



Faculty  
of Business  
and Economics

Svatopluk Kapounek  
Hana Vránová (eds.)

22<sup>nd</sup> ANNUAL  
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ENTERPRISE  
AND COMPETITIVE  
ENVIRONMENT



MARCH 21–22, 2019  
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ABSTRACTS

Mendel  
University  
in Brno



**Mendel University in Brno  
Faculty of Business and Economics**

**Svatopluk Kapounek  
Hana Vránová (eds.)**

**22<sup>nd</sup> Annual International Conference**

**ENTERPRISE  
AND COMPETITIVE  
ENVIRONMENT**

**Abstracts**

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Czech Republic**

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# The Challenge of Employer Branding: Strategic Starting Points for Medical Practices in Rural Areas in Germany

Sabine Abbasi<sup>a</sup>, Thomas Ruf<sup>b</sup>

## Abstract

This research investigates the use of internal branding as both a managerial and communication strategy of rural located doctor offices based in Germany. At the core of the research is the recognition that the involvement of employees is of critical importance in developing a competitive advantage via an increased performance in terms of customer and market recognition, this approach includes such activities as relationship management. The researchers were given access to various comparable medical practices throughout Germany that supported the investigation. The Net Promoter Score (NPS) was evaluated multiple times at baseline and as a result. At the beginning, the employees were asked about their organizational values as a first step, which was very important for the internal branding process in order to implement measures. Extensive quantitative data were collected and statistically analyzed. The research is relevant as it deals with issues of internal branding, communication and management in the German health care system, which is currently experiencing an acute shortage of skilled workers and, in combination with demographic change, poses significant problems for rural medical practices.

## Key words

Management, strategic management, Strategy, Healthcare, Economics

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# The Significance of International Trade and the Involvement of HDI as a Key Indicator for Development Within the Sub Saharan Africa Region

Raymond Kofi Adjei<sup>a</sup>, Emmanuel Kofi Ankomah<sup>b</sup>, Libor Grega<sup>c</sup>

## Abstract

This paper examines the impacts of international trade on the economic development of Sub-Saharan Africa. Trade balance was used as a proxy for international trade whereas the Human Development Index was used as a proxy for economic development. Analysis of trade balance as a percentage of Gross Domestic Product and Human Development Index as presented in the World Bank Data Bank and the United Nations report respectively indicated that there is not enough evidence to support the argument that a linear relationship exists between international trade and economic development in Sub-Saharan Africa. Using a low confidence level and a corresponding significance for further analysis, however, showed a weak positive association between international trade and economic development. The regression coefficient, being closer to 0, suggested that the impacts that international trade has on economic development in Sub-Saharan Africa is insignificant.

## Key words

Economic development, impacts, international trade, Sub-Saharan Africa

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# Factors of Effective Packaging and Their Impact on Consumer Buying Behavior

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## Abstract

This study was conducted to analyze the impact of effective packaging on customers purchasing attitude. The main purpose to conduct this study was to explore the influence of fundamental packaging attributes, which influence consumer buying decision making. Information regarding these basic concepts was collected using survey questionnaire technique and for analysis purposes; SPSS programming tool was used to carry out Exploratory Factor Analysis (EFA). Data, from 210 respondents studying in seven different departments at a Public-Sector University of Lahore, was collected to check the reliability of this research. This study investigates whether packaging factors like design, size, color scheme, style, material and utility are important determinants that influence consumers' buying decisions.

## Key words

Packaging factors, Consumer buying decisions, Exploratory Factor Analysis

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# Application of the Institute of Income Redistribution in the Form of Social Transfers in EU Countries

Irena Antořová<sup>a</sup>, Jana Stávková<sup>b</sup>

## Abstract

Social policy is in each member state in the European Union different but it pursues the same objective – a reduction of a number of households living at risk of income poverty. The submitted paper provides an overview of the share of components of social transfers, old age pensions and social benefits in household's incomes in EU countries. Their effectiveness is expressed on the basis of the number of households at risk of poverty determined before and after the payment of social benefits. Four groups of countries were identified according to their approach to a social policy with use of cluster analysis. The segment with extraordinarily high share of old age pensions and a low share of social benefits in social transfers deserves attention. An effect of transfers expressed by reducing the number of households living under the poverty line is not evident in these countries. The segment of countries with high share of social benefits and realized social system in long term that brings an effect in the fight against the poverty is also defined. The link between social policy and an economic performance of a country is detected. Most economically advanced countries practise social policy at a level that provides good initial financial and material conditions for satisfactory quality of life.

## Key words

Social transfer, income inequality, poverty, social benefits, old age pension

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# Determinants of the Dividend Payout Policy of Stock Companies Within the European Union

Patrick Arndt<sup>a</sup>, Zuzana Kučerová<sup>b</sup>

## Abstract

The problem field dividend payout policy is a very complex issue. Particular within the low-interest phase in Europe, the significance of this issue is growing for all investors, equal if private or institutional investor. The focus of this paper is the European area in order to provide a contribution to a region, which unfortunately has given sparse attention in the past. In order to ensure the pertinence for this exploration, the major European stock index, Euro Stoxx 600 has been used. The results of the multiple linear regression show the unequal dividend distribution between stock companies from the industrial sector and the service sector. Besides, it has shown that the institutional investors play as well a significant role within in the dividend policy in European public companies. Furthermore, the Net Income of a corporation influenced in all previous analysis the dividend reimbursement which could be confirmed through this paper as well. Referring to the earlier studies this paper provides an additional source for further studies which also occupy with this complicated question.

## Key words

Dividend payout policy, Euro Stoxx 600, European Union, stock companies, Europe, Shareholder, Dividend amount, multiple linear regression

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# Performance of Six Sigma Rebalancing for Portfolios Mixing Polar Investment Styles

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## Abstract

The paper investigates usefulness of a rebalancing strategy proposed in 2014 by Bod'a and Roháčová and based on ideas borrowed from the managerial concept Six Sigma. Centring upon a set-up of small investor who is willing to invest into S&P 500 Index components in an attempt to track it, the paper compares the performance of different rebalancing strategies for four different sets of monthly data ranging from 2011 to 2017. Rebalancing is undertaken on a monthly basis and tracking portfolios are diversified by investing mixingly into stocks belonging to investment styles defined by size (big/small caps) and market-to-book ratio (growth/value stocks). The results show that the Six Sigma rebalancing strategy is superior in a transaction-cost-free environment, but when transaction costs are accounted for it is dominated by the buy-and hold strategy and a liberal threshold rebalancing strategy. Overall, periodic rebalancing fares unsatisfactorily with respect to criteria adopted for performance assessment.

