutions.
We believe that education is the pillar of today's human society, and, as teachers, we consider it's a challenge to design new and more efficient ways of teaching. Even though the importance of education is widely recognized, we often lose sight of the main pawn: our students, who are the main beneficiaries. The development of an efficient, positive, interactive and mutually satisfactory relationship, indispensable for an effective education, is based on a continuous process of complete and specific knowing of the students, of their values, interests and behaviours.
From the premise that academic work is necessary to respond to the needs of the students, on one side, and the needs of the workforce market on the other side, in this paper we aim to develop a monitoring methodology which should capture the changes in the hierarchy of values and interests of our students. The purpose of this monitoring methodology is to create links between what students expect and what we, as teachers, offer. Databases designed in order to permit the identification of the opportunities offered by the creation of this kind of relationships with the students, represent, in our opinion, an essential instrument for the educator.

Keywords: methodology, education, database, cluster analysis

Use of statistical methods in sociology

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Data analysis in human sciences needs the use of statistical methods. Statistical techniques could provide explanations of how and why some statistical methods are used. The aim of the paper is oriented to the possibilities of use of statistical methods both in education and in research in the field of sociology. Sociology and other human sciences, like psychology, demography, economics and other, do need the use of statistical techniques.
Paper is focused on the analysis of data and the use of adequate statistical methods. Some statistical methods are more suitable for quantitative, some for qualitative data. The paper is oriented to data analysis and the choice of appropriate method. Like in other fields of science, in sociology, too, it is necessary to deal with some simple and some more complicated statistical procedures like: descriptive statistics, inferential statistics, based on the sample survey, dealing with hypothesis testing, significance tests and analysis of variance, linear and multiple correlation and regression techniques, analysis of frequency data using chi-square, nonparametric statistical procedures, multivariate methods etc.
The emphasis in the paper is on use of statistical methods in the education and teaching of statistics and research work in sociology. Presented examples serve in illustration of wide use of statistical methods.

Keywords: statistical methods in sociology, education, research work, types of data, analysis of data

FINANCIAL MODELING AND SIMULATION

Analyses of Extreme Events on Emerging Capital Markets

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This study deals with the statistical methods of contagion-effects on emerging capital markets. Power-law distributional, inverse statistical and our cross-market correlation sensibility test were used on time series (2002-2009) of Hungarian, Russian and US government bond, stock and currency markets to study their behavior under extreme and normal circumstances. The aim of this analysis is to identify the possible differences between emerging and developed capital markets to validate economic axioms according to the relation of bond, stock and currency markets.

Keywords: power-law test, cross-market correlation, inverse statistics

Analysis of the Dynamic Relation between the Currency Rates and the Interest Rates from Romania and the Euro Area before and after the Financial Crisis

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This paper examines the changes induced by the present financial crisis in the dynamic relation between the currency rates and the differentials of interest rates from Romania and the euro area. In the framework of the Uncovered Interest Rate Parity hypothesis we apply the Vector Autoregressive methodology for daily values of the currency rates and the interest rates during the crisis. We compare the results obtained with a similar analysis for a period of time before the crisis began and we find significant differences.

Keywords: Uncovered Interest Rates Parity, Vector Autoregressive Model, Financial Crisis, Romanian Foreign Exchange Market

Exchange rates and its effects in the Nigeria market

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This paper examined the long run and short run interactions between stock prices and exchange rate in Nigeria based on a sample from 1st February, 2001 to 31st December, 2008. Three models were derived from the sample, albeit pre-crisis, crisis and basic models. The paper set out by testing the time series properties of the series using the ADF and PP tests. In addition, the Engle and Granger two-step and Johansen and Juselius cointegration procedures were applied. Empirical results showed that all the series are I(1) and evidence of cointegration was established using the Johansen and Juselius methodology. Furthermore, causality tests revealed strong evidence of long run bidirectional relationship between stock prices and exchange rate in the models. Policy wise, the findings implied that monetary authorities in Nigeria are not constrained to take into account stock market development in achieving their exchange rate policy objective given the symbiotic nature of relationship between the two. The paper recommends measures that would promote greater stability and efficiency of the Nigeria's foreign exchange market.

Individual preference towards risk (extract from a multi-stage survey on investment intelligence)

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The individual preference towards risk is a fundamental concept in economics, and especially in the general field of investment choice. A number of scholars in the area have studied the phenomenon and since they have used various sets of assumptions and various experiment designs, they have reached different conclusions with "rational risk-averse investor" emerging as the ruling paradigm. A somewhat contradictory paradigm is the so called "prospect theory" developed by Kahneman and Tversky. They have designed and conducted numerous experiments on individual choice which could be interpreted that either the essence of the human being is encoded with irrationality/non-rationality or at least that the concept of "rational investor" should be reviewed and widened. The tricky part of changing a paradigm in social science is that no experiment or survey can be conclusive and indisputable enough.

The paper analyzes some of the results from a survey recently conducted by the author among Bulgarian investment professionals. Some of the questions of the survey inquired about individual preference towards risk by pointing out simple choices in a series of fair games of chance. The experiment is based on known exercises but it is designed entirely from scratch. To the best of the author's knowledge it is a first for Bulgaria. Important remark is that the respondents are counted as experts (with unknown general population) so judgmental sampling is used. To tackle the unwanted effects of the sampling technique the data resulted from, some of the questions are processed similarly to Delphi approach. Additionally a similar but shorter control experiment is conducted with randomly sampled non-experts. The collected data show some properties as suggested by the prospect theory. It is reasonable (but likely not rationally) to speculate that the risk related behaviour of the experts would not be as expected by the current popular paradigm in investment sciences. Several special regions of interest (in the risk-investment space) are additionally surveyed so that a better picture of professional investor behaviour could be sketched.

Keywords: Individual risk preference, Kahneman & Tversky Prospect theory, Game of chance, St. Petersburg paradox, Expert opinion survey, Delphi approach

Intelligent enterprise risk management: The role of probability, statistics and scenario analysis

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The negative effects of the global downturn can be observed in the form of greater systemic risk. Systemic risk (also called market risk) represents the probability of loss or failure common to the entire system or a particular sector. It cannot be circumvented or eliminated by portfolio diversification, although it can be reduced by hedging. Non-systemic risk is security-investment risk that is not common to all securities or capital markets but instead is associated with the securities of a particular issuer. Unlike systemic risk, non-systemic risk can be avoided by portfolio diversification, as well as reduced by efficient enterprise risk management. Conventional enterprise risk management focuses on successful risk mitigation. Conversely, the new approach assumes intelligent balance between risk mitigation in order to avoid unexpected losses and risk exploitation for higher returns to be achieved. Moreover, in face of a new turbulent global economy, intelligent risk management means the ability to measure the level of risk exposure (both systemic and non-systemic) and vulnerability of the enterprise through enterprise shock resistance test, and knowledgeable management to match it with its risk appetite. In this paper we present different statistical tools that help managers in measuring risk exposure and enterprise shock resistance as well as subtle scenario analyses that reveal the possibilities of using risk factors as a mean of shareholder value creation. Although quantitative risk analysis may not be able to help predicting probabilities of risk events occurrence it surely provides a solid sense of their tangible consequences on the firm's value.

Keywords: Intelligent risk management, Risk impact calculation, Risk types, Risk distributions, Valuation models, Scenario testing, Enterprise shock resistance, Risk appetite

Interest Rate Model Risk and Basel II: A simulation study

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Equilibrium models of the term structure are widely used in the valuation of interest rate derivatives as well as in bank risk management. For banks, pillar two of the Basel II framework provides, that an "Internal Capital Adequacy Assessment Process (ICAAP)" has tobe established. This process should allow banks to measure and report the appropriate capitalization for current and future risks, in particular interest rate exposures. In its Capital Requirement Directive (CRD, 2006/48/EC and 2006/49/EG), the European Union essentially follows the Basel II guidelines in its principle of double proportionality. A further concretion of the directive was published by the Committee of European Banking Supervisors (CEBS).The set of rules suggests that a Value-at-Risk-based approach be taken in managing interest rate risk. This leaves bank managers with the discretionary decision to choose from different models of the term structure in order to measure and report interest rate risk.We estimate eight different term structure models for three different currencies by meansof the Generalized Method of Moments (GMM). In a second step we perform a Monte-Carlo simulation of typical bank balance sheet exposures on the basis of the estimated term structure models. The results show, that equity cushions vary substantially with the choice of different models of the term structure. Hence, bank management is left with the latitude of judgement in quantifying the Basel II-capital requirements to support interest rate risk.*JEL classification*: G21, G32*Topics*: Basel II internal capital requirements (EU Capital Requirement Directive (CRD,2006/48/EC and 2006/49/EG, 2006)) , risk management, interest rate risk, model risk, Valueat-Risk, Monte-Carlo simulation of bank balance sheet

Keywords: Basel II, banking, capital requirements, risk management, interest rate risk, model risk, Value-at-Risk, Generalized Method of Moments (GMM), term structure models, Monte-Carlo Simulation

Model for sequential dynamic competition between random investment portfolios and portfolios selected by collective expert opinions

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There is a prolonged international and interdisciplinary dispute on the topic of financial market efficiency. On one hand famous researchers such as Moris Kendall, Burton Malkiel and Eugene Fama have studied the properties of financial time series with the general idea that the phenomenon financial market is principally unpredictable. The best suggestion for the investor in such information-reach environment is to choose investments randomly and not to follow any analysis and forecasting. Of course on the other hand the notion that there could be no methodology for predicting financial markets objects most of the theoreticians and practitioners in the field of financial investments.

For the last several decades a numerous tests of market efficiency have been conducted – both scientifically sophisticated and more wide-public oriented. With the Wall-Street Journal Dartboard Contest being the most outreaching and well commented.

The current paper describes the principal and analytical model of a more thorough version of similar research, based on collecting expert opinions (predictions in principle) in a single investment portfolio and is competes it with a randomly picked portfolio. Such a research has been a long coming project of the author and it could only be executed in a fast-communication environment with easily accessed information streams. It would be even more interesting to test the efficiency of an emerging market such as Bulgarian Stock Exchange.

The methodology of the research has several important features:

It is conducted online (Internet), following the principles of Delphi approach such as expert anonymity, unified information stream, ability to exchange supporting arguments among experts and combining all expert opinions in one collective portfolio.

The main innovation is that the model is designed to render dynamically collected expert opinions (this has always been the challenge with applying Delphi method for forecasting financial markets).

A possible solution of the problem with "Non-rhythmic" expert opinions (a typical issue with the Delphi approach) is suggested.

It presents the experts useful information even during the forecasting stage of the competition.

In honour of one of the most famous quote of Burton Malkiel and in attempt to be as genuine as possible real random number generators such as darts and dice are used.

Wide market index is used as a benchmark.

Modified Sharpe ratio is suggested to be used as a measure of prediction success.

Frictionless market is assumed.

Incorporated mechanism for weighting (correcting) the expert opinions as a function of time of submitting prediction with the newer having bigger impact on the final collective portfolio

Incorporated mechanism for weighting (correcting) the expert opinions as a function of success with the better predictors having bigger impact on the final collective portfolio

Both of the above-mentioned correction mechanisms and the model as a general introduce inherent systematic errors for which an adapting mechanism is proposed (i.e. stochastic approximation).

On the valuation of loss carry forwards

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It is well known that the future cash flow from losses carried forward is comparable to the cash flow from a long call position. Therefore, it seems straight forward to use option price theory for the valuation of losses carried forward by an enterprise. In this paper it is shown, that the standard Black-Scholes Model cannot not be used for the valuation of losses carried forward. The assumption of a geometric Brownian Motion does not fit the behaviour of the taxable base which is the underlying of the assumed option. Therefore, we derive a new pricing formula for losses carried forward using a stochastic process that fits better the behaviour of a taxable base. This is done in a one period framework. For this derivation we use major insights from financial mathematics and Brownian Motion calculus. The resulting formula is a little bit more complex than the Black Scholes formula, but its application is straight forward. The formula also takes into losses carried forward and interests paid both need a positive taxable base, if they should yield a tax shield. The financing policy influences the value of losses carried forward and enters the formula as well.

Furthermore, we analyze the valuation of losses carried forward in a multiperiod setting. It results, that due to intertemporal interdependencies it is quite difficult to use option price theory in a multiperiod setting, but some upper boundary on the value can be calculated, using the valuation formula derived in the paper.

Keywords: Valuation, Loss carry forwards, Option price theory, Stochastic integration, Risk neutral valuation

Pairs Trading: A new approach

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With the decline of transaction costs, the advances of technology and the
improvement of market liquidity, high-frequency auto-trading has attracted rapidly
growing interest in recent years. The development of automated trading system is
also supported by the replacement of physical open outcry market with fully
electronic exchanges, such as NASDAQ. One of the most popular and successful
automated trading algorithm is called pairs trading. It consists of trading correlated
pairs of books by taking long or short positions in one of the book pair as soon as
pairs diverge abnormally. Originally introduced in 1986 by Nunzio Tartaglia, head
of the Analytical Proprietary Trading group at Morgan Stanley, the strategy
formerly applied on daily stock prices is still the cornerstone of statistical arbitrage
strategies, but mainly run with futures using real time tick-by-tick trade and quote
data.

This article proposes a general pairs trading algorithm for both daily and intraday
data. Given two highly correlated traded assets, as index futures, a pairs trading or
market neutral strategy takes a long position in one of the securities and a short
position in other security as soon as the spread between the returns widens
abnormally. Should the spread eventually converge to its long-term value, and then
the reverse position is taken. While in the short run the distance, or spread,
between the two normalized prices sequences might fluctuate randomly up and
down, in the long run it ought to be drawn back towards its long-term equilibrium.
Thus, it can be modelled as a discrete mean-reverting process.

The first part of the article shows how the price differences or spread between a
trading pair can be modelled with a discrete or continuous Ornstein-Uhlenbeck or
Cox-Ingersoll-Ross model and describes the pairs trading algorithm. In the second
part of the document I propose a new calibration method to profit of changes in
correlation between the two normalized time series. The key feature of pairs
trading is to find an optimal barrier level, which maximizes the profit at the end of
the trading period. The number of trades generated by the algorithm depends on the
barrier level. A low-level barrier will generate many trades, a high amount of fees
and increases the probability of non-executed orders placed in the market. On the
contrary, an abnormally high barrier level will barely generate any trade. To be
robust over time, the average number of trades per period should not fluctuate too
much, whenever the market is volatile or illiquid. Unlike traditional pairs trading
algorithms, the trigger level is not kept fixed at two standard deviations above the
long-term mean of the spread, but varies according to the market activity. The
constraints on the number of trades per period are obtained by optimising the
barrier level such that the mean and variance of the first-passage time of the spread
process is bounded. Finally, the behaviour of the algorithm is illustrated with
various pairs of European index futures.

Rating model opportunities for emerging markets

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Ratings are very demanded in the market-driven economies. Basel II Accord has enhanced interest to the development of approaches based on internal rating systems, and initiate elaboration of models for remote ratings forecast based on external ones as part of Risk Management Systems and Early Warning Systems.
The proposed article evaluates current rating system peculiarities as well as specific issues of development of rating econometrical models (order probit) for emerging market companies. Special attention was paid to the elaboration of public and private companies rating models, to the development of their distinctions and bottlenecks. Financial indicators, market-value appraisals and macroeconomic indicators of different countries were used as explanatory variables. Standard & Poor's and Moody's ratings were considered as modeling ratings. The sample was based on data from the information and rating agencies relating to the companies from almost 40 countries

Keywords: financial risk, corporate ratings, econometric model

The use of infection models in accounting and crediting.

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Recently one of the main directions of data mining is the study and use of network data. Our research is concentrated on the network data about the links of big and medium size of companies that can be deduced from the bank transactions. The main goals are to develop models to predict churn and bankruptcy. We implement the Domingos-Richardson cascade model, and for the parametrization and evaluation we use the database of the OTP Bank. The results suggest that the developed system is capable of supporting a wide range of applications of network problems such as churn, bankruptcy, campaign management, information diffusion etc.

Keywords: Graph mining, Influence models, Costumer value

FINANCIES – EMPIRICAL ISSUES & RISK ANALYSIS

Bank loans pricing in the new Basel II regulatory framework

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Under the new Basel II regulatory framework, the need for an effective risk-adjusted pricing mechanism has become even more central in banking than in the past: banks are spurred to develop risk-adjusted measures that can avoid wasteful customers' cross-subsidization and, consequently, play as an essential role in the value creation process for bank shareholders.

The paper aims at detecting how the new Internal Ratings-Based approach does reflect on the loan pricing mechanism adopted by banks, by developing a pricing methodology to estimate risk-adjusted rates and spreads for credit exposures, and by further investigating the relationship between risk factors and loan price.

Following prior literature, risk-adjusted pricing for bank loans can be split into two main components: the first one is the "technical" part, which takes into account both the expected (EL) and the unexpected (UL) losses, and the opportunity cost that banks have to bear for providing committed credit lines to some borrowers, allowing them to call the committed amount at their own request. The second part is defined "commercial" and includes commissions, operational costs, and other subjectively allocated costs, depending on different factors.

We don't take care of these costs since issues arising from their allocation are solved by banks through a detailed facility accounting and this allocation doesn't have any relevance in terms of credit risk management. In this research we focus our attention on the two main components of the "technical" loan price: the remuneration for the expected losses and that for the unexpected losses.

The main inputs we need to take into account in our pricing formula can be simply drawn from an internal rating model (the probability of default, the loss in case of default, the exposure at default and the maturity) and from easy-to-find market data (risk-free interest rates and shareholders' target return).

The pricing formula we propose here is consistent with the new Basel II regulatory approach to credit risk management and provides an immediate support for bank managers in making a loan price-related decision.

Keywords: Basel II, pricing, credit risk

Building Cross-Classified Multilevel Structure for Credit Scorecard: A Bayesian Monte Carlo Markov Chain Approach

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The asymmetry of information between loan grantors and borrowers will always be subject to detailed monitoring of customers credit worthiness. Therefore, this paper aims to introduce an improved type of credit scoring model - a cross-classified multilevel scorecard.

The model produces forecasts of probability of default on a loan for individual borrowers and could be implemented in decision-making process in retail banking. The credit scoring model is built within two-step: the clustered structure is created and then the model is fitted.

The clustered structure is a cross-classified multilevel, which has the individual applicants for a loan cross-classified by their living environments (microenvironment), occupational fields and infrastructure of shopping facilities in the area of their residence. Applicants for a loan are considered as lower-level units in this clustered set-up. The structural approach helps to model exposure to unobserved random effects which have a certain impact on default. We determine environment, occupation and infrastructure-specific effects as being random and include them at the second level of model hierarchy along with the other explanatory variables. These random effects bring additional information and used to model exposure to environment-specific risk factors, occupational hazards and infrastructure risks.

In the second step, the multilevel credit scoring model is fitted by applying Bayesian modelling. The Bayesian Monte Carlo Markov Chain approach is appealing here as we simulate random effects of particular microenvironment or occupation and are interested in making inference of the parameter estimates in the population of different microenvironments or population of various occupations. Combining prior information on random effects and the data we try to simulate a joint posterior distribution and make point or interval estimates of the model parameters of interest. Mainly, the question lies in calculation between clusters variation within each of the cross-classifications.

The non-informative and weakly informative prior distributions are used for the variance parameters of the random effects. The starting values are obtained after model was fitted in Stata. For convergence-checking purpose three chains in parallel are performed with average chain-length of 500.000 iterations.

The data used in the study is a random sample of 5956 observations which includes detailed information on customers who apply for a bank loan. The individual level data contains personal information including income, marital status, number of dependents, profession, age and others. Credit Reference Agency data provides detailed data on derogatory reports, credit enquiries and other Court records. Market descriptive data includes detailed information for the 5-digit area zip code in which applicant resides. The sample probability of default is 9.5%.

The obtained results confirm a reasonable advantage of applying cross-classified multilevel structure to set up a credit scoring model. There is a significant variance within clusters in each of the three cross-classifications. Compared to the conventional logistic regression, cross-classified multilevel scoring model gives more accurate predictions: smaller Brier score and information criteria statistics (BIC, AIC).

Keywords: multilevel statistical modelling, cross-classified structure, random-effects, credit scoring, Bayesian Monte Carlo Markov Chain, logistic regression

Changes in the Monthly Effects from the Romanian Foreign Exchange Market

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This paper investigates the systematic patterns displayed by the Romanian Foreign Exchange Market in some months of the year. In our analysis we employ monthly values of the Romanian national currency rates against the United States dollar and the euro. We find that to this date, since the Foreign Exchange Market's settlement in Romania, significant changes occurred in the monthly effects. We associate these changes with the new trend in the Romanian foreign trade and with the new monetary strategy of the central bank.

Keywords: Seasonality, Romanian Foreign Exchange Market, Foreign Trade, Monetary Policy

Credit Risk Evaluation in the Small Business Activity: Individual Aspects at the Macroeconomic Level

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The paper is aimed at the statistical methodology investigation for credit risk assessment and its application in the small business area. A three-step procedure was elaborated as a technique which had originally been developed under the Basel II Internal Rating Based approach. Traditional indicators of the banks' sustainability were transformed into the ones that capture the inner side of entrepreneurial activity, the relationship with investors, and the consequent outcome. Having been processed at the individual level the results were aggregated for the macroeconomic analysis.