## Key words

Rebalancing, Six Sigma, big and small caps, growth and value stocks, quadratic tracking, performance

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# The Digital Gender Gap and Entrepreneurship in Emerging Europe

Zuzana Brixiová<sup>a</sup>, Mina Balamoune-Lutz<sup>b</sup>

## Abstract

Theoretical or empirical studies on the digital gender divide and women's entrepreneurship that could inform policymaking in emerging market countries are scarce. This paper strives to close this gap in the literature with a theoretical model that links entrepreneurship to digital skills and productivity. The model illustrates that differences in digital skills, together with greater time opportunity cost for women, can lead to gender gaps in entrepreneurial outcomes. The results are consistent with indicators from the World Bank Enterprise Surveys for European emerging market countries. In terms of policies for emerging European countries, these should focus on both strengthening the actual digital skills and raising confidence in such skills as well as on increasing women's representation in science and technology education.

## Key words

Search model, digitization, gender

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# Economic Aspects of Information Encryption by Means of Transmultiplexing

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## Abstract

This paper presents the results of social research which involves the encryption of information contained in a short text message (SMS). The results of answers to selected simple questions asked to a selected group of respondents are provided. A new method of encrypting short information on the basis of the transmultiplexing method is presented. Selected keys with integer elements encrypting/decrypting a transmultiplexer which fulfil the conditions of perfect reconstruction are given. Examples of encrypted information are provided.

## Key words

Encrypted information, perfect reconstruction, transmultiplexer, filter banks

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# Review of Road Tax in the Czech Republic in the Context of Externalities of Transport

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## Abstract

The necessity of addressing negative externalities through a tax instrument has long been known. Road transport accounts for the generation of significant negative externalities. The goal of the research is to ascertain whether the Czech road tax can be considered a tax on externalities in terms of its base and rates. This goal was achieved through the comparison of theoretical approaches and real parameters of the examined tax. The calculation of a unit tax and the graphic interpretation of the progress of unit rates over a real period were used for the assessment of the present situation. It was confirmed that the road tax levied in the Czech Republic cannot be seen as a tax on externalities and the environmental nature of the road tax was not ascertained. Nevertheless, there is a relatively easy way to adjust the tax rates using the existing base, for the tax to reflect at least some external costs of road transport. To this end, proportionate or flexible (as opposed to rates based on grades) progressive unit rates of road tax must be applied.

## Key words

Road tax, externality, tax rate, Czech Republic

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# Risks of Accounting Records from the Perspective of the CFEBT Risk Triangle of Accounting Errors and Frauds – a Case Study of Small Enterprises

Zita Drábková<sup>a</sup>

## Abstract

Data reported from accounting constitute the most important source of information for broad groups of users who make their decisions based on such information. Accounting frauds cannot be entirely suppressed, and toughening of prison sentences may not always be the right answer, as attested by the American approach. The contribution presents the CFEBT anti-fraud approach to the detection and evaluation of accounting errors and frauds in a case study of small enterprises which predominantly operate in trade, processing industry and construction. The objective of the contribution is to detect and evaluate accounting risks from the perspective of users of accounting records for the selected sectors. The case study includes a risk analysis of accounting records with respect to at least 5 accounting periods for 5,838 accounting units predominantly operating in trade, 6,299 accounting units operating in the processing industry and 3,095 accounting units in construction. The detected risks of accounting records were subsequently compared and evaluated in the selected areas of activities. The accounting risks ascertained may be used as a tool for reducing the information asymmetry between authors of accounting records and users of reported accounting data and information. The detection and evaluation of risks of accounting errors and errors beyond the economic substance of reported data may considerably improve the quality of decision-making of internal and external users, and may be also used by persons authorised to conduct the administration and management of companies (Corporate Governance) for increasing the efficiency of companies' internal control systems.

## Key words

Creative accounting, CFEBT risk triangle of accounting errors and frauds, fraud risk management

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# The Analysis of the Impact of the Exchange Rate on Corporate Bonds on the U.S. Market

Blanka Francová<sup>a</sup>

## Abstract

This paper investigates the link between Exchange Rate and monthly yield to maturity of corporate bond. The further analysis show that the Exchange rate movements is important factor affecting bond yield and associated risk premiums. Using a rich monthly dataset on 5,392 corporate bonds on U.S. market between January 2001 and December 2015. Our findings point to a standard trade channel effects whereby an appreciation of the effective exchange rate has a negative effect on bond yield. We also show that the effect of exchange rate varies if the real bond yield is high.

## Key words

Pricing asset, exchange rate, international bond market

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# Impact of Eco-friendly Products on the Financial Performance of German Premium Car Manufacturers

Manoj George<sup>a</sup>

## Abstract

The German automobile market is being swamped with ecological-friendly motor concepts. One reason is upcoming NO<sub>x</sub> restrictions for Diesel and Gasoline operated cars and light trucks. Also increasing city ban of high polluting vehicles are driving this trend. Automobile industry needs to re-align the product strategy since this paradigm change will require high invests. This paper analyzed the offerings on the German market, did a research on per capita development and future trends. Furthermore, three premium German enterprises were chosen whether their product set of electric and hybrid vehicles impacted their financial performance over a period from 2012 to 2017.

## Key words

Electric vehicle, alternative energy concepts, return on invest, nitro oxide pollution, sustainable development, environmental economics

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# Differences Between Generations' Engagement at the Workplace

Roxana Hinzmann<sup>a</sup>, Martina Rašticová<sup>b</sup>, Jakub Šácha<sup>c</sup>

## Abstract

This article deals with engagement at the workplace when the employees' age is taken into consideration. It is based on the analysis of data that derives from an engagement survey that was conducted in 2017 with more than 5,000 employees globally.

The results indicate that in most areas, there are no major differences between younger (<34 years) and older employees (>55 years). However, the majority of younger employees tend to regularly think about leaving their company. They are dissatisfied with the monetary rewards they get, whereas the source of dissatisfaction for older employees is their Manager. The main dimensions of difference between young and old employees' job satisfaction is the Manager, Rewards & Recognition and Career Opportunities.

Based on these findings defined recommendations can be made to the field of Human Resources with the goal of better understanding and approaching different generations at the workplace. Understanding the relationship between employees' engagement and employees' age allows Human Resources to take specific actions to increase engagement level, retention and employer attractivity for existing as well as for potential new employees of different ages.

## Key words

Generations at the workplace, Human Resources, Employee engagement

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# Funding Sources of Academic Research in EU Countries: Complements or Substitutes?

Ján Huňady<sup>a</sup>, Peter Pisár<sup>b</sup>

## Abstract

The paper deals with the problem of research funding sources in higher education. Following the European commission methodology we distinguished between government, business, non-profit and abroad financing of R&D activities in higher education sector. The main aim of the paper is to test potential short-run and long-run relationships between different sources of funding. We are focus especially on the relationship between government and business funding of academic research. Based on panel data for EU countries in the period 1998–2015 we applied regression techniques capturing short-run and long-run effects. Our results suggest that government funding of R&D in higher education act as the complement to business funding. Hence, rising government financial support for research in higher education can especially in the long-run lead to higher funding of academic research in higher education from business sector. Founding from abroad seems to have similar effect on business funding in the long-run as well.

## Key words

Research funding, Financial support of research, University research, Basic research, Government funding, Business funding of university research

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# Data Envelopment Analysis Models in Non-homogeneous Environment

Josef Jablonský<sup>a</sup>

## Abstract

Data envelopment analysis (DEA) is a non-parametric method that is widely used for relative efficiency and performance evaluation of the set of decision-making units (DMUs). It is based on maximization of a weighted sum of outputs produced by the unit under evaluation divided by the weighted sum of inputs of the same unit, and the assumption that this ratio for all other units has to be lower or equal to 1. An important assumption for applications of DEA models is the homogeneity of the units. Unfortunately, the homogeneity assumption is not fulfilled in many real applications. The paper deals with the analysis of efficiency using DEA models in the non-homogeneous environment. One of the problems lies in non-homogeneous outputs. In this case, the units under evaluation spend the same inputs but produce completely or at least partly different set of outputs. The paper formulates several models how to deal with this problem and compares the results on a numerical example. Other main sources of non-homogeneity are discussed as an excellent possible starting point for future research.

## Key words

Data envelopment analysis, efficiency, non-homogeneous units, missing data

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# Behavioural Insights from Crowdfunding Financing: Power of Nudges

Jan Janků<sup>a</sup>, Zuzana Kučerová<sup>b</sup>, František Dařena<sup>c</sup>

## Abstract

In our paper, we focus on social factors influencing peoples' behaviour in the environment of crowdfunding financing. We model a probability of getting funds from Kickstarter depending on factual characteristics of individual projects and social and subliminal nudges. We use data set which is based on selected characteristics and information drawn from the Kickstarter webpage. Our dataset of Kickstarter crowdfunding projects collected from April 2009 to July 2017 contains 259,574 projects from the United States, Australia, Canada and the United Kingdom. Our empirical analysis uses logistic regression model and Maximum Likelihood (ML) estimation technique. We also analyse the textual characteristics of the projects's descriptions, updates, and comments, including sentiment and emotions contained in them. In order to measure the sentiment and emotions, the texts downloaded from Kickstarter is tokenized to determine the numbers of words contained in them. To determine the overall sentiment of the text in terms of positive or negative impression, the VADER algorithm is used. The emotional categories contained in the text are discovered using the linguistic resource Wordnet Affect. We find that both social and subliminal nudges have a significant impact on the success of crowdfunding projects besides the traditional "neoclassical" determinants. We find that the goal of the project still remains the important factor determining the funding success. However, social and subliminal nudges such as creator's experience, comments of contributors, sentiment or emotions hidden in the description of the project, should also be considered as they can significantly improve or limit the success.

## Key words

Behavioural economics, crowdfunding, text analysis, sentiment

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# Selected Issues of Arbitration as Effective Tools for Resolving Business Dispute

Radek Jurčík<sup>a</sup>

## Abstract

Arbitration has become more important as a tool for solving the disputes between entrepreneurs and between consumers. The arbitration proceedings on the one hand, it is a quick and less formal way how to solve disputes between entrepreneurs, which may be an advantage even in the emphasis on greater expertise, as the arbitrator may not always be a lawyer, but an expert in the field that is the subject of the dispute. On the other hand, some arbitration disputes between consumers which are negotiated on the basis of an arbitration clause with an ad hoc arbitrator and a consumer are subject to criticism on the grounds that one contractor (entrepreneur), such as a credit provider, charges the other party (consumer), which decides to claim on the basis of a contract. However this contract (on a loan, credit, etc.) is to the detriment of the consumer and the text of this contract and the selection of the arbitrator is decided by the entrepreneur and the consumer has no effect. The aim of this paper is to point out these in all different contexts.

## Key words

Arbitration proceedings, disputes between entrepreneurs, advantages and disadvantages of arbitration

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# Analysis of the Impact of Goodwill on Equity in Selected Sectors

Martin Kedroň<sup>a</sup>, Darina Pešáková<sup>b</sup>

## Abstract

In the 21st century, all corporations across the globe are facing growing competitive conditions, accelerated economic globalization, and the development of the knowledge economy. Therefore, intangible assets play an increasingly important role in gaining competitive advantages. The research on the dataset includes 50 consolidated companies quoted on the London Stock Exchange from 2014 to 2018. A linear regression analysis identifies the effect of goodwill on equity. The results show that the effect of goodwill on equity is heavily significant in firms with high equity and high value of goodwill. It can be assumed that in these cases, companies may have no proprietary disclosure that affects their equity and consequently the cost of the share.

## Key words

Primary goodwill, secondary goodwill, intangible assets, sectors intangible assets, London stock Exchange

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# Current Developments in International Treaties the Area of Regulation of Geographical Indications of Products

Hana Kelblová<sup>a</sup>, Jana Mikušová<sup>b</sup>

## **Abstract**

The article compares the gradual development of Geographical Indications regulation in international treaties, where the conflict between the states of the “old” and the “new world” about the regulation of GI exists, above all, the conflict between Europe and the USA. Many states of the “New World” have not been regulating geographical indications in the national legal systems at all, they see no reason to introduce it, and Europe’s efforts to extend the level of protection through a higher level of protection on international level are seen as a protectionist efforts of European producers of especially traditional food and wine. The article deals with the changes brought about by the latest revision of the Lisbon Agreement, made in 2015 by the adoption of the Geneva Act.