It is commonly asserted that small business activity stimulates economic growth. However, there is lot of debates about what kind and amount of financial capital is more favourable for the efficient functioning of a small firm. In this area the "overinvestment" problem is often considered in the literature as a result of asymmetric information and excessive risk seeking of the actors. The contribution of the following research lies in the overall effect estimation: the "risk burden" caused to the economy by entrepreneurial activity was evaluated. The consequences of the excessive credit risk acceptance by private investors were provided as well as the opportunity to take and transform these risks into the valuable input element to the overall economic growth.

The methodology validation was realised under Global Entrepreneurship Monitor (GEM) conceptual framework. Three parameters were modelled from the GEM data: the probability of default among early entrepreneurs (with the help of discriminate and regression analysis); exposure at default in terms of the implied riskiness of the business activity (non-parametric tests were used for the interconnection revelation between the degree of riskiness and the amount of attracted capital); and loss given default based on the investors' expectations about future returns (direct indicator adjusted to the sample size). Finally, a macroeconomic indicator of possible losses among young businesses, if they attracted informal capital, had been received for 42 countries in 2006 and in 2007.

As a result, informal investments are inefficient when the concentration of credit risk in the economy is rather high. Investors' expectations about the entrepreneurial growth of the firm are pessimistic, anticipated returns on investments are too low to be economically reasonable. The outcome leads to the irrecoverable losses, both financial (short-received profitability) and non-financial (decreased output, the lack of innovativeness, flexibility, and inventiveness).

The implication of the research is confined to the interpretation of entrepreneurial growth, since it can turn out to be inefficient in terms of wrong financing incentives. For some countries (BRIC) private capital is useful for the start-up development, where as for other ones (Sweden, USA) informal credits should be treated carefully because they have a straight impact on the outcome of entrepreneurial activity.

It is possible to constraint the undesirable flows by means of formalisation of informal capital by stimulating the formal side of small business financing. Moreover, the volume of the credit risk taken by private investors (in the form of the received characteristic of economic losses) can be also regarded as a leading indicator of the possible economic downturn.

Demand for Money in Macedonia

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The existence of a stable long-run demand for money is important for conducting monetary policy for two main reasons: first, from a more general point of view, stable money demand represents a prerequisite for supplying an adequate quantity of money in accordance with the needs of economic agents (businesses and households); second, more specifically, the stability of money demand is a necessary condition for implementing monetary policy strategies in which monetary aggregates have a prominent role.

The main goal of the paper is to analyse the long-run relationship between money and several other variables, such as: economic activity, interest rates, inflation and exchange rates, in Macedonia. Once we succeed to establish such a long-run relationship, we'll examine the short-run dynamics of the money demand, focusing on the adjustment process. Also, when assessing the existence of stable demand for money in Macedonia, we'll take full account of the relevant issues related to the appropriate choice of the variable representing the opportunity cost of holding money.

As for the methodology, the properties of the long-run demand for money will be explored within the context of the cointegration approach. In addition, the short-run dynamics of the demand for money will be analysed employing the error-correction model. Finally, a series of test procedures will be undertaken in order to asses the stability of the demand for money.

Keywords: cointegration, error-correction model, money demand, monetary policy

Dependence structure analysis using Copula-Garch model: an application to the international stock market

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The relationship between different international stock markets is of crucial importance for both financial practitioners and academicians in order to manage risks. However, measuring and modelling dependence structure become even more complicated when asset returns present nonlinear, nongaussian and dynamic features. In this paper, we investigate volatility spillover effect between FTSE100, S&P500, CAC and DAX stock indices. Strong lagged volatility of stock market itself and asymmetric spillover effect between different stock markets are found out based on the multivariate MVGARCH-BEKK model. We advocate two steps copula-garch model to examine the dependence structure. Firstly, we filter log-return daily data using univariate garch model to obtain standard residuals and construct the marginal distributions. Secondly, couples of static and time-varying copulas are selected as candidates to join the estimated marginal distributions. The Akaike information criteria (AIC) method is then adopted to determine which copula provides best fitness to the market data. Finally, some interesting results of comovement between different stock markets are critically discussed.

Keywords: Copulas, dependence structure, Garch models, time-varying, volatility spillover effect, AIC

Direct investment and costs of production: empirical results of modeling costs structure applied to Russian industry in 2005-2009

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In the applied theory of exogenous or endogenous economic growth it is usually assumed that investment leads to capital accumulation with no influence on technological progress. On the other hand, at the firm level investment is aimed at developing innovative technologies (process innovations) which lower firms' production costs per unit of output. However, when a firm decides to make an investment it may consider other reasons besides improving production process. Firms may also invest in expanding the range of goods produced, i.e. invest in product innovations associated with the extensive growth. The question arises: Do investments matter?

In our study we analyze the relationship between investment processes and the dynamics of production costs. We discuss the influence of different types of investment, including fixed investment, R&D investment, and foreign direct investment, on the structure of costs (material costs, fuel and energy consumption, and wages). The aim we pursued was to find out whether higher investments lower costs of production per unit of output controlling for the dynamics of relative prices. If our hypothesis of investment significance for production process and technological progress is not rejected, it means investments are efficient.

We base our study on the official statistics on seventeen key industries in Russian mining and manufacturing sectors, electricity, gas, and water supply sector. The data is taken from the Federal State Statistics Service (Rosstat), and it covers the period from 1st quarter of 2005 to 2nd quarter of 2009. Until 2005 Russian industrial statistics were based on the OKONKh industrial classification. Starting from 2005 the OKVED classification (harmonized with NACE European Classification of economic activities) has been introduced. Unfortunately, the continuity of official industrial statistics failed after 2004. We discuss a possible way of recalculating industrial time series in 1995-2004 retrospectively using tables of correspondence; however, the results do not seem to be very fruitful.

So econometric modeling encounters serious limitations due to the small sample problem. Our previous empirical results suggest that there is the statistically significant relationship in several manufacturing industries. To verify our hypothesis of investment efficiency we assume that the long-run equilibrium found 1995-2004 remains unchanged after 2005, as it takes time to develop and use innovative technologies which lower production costs. We test for cointegration between costs per unit of output and investment, taking into account the possibility of structural breaks in the data which covers the beginning of the current crisis. Bootstrap approach is used to make inference on the parameter estimates. Our results suggest that the effect of investment on costs varies across the industries, and the overall efficiency of investment can be seriously questioned. No investment efficiency found in mining sector which accounts for more than a half of total investment in Russian industry.

Discounting Under Stress: An Experimental Study with Revised Tatiana-design

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In intertemporal decisions present or future values are calculated. In normative economics Discounted Utility Theory (Samuelson, 1937) serves as framework for intertemporal discounting. However a number of characteristics of discounting violate Discounting Utility Theory. Gain-loss asymmetry, time and size effect and delay-speed up asymmetry (e.g. Lowenstein Prelec, 1992) all indicate that normative model may be revised. In addition to these evaluating the value of an outcome can vary with mental and emotional states as well (e.g. Loewenstein 1996; Loewenstein, Hsee, Weber and Welch, 2001).

To study the effect of stress on discounting and to check whether hyperbolic discounting (e.g. Loewenstein and Prelec, 1992) fits to empirical results revised version of "Tatiana-design" (Dezső and Neszveda, 2009) was used. This study mainly addressed questions stemming from the first studies with "Tatiana-design". 96 BA students were enrolled in the two-stage, within subject experiment. Intertemporal tasks were real life scenarios, where three dimensions were manipulated: sign (gain, loss), cash sizes (10000, 50000, 250000, 1250000, and 6250000 HUF) and delays (1, 6, 12, 18 and 24months). In the first stage subjects discounted in neutral emotional state, whereas in the second stage subjects discounted under stress.

Our results show that (1) Hyperbolic function serves the best fit for data irrespective of emotional state. (2) A two-stage mental model in discounting was detected. An initial, fast yes/no decision, where "No" leads to unsubstansive discount rates ($r \leq 0.006$), and "Yes" leads to further calculations. (3) 12 month delay has a special effect: further delays (18 and 24 months) do not differ from it. (4) Stress significantly reduces discount rates for gains for all delays. On the contrary stress increases discount rates for losses for mid and long delays.

Keywords: intertemporal discounting, intertemporal anomalies, hyperbolic discounting, visceral effects

Dynamic Estimation of the Hungarian Zero-Coupon Term Structure

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This presentation focuses on structural properties of the Hungarian zero coupon term structure. Generally, there are two ways to achieve this: static yield curve fitting (this is most commonly used by both researchers and practitioners including the National Bank of Hungary) and implementing a dynamic approach (to gain a better understanding of the dynamic evolution of the yield curve). The second option is taken here via econometric methods. The speaker's goal is to implement a pure dynamic approach using Hungarian government bond data and draw international conclusions where possible. As Hungary is a key European emerging market, empirical findings might offer value for both researchers and market participants.

After briefly showing descriptive statistics and Principal Component Analysis (PCA) implied consequences for the Hungarian term structure, a semi non-parametric (SNP) model is estimated to summarize structural properties of the sample data set (panel data of 15 maturities over the period 2000 – 2008 with N=2007) without making any parametric assumptions. The optimal SNP score is a VAR(1), GARCH(1,1) process, where the innovation is found to be a 6th order polynomial with a time lag of 1. This score is optimal not only in the 1-dimensional cases (for all chosen maturities of 6M, 2Y, 5Y and 10Y), but also in a panel data approach (where the sample data set has all four dimensions and the process includes cross sectional effects as well). This compares with Dai and Singleton (2000)'s finding of a VAR(1), GARCH(1,2) process with an innovation of a 4th order polynomial with a time lag of 1, for their U.S. sample data set (one of the most widely used benchmark study for U.S. markets). No signs for volatility asymmetry (leverage effect) are found to persist in the Hungarian case.

Thereafter parametric assumptions are made and the most widely used mean reverting affine models of literature (Vasicek and CIR) are calibrated with up to 3 factors via the Kalman-filter. To compare results with benchmark U.S. markets, the same models are estimated for the U.S. yield curve, too. An important conclusion of the empirical research by the author is that the 3-factor Vasicek model is well suited for the domestic bond market, however the CIR model – supporting the findings of Brigo and Mercurio (2006) – is unable to cope with the inverted nature of the Hungarian term structure.

Finally, out-of-sample forecasting capabilities of the 3-factor Vasicek model are tested on several forecasting horizons. Since out-of-sample forecasting errors are several-fold of those in the in-sample approach, the benefits of the presented methodology are more likely to show up as more efficient risk management of commercial banks than hard profits of proprietary trading desks.

Keywords: Interest rate model, term structure, Kalman-filter

Evolving Market Perception of Credibility of MNB's Inflation Targeting Regime

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The monetary policy strategy of inflation targeting has a good track record in maintaining price stability with relatively low macroeconomic sacrifice in various types of economies. Inflation targeting central banks can consider themselves successful when they manage market expectations in a way that leads to lower inflation in the long run. These expectations are formed by financial investors of the evolution of market prices of financial assets and the policy moves of the central bank as reacting to changing economic and market conditions. When investors see that a central bank acts in line with its strategy, they will think of that central bank as a credible one. Credibility is an asset for a central bank as expectations of the target variable become well-anchored to the target and fewer and smaller policy moves are required to reach this target. Credibility can be estimated by assessing the degree of predictability of the central bank's policy moves as reacting to evolving market conditions, and the predictability of changes in asset prices in the fixed income and foreign exchange markets as reacting to changing market perceptions of the central bank's inflation aversion. In order to get a more dynamic assessment of credibility, one can measure the perceived credibility as seen by investors in financial markets. In this context, the higher the market perception of its aversion to inflation as implied by market prices of financial assets the more credible an inflation targeting central bank becomes. From this perspective, central bank communication is crucial as it gives a firsthand feedback to market participants as to whether or not the central bank consistently follows the monetary strategy laid out for itself. Thus, communication can dynamically build or destroy credibility. In our paper, we introduce several approaches to estimate the credibility of the Hungarian inflation targeting (IT) monetary policy regime in the period from June 2001 to April 2009. In the first part, we apply simple methods to measure the predictability and gradualism of Monetary Council decisions, the consistency of its communication as well as give a statistical overview of inflation stationarity and asset price changes. We find - and we attempt to explain why - that predictability was mediocre, the consistency of communication was low and there was one turbulent period (October 2002-November 2003) when communication was confusing and asset price volatility was high. We also find that inflation became stationary after the introduction of IT in 2001. In the second part, we introduce two econometric models to capture the evolution of the market perception of credibility. One is an EGARCH model that looks for reasons explaining volatility in the most important asset price (3-month BUBOR). The other one is a model demonstrating how asset price reactions to news reflects changing market perceptions of the anti-inflation stance of the MNB, and is using novel econometric methodology (the Elliot-Müller test and the Müller-

Petalas procedure). While the results of the later tests are not robust, the EGARCH model points to the conclusion that communication was counter-productive.

Modelling of structural changes in the banking sector in the republic of Bulgaria

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The steady state of the banking sector, its positive development and efficient operation is formed as a result of the immediate impact of the factors in the macroeconomic environment. This relationship is of particular relevance in the context of testing the effects of the global financial crisis and the economic development of the catching sector of Bulgaria.

The specific structure of the banking sector of Republic of Bulgaria was formed as a result of processes of privatization, entry of foreign investors. It had a significant role in the development and changes in global financial space - free movement of capital, liberalization and deregulation.

By using the Herfindahl-Hirschman Index and the Simple Concentration Ratio established levels of concentration of banking capital in the banking groups and market shares and are referred to the centres of the uncertainties arising from them.

Modelling stock market volatility in Macedonia

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This paper examines the behaviour of stock returns in an emerging stock market, the Macedonian Stock Exchange. The focus is on the relationship between returns and conditional volatility of the Macedonian Stock Exchange Index (MBI10). The MBI10 daily returns time series displays stylized fact for returns such as volatility clustering and high kurtosis. In addition, the autocorrelation function of squared returns is slow decaying. We found existence of the ARCH effects in the daily returns of the stock index. Therefore, we tested how accurately GARCH type of models forecast volatility. The conditional mean follows a GARCH-M model, while for the conditional variance one symmetric (GARCH) and two asymmetric GARCH type of models (EGARCH and GJR) are used. Three error distributions were assumed, i.e. Gaussian, Student-t and Generalized Error distribution.
We tested the theory that a negative shock to financial time series is likely to cause volatility to rise by more than a positive shock of the same magnitude and found only weak evidence for the asymmetric response of volatility to positive and negative shocks. At, the end of the paper, we investigate accuracy of the in-sample and out-of-sample forecasts. The GARCH models with non-Gaussian error distributions provide better forecasting accuracy.

Keywords: Stock market, modelling volatility, ARCH effects, GARCH models, non-Gaussian error distribution

Models of location and restructuring bank branches network

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In countries with transitional economies financial institutions, particularly banks, are actively developing, despite the crisis. Bank branches are the main means of attracting new bank customers, as well as a place of service of existing customers. In competitive environment effective branch network is one of the key factors of banks' success. Existing methods of analysis of location problems and restructure the network of bank branches were analyzed. The author proposed a group of new models for analyzing the problem of restructuring the branch network of the bank. These models (stated as optimization problems), unlike the existing ones, take into account the heterogeneity of demand for banking services, as well as the specificity of banking sector in transition economies. Proposed models allows us to analyze and choose the best way of location or restructuring the bank branches network in different situations: market entry in new area, the merger of two banks, reducing the branch network to minimize costs, etc. With the help of one of the proposed models was analyzed branch network of a large bank in Moscow, opportunities for improvements were identified.

Keywords: bank branches, location-allocation, optimization problem

Multivariate Analysis of Relative Equity Valuation
Empirical testing of European Traded Stocks

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This paper draws on the literature of relative valuation of enterprises. The purpose of valuation using peer group multiples is to place equity value in relation to peers, who are considered as an alternative investment opportunity. A peer group is made of similar companies that do not necessarily operate in the same industry, but have similar profitability, liquidity and balance sheet structures. In addition to the usual common-size balance sheet and income statement items, industry norms are also used as the basis for forming valuation multiples. For this reason, the literature normally draws on peer groups from the same industry. The aim of this paper is to investigate the suitability of the sectorial division as a basis for forming peer group using multivariate statistical analysis. We take cross-sectional data of 180 European listed companies and we create different multiples that form the latent variables of profitability, efficiency and value. Our methodology uses cluster analysis, and factor analysis (PCA, PAF) to examine whether results differ from our hypothesized sectorial classification. Our hypothesis is confirmed that forming peer groups based on the Bloomberg sector categorisation is correct and stable. We come to the conclusion that in general it is a good proxy to align an enterprise's operations to the industry standards.

Keywords: multivariate analysis, relative valuation, asset pricing

Originate-to-Distribute Model and UK Financial Institutions

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The subprime mortgage crisis has brought attention to the business model, (namely the originate to distribute (OTD) model), that a vast majority of banks have adopted. In the OTD model the originator of a loan sells it to third parties through a securitisation process. The OTD model can be an efficient risk sharing tool for financial institutions to diversify their portfolio. However, the conflict of interest between different parties and potential incentive problem have eroded the original intention of the model. Furthermore, the financial contagion effect evolving from the OTD model of lending, contributes towards a significant proportion of the credit crisis in 2008. Because of data limitation we choose to examine the OTD business model of Lloys Banks and Northern Rock.We adopt Purnanandam (2008)'s approach using the difference-to-difference method to analyse the participation of UK OTD mortgage market pre-subprime crisis and post-subprime crisis periods. We show the difference of two UK commercial banks' participation in mortgage market prior to the credit crisis and post-disruption period. We find that the ability of the transfer of credit risk through the OTD model encouraged the origination of inferior quality loans by the banks. We also find that the OTD model affects banks' attitude towards risk from risk aversion to risk taking investment behaviour. We conclude that the OTD model is a postive financial innovation. However the screening incentive needs to be revised and monitored.

Keywords: Originate-to-distribute, OTD model, financial contagion, risk management, subprime crisis

Public projects and their major sources of financing in Poland after the accession into the European Union: the case of the Silesian Voivodship

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In the period of time following the EU's accession of Poland (1 May, 2004), investment processes in individual voivodships have revived considerably. Infrastructure has become the main direction for investments. Local government units have a variety of options available in order to acquire funds for financing of public projects. The key aim of the paper is to discuss such issues, i.e. the authors present the scale of investments in municipalities, communes, poviats and self-governing voivodships as well as the extent to which EU funds are engaged in financing of investment projects carried out by these entities, based on the example of the Silesian Voivodship. The paper is an attempt at evaluating the dynamics of changes which occurred in the years of 2004-2008, within the source of financing for investments which plays an increasingly important part in budgets of local government units i.e. EU funds. The article presents a theoretical and empirical approach to the issues.

Keywords: Public projects, Infrastructure, Local governments' projects, European funds, Financing of investments, European Union's funds, local government's budget, Silesian Voivodship, Poland

Statistical Analysis of Money Supply at Qatar Central Bank

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The objective of this article is to study the trend of the money supply at Qatar Central Bank. This study displays comprehensive view of the time series properties of monthly returns of Qatar Central Bank money supply. Data for this project was obtained from the monthly bulletins over the time period between: 1998 - 2008. Several time series models were used for the data analysis and forecasting. The data analysis showed that there was a big change for the money supply in Qatar Central Bank in the last ten years. The amount of the money supply was increased in an exponential fashion during this period.
From the Data analysis the Double Exponential Smoothing model seemed to be the more adequate model to generate three years forecasts.

Keywords: Time Series, Money Supply, Exponential Smoothing

Testing the UK stock market overreaction

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The overreaction hypothesis asserts that investors tend to violate the Bayes' rule where they overreact to unanticipated and dramatic news or events in the financial world. This paper scrutinises the behaviour of the UK stock prices in relation to the financial crisis (credit crunch). An event study is carried out for the period of 2004-2009 for the portfolios of Winners and Losers, which provided evidence of high level of overreaction in the market which is consistent with the overreaction hypothesis.

Keywords: Overreaction Hypothesis, bubbles, market instability

The analysing of performance's investment funds traded on the Bucharest Stock Exchange

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Investment funds (SIFs) traded on the Bucharest Stock Exchange (B.S.E.) regulated market had an outstanding evolution for a long period of time. The beginning of financial crisis on all major international markets on the second half of 2008 had an overwhelming negative impact on the evolution of investment funds traded on the B.S.E.

In this study we evaluate the performance of investment funds using the analyses of return and risk of that investment funds. The performance is analysed before and during the financial crisis in comparing to entire Bucharest Stock Exchange evolution.

This study is based on advanced statistical and econometrical methods. For sufficient data we use daily returns knowing that crisis had begun recently.

Keywords: return, risk, performance, returns correlation, returns dependence, forecast

The comparison of the financial situation of Iceland and Hungary in regard to the international financial turmoil
„ …The two weakest sheep in the bunch…"

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As András Simor, the President of the Hungarian Central Bank, after the collapse of the financial system of Iceland in his fabled statement mentioned, the investors will take out their capital from the second weakest country (Hungary) inducing in the worst case a state-bankruptcy. After this shocking statement the Hungarian crisis-communication stressed that Hungary's features are not the same as in Iceland because of the different fundaments. In this paper I will analyze with statistical methods whether this reaction was true of false.

The Effect of Euro on Equity Markets and Economic Growth in Euro-Area Countries

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The introduction of the euro has acted as a powerful catalyst to the process of stock market integration by removing exchange rate risk on the bulk of financial flows within the Euro-area countries and stimulating demand for cross-border financial services. Although the elimination of currency exchange risk and the high degree of integration probably have substantial positive effects on the competitiveness of the EMU economies, their implications for financial developments and economic growth are somewhat ambiguous.