## **Key words**

Geographical indications, international treaties, development

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# Spatial Distribution of Total Factor Productivity (TFP) in the EU Regional Scope

Tomasz Kijek<sup>a</sup>, Anna Matras-Bolibok<sup>b</sup>

## Abstract

The aim of the paper is to analyse the differences in the level of productivity among the EU regions illustrated by the spatial distribution of total factor productivity (TFP). To calculate TFP defined as the aggregated output-input ratio, we employ the multiplicatively-complete Färe-Primont index. This index satisfies all economically-relevant axioms and tests from index number theory. The research sample consists of 256 European Union (EU) regions at NUTS 2 level. The results of the study indicate that relatively high TFP values are observed in core Western European regions, while the bottom of the TFP distribution is dominated by regions in Bulgaria, Poland and Romania. This may suggest a polarised specialization of the EU regions and limited interregional diffusion of technological knowledge. Our findings also show a high degree of dispersion in TFP within countries.

## Key words

TFP, productivity, innovation, regional policy, regional development, convergence, Färe-Primont index, EU regions

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# Determinants of Polish Co-operative and Commercial Banks' Financial Liquidity in the Post-Crisis Perspective

Krzysztof Kil<sup>a</sup>, Radosław Ciukaj<sup>b</sup>

## Abstract

The aim of the studies presented in the article is to identify determinants of Polish cooperative and commercial banks' financial liquidity in 2008–2016. The authors characterize post-crisis regulations in the area of banks' financial liquidity and present the research results available in the literature regarding financial liquidity determinants of banks. The panel data research applied by the author, including 350 cooperative and 30 commercial banks operating in Poland, exhibited that the level of their short-term financial liquidity depends, among others, on the level of banking sector concentration, the market short-term interest rate, deposit policy, profitability, solvency ratios, and active credit policy. In the case of long-term financial liquidity, it has been proved that its level is influenced by GDP dynamics in the region of operations (for large banks) and the capital adequacy ratio (for small and medium-sized banks). The following factors were also significant for both types of liquidity: the size of the bank, the NPL level and the share of working assets in total assets.

## Key words

Cooperative Banks, Commercial Banks, Financial Liquidity, Bank Regulation

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# Determinants of the Non-performing Loan Ratio in the Banking Sectors of Central and Eastern Europe Countries

Krzysztof Kil<sup>a</sup>, Radosław Ciukaj<sup>b</sup>

## Abstract

In the article, the authors try to identify the determinants of NPL ratio in the banking sectors of the Central and Eastern Europe countries. Using the panel-based approach, the NPL determinants are analyzed for the period from 2006 to 2017. The main purpose of this article is to find out the appropriate econometric model to demonstrate the impact of independent variables on the dependent variable. The results show that the NPLs of banks operating in Central and Eastern Europe countries can be explained mainly by significant macroeconomic factors, such as GDP and the unemployment rate, as well as bank-specific factors such as ROA, interest margin or bank size measured by the value of assets.

## Key words

NPL, Determinants of NPL, Central and Eastern Europe Countries

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# Chatbots for Enterprises: outlook

Pavel Kostelník<sup>a</sup>, Ivo Pisařovic<sup>b</sup>, Mikuláš Muroň<sup>c</sup>, David Procházka<sup>d</sup>,  
František Dařena<sup>e</sup>

## Abstract

Chatbots are going to be the main platform for automated conversations with customers. This paper focuses on existing chatbot platforms and the possibilities of a chatbot deployment in the business environment as a competitive advantage. It provides an introductory listing of basic principles, concepts and depicts key architecture aspects. Two high-level approaches to chatbot platform design are discussed and compared. Firstly, business-oriented platforms aim to simplicity but may lack some advanced features. Secondly, all-purpose chatbot platforms require extensive technical skills and are more expensive, but give their users absolute freedom in chatbot design. We also provide an in-depth evaluation of six major chatbot platforms based on multiple attributes and features that relate to opportunities, costs and risks involved. Due to different expectations and constraints for various businesses, two use cases are described and evaluated (a small business and a large enterprise). Finally, we summarize current perception by business as well as still neglected emerging potential of chatbots.

## Key words

Chatbot, NLP, conversational commerce, intelligent assistant

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# Measuring (Dis)honesty in the Context of University Students – Pilot Study

Veronika Králíková<sup>a</sup>, Jiří Černý<sup>b</sup>

## Abstract

If we give students a chance to cheat, will they use it? We tried to find the answer to this question using the experiment described in the following paper. Their honesty was investigated by using an experiment that was based on a previously conducted “Matrix experiment” which was done by behavioral economist Dan Ariely. This pilot research was conducted mainly to verify the accuracy of the methodology and to detect the main limits. Students had the task of solving as many matrixes as possible. Those who have calculated the most should be rewarded with bonus points for the exam. One of the main findings was that some students cheated, but certainly not so much that their dishonest behavior influenced overall results and gained the highest number of solved matrices. In the end, it turned out that real school environment where the experiment was conducted had a great impact on students and their motivation was not strong enough to risk it and behave dishonestly.

## Key words

Dishonesty, cheating, university students, behavioral economy, behavioral experiment

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# Retire – Why Yes, Why Not? Results of a Study on the Czech Seniors

Aneta Krejčová<sup>a</sup>, Martina Rašticová<sup>b</sup>

## Abstract

Retirement is much influenced by the current retirement policy. Could we ask about the time of retirement if we had no guarantee of a pension at a certain age? The answer to such a question is by no means easy as the pension systems vary across countries with each country being at a different development stage. The only thing of which we can be confident is that the wrong retirement age set may heavily encumber the state budget as well as the economic and psychic ease of seniors. In addition to encumbering the state budget, retirement affects the mental health of seniors. By an EU study, the retirement has a long negative effect on the mental health of men and women of different education levels and employment. For this reason, Heller-Sahlgren (2017) suggests postponing the retirement time as much as possible, which, in addition to upholding the pension system, would be beneficial to the mental health of pensioners. Another benefit he sees in the reduction of the public healthcare spending (2016). His research has been carried out using the SHARE database, which has also provided data for this paper.

## Key words

Retirement, reasons of retirement, Czech seniors, SHARE

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# Similarities and Divergences in Economic Impacts of German and Czech Public Procurement System

Philipp Kunz<sup>a</sup>, Richard Pospíšil<sup>b</sup>

## Abstract

Public procurement system is one of the crucial parts of any administration since it utilizes a significant percentage of the GDP. The purpose of public procurement system is to ensure that buying of goods and services in the public institutions is done in the right manner. Moreover, the process should generate the intended economic growth and development. The primary goal of this research is to conduct a comparison of economic impacts of public procurement system in Germany and Czech Republic. Likewise, the research aims to assess both similarities as well as outcomes. Besides, the paper has an introduction which defines the public procurement systems in the two countries. Based on the available studies, it is estimated that public procurement entails 15% of GDP in German and 14% in Czech Republic. The study utilizes secondary research methods to generate data which is analyzed quantitative techniques. The most notable similarities include the types of public procurement contracts and use of e-procurement to enhance efficiency and transparency. On the other hand, there are some divergences where in Germany, the system seems to be a bit more efficient compared to the Czech Republic.

## Key words

Procurement system, efficiency, comparison, similarities, divergences

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# Cultural Collaboration on Local Level

Kristina Kupryte<sup>a</sup>

## Abstract

Globalization encourage focus in to improving competitiveness of the cities. Competition occurs not only in economy, but also in the aspect of the image. The rivalry comes between organizations, enterprises, cities and regions. This is done through a variety of resources – economic, symbolic, and cultural. For the city as a center of gravity cultural events, festivals and city events becomes an important tool, who lets establish the urban edge. Louder it comes to conclusion, that namely cultural cooperation will be considered to be an important factor in the development. The problem of the survey can we express in problematic issues: how cultural collaboration can raise the positive image of the city? The research aim is as follows: Annalise local cultural governance situation and possibilities improving the city's image. To analyze theoretical conceptions. To investigate the fundamental attitudes of experts in cultural events management on the particularity of cultural collaboration. Research: a systemic and logical analysis of research sources, 7 experts from the budgetary cultural institutions most of them heads of organizations, having a substantial experience in events organizing. They were asked three types of questions: general questions concerning culture governance in the country and local. Special questions where regarding some urgent issues in the sphere of projects, funding, communication, sponsoring, and questions related to the main trends in the development of the culture governance. In the modern society, cities have to search original, creative ways to present themselves to the world.

## Key words

Culture, collaboration, management

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# EU Public Aid Rules in Competitive Circumstances (Czech Republic's case)

Libor Kyncl<sup>a</sup>, Bohumil Vitek<sup>b</sup>

## Abstract

The article's goal is to discuss the substantial EU public aid rules' issues that have been so far unable to be resolved by the Czech jurisprudence. It is the protection of fair competition on the liberalized services market in connection with public funding being provided while transferring the state property between the state-owned train operator and state-owned railroad infrastructure administrator. This specific example goes back to the case of Czech Railways' (state-owned corporation) transformation in 2002. Currently, it involves a reverse transfer of some real property from the Czech Railways to the state, resp. to the Railway Infrastructure Administration, for a price of 3,25 billion CZK. The article involves the possibilities of competition prevention, restriction or distortion, despite the fact that a price of the complete transaction has been finally approved by the European Commission. The question still remains whether or how intensely the competition mechanisms are hindered or modified. With other words, how broadly this procedure has created the conflict between individual and institutional protection, i.e. between the protection of an enterprise and systemic protection of the competition as an institution.

## Key words

Competition protection, Public aid, Incompatibility with internal market, Transformation of Czech Railways, Railway Infrastructure Administration, Public financing, Public real property, European Union

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# Age Identification in Elderly Segment and its Impact on Marketing Communication

Dagmar Lesáková<sup>a</sup>

## Abstract

The core of our paper is the exploration of the role of age in seniors' population and how it could be used in communication strategies. We analyze the impact of self perceived age on attitudes toward advertising and the consequences for development of communication strategies. The particular aims of our paper are: 1) to explore the concept of cognitive age and how it relates to chronological age; 2) to explain the application of cognitive age in marketing strategies; and 3) to demonstrate the importance of cognitive age specific measures for marketing and advertising campaigns. Empirical reeseach among seniors was conducted on a sample of 486 respondents aged between 60–88 years. Two methods of self-perceived cognitive age were applied. The first was the method of age identification with the single-item category measure. The second method used was the age decade scale, consisting of four dimensions. The final part of the paper presents recommendations how to communicate with seniors effectively, taking into account the specifics of elderly people.

## Key words

Chronological age, Cognitive age, Marketing communication, Elderly segment, Age identification

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# Factors Determining the Shaping of the Financing Structure in Acquiring Companies in the Pre-Merger Period. Results of the research

Piotr Luty<sup>a</sup>, Ilona Fałat-Kilijańska<sup>b</sup>

## Abstract

The main objective of the article is to identify the factors that determine the shaping of the financing structure and the changes in them in the pre-merger periods in the acquiring companies. The study of the shaping of the financing structure also requires checking what relations form in various sectors of economic activity. In addition, the study is to answer the questions whether and how the size of a company determines the shaping of capital structure. Based on the presented analyses, it can be concluded that in the group of small companies, the explanatory variables identified on the basis of the literature review were statistically insignificant in many periods (almost all). Completely different behaviour was observed in the group of large companies. In these companies, the same set of explanatory variables was statistically significant. The result of research of the existence of non-linear relationships between company parameters is that in the case of some variables there is no question of a linear nature of dependence. The analysis covered the five years preceding the mergers of 307 business entities. The source of the survey data was the database prepared by the InfoCredit S.A company at the commission of the Accountants Association in Poland. For the purposes of this study, Statistica software and inductive reasoning were used – supported by Spearman's rank correlation analysis, linear and polynomial regression analysis and variable scatter analysis.

## Key words

M&A market, a financing structure, a shaping of capital structure

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# Qualified Electronic Signature – eIDAS Striking Czech Public Sector Bodies

Radka Macgregor Pelikánová<sup>a</sup>, Eva Daniela Cvik<sup>b</sup>

## Abstract

Electronic IDentification, Authentication and trust Services (“eIDAS”) is a standardized system created on the EU level by EU Regulation 910/2014 and on the Czech level developed by the Act No. 297/2016 Coll. The trustworthiness of electronic communications and transactions, effectiveness and efficiency should be increased by eIDAS. Consequently, since 2018, Czech public sector bodies have to use qualified electronic signatures when officially acting via electronic documents. This new significant legal duty with important financial, technical and other consequences calls for a pioneering study about its legal dimension and observance in the EU and in the Czech Republic in particular. The paper’s three purposes entail (i) to identify provisions set by the EU law and Czech law of this duty and to interpret them, (ii) to study and assess how this duty is materialized and observed while using a pioneering Czech micro case study and (iii) to discuss and compare the yielded results with the status quo in other EU member states. A multi-disciplinary and multi-jurisdictional research of primary and secondary sources is performed and yielded data is critically processed by the holistic Meta-Analysis. It employs a Czech micro case study exploring the readiness, implementation and consequences of this new duty on five Czech public sector bodies – Prague municipalities. The qualified electronic signature is a reality in the EU, but its standardized use is welcome and materialized with varying intensities. A substantial experience contributes to its positive perception while plans and promises for local support for it might be contra-productive.