Using cross country regressions for the period 1989 to 2009, which encompasses 10 years before and 10 years after the creation of the euro area in 1999, the first objective of this paper is to study how the adoption of the euro as the common currency in eleven euro area countries has affected equity market's developments (measured by stock market liquidity, size volatility, and integration with world capital markets). The second objective is to study the impact of euro on economic growth and its components; capital accumulation, productivity improvement and saving, in these countries.

Keywords: euro, equity markets, economic growth, euro-area

The examination of risk premiums

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The risk management as the way of uncertainty minimizing has always a huge importance on the field of management, especially in the financial sector. As the old Hungarian saying goes: *there is no real success without risk*. This saying appears on the field of finance as a connection between the risks and yields. In this paper the authors are attempting to explore the average share risk premiums (the extra yield over the risk-free yield expected by the investors) in the pre-selected stock exchanges with the methods of descriptive statistics. This serves as the basis of further examinations. The data from the past 10 years is used during the work.

Keywords: risk premium, share, stock, stock exchange

The impact of government-backing announcements on CDS spreads

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This thesis investigates the impact of U.S. government backing announcements on credit default swap (CDS) spread changes of U.S., European and Japanese financial institutions during the financial crisis 2008 to 2009. An event study shows that CDS spreads of both U.S. and European financial institutions react significantly to support measures announced by U.S. federal agencies and the FED, although European firms only to a minor extent. These announcements effects are most pronounced for depository institutions and insurance companies. A regression analysis reveals that a certain level of ownership concentration is significantly related to CDS spread changes, whereas firm size has no significant influence.

Keywords: Credit default swaps; intervention; market reaction; event study

**The impact of the US Stock Market on the Romanian Stock Market
in the context of the Financial Crisis**

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This paper explores the stock market interlinkages between the United States and Romania during the actual financial crisis. For this purpose we analyze, in a Vector Autoregressive framework, daily values of Dow Jones and BET, being two reference indexes for the US and the Romanian Stock markets. By comparing with the results for a more tranquil period of time, we conclude that in the context of the financial crisis the Romanian stock market became more sensitive to the US stock market evolution.

Keywords: Financial Linkages, Romanian Stock Market, Crisis, Vector Autoregressive Model

The relationship between stock market, CPI and industrial production in Iran and the impact of oil price

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This paper examines the relationship of cyclical components of consumer price index (CPI), Industrial Production , stock market in Iran an the influence of oil prices on these variables. The period of the study from 1996 to 2008
Using a VAR we find that the Iranian CPI exercises a significant negative influence in the Iranian stock market. Further, oil prices are negatively influencing the Iranian CPI and stock market, at a significant level. It is worth nothing that on average, shocks from CPI require about 3 years to be absorbed by the each of other variables, shocks from the stock market and oil need about 2-3 years , whereas shocks from industrial production will be absorbed within a period of 1-2 years from each of other variables. The findings of this study are of particular interest and importance of financial managers, financial analysts and investors dealing with the Iranian market.

Keywords: cyclical components, macroeconomics indicators, oil prices

The risk in the within horizon: a test applied to Dollar Cost Averaging.

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Dollar Cost averaging refers to an investment methodology in which a set dollar
amount is invested in a risky asset at equal intervals over a holding period. Our
paper compares the advantages and risks of this strategy from a saver's point of
view. Many theories focused on the inefficiency of this strategy compared to the
lump sum in terms of performance even if DCA is often used in the real world for
its straightforwardness. Besides we offer a comparison of DCA based on the risk
the investor bears during the entire investment horizon and not only at the end of
the period. This risk in the within horizon is measured in particular with First
Passage Time Probability and Expected Minimum Portfolio Value applied to
portfolios simulated with Monte Carlo and different types of Bootstraps (block,
stationary and residual sampling).

Keywords: Dollar Cost Averaging, First Passage Time Probability, Bootstrap
simulation

Validity of risk indicators during the credit market crisis in Hungary

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The paper investigates the forecast quality of Value at Risk (VaR) regarding to the monthly debt burdens of foreign currency credits with exchange rate and interest exposure. First, we formed indices based on data from the period 2001-2008 both by assuming normal distribution and from the empirical distribution function. Our results demonstrate that the method assuming normal distribution produces an acceptable forecast of the risk. Second, we tested the accepted indices for the data of October 2008. In this case, the performance of VaR decreased notably and most of all for the Swiss franc became the risk unmanageable even by CVaR.

Keywords: forecasting, foreign currency credit, exchange exposure, CVaR, credit risk management

LABOUR MARKETS

A bivariate probit model for the analysis of fertility and women's decisions of abandoning the labour market

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In any country the main reason which explains the large increase in the female labour participation is related to the rise in their educational level; because its' positive effect on higher wages, and consequently, on higher opportunity cost of working at home. These changes have led to increases in the time that women want to offer in the labour market and, logically, to reductions in the time they want to dedicate to household production. The gradual incorporation of women into the labour market has affected their role in society and politicians have recently realised their relevance in the economy and have promoted a change in their policies. At this moment, every developed country has designed measures whose aim is to increase women's activity rates and to reconcile work and family.

Despite these measures, fertility has yet a clear negative effect on female labour participation as it implies the necessity of dedicating more time to children care. Particularly, data for the Spanish case about labour transition flows in 2004 show that more than 20% of women abandon the labour market after having a newborn baby, while this percentage is near 7% if they don't. However, men who have a newborn, abandon the labour market only in 1.6% of the cases and 1.2% if they don't have children.

The main objective of this article is to analyse how fertility affects such labour decisions. Any study which analyses the female labour market participation decision has to include the existence of children in the household and the age of these children as explanatory variables. Nevertheless, it is well known that women usually take care of children not only by their traditional social role but also due to their preferences for children. In this sense many recent studies point out that fertility is also an endogenous variable which depends on the activity rate. In other words, there are some unobservable characteristics that affect the fertility rate and the participation decision: probably women participating in the labour market have fewer preferences for children than women that do not.

Considering this, in this paper we analyse the effect of having a newly born child on the woman's decision of abandoning the labour market; considering that abandoning the labour market and having a baby are probably joint decisions. To correct this endogenetic problem we apply a bivariate probit model. We analyse

individual data from the Spanish Labour Force Survey from 2001 to 2004. Our results show that having a newborn increases the woman's probability of abandoning the labour market but decreases with the existence of public services as kindergartens.

An Analysis of Trends in Female Labour Force Participation in Turkey

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High female participation in the labour market implies both an advance in the relative economic and social position of women and also an increased utilization of human potential for economic development. The female labour force participation rates increased substantially in developed countries. However, the female labour force participation rates show a declining trend in many developing countries and in Turkey as well, from 1955 to 2008, labour force participation rate diminished from 72 percent to about 25 percent. This ratio is nearly one third of the rate in terms of men in recent years. Additionally, Turkey has the lowest rate among OECD countries. Several factors can be used to explain this trend. In this paper, we investigate the reasons for the declining trend in the female labour force in Turkey. Some of those: recent increases in enrollment rates at all levels of schooling, delayed entry into the labour market of the young, changing composition of the labour force diverging from agriculture towards non-agricultural activities, cultural values against their participation in market work, their lack of education and marketable skills, unfavourable labour market conditions, huge wage gap and imparity in promotion opportunities between female and male workers, exclusion from social security, and early retirement system.

Keywords: Female labour force, Female labour participation rate, Turkey

Capital accumulation and the employment growth in the N-capital economic growth model

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The aim of this paper is to theoretically analyze the relationship between the process of capital accumulation, product growth, employment growth and (implicit) changes in unemployment. Authors use the N-capital economic growth. The model of economic growth (which is an extension of the neo-classical models of economic growth of Solow (1956), Mankiw, Romer and Weil (1992) and Nonneman and Vanhoudt (1996) has an assumption that the production process is described by N+1 elements Cobb-Douglass production function. In this function we assume that the explanatory variables consist of N different stocks of capital and the effective units of labour. The increase of each stock of capital is a difference between investment in this capital element and its depreciation. The labour demand (like in the neo-classical models of the labour markets) is calculated by equalling the marginal product of labour with the real wages, and the real wages change according to the mechanism, which is described in the efficiency wages models by Solow (1979) and Summers (1988).

Comparing native versus immigrant occupational choices of Italian labour force: a generalized linear mixed model approach

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In this paper a short-term analysis of the occupational behaviour of Italian labour force is proposed by analysing official Istat micro-data of 2006 through a logit model with subject-specific intercept. The aim is to compare the labour choices of autochthon workers to those of immigrants' also considering the native country. This research can be contextualized in the demographic research area of "migration theories" and it also deals with the impact of international workers on economic perspective of local population in terms of employment and of living conditions. Many national and international authors have been dealing with this interesting as well as complicated topic mainly treating the problem of defining the phenomenon of labour migration as a cost or as a benefit for the destination country. Moving from the assumption that the complexity of the phenomenon and the lack of qualitatively acceptable data creates such big limits and delays in the formulation and the elaboration process of meaningful solutions, our proposal is an "a posteriori" analysis of labour choices taking into consideration the intrinsic demographic characteristics of native and non-native individuals. The idea is to clarify if native and non-native workers share the same labour choices and expectations in terms of qualification grade as a proxy of their satisfaction. To this extent, firstly the hypothesis that native and non-native workers show the same expectation will be tested in this paper; secondly the occupational behaviour of immigrants will be compared on the basis of derivation country.

Keywords: Immigrants, labour, mixed model

Environmental Regulations: A New Process or a New Unemployment Problem?

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Environmental regulations consist of activities to measure, prevent, limit, minimize or correct environmental damage to water, air and soil, as well as problems related to waste, noise and ecosystems. This seems possible with only green economy activities like cleaner technologies, products and services that reduce environmental risk and minimize pollution. These activities also use green jobs in key economic sectors (renewable energy, buildings and construction, transportation, basic industry, agriculture and forestry). The pace of green job creation is likely to accelerate in the years ahead. Opinions about the employment effects of environmental regulations show up in two opposite ways. According to first opinion, by the new types of job opportunities for millions of workers that created by environmental regulations, not only unemployment but also social problems such as poverty and inequality will be reduced. And in the future, blue-collar workers may fairly quietly be transformed into green-collar workers. As second opinion, because of the raising marginal costs and decreasing sales as a side effect of the environmental regulations, the unemployment will be increased. This paper investigates the relationship between environmental regulations and employment by looking for the answers: What is green-collar? What makes it different from blue-, or white-collar? Will green jobs have the staying power to solve the problems of the nation's job market or cause a new kind of unemployment problem because of the old manufacturing jobs they are replacing?

Keywords: Environmental regulations, green economy, green-collar, green jobs, job opportunities

Fuzzy parametric sample selection model for non participation of married women in the labor force

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Heckman (1974) developed a model called Heckman Sample Selection Model. This model has been widely used in various fields of econometrics especially in the labor force. However, this model involved uncertainty especially the parameters as well as the variables. The best approach is to take advantage of the tools provided by the theory of fuzzy sets. Fuzzy sets theory and its properties through the concept of fuzzy number, provide an ideal framework in order to solve the problem of uncertainty data. In this study, we introduced fuzzy concepts as a hybrid with parametric sample selection model especially for non participant called fuzzy parametric sample selection model. A numerical example is illustrated using Monte Carlo Simulation. The efficiency of this new model was carried out to compare with conventional Heckman Sample Selection Model using data set from Malaysian Family and Population Survey 2004 (MFPS 2004). This new hybrid model and finding would be beneficial in decision making, management, NGO's and Government as well as in social economy of a country.

Keywords: Fuzzy parametric Sample Selection Model, Fuzzy number, Uncertainty, Married Women, Malaysian Labor Force

Judgment of the employment by systematic data collection method

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Our research aims at examining the opinion of the Hungarian population about employment. We would like to define what factors are mainly associated with employment and what the exact meaning of these factors is. To carry out our research we have used the techniques of systematic data collection. This method, developed in the 1980s by anthropologist Susan C. Weller, and mathematician A. Kimball Romney in the United States, help researchers in the social sciences collect better interview or questionnaire data. This slowly spreading qualitative research method of systematic interviewing – where each informant is asked the same set of questions – diminished the sample size required in social science research in a revolutionary way.

In our paper we present a research overview about how to examine employment with the method of systematic data collection.

The first step in any study is to develop a clear understanding of and set limits to what is being studied. We are going to interview some informants during free listing. Then we can define the number of informants needed by using consensus theory. According to this, the number of informants needed depends on the average level of competence (that can be found out from the result of free listing), the confidence level and the minimum rate of questions we would like to classify correctly.

Methods of systematic data collection include a lot of techniques used to gather information about the informants. In our research, we are going to use the methods of balanced-incomplete block designs, rating scales and quick sort. Balanced-incomplete block (BIB) designs systematically compare subsets of items. The designs work by controlling the number of times that each pair is compared. By reducing the number of times each pair is compared to other items, the total number of subsets is reduced, while still maintaining comparisons among all items. Then, by summarizing the values belonging to the items in case of the informants, we got the total rank order of the items. We used rating scales to define the exact meaning of some items used in our research.

Keywords: systematic data collection, interview techniques, employment, sampling

Labour market response of the Czech households to the selected tax-benefit changes

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The combination of taxes and social benefits on the supply side of the labour market creates inactivity traps in which household resigns from seeking income on the labour market and depends more on social benefits. In order to locate those traps marginal effective tax rates – METR – have been used simply because they take into account not only the tax system but also the social benefit system. According to this analysis, the most endangered ones are the households with higher subsistence minimum and those with only one – substandard – financial income from regular work. Beside these households we can find similar problems along the whole range of social insurance benefits. The aim of the article is to analyze the labour market response of households in the Czech Republic to the selected tax-benefit system changes among affected groups. The first part of the article analyses the most endangered households by excessively high METR in the CR. We stem our analyses mainly from the data of social assistance beneficiaries. In the second part of the article we use microsimulation model for analyzing the impact of selected tax-benefit changes on the labour supply of the chosen households. In this part we are looking for changes which should help in creating motivational schemes in order to encourage the access to the labour market. Microsimulation methods are viewed as suitable means for evaluation, although we can find other factors influencing labour supply which is not covered up by the model. The article is finished by a recommendation toward changes of the tax benefit systems in the Czech Republic.

Keywords: labour supply, inactivity traps, tax system, social security system

Methods for analysing the relationship between vocational training and labour market

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"Vocational training" in Hungary is as old as our statehood. Changes occurred in vocational training have always had close connection with the changes in economy and society. During the past years reorganisation and renewal of vocational training meeting the new social-economical demands had strategic importance in the Hungarian policy of employment and education.

During the last two decades vocational training has undergone significant changes to meet the economic and social requirements (both in Hungary and in the developed countries). The structure and system of conditions of trainings have changed; they became more adaptable to the general and local expectations of economy. Vocational training has to adjust to the economic environment thus local, or regional development strategies have to be established. An essential precondition of strategy development is preparing multilevel analyses.

One of the methods suitable for evaluating the situation of vocational training is SWOT and PEST analysis. PEST- analysis is a kind of macro-environment analysis, that is, the examination of political, economical, social and technological factors. By applying PEST- analysis we can examine the broad environment of vocational training. It makes the analysis of uninfluential general conditions possible to which – whether we like it or not – we have to adapt, i.e. it means the systematic searching for long term tendencies affecting vocational training. We can classify the effects of these tendencies in two ways: which ones have beneficial effects, or make vocational training easier and which ones have unfavourable effects, that is which restrict its possibilities. By applying SWOT analysis we can map the capability of the examined area in respect of vocational training and we can learn which tasks are the most important from strategic aspect. When making SWOT analysis, on determining strengths, weaknesses, possibilities and dangers we laid emphasis on the ones connected to the strategy.

For measuring the characteristics and performance of vocational training systems indicators have been introduced both in the European Union and in Hungary. The most frequently used indicators: input, output and progress indicators of the vocational training system.

The input indicators of the vocational training system give answers to the questions such as where the young come from, which institutes they join, how many companies participate in the vocational training, how many teachers teach trades, what the number is of the class, etc. These indicators give information basically on the factors determining the conditions of vocational training, they are mainly descriptive.

The indicators of the progress of vocational training give a list of the indicators connected to the process of the systems, the vocational training itself. These indicators mostly inform on the content, the process, the costs and economic efficiency of vocational training. These are descriptive type of indicators.

The output indicators of the vocational training include indicators providing information on the results of the vocational training system, the opportunities of first job holders, their situation in the labour market, yields of the training on company, social or macroeconomic level.

In my study I wish to demonstrate examples for the examination of the coherence between the vocational training and the economic situation applying each of the above listed methods in order to make it clear for the decision makers that by using these methods education can be realized really for the interest of the economic needs.

Keywords: vocational training, strategy, PEST analysis, SWOT analysis, indicators

Parametric sample selection model for non participation of married women in the labor force

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Sample Selection Model was developed by Heckman (1974) has been widely used in various fields of econometrics especially in the labor force. The models usually used for estimated the participant by two-step estimator. However, this model concerned only for women to participant in the labor force and ignoring the women who non participant (Martins, 2001). This scenario leads to sample selection bias. In this paper, we developed a model that concern both participant and non participant. In the context of parametric methods, the sample selection model especially for non-participant of women in the labor force is studied. The properties of this new model are develop, which leads to the derivation of women non-participant theorem in the labor force. The proofs of these theorems are presented. The efficient of this model was carried out using Monte Carlo simulation as well as the data set from Malaysian Family and Population Survey 2004 (MFPS 2004).

Keywords: Sample Selection Model, Sample Selection Bias, Non-participant, Monte Carlo Simulation, Malaysian Labor Force

Regional diversity of wages in Poland

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The aim of this paper is to present a descriptive analysis of the regional diversity of wages in Poland. We also show the statistical analysis of the determinants of this macroeconomic variable during the transition period. The analysis is based on a simple theoretical model referring to the efficiency wages model of the neo-Keynesian macroeconomics with elements of long-term, supply-side models of economic growth. The estimates of the empirical determinants of wages in Poland are based on a cross section-time series sample consisting of observations of wages, labor productivity, and unemployment rates in Poland over the years 2002-2006. The observations apply to the values of the above-mentioned variables assessed at the NUTS 2 and NUTS 3 levels.
The structure of this paper is as follows: Section 2 presents the literature review. Then, we showed the characteristics of the dynamics of the analysed macroeconomic variables and their regional diversity over the years 2002-2006. Section 3 explains the characteristics of a simple theoretical model which is also used in Section 4. Section 4 estimates the determinants of the regional diversity of wages in Poland during the 2002-2006 period. Section 5 includes a summary and the most important conclusions.

Keywords: wages, Poland, labour market

Using statistical methods for analysing regional differences of labour market

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According to many studies in the field of social sciences, the problem of high rate unemployment in European countries is one of the most serious phenomenons since many years now. The demand for reducing unemployment gets more and more attention in European general objectives, together with the propagation of a 'longer active career model', originated in demographic reasons, the so called 'ageing society' causing many stress in the labour market which enforced the reforms of the traditional pension scheme, so much as the remarkably growing appearance of unemployed young school-leaver population. In our opinion, the effective way to treat the above mentioned problem requires intervention in sub-national (regional, county, micro-regional) level, however, the evolvement of these programmes requires statistics-based regional labour market research, which may serve for the preparation of economic (labour market) decisions.

Our aspect shows and uses data of two time periods, year 2004, when Hungary joined the European Union, and year 2008, the most up-to-date data available. Our ambition is to demonstrate the changes in the field of regional labour market between the two examined periods.

Accordingly, we pursued a statistical analysis on the 2004 and 2008 labour market indicators (basic data) of the 7 statistical regions, and the 19 counties of Hungary. These indicators are: unemployment rate, employment rate, rate of economically active population.

The comparison is made based on two years descriptive statistical data using various types of methods (diagram, independent sample t-test, analysis of variance, regression analysis, multivariate analysis) with taking into consideration the changes of the three main indicators of the labour market. By means of special scatter plots, we characterised and illustrated the relative changes of the regions by correlating them with each other, namely the more and more strong separation of the main groups, so as the increase of their homogeneity within groups.

Keywords: regional unemployment, rate of unemployment, rate of economically active population, employment rate, analysis (diagram, independent sample t-test, analysis of variance, regression analysis, multivariate analysis), region, county

What difference do beliefs make? Gender job associations and work climate

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The concept of social climate or work climate has received substantial attention in the organizational literature indicating important relations between work climate and motivation or productivity. However, in the economic literature this concept was hardly addressed. Especially the relation between work climate and gender is hardly investigated in empirical studies with an economic background.

However, recent theoretical papers incorporating the sociological concept of identity into a classical economic framework led us to expect that understanding work place interactions between men and women might help us to understand better why we still face gender segregation in the labor markets of most western countries. Especially if jobs or job contents are related to different cultural environments. Akerklof and Kranton (2000) argued, for instance, that individuals have identity based utility outcomes depending on whether they work in jobs which have gender specific job associations. Hence, women face utility losses if they work in male jobs because it might violate their own female identity as well as the indetity of their male co-workers. Understood the same might hold for men in female jobs. Thus, this paper investigates how men and women feel about their work climate in male and female jobs.

Using a special variable from a big data (3000 observations) set we are able to address whether tasks or jobs are considered as more appropriate for males or females by society. Moreover the data set contains a categorical variable indicating whether indivduals are satisfied with their work climate in the work place.

In line with what the theory of Akerlof and Kranton would predict we find that women and men value their workplace climate differently based on whether they perform tasks which are associated with typical male jobs or tasks which are associated with typical female jobs. In detail if applying simple ordered probit models we find, that women favor their work climate if performing female tasks. For men, in contrast, we find either no effect or that men slightly prefer their work climate if performing predominantly male tasks. Thus, the effect for men strongly depends on how we restrict our sample but we never find that men prefer their work climate if performing mostly female tasks.