## Key words

eIDAS, qualified electronic signature, public sector body, electronic communication, digital single market

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# Finding Correlation Between Customer Typology and Sales Results in Assisted Retail Using Computer Vision

Jakub Machalický<sup>a</sup>, Luboš Juránek<sup>b</sup>

## Abstract

In this paper, we use computer vision capabilities to detect several basic attributes reliably recognizable from an image. We also analyze sales data to compare the connection between these data. The results are evaluated on a small sample by a human, and then everything is applied to a large set of data. For age and gender detection is Cortana Analytics Suite from Microsoft Azure platform used. For other image recognition problems, custom algorithms were created.

## Key words

Computer vision, retail, sales, footfall, azure

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# How Change in Industry Mix Can Improve the Financial Performance of Regional Economies: Evidence from the Portfolio Approach

Marina Malkina<sup>a</sup>

## Abstract

The aim of the study is to adapt the portfolio approach to optimization of the industrial structures of regional economies and to assess its results. The research is based on data of the Russian regions and federal districts in 2004–2016. The ratio of a balanced financial result to GRP referred to as financial return, and its volatility, called financial risk, were used as target parameters of regional economies. The application of the portfolio approach allowed us to evaluate financial return and risk in the regions and districts and decompose them by industries. Further, we solved three optimization problems: maximization of financial return at a given risk level, minimization of risk at a given return level, maximization of the Arrow-Pratt risk aversion utility function, and assessed their gains. As a result, we found that all three optimizations were often accompanied by a certain re-specialization of regional economies, rather than an increase in the degree of their diversification, although in the regions the situation was significantly different. For the federal districts, we identified a cross-regional effect that neutralized financial volatility, which can be used in re-specialization of regions within districts. Ultimately, the features and limitations of the application of the portfolio approach to the management of industrial structures of regional economies were discussed.

## Key words

Industrial structure of economy, financial return, financial risk, portfolio approach, optimization, economic diversification, specialization

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# Inadequate Stock Price Reactions; Evidence from Prague Stock Exchange

Lukáš Marek<sup>a</sup>, Luděk Benada<sup>b</sup>

## Abstract

The paper examines how effectively a price-generating information is incorporated into the stock price. The research is dedicated to the fourteen main stocks on the Prague Stock Exchange. The investigated period was November 2012 – December 2018. The research applies an innovative way for identifying significant price related information, a so-called swap variance test. After the jumps are identified, the price response is analysed. The results included both positive and negative jumps, where the positive ones were more frequent. A further exploration confirmed the existence of an underreaction in the case of positive news. The evidence of abnormal returns identified the presence of an information inefficiency on the investigated market.

## Key words

Market efficiency, price jumps, swap variance, underreaction

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# Assignments of Claims as a Misuse of Law

Jitka Matějková<sup>a</sup>, Ondřej Pavelek<sup>b</sup>

## Abstract

The purpose of this paper is to answer the question of whether the trading of claims and their use in civil proceedings may be an abuse of rights. Claims processing is a regular part of the business both in the Czech Republic and within the European Union. European Commission proposed a special regulation governing the applicable law in 2018, as well emphasizes the legal arrangements for the assignment, especially its assets. Claims are made both between large business corporations and small business owners. Assignment of claims is also very important in ensuring the liquidity of a particular entrepreneur. If the assignment of a claim is made in the course of civil proceedings, the plaintiff – the promoter – usually submits a proposal for a procedural succession for bringing the assignee in the proceedings in his place. However, this right is easily abuse-able if it is an entrepreneur of a business corporation that has, for example, financial problems. In case of dismissal, the defendant will not be entitled to reimbursement of the costs.

## Key words

Abuse of rights, assignment of a claim, trade receivables, civil proceeding, capital market

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# Personnel Costs of Medical Staff vs. In-patient Curative Care Costs in the perspective of the Main Payer of Medical Services in Poland. Trends and Forecasts

Katarzyna Miszczyńska<sup>a</sup>, Piotr Miszczyński<sup>b</sup>

## Abstract

Healthcare needs play a fundamental role in the health policy. In order to satisfy them, the healthcare units should operate in effective way, which should result in the provision of medical services of appropriate quality and time accepted by the patient. The system of managing funds transferred for the financing of health care is subject to constant transformations aimed at the most appropriate use of them. The constantly growing health needs, the changing demographic situation resulting in the often prolonged treatment process, technological progress in the field of highly specialized medical procedures and the associated increase in patient awareness translates into an increase in the operating costs of the sector. The aim of the study was to assess the relationship between the personnel costs of medical staff and in-patient curative care costs financed by the National Health Fund over the next decade. This study was based on the forecasting methods, which were used to present a scenario analysis related to the shaping of healthcare expenditures. The scenario analysis was carried out based on the recent postulates of the medical community related to the reported needs for increasing the share of public expenditure on health in GDP.

## Key words

Healthcare, healthcare costs, personnel costs, healthcare system, forecasting, Compound Annual Growth Rate

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# The Use of DEA in the Context of Regional Disparity of Healthcare in the Republic of Poland

Katarzyna Miszczyńska<sup>a</sup>, Piotr Miszczyński<sup>b</sup>

## Abstract

Analysing regional disparity in public healthcare sector proves to be crucial in terms of public policy settlement. Differences in the level of financing and staff and material background are a problem to be solved by policy makers, but they are also an extremely important aspect from the patient's point of view in terms of the access to high-quality medical services. In this paper, the efficiency of healthcare, on the regional basis, in the Republic of Poland in years 2011–2016 is measured by means of Data Envelopment Analysis. This non-parametric efficiency measurement method is commonly used in assessing the efficiency of business entities operating within various sectors, including healthcare. However, the window analysis carried out in the article, not only evaluates healthcare technical efficiency in individual regions and quantifies the basic regional disparities, but also enables year-by-year comparisons of the results. Additionally, this method overcomes the disadvantages associated with DEA small sample size. The main aim of the study is to define the impact of the financial outlays on healthcare on the results of efficiency assessment. The hypothesis posed in the study referred to the question whether the regions allocating more expenditures on healthcare are characterized by higher efficiency indicators. The study results have been obtained by output-oriented 2-year window DEA model. Data that characterized the healthcare system has been taken from the public databases of the Central Statistical Office and the Centre for Health Information Systems.

## Key words

Data Envelopment Analysis, healthcare, technical efficiency, Window analysis, healthcare technical efficiency measurement, regional disparity

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# Assessing Web Surface Credibility by generation Y: A Q methodological study

Stanislav Mokrý<sup>a</sup>

## Abstract

Online marketing includes a variety of activities. Website presentation is one of the most striking activity. Having own website is crucial for many subjects and therefore currently there are more than 1.8 billion of websites on the Internet. This situation has an impact on the visitors who are thus facing the problem of decision making about the credibility of visited websites. The presented paper deals with so-called surface credibility and brings the results of research conducted via Q-method. The research was conducted with 70 respondents from generation Y. 40 anonymized web pages were used as sorted variables. The used web pages were divided into 8 categories: financial institutions, universities, educational institutions, travel, lifestyle, commodity search engines, e-shops, health.

## Key words

Web Credibility, Q methodology, Marketing Communication

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# Artificial Intelligence and Unemployment in G7 Countries

Mihai Mutascu<sup>a</sup>

## Abstract

The aim of paper is to investigate the impact of artificial intelligence on unemployment in the G7 countries based on a theoretic model sustained by an empirical part. The empirical methodology follows a nonlinear approach by using panel threshold estimations. The dataset covers the period 1998–2016, with annual frequency. The main results reveal that artificial intelligence has a nonlinear impact on unemployment, with a inverted U-shape. Herein, the unemployment increases as the contribution of artificial intelligence to productivity increases, reaches a maximum point and after that falls. The creation of new jobs is related to the intensive use of artificial intelligence, when new economic sectors and industries appear generating vanguard goods and services. If the contribution is not strong enough, the artificial intelligence will just replace the existing jobs provoking unemployment.

## Key words

Artificial intelligence, unemployment, implications, G7 countries

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# Profit Shifting and Tax Havens: the Case of Czech Republic

Danuše Nerudová<sup>a</sup>, Marian Dobranschi<sup>b</sup>, Veronika Solilová<sup>c</sup>, Marek Litzman<sup>d</sup>

## Abstract

In this paper we analyze the effect of tax haven links on pre-tax profitability of Czech subsidiaries. The aim is to investigate whether Czech subsidiaries' profit before tax income is affected when there are sister companies placed in tax haven countries. Our research is focused on analyzing the sensitivity of pre-tax profits to tax haven links and tax differential. The analysis includes a number of 50 worldwide tax havens into our analysis. We expect that the pre-tax income of the Czech subsidiaries to be negatively affected when there are sisters companies based in tax haven countries.

## Key words

Profit shifting, tax haven, profits before taxation, sister companies, tax avoidance

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# Hedging Currency Risks? An Evaluation of SMEs in Northern Germany

Jan C. Neumann<sup>a</sup>

## **Abstract**

One of the most important issues for companies is liquidity originate from domestic and foreign trade. The primary market is classically defined by the number of available markets. Globalization and free trade zones set up the foreign market, which becomes increasingly important for businesses – even for SMEs. This paper analyzed approx. 60,000 data records with foreign reference of medium-sized North German companies. The analysis proofs that an increasing number of foreign transfers, increases the number of foreign currency accounts per company. The results also show that despite the existence of currency hedging tools, a significant proportion continues to expose themselves to currency risk. The willingness to manage currency risks increases with the increase in value per transaction. In particular it is interesting that payments with a value > 10,000 EUR are often transferred abroad in EUR. Nevertheless, there is a need to explicitly advise companies on currency risk no matter how low/high the volume per transaction is.

## **Key words**

Active currency management, hedging, theoretical determinants, exporters, transaction value, currency volatility, currency hedging

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# A Model for Strategic Fit Assessment of Supply Chain Management Information System Capabilities

Jochen Nürk<sup>a</sup>

## Abstract

A model for assessing the impact of Information System (IS) capabilities on the degree of strategic alignment within SCM domains has been developed from a qualitative case-study. Different approaches of leading researchers have been combined to get a holistic and detailed view of IS capabilities' impact on strategic fit, and to ground the concept in theoretical evidence. Empirical evidence has been found on its applicability by applying the model to a traditional German steel company and a highly innovative Austrian steel company selected as polar types. The model enables companies to identify ideal levels to strategic fit needed from SC integration and antecedents and to predefine patterns of capabilities as architectural artefacts as sources for dynamic capabilities. The study provides new possibilities for Theory-of-Constraints (TOC) analyses across SC domains and contributes to new insights into the IT productivity paradox, where possibilities from IS investments remain unused.

## Key words

Supply chain management, dynamic capabilities, strategic alignment, contextual, contingency

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# Scheduled Macroeconomic News Announcements and Forex Volatility Forecasting

Tomáš Plíhal<sup>a</sup>

## Abstract

In the world of finance, volatility of asset prices plays a crucial role, e.g., for portfolio optimization or valuation of derivatives. One of the most important factors that influence volatility on the financial markets are macroeconomic news announcements. This paper focuses on the effect of scheduled macroeconomic news announcements on the realized volatility of the most traded currency pairs, EUR/USD, GBP/USD, and USD/JPY from the year 2009 to 2017. Realized volatility is analyzed on a daily basis, and it's also decomposed to the continuous and jump components that are analyzed separately. We focus on the out-of-sample forecasting and provide strong evidence that scheduled macroeconomic news announcements play a statistically significant role in volatility models. Forecasting accuracy improved up to 12.4%. These results are important for future practical applications in different areas of finance.

## Key words

High-frequency data, realized volatility, scheduled announcements, forecasting, Forex

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# The Issue of State Aid for Agricultural Enterprises – the Macroeconomic Perspective

Piotr Podsiadlo<sup>a</sup>

## Abstract

The article presents the conditions of admissibility of State aid in the European Union, taking into account the rules governing the specific aid instruments applicable to the agricultural sector. It offers an analysis of State aid granted by EU Member States is carried out under the provisions of the Treaty on the functioning of the European Union and the rules of State aid admissibility on the basis of the implementing regulations: there are de minimis provisions, there is one comprehensive block exemption regulation, and one set of guidelines applicable to the agricultural sector. The analysis made it possible to verify the influence of State aid on economic growth in EU Member States which provided State aid for undertakings in agricultural sector in the years 1996–2017. The analysis was based on a linear regression model. The response variable (dependent variable Y) is the size of the GDP, while the explanatory variable (independent variable X) is the expenditure on State aid in the agricultural sector.