However, individuals are not randomly selected into their jobs. Thus, we take into account the selection into the individuals job using a two stage approach with two different sets of exclusion restrictions to identify the system properly. Applying this approach we can reveal the effect for women and now find strong significant effects for men which indicate that men report higher satisfaction with their work climate if performing tasks considered as male tasks.

The results indicate that their are gender specific utility outcomes of jobs and that men and women might face different trade-off decisions if applying for similar jobs. The results might help to enlarge the understanding of why occupational segregation by gender is still persistent in western countries.

Why Labour Economics is Inadequate for Theorising Labour Unions

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The discussion challenges the assumed superiority of labour economics as a means of theorising labour unions by applying a critical realist critique to methodologies typically applied in the field. For this purpose the critique draws on the work of Roy Bhaskar (1978, 1979, 1986, 1989, 1991, 1994, 1995, 2000) by first situating critical realism within two broad philosophical traditions: *classical empiricism* and *transcendental idealism*. It points out the failure of these traditions to acknowledge the possible existence of autonomous structures and objects which are beyond empirically-based calculation and conceptualisation, arguing instead that such structures and objects can only truly be revealed through research methodologies that make reference to a layered ontology. The discussion then advances on this by outlining the main features of critical realism's three-way ontology, which are divided in terms of their *empirical realist* and *transcendental realist* specifications, before providing an example of how this ontological reasoning diminishes the validity of research on trade unions based solely on hypothetical deductive methodologies of the type commonly used in labour economics.

MEASUREMENT ISSUES

A critical analysis of well-being and sustainability indices and their validity in statistical analysis

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The gradually growing importance of environmental problems tends to gradually increase the appreciation of natural capital increasingly, and sustainability seems more and more to become a social objective in developed societies. It is also known in economics for several decades that the main indices of the SNA are not able to handle a significant part of the environmental and social information which are relevant from the aspect of sustainability.
In our paper we introduce alternative sustainability (and well-being) measures, their methodology and the well-being and sustainability paradigms they are based on. These indices are Gross Domestic Product (GDP), Human Development Index (HDI), Ecological Footprint (EF), Genuine Savings (GS) and Sustainable Society Index (SSI). We also analyze their relationship in a cross-national context. We conclude that (1) the validity of single indicators of such complex notions as sustainability and well-being is highly questionable and (2) the results of a statistical analysis regarding these notions are highly dependent on the underlying well-being and sustainability paradigms.

Keywords: Sustainability, Gross Domestic Product (GDP), Human Development Index (HDI), Ecological Footprint (EF), Genuine Savings (GS), Sustainable Society Index (SSI)

A methodology of assessment based on the interaction between practice-based paths and standardized enquiring instruments

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The object of this paper is to describe an intervention conducted using specific assessment tools created after an analysis of work practices, carried out specifically for this purpose, simultaneously using standardized instruments to gain more integrated results. This experience can be seen as an example of how instruments derived from a qualitative analysis can be used together with statistically based instruments for creating an integrated system of assessment and feedback for organizations.

The experience was carried out at a company managing an important commercial portyard in Italy, and in this paper the authors also present the reasons underlying the intervention request and a brief explanation of the specific context in which this company operates.

This study outlines how a combination of methods can be more powerful for providing explanations and predictions, than just one methodological perspective. On the practical side, actually, there is a general need of obtaining information and drawing conclusions both of qualitative type, therefore particular and somehow unrepeatable, and of quantitative type, hence objective and controllable by the specialists' community.

After a description of the main steps taken to inquire the work practices on the field, the article continues explaining how, starting from the results of the study about the practices, the authors have created specific assessment techniques tailored for these particular situations. Such techniques consist of focus groups and role playing, expressly adapted to the context. A tool for evaluation, namely a grid containing different indicators of the participants, has also been created on the basis of the company needs and of the results which have emerged from the inquiry. At the same time, authors chose a set of standardized instruments with the aim of using them for integrating the qualitative results. These instruments were the M.P.P. test (Multidimensional Personality Profile) and some Organizational Citizenship scales. The set of instruments was well integrated to provide the company with a broader and more exhaustive set of information, in which the two types of tools gave a different contribution.

The complexity of the problems at stake makes the choice of a qualitative approach necessary. As it is known, this is unique and non-repeatable. For this reason it is important to make it sounder by adding objective data, in order to gain new and strong elements for sustaining the argumentations and making the conclusions usable and controllable by the company and the scientific community.

Keywords: Work Practices, Qualitative Methodology, Quantitative Methodology, Methodology Interaction, Assessment

Analysing methods for spatial distribution of economic activities

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Economic processes are embedded into space, which is a very important factor of economic growth. Therefore the examination of the spatial distribution of economic activity should be an essential element of understanding development and planning potential economic-political intervention.

The concept system of high spatial density of economic activity and its creating and forming forces are manifold, which, accordingly, gives way to diverse analytical approaches.

Among other things the Moran index and the Ellison-Glaeser γ index serve as tools of these examinations. The first one measures spatial autocorrelation, the second is used to describe concentration. The application of this latter one is more common in international literature, but according to my knowledge no examination like this has been made on Hungarian data.

The aim of my study is to give an overview of the related concept system and the related indices, and to give an example through applying them to the Hungarian processing industry.

Keywords: cluster, agglomeration, concentration, Ellison-Glaeser γ index, Moran index

Conception, Measurement and Methodology: The Missing Links in Urban Poverty Reduction Strategies

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Over the years, researchers, policy-makers and administrators across societies, have been occupied with poverty issue, yet it survives and poses threat to the global community. This paper describes the conceptual pitfalls in urban poverty reduction strategies. It explains the measurement and methodological gaps, which characterised urban poverty reduction strategies and discusses how statistics and methodology could be applied for effective urban poverty reduction. Weak definitions, absence of satisfactory scaling tools and methodology in urban poverty researches, policies, planning and programmes undermine its reduction. Integration of systematic principles and practices on conception, measurement and methodology constitutes a pathway to poverty reduction.

Keywords: Urban Poverty, Conception, Measurement, Methodology, Reduction Strategies

Difficulties in defining territory boundaries in rural development

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More recently, the concept of neo-endogenous rural development has gained ground, in which the control of the process is recognised as an interplay between local and external forces. The balance of these forces will vary from region to region and within a region this balance can change over time. A question arising along rural development do borders of rural regions have to be defined, so as to make distinction between endogenous and exogenous resources? And if the answer is yes, how these boundaries can be defined? There are countries where these boundaries are visible and are the result of an organic, bottom-up development (example the so called pays in France), why in some countries, such as Hungary these are more top-down developed. The paper presents the problem, which the authors came through along their work linked to a FP7 project, called RuralJobs, which main objective is to provide a clearer understanding of the factors influencing the employment potentials of different types of rural areas to support the future evolution of rural development policies. One of the tasks along the work was to find functioning rural areas, so called labour markets. In the second step link these rural labour markets to different types, defined by three major indicators, namely: GDP, population density and accessibility and finally select a pilot area, which could represent a given type of region. The paper presents the steps and different problems, the authors came through along this work in the North Great Plain region of Hungary.

Keywords: rural development, territory boundaries, indicators, North Great Plain

How to Measure Innovation?

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Innovation has always been a buzzword, but not unduly. Today the developed nations are wealthier than ever, in terms of real GDP and this is largely attributable to productivity advancements driven, to a great extent, by innovation. Since the crisis began last year, innovation elevated to an all new highness and became a mantra.
We are also familiar with the saying, „what gets measured gets done" and partly due to the agent-principal problem what I experience as a trainer and OD expert is, that way too many firms simply do not measure their own and their competitors' innovation. My paper is a collection of suggestions in terms of innovation metrics for companies to become more innovative.

Keywords: Innovation, OC, Organizational culture

Method of the measurement of innovation

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Lately, the importance of innovation statistics has significantly increased. Today, innovation is undoubtedly a major driver of the economy. Consequently, it is of significance to acquire all related information. The first innovation survey, named CIS1 (Community Innovation Survey1) and carried out in 1993, was a pilot survey aiming to test the methodology of measuring innovation activities. The results of the second data collection (CIS2) in 1999 were already EU level comparable. All definitions used in CIS type surveys are based on the Oslo Manual published first time in 1992, and the third revised version in 2005. The main changes were that the measurement of innovation was extended on organisational and marketing innovation and became more appropriate for the measurement of the service sector as well. The basis of innovation statistics is an EU legislation entering force in 2004 determining when and what kind of indicators have to be provided by countries and how the surveys including proposed questionnaire have to be organised. CIS type surveys are used outside Europe as well and the related experience helps to improve the methodology. The strengths and weaknesses of the survey methodology are known and its development is continuous. One of the main tasks of the NESTI is to improve innovation statistics. Several task forces and experts groups are engaged in this activity. Different streamlines are forming to define the approaches and indicators needed by policymakers, scientists and other users to choose the methods and to produce them without increasing the burden of data providers and data producers. At present, simple and composite indicators are commonly used and some of the proposals are under revision, which aim to link different data sources to analyse the impact of innovation. There is a necessity to assess current lists and to suggest new ones. In Hungary the first innovation pilot survey which used the Oslo definitions was organised by Annamária Inzelt and was carried out in 1994 on a small sample. In 2000, the first CIS was organised by Hungarian Central Statistical Office to test definitions and methods. From 2002 on every other year CIS are being carried out, 6th time this year.

Keywords: CIS, innovation statistics, Oslo Manual

New frameworks for the analysis of financial markets as a response to the crisis: A methodological perspective

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Contemporary financial markets are competitive markets in instruments such as stocks, bonds, loans and derivatives. If badly regulated, they can result in speculation and produce economic failures. Financial markets and institutions represent a research topic that can be analysed from a plurality of angles and theoretical perspectives. The 2007-2008 crisis suggests that a pluralist methodology is essential to evaluate an increasingly complex economic reality. The adoption of a plurality of analytical tools is expected to favour sustainable wealth creation. Recognition of methodological issues is essential to adopt new frames of thinking in economics and improve existing analytical tools, so to design of a more adequate regulation and a dynamic capitalism.

Keywords: financial markets; post-crisis; complexity in economics; analytical frameworks; economic methodology and pluralism

Performance Evaluation and Benchmarking in Education Services using Data Envelopment Analysis

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Benchmarking is considered as a relatively universal and efficient managerial method to improve the quality of processes and products in organizations. It is fully recognized by European Union Quality Policy and recommended by many projects supporting benchmarking know-how and applications. The modern benchmarking methodology has been developed by Robert Camp in Xerox company 30 years ago. In recent years special attention is paid to functional and internal benchmarking forms which do not require the comparisons with competitors and use data available in more easy way.
DEA method developed by Charnes, Cooper and Rhodes could be recommended as the performance measurement and benchmarking tool in many cases of organizational improvement processes. However the method is not enough recognized in Central European benchmarking literature.
The purpose of this paper is to present the use of DEA method in performance evaluation and benchmarking case study in education sector. The real data describing Wroclaw general education units have been used to demonstrate the advantages of DEA method as well as lessons learnt from other research projects.

Keywords: benchmarking, performance measurement, Data Envelopment Analysis, education services

Possible approaches of the Quarterly GDP Estimation

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Nowadays, quarterly national accounts - in particular quarterly GDP - represent an essential instrument and source of information for both economic and monetary policy as continuously underlined by the major users such as ECB, economists and forecasters.
At the end of 2006, HCSO has introduced full current price quarterly calculations based on statistical and administrative data sources. For this compilation, intermediate consumption has been computed quarterly though there is no data source available for this figure. Under continuous methodological work, I would like to explore and analyse the possible approaches to estimate intermediate consumption quarterly.

Keywords: QNA, national accounts, GDP, methodology

Risk measures in second dual spaces

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In this article we study risk measures in second dual spaces E** where E is a Banach space. For example the space of bounded real sequences ℓ_∞ is the second dual of c_0, but the class of second dual spaces is very large. The space ℓ_∞ is ordered by the pointwise ordering, or equivalently by the cone ℓ_{∞^+} of positive, bounded real sequences. The constant sequence 1 is considered as the safe asset and the property of monotonicity is taken with respect to the point wise ordering or equivalently by the positive cone ℓ_{∞^+} of ℓ_∞. A coherent risk measure is a function $\rho : \ell_\infty \to R$ so that

(i) $\quad\quad$ $y \geq x$ in terms of the partial ordering of ℓ_{∞^+} implies $\rho(y) \leq \rho(x)$ (Monotonicity),

$\quad\quad\quad$ $\rho(x + a1) = \rho(x) - a$, $a \in R$ (Translation Invariance),

(ii) $\quad\quad$ $\rho(x + y) \leq \rho(x) + \rho(y)$ (Subadditivity),

(iii) $\quad\quad$ $\rho(\lambda x) = \lambda \rho(x)$, $\lambda \in R_+$ (Positive Homogeneity).

Note that 1 is an interior point of the ordering cone ℓ_{∞^+} of ℓ_∞ and also that 1 does not belong to the image of the initial space c_0 in it's second dual ℓ_∞ (this image here is again the space c_0).

In this context, we suppose in this article that the set of financial positions as the second dual E** of a Banach space E and we consider coherent risk measures following the usual terminology of the theory of risk measures (see in Artzner et al. (1999), Delbaen (2002), Follmer and Schied (2001)) expanded in general Banach spaces. So we suppose that E** is ordered by a cone P and the safe asset is an interior point of P which does not belong to E. We show that $\rho(x) \geq 0$ for any $x \in E$, therefore any position (vector) of the initial space is not strictly safe. (A position x is strictly safe if $\rho(x) < 0$). This result has some important implications, one of which is a characterization of reflexive spaces in terms of coherent risk measures.

Keywords: Risk measures, coherent risk measures, ordered spaces

Statistical Indicators for Religious Studies: Primary Indicators of Classification in the Religious System

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This paper presents the detailed version of the statistical indicators for classification. Starting from our previous work (2007), there will be designed, for each indicator (e.g. Number of divine persons, Marriage rituals, Woman ordaining, Active methods to promote "the truth" etc.) a card that will include the following elements: definition, purpose, symbol, calculus method, formula, data needed, source of data, type, class/ category, aggregation level, interpretation and quality standards. This way of presentation will make much easier the use in a comprehensive and robust manner of the statistical indicators for religious studies by anybody who wants to conduct quantitative approaches in the religious studies.

Keywords: statistical indicators, religious studies, indicators of classification, indicator card

The consequences of the US Bureau of Economic Data' false dataset

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There is a lot of uncertainty around the sustainability of the US current account. In recent times not only Chinese authorities but even such representative persons of the financial world like Buffet and Krugman voiced their concern about the future of the US dollar, the US current account and as a consequence the US national debt.

A couple of years ago two theories, namely the Dark Matter (DM) and the Exorbitant Privilege (EP), suggested that the large US current account deficit can continue on in a benign manner and the US is going to earn its way to current account sustainability while other views predicted the opposite. Thanks to Curcuru, Thomas, Warnock and Dvorak (CTW and CDW) new studies proved that from a relative reliability of the data these theories rely on fail as they are built on the assumption that position and flow data form a cohesive dataset. CTW use a market based approach to calculate return differentials for assets making part of the US International Investment Position and show that returns differentials computed using their preferred method are quite small, with an aggregate differential of 0.9-1.1 percent per year.

They expose a "gap" in the international accounts that, computed over the 1990 to 2007 period, totals between $1,358 billion and $1,752 billion (depending on how revised DI "other adjustments" are treated). Conceptually, this gap is the difference between the position recorded in 2007 and the position that would be estimated by adding flows and valuation adjustments to the initial (end-1989, in this exercise) position. A positive gap indicates that 2007 positions are greater than implied by past flows and valuation adjustments. To understand this gap CTW examines potential holes in the international accounts and they show problems even with goods exports data which considered as one of the most reliably piece of the international transaction accounts.

All this suggests that there is definitively something wrong with the statistical dataset published by the Bureau of Economic Data (BEA) and as a consequence has an influence not only on the US but on the world economy as well and put in prospective the importance of the data collection by statistical authorities.

The mode and scale measurement impact in a consumer behaviour survey

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A survey to identify the consumers' values behind the purchase of trendy and vogue products has been carried out. The topic covered from this survey is relevant consumer behavior research and relies on the assertion that consumers choose among behaviors – not objects – to reach more abstract broad end-goals (i.e. end-values; Olson and Reynolds, 2001).

In other words, people buy products not just for their physical attributes but for the values that the products embody.

In our survey we collected data by under-graduated students, sub-divided in groups in order to design an experiment based on different collection mode (paper questionnaire versus on-line questionnaire) and different measurement scales used in the questionnaire (five-level Likert scale versus dichotomy variable [i.e. Yes / No]).

The aim of this paper is to analyze the results of the designed experiment and to evaluate if differences due to mode and to measurement scale seem to exist.

As the experiment is concerned, the responses are analyzed in order to:
a) identify potential connection between the respondents' responses and the scale format used in the questionnaire;
b) draw, in the dichotomy-scale-responses questionnaire, the line between the two options (e.g. Yes-No; Agree-Disagree; Favorable-Contrary,…). Without the chance to point out the frequency of their evaluations – that is the main advantage of a Likert scale – the respondents could choose the negative response (e.g. No, Disagree, Contrary) even if they are not completely/partially oriented towards the negative response;
c) apply the CI index (Civardi et al., 2006) as a synthetic indicator of the scale measurement. CI index can be defined as a summary indicator of the distribution of the opinions expressed by the respondents and allows researcher to compare the results drawn from questionnaires that have different types of responses.
d) compare the results drawn from the previous points *b* and *c*.

Keywords: measurement scale, collection mode, CI index

The prospects of using diaries in a research relating medical services

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Diaries have been used in several branches of social sciences for constructing pictures of respondents' (authors') reality. This method is less frequently used than other, „classic" ones, but is gaining ground recently in the field of market research as well as in topics like time allocation, consumer expenditures, travelling habits, social networks, health, diseases and behaviour in connection with them, or criminality. Diary researches are often complemented by other methods, most frequently by in-depth interviews to gain additional information about the topic and the circumstances of using the diary. The most important advantages of using diaries are that they may provide alternative to an interview, especially in cases when events are difficult to recall, or the topic is sensitive. They may also help to overcome problems associated with inaccurate or biased recall. Semi-structured diaries were used to test the usability of this method on the on hand, and to explore the most typical communication processes, feelings and thoughts in a consulting room. Results indicate that diaries are suitable to use in this field and suggest several specific features of medical services.

Keywords: diaries, medical services

The role of accounting in analyzing the company's performance

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Performance is present in every part of people or company's life. At a company it is unimaginable to have a successful management without available, understandable and up-to-date information. An organization's performance must be measured and analyzed, based on adequate information.

The accounting, as the company's information subsystem, has the task to provide the required information to different internal or external stakeholders. The accounting's main output is the financial statement, which contains all the basic information about the company's past performance.

Generally, six groups of valuation methods can be defined, which try to measure the company's value: balance sheet oriented, income statement oriented, mixed oriented, cash flow oriented, value creation oriented and options oriented methods.

The aim of this research is to find out which performance indicators can be designed using financial statements' items and how we can organize the accounting department in order to meet the managers' information needs. In connection with this, the quality of the information included in financial statements is also an interesting question.

This paper investigates the accounting regulations regarding this issue and through a practical example tries to present the importance of performance measures' quality.

Keywords: performance measures, financial statement, accounting

REGIONAL & SPATIAL ANALYSIS

Analyses of the influence of Oil price on the inflation rate in Iran

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The objective of this study is to evaluate the effects of increasing oil price to inflation rate of Iran. The underlying objective of the project is to provide support for a model that predicts this effect with the non-linear econometric model.
The oil price in developing countries is one of the most important factors. In Iran, public transportation methods (metro-monorail, etc) are very weak, and the Iranian economy is very dependent to the highs and lows of oil price. Hence, we use these factors in the model presented for forecasting inflation rate in Iran.

Keywords: oil price, inflation rate, non-linear model

Double View At the quality of life in municipalities Of South Bohemia Region

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The economic development, observed implicitly by the level, respectively by the development of the quality of life, is characterized more or less by heterogeneous economic, social, demographic, ecologic and other indicators.
Variable approach to the definition of the quality of life and its indicators is further modified in case of an investigation at the lower than the national level. The paper focuses in detail on economic and social aspects of the quality of life at the level of municipalities (LAU2) situated in the region of South Bohemia. Problems stem for example from unavailability of data on a given hierarchy level. In some cases, the obtained data comes from sample surveys and they can be insufficiently representative considering a lower hierarchy level. In other cases, it is not possible to analyze data obtained at higher levels. However, the information about the quality of life and its aspects at the municipality level is essential, at least from the point of view their functioning and sustainable development, whose strategy is hard to define if there is a lack of data and information.
The aim of the paper is to assess the possibility of using quality of life indicators at the various hierarchy levels, especially at the level of former NUTS5, at present LAU2.

Innovation Performance and Competitiveness in the Hungarian Sub-regions

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Besides globalization, or rather, parallel with it, knowledge-based economy seems to represent a highly important ground-gaining force – quasi becoming a trendy buzzword – that attracts increasing attention in developed countries, although its forms vary in different regions owing to the differing situation and set of conditions of the given area and the new type of international specialization emerging as a result of global competition. All this is a fundamental factor at the level of sub-regions, since competitiveness is determined by knowledge base on the local level. The present paper aims to develop an indicator system and a complex method to measure the connection between the innovation performance and competitiveness of local units. We try to demonstrate the determining role of the innovation performance on the regional disparities measured by the competitiveness on sub-regional level with the help of multi-variable data analyzing methods based on a determined system of viewpoints, correctly chosen theoretical models and statistical data. In the course of our work, using cluster analysis, MDS, factor analysis etc. the 168 Hungarian sub-regions will be classified according to their development phases.

Keywords: innovation performance, regional competitiveness, indicator system, multivariate analysis

Linked Multivariate Methods in Territorial Analysis

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Many books, articles and research about regional inequalities focus on social and economic characteristics. Usually the scholars analyze lots of variables to explain this complex topic using different multivariate methods, mostly separately. In this paper I present a methodological approach based on factor analysis, cluster analysis and discriminant analysis to show the advantages of a linked multiple method analysis. Data came from KSH TSTAR and the presentation focuses on the social and economic inequalities of Hungarian micro regions.

Keywords: Multivariate methods, micro regions, territorial analysis

Local Buzz and the Culture of Heterogeneity – Urbanization vs. Localization Economies in Patent Inventor Networks

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In the recent theory on agglomerations it is commonly argued that the spatial concentration of economic activity is a result of some kind of externalities. Externalities refer to special economic forces which cause advantages (or even disadvantages) according to a given economic transaction for agents who are not involved in that particular transaction. In the case of agglomerations this means that firms benefit from locating to a specific area simply because they are close to other firms. However, the literature on this issue is debating on the specific sources of these externalities. The main difference lies between studies which argue that locating near to similar firms is the most beneficial and those which state that the closeness of heterogeneous firms have more advantage. In the first case similar knowledge bases, efficient communication and even competition is mentioned as a reason for finding the presence of similar firms advantageous. In the second case it is argued that creative associations based on dissimilar knowledge bases and the possibly resulting radical innovations contain those advantages which cause different firms to locate together. While in the first case the specialization of different regions can be observed, the second reasoning hypothesizes that large heterogeneous economic centers emerge. The literature refers to the first group of arguments as localization economies and to the second group as urbanization economies. However, the latter one also emphasizes that the emergence of large, prospering heterogeneous economic centers requires a special kind of 'urban culture' sometimes referred to as 'local buzz' which involves the tolerance for dissimilarity as well as the capabilities to exploit the possible synergies hidden in heterogeneity. In this study we try to trace out the presence of these two kinds of agglomeration forces with the help of a newly built database which contains patent co-inventorship data in the high-tech sector. The data are on the NUTS2 level of 3 European countries (Germany, France and the United Kingdom) and covers more than 25 years. From this data we built up patent co-inventorship networks across regions and use these networks to examine the effect of localization and urbanization economies. Our main finding is that both agglomeration forces can be detected in these networks but with a different perspective. It is found that there are large centers with heterogeneous focus giving home for many subsectors of the high-tech industry, but only a few such centers can be detected. Other agglomerations on the other hand are quite specialized with hosting only one or two subsectors. In addition, heterogeneous agglomerations coincide with historically important metropolitan centers: Ile-de-France in France, Munich and Frankfurt in Germany and London in the UK. These findings lead to the conclusion

that large urban areas (especially capitals) really involve the special cultural aspects required for maintaining heterogeneity and contributing to urbanization economies based on this heterogeneity. On the other hand it is clearly shown that in more peripheral areas localization economies, i.e. specialization is the main force behind economic agglomeration.

Measuring territorial innovation capacity at subregional level. Methodological challenges

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Today's spatial economic processes are heavily influenced by the conditions of the learning-based economy. In this peculiar framework one of the main drivers of regional change is technological change occurring through the sequence of innovations. Therefore, the interpretation and measurement of territorial innovation capacity has become one of the main fields of interest in regional economics; however, the analyses conducted in lower levels of territorial aggregation raise several methodological problems.

The present paper aims to analyse and evaluate the innovation capacity of the Hungarian LAU-1 subregions on the theoretical basis of the regional systems of innovation. We rank the innovation capacity of the subregions along distinct dimensions and also complexly, then we carry out the classification of the subregions, and we also analyse the spatial regularities of the innovation capacity. In the last chapter we attempt to shed light on the limitations of the applied approach in order to discuss the problems of the usual methods of innovation-measurement and thus to provide possible future research directions.

Keywords: regional systems of innovation, measuring innovation capacity, subregion, methodological challenges

Methods of Sociology and Experts Diagnostics in the Study of the Regional Insurance Market

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The study offers the methods for diagnosing the regional insurance market, defines the reasons and the motivation for insuring, its urgent need and the prospects of development in Georgia.

In the context of the information lack, the diagnosis of the demand for insurance services was based on the methods of social insurance. The data received allows more effective market management based on the statistical and scientific calculations, projection of the demand for different types of insurance. In addition, we have studied the factors affecting the condition and dynamics of the solvent demand and define the prospects for regional insurance market development. All other conditions like business profitability, the management quality, etc. are derivatives of the major one: the existence or lack of the developed, sound and steadily rising customer data base.

One of the universal practical results of the elaborated diagnosis system is the algorithm for evaluation of the regional insurance market development and different insurance organizations, based on the method for the expertise evaluation with the indication of the strategies; the latter may change depending on the determined objectives. The offered approach to the salvation of the aforementioned issues will support the achievement of the maximum economical results.

Keywords: Regional Insurance Market

Railway Escape Velocity

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The borders of the agglomerations can be located by administrative units, but these limitations often do not reflect the borders of functional spaces. The aim of this paper is to show and apply a special locating method by the example of Budapest. The main idea is the motorway effect (the shortest way is generally not the quickest) applied to passenger railway traffic. The travelers of the agglomeration towards cities far from the capital have a choice: going back to the center and take a direct fast train *or* take a stop-train for getting to the first station out of the agglomeration where fast trains stop. We can terminate the settlements from where the return is quicker. This boundary can be perceived as the limit of the gravitational space of the main city. While in a given moment the best decision is clean-cut, the general definition may be based on a wide range of criteria. This choice results in a map of zones of the gravitational space, therefore our method is useful in the practical work of delimitation of tariff zones.

In the background study we introduce the "railway escape velocity" as a complex measure of frequency and relative speed of trains. With appropriate application of the physical one, we have to calibrate our model to be able to construct the possible time-space maps. We specify the problematic theoretical and empirical points, and demonstrate the possible solutions. From the theoretical point of view, we analyze the role of the mass, the center, the spreading of geographical entities, the measurement of distance, and the dynamic factor; and the choice of destination, of the starting time, the periodicity, and the questions of transfer as empirical corner-stones are inquired.

The final results are interesting findings in the regional science, but they are also useful in everyday practice of timetable construction.

Keywords: time-space map, railway traffic, gravitational law

Sectorial homogeneity of the structure of employment in Eurozone countries

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Research on the changes and shape of different types of structures is one of the main objects in economic theory. Structural changes are necessary for development and, at the same time, instrumental in its acceleration. Diverging patterns of growth among developing countries are also visible in differences in terms of structural changes. In other words, development can be defined as a series of modifications occurring in the economic structure.

It is very important both from a theoretical and a practical perspective to identify the mechanisms governing the evolution of the structure of economic phenomena. On the one hand, it helps assess the applicability of a certain theory - a combination of theorems comprising a hypothesis which explains a certain concept and conclusions derived from it. On the other hand, it creates an attribute to verify synthetically the empirical economic interdependences over time. Understanding the mechanisms and principles determining the dynamics of structural changes in individual countries is surely helpful for analytical and forecasting purposes.

In this article we try to discuss the structure of employment and forecast their future trends for EMU countries, taking into consideration dynamic and regional aspects. This article consists of six parts, including introduction and conclusion. In the second part, we presented the literature review. Then, we compared the four sectorial structures of employment *(agriculture, industry, economic and non-economic services)* in 1999 and in 2007 and we highlight changes in the structure and the most important trends in this regard. In the fourth part, we present research methods and the results of empirical analysis. In the fifth part of the article, we show the degree of similarity in the structure under analysis in a dynamic perspective for EMU countries. In the sixth part of paper, we concluded.

Keywords: employment, Eurozone countries, macroeconomics, international economics, labour market, regional analysis

The analysis of Hungary's counties in the view of economic development

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The procedures in the national economy always take place among concrete conditions. At a first glance it seems that different economies can be examined by paying attention to their own possibilities and boundaries – since they work among different circumstances. But there are common elements as well, factors and economic powers which can be found in economies that have different features. These facts make it possible to give macro-economic models, in other words the analysis and description of connections that are present more or less in every national economy.
Several factors give special actuality to regional researches nowadays – mainly in connection with the European Union. The social-economic change after the system change brought the tension among the different regions of the country to light even more remarkably. The differences of advanced state among regions were clearly marked and contrary to our declared aims they became stronger.
The first question arose during the research was whether the Gross Domestic Product is going to similar level in the next years, then how appreciate the value of employment rate? and we used the example of Hungary for the answer.
The second one is, which those factors which can effect on the value of the GDP/capita?
We finished the research with cluster analysis. We were curious in what amount the 19 counties are similar from the point of GDP/capita, the number of employed people, and the general monthly income. (We stated in the previous regression analysis that the number of the employed people and the general income had the greatest effect on the economic development of the counties).

Keywords: territorial differences, economic development, GDP/capita, statistical methods

The concentration of manufacturing in Mexico: a case study

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The industrial activity in Mexico as a factor of development plays a key role in regional growth. The aim of this paper is to analyze the manufacturing in the state of Zacatecas through the 21 Subsectors by the NAICS classification for the years 1998 and 2003. We built up coefficients of localization, export, specialization and Gini noting high levels of concentration in a few activities as well as a contradictory trend toward the diversified production. Finally, decomposing the growth factors with the Shift-share analysis, we can prove that it is the regional component which has paid more to the growth of manufacturing.

Keywords: Manufacturing, concentration, Shift-share

The spatiality of the creative micro-regions in Hungary

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Today the economic environment is influenced and transformed by other background processes besides globalisation, which worth being and have to be paid attention to as area organiser powers. Nowadays the development of globalisation processes unambiguously shows that human factors and the knowledge based on it may become the future key factors to development. We live in a world where knowledge, human creativity and the ability to process infinite information are also one of the prime movers of development.

This study aims to analyse how Hungarian micro-regions can be classified according to the position of the creative class. The starting question is whether the micro-regions as regional units are suitable to examine the spatial position of the creative class. Further basic questions are what sort of connection there is between the position of the creative class and income formation and whether the creative class is really concentrated in urban areas.

In the analysis of the Hungarian micro-regions I take Richard Florida's study dealing with the creative class as a starting point. I examine the database and its indexes developed for Hungarian micro-regions with multivariable statistical procedures.

Keywords: creative class, knowledge based economy, micro-regions, regional analysi*s*

SOCIAL STATISTICS

Analysis of Political Business Cycles in Transition Economies with focus on Albania

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Over the last decades, there has been plenty of research and articles on Political Business Cycles (PBC), aiming at analyzing and explaining the use of fiscal and monetary instruments to stimulate economic growth before elections, to impress the voters.

In our previous research on PBC in Albania, we found clear evidence of fiscal expansion before elections (Imami and Lami, 2007; Imami and Lami 2008). In transition economies, it is possible to identify special phenomena related to PBC for which there is limited or no evidence found in existing PBC related literature (Kächelein, Imami and Lami 2008; Imami, Kächelein and Lami 2009).

In this study, we look into greater details, the use of fiscal instruments such as public investment expenditure, government expenditures on compensation of employees and unemployment insurance benefits, subsidies as well as, monetary instruments (M1 and M2), and macroeconomic outcomes including GDP, unemployment, inflation also in the contexts of the recent parliamentary elections in Albania that took place in 2009.

In addition, we analyze other aspects related to PBC, such as peoples' expectations related to elections outcomes.

In our paper, we apply Intervention Analysis (Box&Tiao, 1975) methodology for constructing a statistical model in our study. Many other well known researchers in the field such as McCallum (1978), Hibbs (1987), Alesina and Sachs (1988), Alesina and Roubini (1992) have used Intervention Analysis in empirical studies of this kind. Basically, the test proceeds by subjecting the monthly or quarterly seasonally adjusted time series of these variables to a Box-Tiao (1975) intervention analysis, using the most appropriate autoregressive integrated moving average (ARIMA) model for the time process and an intervention term; here the intervention term models the time distance to the election day.

There is a wide consensus that PBC lead to inefficient outcomes, and therefore, should be avoided. Hence, conducting research on PBC in Albania, and publishing the results will contribute to raising the awareness to the existence of PBC, the related disadvantages and the importance of avoiding this phenomenon.

Analysis of poverty in Poland in 1997-2000 using hazard models

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In this work, the size and character of poverty in Poland was studied based on a panel data from CHER (Consortium of Household Panels for European Socio-Economic Research) database for the years 1997-2000. The analyses have shown a low households' dynamic of income in this period. The sum of years spent in poverty as well as different sequences of entry to and exit from poverty suggest a permanence of this phenomenon in the population. During the period studied, the basis for the calculation of the number of years spent in poverty was the rate of entry to and exit from poverty. The calculations were made using a method of analyzing poverty based on hazard models, considering observed and unobserved heterogeneity of individuals in order to "explain" a chance of exit and return to the sphere of poverty.

Keywords: permanent poverty, hazard models, multi-time episodes, unobserved heterogeneity

Application of microsimulation models in HCSO

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Microsimulation dates back to 1957 when the famous article "A new type of socio-economic system" by Orcutt was published. Thanks to countless research that has been carried ever since out on the basis of this article, nowadays microsimulation models are made for numerous aims as well as countless technical accomplishments. In the HCSO the development of the Hungarian Household Statistical Microsimulator was launched in cooperation with the Darmstadt University in 1983. It was used for testing the effects of the different tax systems on income distribution. In the mid 90's the HCSO in collaboration with researchers of Cambridge University drew up a simplified microsimulation model which was used to test the effects of social transfer programs on households' incomes. It was utilised during the income survey in 1996 but no straightforward microsimulation work was carried on. In 2006 a static model was developed in cooperation with Ecostat, which was used for tax simulation and the testing of taxation of family allowance. In this lecture I will give a brief presentation of the simulation model made in 2006 and our efforts on further developments.

Keywords: Microsimulation, income, tax simulation, family allowance

Aspects regarding the Financing of the Romanian Social Health Insurance Security System

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The purpose of this paper is to analyze the financing schemes for the Romanian health care. Social health insurances represent the main system for covering and caring for the population's health. The contributions that create the unique national social health insurance fund and its usage towards beneficiaries are studied. Furthermore, the efficiency of public health care activity is estimated through a series of indicators.

Keywords: healthcare, social health insurance, the national unique social health insurance fund, public health expenses

Economic crises and strategies to struggle with crises: a study on Turkey

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It is a known fact that national and global economic crises taking place in recent years have negative impacts on global economy and Turkish economy. Under this context, crises pose severe economic and social impacts on different income groups in the society in the long term. The consumption behaviors and habits of these groups and families undergo economic, social and physical changes. This study examines the influences of economic crises on behaviors of households, which plays a very important role in stabilization of national income balance in terms of macroeconomics. Based on the results of this research, this study also defines the ways in which wage earners of different income groups working in the formal sector are influenced from economic crises economically, socially and physically. Another purpose of the study is to compare different strategies that wage earners working in these sectors implement to struggle against poverty through focusing on strategies they apply to struggle with potential crises and actual crises. This way, it is tried to reveal the significance of the strategies these groups apply so as not to be caught by poverty impasse by combating with economic problems occurring as a result of economic crises. Wage earners comprising women and men in the sample taken as basis in our study are examined comparatively in terms of their demographic characteristics, labor force characteristics, income (wages) characteristics, the changes in their compulsory and non-compulsory needs, physical and psychological ways of being influenced from the crises, and personal and market-based strategy applications to combat with the crises and to alleviate the effects of the crisis. Research data were collected from the studies conducted by Mckenzie (2001, 2003 and 2006), Frankenberg et al. (1998), Frankenberg et al. (1999), Frankenberg et al. (2002), Wetterberg (2007), Kalkan et al. (2006), Kalkan et al. (2006), Duygan (2004), Erbas and Turan (2004) and by means of questionnaire form prepared with use of researches on this topic in the literature. In the long term, crises have negative influences on wage earners of different income groups comprising civil servants and workers. On the other hand, individuals in low income groups and those in high income groups are influenced from the crises differently. It is observed that life standards of wage earners having different income levels fall, and consumption and spending habits change as a result of the crises

Keywords: Economic Crisis, Strategies to Struggle with Crises, Economic Risk Management

Forecasting methods on the area of the demography

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The widely spread practice in Hungary sorts the forecasting methods in two essential procedures: onto extrapolation and a reflection. The present study concentrates from among these onto the extrapolation (hereafter: forecast). One of the critical areas of it is Demography. The quantitative and qualitative features of the population and the expected tendency of these has emphasized importance. Two of the new methods got onto emphasized place: one is based on the author's own questionnaire survey, and the other is the analogy method. Both of these objects are the expected tendency of the Hungarian fertility. The results leaded to thought-provoking conclusions.

Keywords: Demography, Forecasting

Impact of some social, demographic and economic phenomena on sustainability of pension systems in the Arabic world

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European, American and some Asian countries already have to dedicate a lot of attention to the emerging sustainability problem of their pension systems and other welfare benefits for the aged people, due to their aging society. The situation in Arabic countries is different at present. However, it's already visible that their social and economic specialities (young population, declining birth rates, the position of women, military policy, hegemony of mineral oil industries in economy etc.) will have a great influence on the living conditions of aged people within a few decades. The pension systems themselves in these countries also have several problems (e.g. low population coverage, high benefit offers). The gloomy picture of these two linked examination dimensions will force them to act soon. After a general introduction of some unusual phenomena of these societies, the paper summarizes the most important demographic and economic indicators and forecasts on Arabic countries, which are supposed to underline the threat of aging society on one side, than the paper also describes some financial sustainability problems and indicators of the present pension systems. The conclusion points are a possible social and economical crisis for the future, which will have a lot wider impact range then only pension system benefits.

Keywords: MENA countries, pension, contribution rates, sustainability, old age dependency

Introducing a Data Manipulation Application for Estimating a Nation's Resources to Manage Cross Cultural Distances

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The general purpose of my current research project is to quantify a factor of four elements that seems to affect cultural distances by either narrowing or widening the gaps between nations in international settings. The A.I.K.A. Factor consists of the following elements: Attitude, Interest, Knowledge and Adaptation Ability. A more specific aim of this paper is to report on my study in a Nordic setting. A bidirectional survey (total n = 265) was carried out. The resources two Scandinavian nations and the Russian Federation have for managing their dyadic cultural distances were measured. The surveyed data was processed with The Koponen Manipulator, a two-dimensional data processing tool that converts each determinant to an interdependent one. The combination of the a.m. factor and the a.m. manipulator complete a method that I tend to call The Dynamic Method.

Keywords: cultural distances, factor, manipulator, method, Sweden, Finland, and Russia

Investigating Dental Care Status with Multilevel Modeling

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The aim of this study is to explore the status of dental care. For this purpose, the data set is taken from a survey carried out in 2003 at Istanbul, Turkey. The framework of the population is determined as the people who are over the age of 18, living in Istanbul. According to the Turkish Statistical Institute indicators, Istanbul is divided into three regions. In these regions, there are 25 towns in total and all of them are included. From these 25 towns, 588 districts are selected randomly. In total, the analysis is performed with the participation of 1000 individuals. Taking account of the nested structure of the data set (individuals are nested within districts, districts within towns and towns within regions), multilevel modeling approaches are investigated.

Keywords: Dental care, Multilevel modeling, Nested data

Migration and the results of reproductive decision-making in the USA

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The presented paper is a multilevel comparative analysis of reproductive decision-making among the American population and the immigrants. This work emphasizes both the theoretical aspects of contemporary migration, theories and trends, and presents the literature review on the reproductive decision-making in the USA, as well as the empirical socio-economic analysis of reproductive decision-making among these populations. Two sources of datasets, the National Survey of Family Growth (NSFG), the US Department of Homeland Security are used in our study. We employ two econometric models, the multiple classification analysis and the ordinary regression model. The preliminary analyses show that immigrants are described by higher fertility compared to the fertility of US-born women. This is because immigrants come from countries where the level of fertility is significantly higher that observed in the USA. Moreover, postponing of births and/or delaying marriages due to immigration could determine that level of fertility. The immigrants from the Central and South America play an important role in patterning the shape of structure of the USA population by origin.

Keywords: migration, USA, reproductive, MCA, ordinal regression

Russian Military Statistics: Forgotten Art or Neglected Institution?

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On the eve of the 150th anniversary of the 4th International Statistical Congress held in London in July 1860 this article assesses evolution of Russian military statistics. First, three historical periods of its evolution are discussed. Second, contemporary problems are defined and illustrated by examples from defense policy domain and by own results in statistics of Russian military expenditure. The study concludes that real progress not only in Russian military reform but in overall country's modernization and sustainable economy growth too are impossible without bringing military statistics to modern standards.

Keywords: Military statistics, Russia, history, post-communist transition, modernization, military reform, civil-military relations, transparency, defense burden, military expenditure, comparability, adjustment of time series

Social networks as a support of marketing for nonprofit organizations

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Social network web sites or social networks in short, became a surprisingly interesting and popular subject, especially since the mass acceptance of this specific form of online communication and interaction. Social networks attract the attention of both experts and scientific researchers largely because of the numerous possibilities of using the specific form of networking provided on almost every type of widely accepted social networks. Social networking is one of the key components of Web 2.0, which is characterized by openness, freedom and collective intelligence. However, the most important characteristic of Web 2.0 is the exceptional interactivity between users. All the specific aspects of nonprofit organizations and especially of the education sector are apparent in the online environment as well. Furthermore, enhanced online communication systems enable a high level of usage of the aforementioned aspects for accomplishing the organizations' goals. This paper deepens the research carried out during the spring of 2009 on the similar subject of general usage of social networks amongst its users. The paper starts with a brief overview of the historical development of social networks in order to show how these communities have changed and developed over time. Current characteristics of social network web sites are determined and described in order to give a full picture of their state and marketing possibilities as well as the implications they have on future development of Internet based interactions. In addition, there is a special comment about the value of social networks and the way of determining their value and specific types of networks that are present in the global Internet space today. This paper also gives a general picture of the state of social networks and their users in the Croatian Internet scene with estimates of further development in the near future. The practical example of Internet presence within the social network environment takes the central place in the paper. An overview of the postgraduate study profile, on the currently most popular social network Facebook, is given. In addition, the advertising campaign of the aforementioned study within the same social network, as well as its overall efficiency is accentuated and commented. At the very end, the current marketing value and the reach of social networks concerning the marketing for nonprofit organizations is summed up and directions in which the future research of this subject will go are given.

Keywords: social networks, Web 2.0, Internet, online advertising, education

Statistical indicators of poverty in Serbia

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Poverty is a multidimensional worldwide problem. Half of the population is extremely poor, so their lives are endangered. Poverty in Serbia is a complex problem, shows some similarities with the same problems in other countries in transition, but it has its own specific characteristics as well. These specificities are investigated in depth in this paper. The government of Serbia is bringing in at 2003 the Strategic directions and activities aimed at reducing poverty.

Keywords: poverty, sustainable development, strategy of reducing poverty, transition

Statistics of Markov processes with applications in insurance and public health: life tables and life expectancies

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The natural setting of survival (or event history) analysis is the Markov process framework, where the X_t process takes on values in a finite set of states S. Survival analysis deals with the less complicated case of only two states: life and death. In the multi-state case one would consider one-dimensional aggregate indices, such as Disability Adjusted Life Expectancy (DALE). A valuation of states can be introduced for this purpose, and the expected value of the life should be estimated. With a discount factor can be expressed the age discriminating and not perfectly justifiable view, that older life counts less. Discounting however perfectly justifiable in financial applications, dealing with cash flows depending from the process. More exactly the process X_t generates a filtration $\mathscr{F}_t$ and one can consider stochastic cash flows adapted to this filtration. Actuarial premium calculation and reserving principles of life insurance can be derived by taking expectations of present values of the appropriate cash flows. Finally consider two different processes with the same set of states S, taking the same functional of the two processes (e.g. life expectancy). It is important to find a decomposition of the difference of the values of the functional of the two processes to contributions attributable to changes of transition intensities. The decomposition of differences of life expectancies has been done for causes of death (one life and many death's) by Arriaga. Pollard derived his decomposition not only for life expectancies, but for many other functionals. These results are generalised for more general Markov processes.

Keywords: Markov process, life expectancy, healthy life expectancy, Disability Adjusted Life Expectancy, decomposition

Statistics of Poverty: Multivariate Regression Analysis, Rural Sudan

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This paper employs binomial and ordinal logistic regression models to map out a poverty profile and examine probable determinants of poverty in rural Sudan. The first model determines the factors that are affecting the living standards of the household, being poor or non-poor. The ordinal logistic regression model has been employed to estimate the log odds of three poverty categories (extremely poor, poor and non-poor) and to allow the simultaneous comparison of more than one contrast. The odd ratios for the two models, which indicate the effect of the factor after controlling for others including in the regression analysis were estimated. The study concluded that since poverty categories have a natural order, the ordinal logistic model is the appropriate model to be employed in estimation of relevant probabilities.

The Effects of Rent Liberalization on the Poverty in the Czech Republic

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Rent control has a long tradition in the Czech Republic (more than ninety years). This kind of protection of tenants from extreme increases of rents is valid for most of tenant dwellings in the Czech Republic. Rent control used to be well founded during the transformation period in the early 90's, but it has grown into one of the most rigid measures of the Czech housing policy. Only 20 % of tenants have to pay "market" price in the Czech Republic, the rest (80 %) could be considered as "protected tenants" according to EU-SILC data. It is highly possible that the latter group comprises not only of persons in need, but also rather the middle class people.
All attempts to abolish the rent control were unsuccessful until 2007 when a special act on rent control liberalization came into existence. It presumes that the process of deregulation should be finished until 2012. As a result, mainly in the bigger cities we can expect large increase of the former regulated rents. Therefore it is natural to ask what effects bring rent deregulation to a particular household. Can "protected" households afford increased rent prices?
The aim of the paper is to show what the change of the poverty in the Czech Republic will be when the process of rent deregulation is finished. In the first part of the article we employ contemporary applied poverty measures and characterize poverty in the Czech Republic, primarily concentrating on household with regulated rents (before deregulation). In the second part of the article we show the development in the poverty between 2006 and 2007 (the first year of the rent deregulation process). Finally, in the third part of the article we use a micro-simulation model as a tool for discovering potential development of the poverty among affected households as a result of finished process of rent deregulation. The analysis is based on EU-SILC micro data for the Czech Republic.

Keywords: poverty, poverty measurement, rent deregulation

The internationalization process through social networks and its impact on social progress

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The world economy is changing rapidly through new patterns and it implies new adaptation processes for national economies. One of this new patterns, vast literature has identified it, is how increasing productivity will conduct the country to an internationalization process gaining welfare at the same time.

The main objective of this work in progress research is to study the increasing of productivity and its consequent internationalization process from a social capital and social networks point of view. Trying to measure the impact of an internationalization process in welfare and progress of society. Understanding welfare and progress as education levels of society, compared education levels by generations, health situation of the population and levels of social participation.

We are using data from the *European Social Survey* that is an academically-driven social survey designed to chart and explain the interaction between Europe's changing institutions and the attitudes, beliefs and behaviour patterns of its diverse populations. Now in its fourth round, the survey covers over 30 nations. It has been funded through the European Commission's Framework Programmes, the European Science Foundation and national funding bodies in each country; and we are also using the *Amadeus* database that is a comprehensive, pan-European database containing financial information on over 11 million public and private companies in 41 European countries. With the combination of these two databases we have built all the necessary statistic indicators. The analysis has a cross-national perspective, in order to see how this is a widespread process or it is a local phenomenon.

The role of rationality on the choice to switch to FDC pension system

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Ageing of the population stands behind the worsening of the public finance's perspectives in most European countries. The natural response to such problem was the reform of the pension system. Before the reforms started, pension system used to be based only on one pillar (PAYG DB), which could be characterized by high level of inter-generation and intra-generational redistribution. The reforms were usually based on principles of "risk diversification" and "increasing the equivalency". These principles could be found in fully funded contribution based pension system (FDC system), which was newly established in many European countries (mostly CEE countries). The old pay-as-you-go defined benefit pension system was partially replaced with FDC system. The switch could be undergone either by strictly regulated approach or by so called opt-out. Opt-out means that state administration gives its citizens a choice whether to stay in the old system, or whether to choose a new one. The letter case raises the question how to estimate the proportion of population who will voluntarily switch to FDC system.
In our paper, we present a micro-based simulation model for the Czech Republic that allows us to model the individuals' switching decisions using several economic and behavioral factors within an old (PAYG DB) and a new (FDC) system. Our work is based on the assumption that the individual's choice is made on the base of rationality. It allows us to estimate the proportion of people who would opt-out to a funded pillar. In the second part of the article we release the assumption of rationality and find out arguments why more workers switched to a new system than was expected.
Our results show that only a small fraction of population would choose the multi-pillar scheme. However, this conclusion is true only under the assumption of rationality. Leaving this assumption explains why the switching strategy is favourable for more individuals than it was expected.

Keywords: pension system reform, opt-out, pension fund, rationality

Typology of the family in the analysis of poverty in Russia

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The issue of poverty in Russia is actually because poverty covers a large proportion of the population. According to researches of scientists together with class characteristics, such as socio-professional status, the living standards of Russians is influenced by non-class, mostly socio-demographic, features including type of households.

Based on materials of three INTAS projects devoted to the problems of poverty and social policy (1995-2006) the report provides the results of analyses of empiric data including:

- Russian Longitudinal Monitoring Survey, panel research, 2005-2007 (more than 12 000 respondents every year);
- three pan-Russian surveys (2006, 2008 and 2009) (nearly 2 000 respondents each of them).

According to the results of the research:

- The item for analyzing poverty in Russia is not a person itself but the household because of the particularities of gender and generations' relations in households;
- While in developed countries major socio-demographic factors of inequality are race and gender, in Russia racial inequality is not so relevant, and gender inequality is not so acute, and therefore inequality based on socio-demographic parameters in Russia are often generated by characteristics of households;
- Analyzes of different aspects needs different typologies of households (due to roles distribution, numbers of generations, etc.). The most informative typology of households for studying poverty and its nature is classification due to dependency load as in Russia this factor is not compensated enough by social policies;
- The risk of falling into poverty is increased even not by dependency load itself (the number and proportion of dependents), but by its character (who is dependent);
- The nature of dependency load not only determines the level and parameters of household's consumption, but also influences the working positions of other members who take care of dependents;
- The greatest risk of poverty exists for households with non-working pensioners and chronically sick people without disabilities with low level of human capital. The lowest standard of living is shown by households of pensioners and families with more then two children and single-parent families;

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- In terms of stability and economic growth pensioners provide greater risk of poverty for households than minor children;
- During crisis the minors load increases most of all as households with little children have risks of unemployment and incomes decline in conditions of pensions (as guaranteed income) absence and absence of opportunity to cut other expenditures, because while disabled persons or retiree are ready to give up new clothes and even some food for the sake of drugs, children's requirements can't be decreased.

Thus, the type of households is one of the key factors of poverty in Russia today. That is why adequate typology of households in the analysis of these issues in the social sciences can provide interesting scientific results which can be useful in the development of social policies. This report demonstrates that the typology of households due to the nature of dependency load is very informative in analyzing poverty in Russia.

STATISTICAL THEORY

A new way of index creation: The penalty for the bottleneck method

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Over the last decade, index building has become a very popular topic. The basic aim of index computations is to derive one number that can provide a summary "value" for the investigated units. In this study, we are willing to provide an acceptable solution to a frequent problem of index building, i.e. the high differences (variation) amongst the variables. The basic assumption of the newly developed Penalty for Bottleneck (PFB) methodology is that bottlenecks, i.e. large deviations in different features, can have a negative effect on the particular feature having higher value. Consequently, the value of the index is mainly determined by the variable with the worst value that can be considered as the weakest link amongst all the variables. The advantage of the methodology is its analytical basis. Therefore, it is not sensitive to sample size, like other statistical methods. The Global Competitiveness Index serves as an example to show the advantages of the PFB over other methods.

Keywords: index computation, Penalty for Bottleneck, Global Competitiveness Index

Chow-Lin methods for completing missing data in space-time panel models

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Completing data sets that are collected in heterogeneous units for spatial data is a quite frequent problem. Chow and Lin (1971) were the first to develop a unified framework for the three problems (interpolation, extrapolation and distribution) of predicting times series by related series. This paper develops a spatial Chow-Lin procedure for cross-sectional and panel data and compares the classical and Bayesian estimation methods. We outline the error covariance structure in a spatial context and derive the BLUE for the ML and Bayesian MCMC estimation. Finally, we apply the procedure to Spanish regional GDP data between 2000 and 2004. We assume that only NUTS-2 (NUTS: Nomenclature des unités territoriales statistiques) GDP is known and predict GDP at NUTS-3 by using socio-economic and spatial information available at NUTS-3. (NUTS statistics was developed by Eurostat for defining regions and subregions for European states). The spatial neighbourhood is defined by either km distance or trade relationships. After running some sensitivity analyses, we present the forecast accuracy criteria comparing the predicted values with the observed ones. The quality of the forecasts depends on the quality of data (e.g. no outliers are present) and the quality of the approximation of the aggregated to the disaggregated model.

Collinearity Measures and Effective Sample Sizes: Links and Comparison

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There are many statistical problems in connection with (almost) collinearity among multivariate data or random multivariate variables. Many statistical methods have been developed to tackle the problem of multicollinearity. A part of them is connected to the notion of linear dimensionality. It appears that dimensionality is generally not sufficient to have a good insight of the problem. The quantification of collinearity is still an interesting issue though it has not led to many investigations. Some very specific proposals have been made, and among them the attempt to deal with the multicollinearity in linear regression models [Kovács et al. 05]. The measure they proposed can fortunately be used in a rather large framework.

It appears that this approach can be related with a far older attempt to quantify the redundancy due to covariance between random variables. The problem is known as the "equivalent number of repetitions" in the sense that a number of independent variables is equivalent to a number of correlated variables is searched. This paradigm was probably initiated by [Bartels 43] and reached some rather pertinent solutions in [Тер Мкртчян 69], though some works on the topic were found later.

The purpose of the presentation is first to recall the problem pointed out by [Kovács et al. 05]. Then, the theory of "equivalent number of repetitions" is fully detailed from the very beginning to the most recent contributions. The link with the multicollinearity is highlighted that enables the comparison of both approaches. This comparison is viewed through the examination of classical chronological models. Finally, a model of increasing collinearity is proposed and a numerical study that helps to better understand the response of the different measures to this increasing collinearity.

Keywords: Multivariate Analysis, Information, Collinearity

Cybernetic approach to selecting models for simulation and management of investment portfolios (a general concept)

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The authors state that cybernetics present an unorthodox "new" way of studying the process of portfolio management. Being interdisciplinary by nature the science of cybernetics (along with its close counterparts – control theory and systems theory) makes it very suitable for solving problems that are complex and interdisciplinary by nature, such as investment portfolio management. Furthermore in the very fundament of cybernetics lies the notion of self-organization and adaptivity through evolution which exactly corresponds to the complex and ever-changing character of the free market.

Over the years a significant number of portfolio models, methods, procedures and strategies ("investors") have been proposed (for which the authors are suggesting a classification scheme) by theoreticians and practitioners in the field. Application of each of them should be considered as a systematic process consisting of several phases (i.e. goal setting, data collection, data structuring, statistical testing, enforcing limitations, forecasting, developing feasible solutions, selection of optimal solution, realizing the investment solution, feedbacking the significant outcomes, etc). Dissecting the "investors" opens new possibilities for heuristically combining various phases into new combined (and unstudied) approaches in portfolio management.

All of the above-mentioned portfolio "investors" (known and new) should be backtested on a unified competition data track. Such competition track consists of complete time series of all possible investment instruments. There is a significant challenge with the missing data for an emerging market such as Bulgarian Stock Exchange. The backtesting is done for every data-point (historical trading day) with all possibilities (all investment instruments available for trading on that day) using all state spaces (all possible values of all parameters). The direct result of such systematic approach would be a ranking list of the most successful portfolio "investors" (according to given criteria) which then could be selected by a given bias. So, from a general point of view, the whole concept is in fact a multi-stage selection procedure.

Keywords: Directed multi-stage selection procedure, Competition data track, Empirical backtesting, Classification of portfolio models, Portfolio management phases, Self-organization and adaptivity, Heuristic inductive approach

Effects of Rounding on Descriptive Statistical Measures

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Rounding, for its simplicity is a commonly applied practice in data collection. Our goal in this study, on one hand is to overview the literature on the effects of different rounding rules on statistical measures. Secondly, we mathematically examine and/or simulate the effects of rounding on descriptive statistics such as mean, standard deviation, median, as well as on skewness and kurtosis. In the analysis, we consider samples drawn from widely applied symmetric and asymmetric probability distributions (e.g. normal, uniform, Poisson, Pareto, binomial, chi-square and Laplace distributions).

Keywords: probability distribution, rounding, methodology, simulation

Estimation under a probabilistic editing procedure

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Measurement error is one kind of nonsampling error appearing in surveys, censuses and administrative data. Thus, data editing is always part of data processing. However, editing all inconsistent or suspicious data records is time consuming and costly. To save resources selective editing is often considered by national statistical agencies. Selective editing aims to correct only the most influential erroneous responses without lowering the quality of final estimates. Due to its nature, selective editing approach lacks a basis in probabilistic theory and there has been no suggestion as to how to establish the properties of estimators, especially the bias properties. This paper proposes to choose for editing only responses selected through probability sampling procedure. Probability proportional-to-size sampling design is considered for the purpose. Two-phase design approach is applied for the bias estimation. The properties of calibration estimator in case of probability editing are presented. A simulation study is carried out to examine the effectiveness of proposed approach.

Keywords: measurement error, unbiased estimation, two-phase design

Linear and linear-fractional programming: comparative analysis of optimal solutions

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Like a linear programming (LP) problem, linear-fractional programming (LFP) problem can be usefully applied in a wide range of real-world applications. In the last few decades (starting from the pioneer paper of B. Martos in 1960's) a lot of research papers and monographs were published throughout the world where authors (mainly mathematicians) investigated different theoretical and algorithmical aspects of LFP problems in various forms. In contrast with keen interest of mathematical community, economists and practitioners unfortunately do not demonstrate any considerable interest towards LFP. Moreover there is an opinion widespread in certain groups of economists and practitioners that LFP is "superfluous" in general.

In this paper we consider these two approaches to optimization (based on linear and linear-fractional objective functions on the same feasible set) and compare the results they lead to. We show that in certain cases both approaches are closely connected with one another and may be fruitfully utilized simultaneously.

Keywords: linear programming, linear-fractional programming, comparative analysis

On estimating quantiles using auxiliary information

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Estimation of quantiles may be of considerable interest when measuring income distribution and poverty lines. For instance, the median is regarded as a more appropriate measure of location than the mean when variables, such as income, expenditure, etc, exhibit highly skewed distributions. In sample surveys, auxiliary information is often used at the estimation stage to increase the precision of estimators of means. The use of auxiliary information has been studied extensively for estimation of means, but it has no obvious extensions to the estimation of quantiles. In this paper, we propose a novel estimator for quantiles that takes the auxiliary information into account. The proposed estimator is based upon the regression estimator of a transformation of the variable of interest. We show that the proposed estimator is consistent under some regularity conditions. A simulation study supports our finding and show that the proposed estimator can be more accurate than its competitors.

On the History of Measurement Theory

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In this paper we briefly overview the development of measurement theory and the impact of scale types classified by Stanley Smith Stevens. The father of scales taxonomy that shows up even in the latest statistics textbooks (nominal, ordinal, interval and ratio scales) was a psychologist, although his theory had a great effect on the researchers in measurement sciences. His theory of permissible statistics and invariance has found numerous followers, but his disciplines have undergone several aspects of criticism. Thanks to the fact that this field gained significant contribution from a mathematical viewpoint, from researches such as R. Duncan Lee and Louis Narens, some of the original theorems have been mathematically proved. Some of Stevens's thoughts have been disproved, some have been further improved, but his pioneer contribution is unarguable.

In this study, the history of the development of measurement theory is reviewed based on original papers, including ordinal-interval controversy and its consequences, as well as the latest results in this field.

Keywords: Measurement, Measurement theory, Stevens, scale types, ordinal-interval controversy

Probabilistic Graphical Models and their Applicability in Economical Modeling

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„Why did not the economical models forecast the financial crash?" This is a frequently asked question nowadays. One of the causes is the modeling of the multivariate probability distributions. The tail risk is a central problem of the globalized financial markets. Extreme losses are usually located at the tails of the probability distributions.
In our exposure we present a multivariate probability distribution family, which exploits the direct dependencies between the underlying variables. We expect that the model presented is able to model correctly the tail-events, too.

Keywords: Multivariate probability distribution, probabilistic graphical models, conditional independence, rare events

Relationship between the Redundancy and the Concentration based on Petres' Red

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In today's globalizing world decision makers have an increased need for information. The great increase in the quantity of data is not automatically accompanied by an appropriate increase in information. Actually, the problem that decision makers have to face today is not the lack but the abundance of information, but this huge amount of data frequently has only a little information content, which means that redundancy is high. Redundancy means "superfluous" data which do not convey new or noteworthy information in terms of the examination. For this reason the information content of metric data is an essential issue in empirical analyses. This is particularly true for the application of linear regression models. In the case of linear regression models, multicollinearity can be interpreted as a type of redundancy. Petres' Red is a new possible indicator of redundancy and thus of multicollinearity. The Red indicator is defined by using the eigenvalues of the correlation matrix of the explanatory variables. In case of multivariate data analysis the question rightly arises what kind of relationship is between the redundancy and concentration. Concentration refers to the extent to which a small number of units account for a large proportion of total. The Herfindahl-index is one of the measure of concentration.

The aim of this paper is to examine the relationship between the redundancy and concentration in a multivariate linear regression model. Our examination is based on Petres' Red.

We present that the redundancy could be express as the concentration of the eigenvalues of the correlation matrix of the explanatory variables. In this case the values of the normalized Herfindahl-index and the square of Petres' Red are the same.

Keywords: concentration, redundancy, multicollinearity

Research on information propagation using an analysis of odds movement in horse racing

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Our purpose of the study is to achieve an idea for fluctuation on information propagation. As a first step, we focus on the odds in horse racing to study the information propagation. Analyzing past data of horse racing, and constructing mathematical model of winning probability, we find a correlation between primary information and a result of races. In this study, we investigate the dependence on the race condition, such as a grade of races, in order to survey on which concition our model agrees better. Consequently, we confirm that our model works well.

Keywords: propagation and correlation of information

Risk – Definitions and components

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In this paper different definitions and components of risk are examined. In addition certain aspects of risk analysis are presented. These aspects are connected with categorical risks, comparability of risks and risk factors. Objective of this study is also to describe how uncertainty and risk are seen as concepts in various applications.

Testing Interpoint Distance in Non Symmetrical Correspondence Analysis

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Non Symmetrical Correspondence Analysis (NSCA, 1989) is a well-known technique that allows us to display the directional relationship of a two-way contingency table. NSCA is the obvious extension of classical Correspondence Analysis (CA; Benzécri 1969,1973) when the rows modalities influences the row variable depends on column variable. NSCA starts form the properties that (in the same manner of CA), the index that measure the departure from the independence hypothesis proposed by Goodman and Kruskal (1954) can be decomposed along principal axes. The NSCA allows us to represent in a low dimensional subspace the row and column profile coordinates. From an inferential point of view, the confidence circles can be computed to test which modalities are significant at a fixed error level but it is moreover important to test the significance between any couple of point. In this paper we adapt the test proposed by Gabriel (1995) to test the difference between two profiles.

Keywords: Data Visualization; Non Symmetrical Correspondence Analysis; Interpoint distance

The Evolution of Patent Innovator Networks: The Dynamics of Structural Characteristics and Link Formation

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Networks have attracted considerable attention in the last decades. Works from a broad spectrum of scientific research have revealed that networks in quite diverse areas of life (e.g. the living cells, the world wide web, social relationship networks, etc.), although different at the first sight, share some basic common properties, among which the most striking is their invariant scale-free characteristics.

At the same time the literature on innovation has focused on learning and innovation networks, i.e. networks of firms, researchers, specialized institutions etc. It is now clear that innovation can be regarded as an interactive process which requires relationships between different agents of the process (innovators, firms, universities, venture capital, etc.).

These two lines of research have been synthesised in the area of innovation networks which tries to reveal the characteristics and dynamic patterns of such networks. The work in this field has proceeded along two different methodological avenues. First, empirical studies made considerable efforts to gain insight into the characteristics of real innovation networks. These studies however, mainly due to the lack of adequate data, grasp only a static view of the networks in question, their structural characteristics and the relationship between these characteristics and their performance.

On the other hand, simulation studies (constituting the theoretical background of network analysis), has focused more on dynamic issues, i.e. the evolution of networks. Simulation studies gained relevance in this field as network models can be rarely handled analytically. However, simulation studies can be separated into two categories. The first category consists of such experiments which are linked to empirical studies some way and the other category consists of purely theoretical model simulations. Only the latter type of simulations treats explicitly the dynamic evolution of networks.

In this paper we would like to bring these two areas of research one step closer. Using a very extensive database covering patent statistics of European countries through the period between 1978 and 2005 we analyse the dynamics of patent inventor-networks in 6 high-tech subsectors. Based on the results of this empirical study we analyse the hypotheses of a simulation model considering dynamic issues in evolving networks. Moreover, we calibrate the model according to the data which this way is able to replicate the dynamic behaviour of the evolution of patent inventor networks.

The empirical part of the paper places attention on the evolution of patent innovator networks in high tech subsectors of European countries through more than 20 years. First, we focus on the structural dimensions of patent innovator

networks analyzing the evolution of such characteristics over time. Then we turn to the question of link formation, examining the main forces behind the selection of partners according to their current situation in the network as well as their geographic location.

The simulation part of the paper presents a straightforward extension of the Barabási-Albert model of network evolution. Their model presents a simple algorithm based on growth and preferential attachment which generates scale-free networks. In our approach, first we demonstrate that preferential attachment is not a necessary condition for an evolving network to become scale-free, but simply the presence of growth implies the scale-free property. Second, we extend the Barabási-Albert model by imposing locality-constraints on link-formation. Agents in the network not only consider the connectedness of other agents when building new connections, but their distance in the network: links are more likely to form locally than trough large distances. Through local attachment the resulting networks become more clustered than through preferential attachment, although the scale-free property of the networks is still present. In the simulation the weight of preferential and local attachment can be varied. Through the empirical analysis we try to reveal that in the case of high-tech innovator networks which forces are in work during network evolution.

Most part of the above is still work in progress, so we lack adequate, clear cut results yet.

Using Massively Parallel Processing in the Testing of the Robustness of Statistical Tests with Monte Carlo Simulation

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The *validity* of a statistical test is defined as its property of having equal Type I error rate and significance level. The *robustness* of a test is its property to be valid to some extent even if its underlying *assumptions* are not met for the sample(s).

One way to check these properties for a given test is to generate a large number of random samples for the test and perform testing. Samples would have same or varying relevant features depending on whether we are testing validity or robustness, respectively. Then, we compare the empirically found Type I error rate with the significance level: if they are "close enough", one can presume that the test was valid/robust. This is the so-called *Monte Carlo (MC)* method.

One common problem with MC methods is their extreme need for *computing performance*. Although personal computers are widely available today, and have an impressive computing capacity for everyday tasks, they are still unfit for larger scale MC simulations. Whilst common statistical packages like R or SPSS make MC methods possible with user-developed applications, such programs simply run too slow in complex situations (e.g. if multidimensional parameters specify the features of the generated samples) on PCs.

To overcome this limitation, we employed another approach (falling into the category of Massively Parallel Processing, or MPP), called GP (General Purpose) GPU-computing. It is based on the fact that the Graphical Processing Units (GPUs) found in modern video cards have a highly parallel architecture that makes the performing of a limited subset of algorithms (namely: well parallelizable algorithms, like MC) extremely fast. During this project we developed a program operating under NVIDIA's CUDA for the aim. (We tested the application with a middle-class video card.)

As an example, we examined the very typical question of the robustness of *Student's t-test* if its samples are coming from a non-normal distribution using this approach. (Samples were generated with Fleishman's polynomial power transformation method, with nonlinear equation-systems solved with GSL library.)

In our tests, we reached a peak performance of *214.5* million (!) random numbers generated (and *t*-tested with sample size=*10*) a second (with Mersenne Twister random number generator).

We tested the effect of skewness (in 20 steps from 0.0 to 4.0) and kurtosis (in 20 steps from 3 to 13). With 10 million sample-pairs generated at each step (sample size=*10*), this meant *20·20·10·10000000·2=80* billion random number generations and 4 billion hypothesis testing – this was all done in 373 seconds!

The results showed that the test is highly sensitive for the departures from normality, but – more specifically – far more sensitive for skewness than for kurtosis. We also demonstrated the effects of the sample size (i.e. the effect of the central limit theorem).

The true power of our work lies in the fact that the testing environment we developed is flexible and scalable, so it can be easily adopted to virtually any statistical test – their properties can be tested with very high performance and without any programming (or GP-GPU) knowledge.

Vendor selection by application of revised weighting method and fuzzy multicriteria linear programming

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The problem of vendor selection and determination of material quantities supplied is the key element in the purchasing process in manufacturing which is one of the most important activities in supply chain. If all the selected vendors are able to meet perfectly the buyer's requirements, then the selection process becomes easier and is based only on the selection of the most suitable vendor in terms of purchasing costs, product quality and vendor reliability. Nevertheless, practice shows that it is not good to rely on one vendor only. Therefore the management of the purchasing company generally enters into contracts with several vendors. Their number usually ranges from two to five for each sort of material. Also, there are cases when no vendor can meet the buyer's demand, or will not do it in order to protect his own business interests.

Vendor selection in supply chain is a multi-criteria problem that involves a number of quantitative and qualitative factors. This work deals with a concrete problem of flour purchase by a company that manufactures bakery products. The criteria for vendor selection and quantities supplied by individual vendors are: purchase costs, product quality and reliability of vendors. Each of these criteria is expressed through a number of sub-criteria, which can further be expressed through a number of sub-sub-criteria, etc. This reveals the hierarchical structure of criteria for vendor selection. The problem of vendor selection is solved by a model that combines revised weighting method and fuzzy linear programming. The study points to the advantages of using the combination of the two methods in comparison to the use of revised weighting method in combination with linear programming.

The aims of this work are the following: (1) to point on the concrete example that vendor selection is a multi-criteria problem, (2) to propose criteria for vendor selection, (3) to propose the model for vendor selection and determination of supply quotas by using revised weighting method and fuzzy linear programming, and (4) to point to the advantages of the proposed model in comparison to the usual methods of vendor selection. The concrete example will be the problem of flour vendor selection by a bakery.

We will first present the methodology of vendor selection and determination of supply quotas by use of revised weighting method and fuzzy linear programming. Then we will propose the methodology tested on the concrete example of vendor selection by a bakery. Finally, we will carry out sensitivity analysis of the obtained solutions. In the conclusion we will point to the advantages of using the proposed methodology in comparison to the use of combination of revised weighting method and linear programming.

Keywords: revised weighting method, fuzzy linear programming, vendor selection

TOURISM

(Adven)t(o)urist travelogue and it's illocution power (on the example of a writer and a publicist)

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Travelogues are one of the most interesting groups of books as they are literature hybrids. They contain many different information and they can be used in all kinds of humanistic studies. Because of their artistic and professional peculiarities travelogues are difficult to be defined. Are they literature or not? Most literature critics and linguists agree that travelogues are somewhere in between literature and journalism. Some lean on one side, some on the other. Which side will prevail, depends on the writer. In this paper we analyzed two Slovenian authors Tomo Križnar and Evald Flisar's travelogues. We tried to understand what the authors' ideas were and what they wanted to achieve. What was the prevailing illocution in their travelogues? We also tried to find out if the authors used elements of reportage and scientific writing. We were also observing the modifications of arguments and elements of literary journalism. After the analysis we concluded that Križnar and Flisar's travelogues are (adven)t(o)urist travelogues and are indeed on the border between journalistic and literary travelogues; as such, they are good stimulators of literary tourism. However, there are several differences between Križnar and Flisar's texts. While Flisar is a writer and the literary side prevails in his travelogues, Križnar's texts are closer to the journalistic genre of reportage or in the case of his last book, even to documentary essays. We added to our research a questionnaire about the popularity of travelogues and their influence one people choices when travelling.

Keywords: (adven)t(o)urist travelogue, journalistic travelogue, literary travelogue, reportage, literary tourism

Analyses of local ingredients and dishes on menus of the Southern Great Plain touristic region

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The background of the study is based on previous studies dealing with the areas of Transdanubia and Central Hungary. Those works have proved the hypothesis of author that local ingredients and dishes represent minimum role on menus.

The question is how similar or different the choice of menu of Southern Great Plain is from the previously examined areas of Hungary. Additional questions may also arise in terms of the usage of local ingredients available near catering units.

This piece of work has studied several menus of Southern Great Plain, Hungary. The material was collected from different types of restaurants, 'csárda'-s and inns. The methodology was two-tier: data collecting on the one hand, and the detailed examination of differences between the catering units on the other hand: the number of dishes, the right order of dishes, the appearance of local ingredients and dishes, the consideration of seasonality, the usage of different cooking methods and group of dishes.

The study reflects the main problems of countryside restaurants in Hungary. Only a minimum number of dishes could be connected to local dishes out of more thousands. However, there would be a chance to make a comparative analysis between the areas of Transdanubia and Central Hungary.

All in all, dishes are not as precise and perfect as the 'old ones' used to be; that is why it is important for every expert to keep traditions alive in daily routines and by way of strategic means too.

Evaluation of the consumers' attitudes towards the products of alternative tourism in National park "Rila"

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During the last several years, an increase in the interest towards alternative tourism can be observed. It is steadily becoming one of the most dynamically developing sorts of tourism. The goal of this project is to analyze and evaluate consumer attitudes towards the products of alternative tourism provided by the National park "Rila" in the context of sustainable development. The set of analysis and conclusions regarding the problem are based on an opinion survey conducted upon the potential consumers of alternative tourism in the territory of National park "Rila".

Keywords: alternative tourism, sustainable development, consumer attitude, product of alternative tourism

Influence of seasonal factor on the development of hotel industry in Bulgaria

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At this moment, the tourist branch is the most dynamically improving one. At the same time, the seasonal hesitations make a strong influence on hotel industry and in the same way on the economical results from business activity. The main question for entrepreneurs connected to the hotel business is getting maximum earnings during the non-tourist seasons, when there is a decrease in the demand. The purpose of this research is to examine the influence of seasonality upon the development of hotel industry on national and regional level. In this connection an analysis has been made, which includes the statistic data from the period 2002 to 2007. As a result of that some conclusions and suggestions are made for getting over the negative seasonal hesitations.

Keywords: seasonal hesitations, hotel industry, development, factor, influence

Legal Regulation on Nautical Tourism as a Feature of Cultural Tourism

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Conceptualising tourism as a social phenomenon, that is, as a group of relations and occurrences, means to define its multifunctionality. Within this framework nautical tourism may be regarded as a multifunctional tourist phenomenon manifested through physical consumption of natural and social resources. Although nautical tourism with its ports of nautical tourism, charter and cruising has been recognized as a generator of economic development of a particular area, quite often it gives rise to negative repercussions of social benefits. Therefore, it is necessary to turn to legal regulation, which specifies the aforementioned field, for the purpose of profit maximisation. The purpose of this paper is to explain more closely the mere notion of nautical tourism and its manifestations and benefits reflected in the economic, social and legal frameworks. The article focuses on the achievement of benefits through the multiplicative tourism effects accompanied by the qualitative detachment from standard elements of tourism offer characteristic for nautical tourism through the inclusion of new contents, demanding boaters' active participation and associated with cultural and historical heritage.

Keywords: tourism, nautical tourism, heritage, cultural tourism

Methodology and estimation of tourism-related road toll expenditures: experience from the Slovene Tourism Satellite Accounts

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According to the United Nations World Tourism Organization tourism is among the top 5 national industries in 4 out of 5 world countries today (UNWTO, 2008). In Slovenia, tourism represents "one of the leading economic activities, with a profound impact on national economy, regional development and employment" (Statistical Office of Slovenia, 2007). However, despite its importance the overall impact of tourism (and its components) on Slovenia's national economy begun to be evaluated only with the implementation of the TSA methodology, first attempted in 2000 and upgraded in 2007 (for the years 2003 and 2006). Within the Tourism Satellite Accounts (TSA) methodology, transportation-related expenditures such as gas and road toll expenditures represent an important product and service category, often ranking among the top 5 tourism expenditure categories. This is especially true for small countries with strategic geographical positions, making ideal transit and on-the-way tourism destinations. Yet despite its importance, little or no concrete statistical data is provided for evaluating the share of road-toll expenditures paid by different categories of visitors.

The purpose of this paper is to provide experience, methodological tools and best practices for evaluating tourism-related road toll expenditures for different visitor categories in Slovenia for the year 2006. As such, the goal of the paper is to explain how tourism-related road toll expenditures have been estimated within the TSA methodology for Slovenia and to outline a methodological approach, which can be used either within the TSA methodology or individually.

In the first part, a brief overview of the TSA methodology is outlined followed by an overview of the various tourism-related visitor categories for Slovenia in the given reference period. The third part of the paper outlines a series of 'physical flows' (i.e. number of check-ins at road-toll stations, average prices of road toll for given distances, etc.) which provide a quantitative basis for our evaluations and estimates. The fourth part outlines and describes our methodological approach to the evaluation of tourism-related road toll expenditures, followed by limitations of our research in the fifth part, recommendations for further research and a conclusion in the sixth and seventh part.

Keywords: tourism-related road toll, methodology, Tourism Satellite Accounts, Slovenia

Natura 2000 and tourism development

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Within the legislative framework of the European Union in scope of sector Protection of Nature the Community has adopted two main documents for regulation on conservation of species and nature habitats. These are Directive 79/409/EEC on the conservation of wild birds, known as the Birds Directive and the Council Directive 92/43/EEC on the Conservation of natural habitats and wild fauna and flora, called the EC Habitats Directive.

The main objective of this international initiative is to assist in conservation of biodiversity, taking into account local economic, cultural and regional characteristics. Both directives are considered as an incentive for the implementation of the concept for sustainable development. The European Community, which is a signatory of the Bern Convention ensures the fulfilment of the obligations therein on the basis of both directives by setting legislative requirements for the establishment of a European ecological network called NATURA 2000.

NATURA 2000 represents an ecological network of protected areas. It is an instrument of the EU for conservation of the natural habitats as well as of species, important for the Community. It is an obligation for each of the member-states in the EU to build the network within the boundaries of its territory in accordance with the Bird and Habitats Directives. By means of NATURA 2000, the EU takes part in the implementation of the ecological network EMERALD, in respect of the Bern Convention, which comprises of Europe and some countries in North Africa.

The establishment of NATURA 2000 within the territory of Bulgaria is among the key engagements of the government in respect of the country's accession to the EU.

This paper analyses the achieved results in the field as well as the problems arising from the connection of the network with the tourism resources in Bulgaria. Some recommendations are made intended for the countries of the Balkan Peninsula in regard with their future accession to the European Union.

Keywords: NATURA 2000, Birds Directive, Habitats Directive, EMERALD ecological network, Bern Convention

The Role of Tourism in the Protection of Cultural and Historical Heritage

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Tourism has become a global phenomenon in a relatively short period comprising with its number of participants almost one of the most massive appearances in the world. However, such an abrupt expansion leads to negative effects as well reflected in the excessive exploitation of natural and social resources and even challenging the concept of sustainability.

Development factors such as the pace of growth and development of a destination, the efficacy, efficiency and inventiveness are often in opposition to principles of sustainability. The introduction of the principle of systematic planning results in positive tourism externalities, which should include all tourism participants who directly or indirectly influence various processes in tourism. Attractive elements of space must be complemented with additional activities and the excellence of a destination is measured exclusively through achieved experience embodying all elements of a tourism offer.

The aim of this paper is to indicate the way in which the sustainable touristic valorisation of cultural and historical heritage may have a positive impact on tourism offer repositioning and what should be done in order to formulate price in relation to restraints.

Space, environment, cultural and historical heritage must not have an exclusively touristic purpose. Therefore, it is not possible to apply an economic evaluation method but the method of balance between protection and tourist demand instead, which enables market differentiation and orientation to market segments of higher quality.

Keywords: tourism, cultural and historical heritage, cultural tourism

ECONOMY, SOCIETY, EDUCATION – SESSION TO BE HELD IN HUNGARIAN

Analysis of dairy farms' efficiency by using data envelopment analysis (DEA)

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In Hungary the dairy sector is in a long-term critical period, the herd has been in constant decline. The comsumption of milk and dairy products in Hungary is slightly rising compared to the world tendency, and it is fallen behind the level in 1990. The milk consumption per capita in 2006 was with 75 litres less than the EU-15 average.

Dairy enterprise is a very risky activity: the profitability of the enterprise is affected by the fluctuation of feed and animal health products prices from the side of inputs, and by the fluctuatuation of end-product prices. Under these circumstances it is vital for the cattle breeders, in order to survive, to harness the reserves in the breeding as effectively as possible.

In my research I made a multi-faceted efficiency analysis of an agricultural holding's three dairy farms. The chosen method for the analysis was Data Envelopment Analysis (DEA). The selection of the method is justified by the fact that there is not such a reliable database by which I could define production functions, and that DEA makes possible to manage several inputs and outputs, i.e. multiple decision problems, simultaneously. By using DEA the sources that causes shortfalls can be identified, analyzed and quantified on farms that does not operate efficiently, thus it can help the corporate decision support successfully.

In the model inputs are the cost data per one litre milk – feed, medicinal product use, logistic costs -, and the main parametres concerning the keeping and rearing. Outputs are indicators concerning milk production, milk quality and others.

I prepared the model in MS Excel, the linear programming model series were programmed by Visual Basic. After solving the model, in light of the shadow prices I can determine why either of the farm is not efficient.

Keywords: DEA analysis, efficiency, dairy sector

Competing field crops and energy orchards by multiperiodic linear programming model and simulation programme package

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There are several opportunities to sole the problem of less-favoured areas in Hungary. In the North Great Plain Region there are several waste lands, and set-aside areas that can be suitable again for production.

Considering the land use of Hungary there is a need to develop a rationale land use, in which beside the less-favoured areas the use of set-aside areas are also permitted.

We prepared a multiperiodic linear programming model in order to model the crop structure, in which beside field crops – wheat, corn, turnsole and winter colza – woody energy orchards – locust, poplar and Swedish willow – were also competed.

After having each field and orchard technology compiled, we set the dynamic simulation model, that we prepared in MS Excel. After running the model we analyzed the shadow prices of the constraints and the marginal cost of variables.

Considering the result of the analysis and the professional information we made a sensitivity analysis, which gave a basis to create new decision variants.

In the course of our work, we compared the linear programming model with the model made in the Crystal Ball simulation program. We applied the distribution types that can be apllied in practice when we set the parametres.

After the comparative analysis of the formed decision variants it becomes possible to choose the most favourable optimal strategy.

However, we have to take into consideration the fact that by choosing the agricultural production it is important to analyze that on those areas where the producer cannot or can hardly manage the production costs, those enterprises must come to the front that can be maintained profitable with less costs – material and energy expenditure. On those agricultural lands where economical production cannot be realized one possible utilization mode can be to plant energy orchards in our country.

Keywords: simulation, linear programming, rational land use, biomass

Competitiveness of Human Capital in the countries of Visegrád

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These days competitiveness analysis has become an indispensable method of economic papers and studies. In vocational literature, several definitions of competitiveness are known, among which the pyramid model is the most accepted one. Each success determinant (for example: human capital) plays a significant role in the configuration of the competition of economy in the future. In my discourse, I will analyze the function of the human resource in the regional competitiveness of the Visegrád Group.

Keywords: competitiveness, human resource, competitiveness of regions, cluster analysis, factor analysis, standardization of regions, cluster of competitiveness

Congruence Analysis Based on Population Census Data

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I. Methodology

With respect to the education system, the compliance nomenclature was the „Register of Faculties, Specialties and Occupations" used also by the 2001 Population Census and the 2005 Microcensus. The Register is based on the Standard Classification of Educational Fields (KEOR) which was published by the HCSO in 2003. KEOR complies fully with the Fields of Education and Training (FET) of ISCED (International Standard Classification of Education) being in force since 1997. As regards occupations, FEOR-93 (Hungarian Standard Classification of Occupations) served as the basis for the compliance nomenclature. (The occupation survey of the 2001 Population Census and the 2005 Microcensus also applied this system). Though in terms of principles and structure, FEOR-93 follows ISCO-88 (International Standard Classification of Occupations), only the two-digit level complies fully with the international classification.

Consequently, the compliance nomenclature is based on two internationally harmonized classification systems: FEOR-93 and KEOR. Virtually, it has the following simple categories: (1) "complies"; (2) "partially complies"; (3) "does not comply".

In the history of modern censuses (from 1870), the 2001 Population Census was the one that included the fullest possible details regarding educational (professional) attainment. It embraced questions on school attendance; grammar, vocational training or other secondary school certificate; college or university degree; skills/vocational qualifications; denominations of finished faculty, major, minor, obtained qualification (occupation); and the academic year of acquiring degree, diploma or certificate. Every completed and not only the highest level of educational attainment had to be reported on (i.e. a person holding a university degree had to give also account of his/her completed secondary educational level). However, the Census did not include a question on completed non-formal courses (being outside the school system).

The dataset of the 2001 Population Census and the 2005 Microcensus involved in the congruence analysis and related to employed and unemployed individuals renders account only of the highest level of educational attainment. Thus, a person having a secondary school certificate relevant to his/her occupation and a college/university degree not close to that was classified in the "does not comply" category. Since the non-formal course qualifications were not surveyed, there may be cases, when the highest level of a person's educational attainment did not comply with his/her occupation, but the qualifications acquired after completion of a non-formal course would have complied with that.

Similarly, the occupation survey of the 2001 Population Census and the 2005 Microcensus was also one of the most thorough surveys in the history of population censuses. The 2001 Population Census gave account of the former occupation and employment data of not only the employed but also of those of the

unemployed and every inactive earner (i.e. pensioners or persons receiving childcare fee). However, only major occupations were surveyed. Thus, it is possible that a person was classified in the "does not comply" category in respect of the congruence analysis, though his/her other work activity could have complied with his/her qualifications.

II. Results

Concerning education and employment, detailed 2001 Population Census and 2005 Microcensus data are available. These provide a good basis for performing compliance analysis between occupational and population structures.

In 2001, nearly half a million people had a college/university degree within the employed population, whose majority were women (55%).The congruence level was also higher for women: 54.1 percent of employed women fully, 9.7 percent partially complied with the requirements. It can be stated that on the whole, nearly two-thirds of women performed such a work activity which fully or at least partially complied with their qualifications. In case of men, full congruence (37.4%) together with partial (10.9) congruence did not reach 50 percent. (The rate of incongruence was 51.7 percent) It must be emphasized that analysing the two sexes together, the majority of the population (56.8%; of which women accounted for 46.5% and men for 20.3%) had occupations fully or partially congruent with their qualifications.

The better congruence results of women is explained by inter alia the following reasons:

On the one hand, women – even for higher salaries – are less willing to change occupations due to their family ties. This change may imply new positions in which they can not use their original qualifications, but which require new skills from them to acquire (by taking part for example in course training).

On the other hand, women's role is greater in such (mainly service-type) branches (especially in education and health care/social services), where the acquired skills/qualification shall be applied to a greater extent than the average.

It may be concluded from age data, that the congruence level increases up to a certain age and reaches its maximum in the age-groups of 35–39 and 40–44 years. Above these, the level (with small fluctuations) basically remains the same. Only people aged over 65 (those who have been working for several years after the retirement age) show a slight decrease.

The number of persons completed secondary school is higher than that of individuals holding college/university degree, and their composition is even greater since this group includes people having grammar school, vocational training school or specialised secondary school certificates.

The number of employed persons of the formerly mentioned categories without leaders/managers exceeded 2 million in 2001.

The composition of the employees completed secondary education by gender doesn't correspond to that of people having university/college degree. Majority of this latter group (56.9%) are men.

The congruence level is higher among men ("complies" and "partially complies" categories exceed 30 percent), while only a little bit more than one-fourth of women can be classified accordingly.

The congruence level by age shows a negative tendency. Two-fifths of the youngest people (aged 15–19 years), slightly one-third of the age group of 20–39 years and less than one-fourth of individuals aged 40–59 are classified as "congruent" or "partially congruent".

Following the regime change, the forceful economic transformation had an impact on the employability of people completed secondary education in their professions. For example, owing to cut-backs, a considerable proportion of employees working in heavy industry were forced to give up their original profession.

Between 2001 and 2005 the number of persons with college/university degree grew by 130 thousand. The proportion of the employees classified as "fully congruent" decreased by 8 percentage points, while that of the "partially congruent" ones by 1 percentage point. Thus, majority of employees became „incongruent". (This change is significant even if we consider the sampling error of the 2005 Microcensus.)

It can be also concluded that the difference still prevails in favour of women: 40% of men and 53% of women worked in positions that fully or partially comply with their qualifications.

Damaging effects of air pollution, and practices for smog-situations in European cities

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Air pollution has both global and local effects. Harmful substances have been emitted continuously, which are crossing borders by the wind. As a result it is necessary to enhance international cooperation, in order to improve the quality of air.

Air pollution has short and long term health damaging effects. As short term effects there are coughing and difficult breathing, because of the flue-dust. The long term effects of flue-dust content in the outdoor air are the following: significant reduction of life expectancy, increasing of morality because of heart, circulatory and respiratory diseases as well as lung cancer. The grew concentration of flue-dust has extended the number of patients – suffering from circulatory and respiratory illnesses – in hospitals.

Global damaging effect of air pollution contains for example the intensive greenhouse-effect and the expansion of the ozone-hole as well. The mostly known local effects are smog and acid rains, which affect people living in urban areas. Air pollution has been threatening our health as well as can cause economic damages.

Air pollution has overstepped the allowable concentration in many cities, so there were unavoidable to order a smog alert. The word „smog" comes from two English words: smoke and fog. This word had been invented by a physicist, Harold Dex Voeux about 1911. There are two types of smog:

The London-typed smog can caused by air pollution descending from charocal-burning, or sulfur-dioxide and dust emission. This kind of pollution combining with fog can result floating sulfuric-acid drops in the air.

The Los Angeles-typed smog (photochemistrial smog) appears on sunny days besides in intensive traffic. Nitrogen-oxides and hydrocarbons step into reaction with each other in presence of sunshine, and create harmful gas and aerosol mixtures.

The above mentioned substances are annoying the eyes and harming the respiratory system. They have effects on plants as well. This kind of smog is frequent in big cities.

Every polluter has a stated concentration limit, which is banned to exceed. Otherwise the pollution can be deteriorative and dangerous both for health and life. The atmospheric limits and alarm threshold values of the European Union had been accepted in the directive called 96/62/EC on 27th September 1996.

There are methodical limit exceedings in big European cities (for example: Berlin, Frankfurt, Brussels, Vienna and Budapest). These countries have initiated various measures in the interest of decreasing air pollution (for example: transformation of population heating, traffic limitation, the development of community traffic,

preferring pedestrian and cycling traffic, establishing traffic zones etc.). Budapest Capital has created its own smog alert decree as well.

Keywords: Air pollution, health, smog, European cities, green house effect

Different Methodological Approaches of Game Theory

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In the last few decades game theory has become one of the most prevalent theories of economic modelling. Modelling economists think of game theory as an abstract mathematical theory which is quite applicable for multi-person strategic situations. This kind of use of game theory leads to normative results. On the other hand, ever since the first days of game theory a smaller group of researchers have been considering positive research of real actors' decisions in situations described in game theory as of capital importance. Initially most of these positive researches had been made by psychologists, and their scientific results had been mainly neglected by economists. This seclusion was more or less due to the methodological gap between the normative economical and the positive psychological approach. However, in the last 15 years a new field has been born called behavioral game theory, which interconnects the deductive modelling methods of economists and the inductive empirically based methods of behavioral sciences. The lecture displays how the methodological gap have inhibited the dialogue between the two sides and how have they succeeded to converge in behavioral game theory.

Food consumption behavior model in the old age

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The phenomenon of aging has been gradually taking the lead instead of demographic boom among the challenges of global population since the World War II. Recently both the population of developed and less developed countries has been growing old. In the history the convergent period of demographic development has started concerned with the world's biggest regions. As long as one had to struggle against the previously experienced demographic boom, aging in itself is a process which one has to welcome, moreover, it would be an offence to prevent against. Effects caused by aging cannot be just appreciated in a positive way. Consumption structure alteration of elderly population can be mentioned among the macrolevel effects. The importance of daily consumed items would be barely disputable. Aging is not just a challenge for the manufacturers but also a repository of opportunities in the field of innovative activities. These behaviour modells have been elaborated according to the older generation's demand in order to draw manufacturers' attention to this continuously growing market segment. Meanwhile it is impossible to condense the heterogeneous population's food consumption behaviour. The two hypothetical modells have been elaborated for the sake of profound research. Our aim is to controll our modells from the point of view of both the manufacturers and the consumers.

Keywords: aging, population, food consumption, behavior models

Methodological Gaps in Economic Psychology

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Economic psychology or psychology of economics does not have uniformity, neither of its subject nor methods, although textbooks, handbooks and university lectures in themselves tend to convey this impression. All the researchers of economic psychology agree that their subject-matter is somewhere in the intersection of psychology and economics. But initiatives can be found which tend to handle economic psychology as being fully a psychological or fully an economical discipline en masse. It is not surprising that a scientific field in the stage of being born has a big variety of the subject-matters and the applied methods. It is much more interesting when a wide variety of research of the same field does not seem to reflect on each other, or even neglect each other, as in the case of economic psychology. The lecture aims to point out that behind the lack of dialogue is the methodological gap between economics and psychology which remains unreflected because of the same lack of dialogue.

Methodological Questions of Cross-cultural Research of Paternalistic Leadership

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The lecture discusses the methodological challenges of cross-cultural research of leadership styles. As some of the Far East countries have achieved more and more significant economic success in the second half of the 20th century more and more attention has been drawn to the underlying leadership styles. Researches of this field had already been started in the late 1960's but in the literature of management science a more or less uniform picture of the paternalistic leader style only evolved in the beginning of the 1990's. This pattern of leadership style is typical of Far East cultures, and absent in western cultures in its pure form. Reviewing the research history of the paternalistic leadership one can see how the empirical work progressed from the qualitative to the quantitative research strategy. Although the issue has an apparent cultural dimension the first comprehensive cross-cultural research of the paternalistic leadership style has only begun. It is coordinated by a Chinese (Taiwanese) university, and runs in more than 20 countries. The Hungarian part of this research is being executed by the Division of Economic Psychology of the University of Szeged. The lecture presents this cross-cultural research to illustrate the methodological problems of the cross-cultural research of leadership styles.

Some ideas about operationalization and measurement of the organizational culture and competences

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Both the construct of the organizational culture and both the construct of competence has a lot of interpretations, so the researches of these topics are fragmented, however the praxis began
apply these categories. The literature of management considers the organizational culture and the competences as an important factor of the organizational excellence, they can each other enhance or weaken, that's way is an significant question their interaction. We tried in our Paper to measure the mechanisms of the organizational culture they develop the competences. We used the questionnaire of the University of Bochum, to measure the competences, and our questionnaire to measure this culture dimensions, they develop competences. In this paper we show the results and problems of the above mentioned pilot study.

Spatial differences in inflation persistence in Hungary – a time-varying coefficient approach

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On the basis of a disaggregated data set, we study inflation persistence in Hungary by focusing on regional cross-sectional variation. To this end, we use regional inflation series constructed from individual store-level price quotes. The price observations were collected for the CPI database at a monthly frequency and were provided by the Central Statistical Office of Hungary. In order to estimate inflation persistence, we assume time-varying-coefficient autoregressive models as described in Darvas and Varga (2007). In contrast to the widely used methods that estimate a single parameter for the whole sample period, this innovative procedure allows us to investigate changes in persistence more accurately. We prefer the Flexible Least Squares estimator that may capture the temporal parameter changes. The aim of the study is to describe the spatial patterns of Hungarian inflation persistence on the NUTS-3 level by using various exploratory spatial data analysis (ESDA) techniques. Furthermore, the structure of the database allows us to investigate the spatial differences at the sectoral level (in nine different product categories), as well. Previous researches found that while an apparent co-movement exists between the inflation rates in different regions, the decomposed inflation rates are quite disperse. For this reason, we investigate that to what extent these variations can be explained by differences in inflation persistence. We show that the overall level of inflation persistence decreased during the sample period, however, there are notable differences between the local patterns.

Survey of organized culture by engineer -economist approach

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In my research I did a survey of organized culture in my workplace. I am a quality regulator engineer and economist, so I have several methods to prepare and analyse my survey.

When chosing the suitable statistic methods it is important to be useable, economical, demand of capacity, fast and controllable results and the systemic functional utility. Now my search must suit be for the International Standards for the Professional Practice of Internal Auditing (IIA Standards) and the requierements of methodology for hazard analisys.

In the course of the project preparation I used the methods of the social science. I did the survey by the questionnaire of the SHL conception, which has eighty-one questions, to aggregate four large ranges. These are achievement, decision-making, human means, human relation.

Checking the number and standard they have significant common parameters. About hundred percents of the members have college or university degrees. The rate of gender is almost equal as well. The audited members of the organization can be devided into 2*2 gorups: two frames which are very different – projectmanagers and consultants, moreover men and women groups.

I used the analisys by the controll cards for measuring, which is between the methods of the regulation of quality, the statistics process controll (SPC), but I did the Excel. I got through survey to distribution in circle diagram too, which is used in the research of culture.

I got validation by personal involvement in the organisation, with the barriers of methods and I have known the possible methods of engineering.

The average rate of the four-examined question groups are shown on the checking card. The strong and weak points in the organization can be seen exactly by the analysis of the diagram. The risk points could be affected by the management.

The immediate and exact answers are very helpful.

SWOT analysis and SWOT strategy can be made by the statistics results.

Keywords: statistics process controll, average and dispersion rate, controll cards, questionnaire, survey for cultural organization, SWOT analysis, hazard analisys, critical control points, fast method

Telecottages: Hopes and realities of rural development

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Rural development is a persistent challenge everywhere, whether in most
developed countries and post - communist regions in Europe or in less developed
economies. Although there are several dimensions of the rural and regional
backwardness, principal among them are some lacks of information and a limited
access to economic and social services. The greater distance from information and
other resources maintains the gap of competitiveness between different
settlements/regions.
Many scholars and politicians believed that digital "revolution" would open doors
to access information in poor settlements and partly diminish regional inequalities.
This paper focuses on the role of Telecottages in rural areas and according to
literature shows the Telecottages in Hungary almost inefficiently because of
failures in less developed settlements and micro regions. Most of the failures
connected to lack of human and social capital and a poor economic infrastructure.

Keywords: Telecottages, rural development, human and social capital, regional
inequalities

**The Budapest Development Pole Program
within the Strategies of the Municipality**

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The New Hungary Development Plan (ÚMFT) refers to the realization of the Development Poles Program as a priority strategic element of economic development. In order to improve the compatibility of the Hungarian economy, the Development Poles Program involving the participation of small and medium sized enterprises attaining significant export potentials in the network as well as in the cluster cities involved in the Poles Program, has the objective to support economically reasonable investments aiming to improve environmental conditions in order to the Treaty of Lisbon.

The Budapest's Pole Program is basically built on two pillars: The objective of the horizontal economic development is the establishment of favorable business environment by having the local -governments as well as universities take on a role in terms of the above efforts. At the same time, the main target of vertical development of enterprises is to provide support to the cooperation of enterprises (meaning their clusters) of similar profiles as to increase their international compatibility.

In order to meet the above requirements, we have created the Strategic Monitoring Committee of the Budapest Development Pole, (SEB). This body is responsible for the the judgment and supervision of incoming applications of tenders, which at all times must correspond to the mid and long term objectives of the development of the city of Budapest.

In the framework of the Development Pole the SEB decided to support the establishment of a new biotechnological innovation center in the medical sector, in the sector of public transport a new IT communication system, in the urban development a new innovative construction method.

Project of Cities and Clusters

The project of "Cities and Clusters" of the Municipality of the City of Budapest reflects its international cooperation and strategic thinking methods, which as part of the INTERREG IV. C. program serves the exchange of experiences between regions and cities. Its objective is to contribute to the development of a more compatible Europe by promoting the exchange of good practice between local and regional authorities. The activities supported by the program can be grouped around two axis of priorities, the encouragement of innovation and economy of knowledge as well as environment protection and risk prevention.

The project called „Cities and Clusters" initiated by Lyon adjusts to the first axis, which has the objective to increase the efficiency of public policies supporting clusters by the transferring of experiences to work out recommendations for both local and EU levels and to encourage the contact between Clusters of the EU.

Joining the Development Poles Program makes this topic current for the city of Budapest, since it provides the opportunity of seeing the experiences of forming and managing clusters within the leading cities of Europe, which can be utilized by Budapest at the formation of the clusters of the capital.

The premise of Technological Mathematics course, introduction to the College of Dunaújváros and monitoring of the student's weight

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The Technological Mathematics course was introduced in the 2006/2007 school year in the College of Dunaújváros. I compare in my document the Technological Mathematics course with the formerly taught courses, which caused the appearance of this course. I examine, which changes ensue in the study average, thereby a lot of subjects had to closed up and the students had to make this closed up course during shorter time.

I illustrate the success of the course with statistics. I examine the themes of the subject in viewpoint of achievable. The students' load – amount of work - examination and analysis. The examination of the result of learning, - learning outcomes - to provide solutions, I look for the compensation, that the subject should be more successful.

At time of the discourse I can demonstrate only the result of college assessments of the nationwide autumn measurement. I would like to complete these results with the all in one result later, which join my future PhD work.

By ECTS viewpoints I examine the build of the thematic and I determine methodology innovation in the matter of future.

Where is crime nowadays?

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The significance of regional aspects of criminality was already recognised in the early examinations of crime statistics. Also at the beginning of the 20th century the statistic data collection covered the place of commitment and after 1909 it recorded also the criminal's place of birth. János Bud called these data and the indicators calculated on the basis thereof criminal geography and emphasized their importance in searching the reasons for crime.

The statistical process of these data restricted to the classification by counties and besides it the classification according to the type of the place of commitment was also considered (Budapest, towns, villages). This system of data collection was in use until the World War II.

After World War II until the 60's the criminal statistics were secret. Afterwards and still today the judicial statistics process the data by counties. The classification according to the type of place of commitment has terminated because due to the lots of changes in public administration the data became incomparable. Year 1964 brought a new event in criminal statistics, ERÜBS (United Statistics of the Police and the Public Prosecutor's Office database) was introduced that year. The system observed the committed crimes including the place of commitment and the criminals with their domiciles. Although the collected data would have ensured more varied possibilities for processing, ERÜBS made classifications only according to counties until lately also with regards to the place of commitment and the domicile.

In the first part of the 20th century the task of law enforcement was relatively easy because the place of commitment and the criminal's domicile was the same settlement, the local policemen knew the potential criminals. Crimes committed by people not living in the specific region were rare. In the second part of the 20th century the composition of criminals considerably changed regarding the connection between the place of commitment and the domicile. As a result of the development of motorisation crimes became more mobilised. By the end of the 20th century and the beginning of the 21st century not only the place of commitment and the domicile had got separated from each other but also the so-called moving crime occurred. By opening the boarders the mobility of criminals crossing the boarders became widespread, especially in case of the most severe crimes.

There was no thorough-going examination in the regional features of crime in the second part of the 20th century either, because the different statistics (police, public prosecutor's office, judicial) observed and processed the data of the region only up to county level. The improvement of methods in computer science made it possible to extend observation and recording also to the level of villages and towns. Since 2001 ENYÜBS (United Statistics of the Crime Investigation Service and the Public Prosecutor's Office database) has been collecting data up to the level of settlements making it possible to establish "criminal geography".

Since the data on act include the place of commitment and the personal data include the criminal's domicile the detailed regional data provide important information also on the mobility of the criminals. In respect of crime prevention it means important information to show which settlements are the most endangered ones regarding crimes and which ones serve as the criminals' domiciles.

The system of indicators described in the study may provide help in the examination of the reasons for crimes because observation covers many factors that may be brought into connection with the crimes, such as the types of settlements, the demographic features of the population living there, the development of the settlement, its catchment area, tourism, financial situation. Also with the help of modern technology we can prepare crime maps.

The objectives of the study also include the determination of the centre of crime and the centre of gravity of crime. Giving answers to organisation questions that are based on the determination of the regional centre and focus of crime plays an important role in crime prevention.

I wish to illustrate the methods used to examine the regional features of crimes and the results through the data of a county (villages, towns, small regions).

Keywords: crime, crime prevention, criminal geography, crime-mapping