## Key words

Agricultural sector, economic growth, enterprises, the European Union, State aid

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# Selected Problems of Development of Infrastructure on the Protected Areas of the Swietokrzyskie Voivodeship in Poland

Łukasz Popławski<sup>a</sup>

## **Abstract**

The area covered by protected areas in Poland amounts to 33.1%; the region with the highest percentage of areas covered by them is in the Swietokrzyskie Voivodeship – 62 %. These areas are usually landscape parks and protected landscape areas. The basics of development of protected areas should be based on the production of high quality food and food processing. This paper presents selected problems of development of infrastructure on the protected areas of the Swietokrzyskie voivodeship in Poland (according also to the inhabitants' opinion). The work continues to discuss theoretical issues of instruments and institutions regarding Polish protected areas. Following the topic, the problems of development of infrastructure in protected areas have been analyzed. The last chapter presents opinions of inhabitants, especially including those about problems of infrastructure on protected areas. Thus, the selected problems of infrastructure in the context of ecodevelopment have been raised in this paper. The work ends with a brief conclusion.

## **Key words**

Infrastructure, inhabitants, local development, protected areas, Poland

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# The Economic Development of Suisse Professional, Scientific and Technical Services Sector

Tomáš Pražák<sup>a</sup>, Daniel Stavárek<sup>b</sup>

## Abstract

This paper examines the role of main microeconomic factors on the stock prices of select Swiss companies listed on the Six Swiss Exchange. Two basic theoretical approaches and interpretations of this relationship are frequently used. The efficient market hypothesis (Fama 1970) assumes that stock prices already contain all the relevant information and the theory of arbitration (Ross 1976, or Chen et al. 1986). The microeconomic factors are based on the financial situation in companies. Financial ratios, gained from the financial statements of the individual companies, are used for the analysis. In general, the study confirmed that profitability and debt ratios are the most important business factors from the prospective of its impact on stock prices. The relationship between observed variables is explored using panel regression analysis. The generalized method of moments for constructing a regression model is used. The sample period of dataset is composed of annual data from 2006 to 2015.

## Key words

Financial ratios, GMM, panel regression, stock prices, Swiss stock exchange

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# Data Warehouse for Defect Analysis of Railway Vehicles

Jan Přichystal<sup>a</sup>

## Abstract

This paper aims at the design of the data warehouse for defect analysis of railway vehicles. Railway vehicles exhibit different types of faults while driving. This article focuses on the analysis of faults on the axles which cause excessive abrasion of the components or may lead to derailment of the vehicle. The data warehouse is designed and constructed based on dimensional modelling methods. The custom technical solution was implemented in a Microsoft SQL Server environment, according to the requirements of the project submitter.

## Key words

Data warehouse, defect analysis, railway vehicles, MS SQL Server

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# Comparison of Farms Focusing on Plant Production in the Production And Economic Conditions of the Czech and Slovak Republic

Patrik Rovný<sup>a</sup>, Tatiana Evteeva<sup>b</sup>, Marek Plachý<sup>c</sup>

## Abstract

The agricultural sector in the Czech and Slovak Republic has problems in big and also in small farms. The paper is based on the assumption of the family farm algorithm, which is focused on the plant production. A family farm is represented by two adults and two children. The aim is to calculate the minimum size of the farm in hectare needed to achieve the average income (in the national economy) of the 4-member family in Czech Republic and in Slovakia. The algorithms for determining the size of a family farm focused on crop farming in the corn production area in the economic and production conditions of the Czech Republic and the Slovak Republic were given the following inputs: the average annual income of a 4 member family, own costs for chosen crops, prices crops, average subsidies for agricultural land, average annual harvests of chosen crops. Data were obtained from the ministries of agriculture and statistical offices from both states. We calculate the average 4 member family in Slovakia needs to earn minimum 16 77.44 Euro per year and in the Czech Republic 18 322.08 Euro per year. The results of the paper proved that, according to the model of an average farm focused on crop production, the acreage of 100.86 ha in Slovakia and 124.11 ha in the Czech Republic of agricultural land needs to have one family farm. We are calculating with following commodities: wheat, barley, grain maize, sunflower, oil rape, potatoes and pea.

## Key words

Farm size, agricultural land, crop production, crops, costs, prices, subsidies

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# Micro Enterprises in the Czech Republic and Slovakia in the Context of the Current Development of Accounting

Tomáš Schneider<sup>a</sup>, Milena Otavová<sup>b</sup>, Jana Gläserová<sup>c</sup>

## **Abstract**

The focal point of the research is the micro-enterprises in the Czech Republic and Slovakia. The purpose of this study is to find out whether the administrative burden of micro-enterprises has been reduced on the basis of the obligation to implement the Directive 2013/34 / EU into the national accounting standards. The latest deadline for the implementation of this Directive was 1 January 2016. Criteria for the adoption of micro-enterprises (balance sheet total, turnover and number of employees) are examined in both countries. These criteria were tested on enterprises from the Amadeus database and subsequently examined whether a reduction in administrative burden can be made for all micro-enterprises in both countries.

## **Key words**

Directive, accounting Act, micro business entities

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# The Relationship Between Work Engagement of Different Generations and Mobile Learning

Gita Statnickė<sup>a</sup>, Asta Savanevičienė<sup>b</sup>, Ignas Šakys<sup>c</sup>

## Abstract

In today's labour market several generations are working actively. Many scholars agree that there are generational differences that affect the results of the performance of organisations (Alsop, 2008; Twenge, 2010). Some of the most important factors that have a significant impact on the activities and results of organisations are work engagement (Shuck & Wollard, 2010) and the employees' lifelong learning ability (Hillman, 2014). Currently, work engagement is one of the most popular practices in Human Resources Management (HRM) and one of the leading topics among researchers. Hillman (2014) assumes that learning is yet another essential difference among generations. The article explores the growing popularity of mobile learning, as new technologies are rapidly pushing away the old learning techniques and becoming mainstream; the learning efficacy will increase, and the training cost reduces (Khadim, 2018). So it is important to consider how mobile learning can help increase work engagement of different generations. Methods: A quantitative research was performed, using "Individual Innovativeness Scale" developed by Hurt, Joseph and Cook (1977) and "The Mobile Learning Scale (MBC)", formed by Fatima, Ghandforoush, Khan and Masico (2017). The research included 231 representatives of different generations working in the organisations which used mobile learning in workplace and employed representatives of all four generations in Lithuania, EU. For statistical analysis two-way ANOVA was used. Findings: There are significant differences in work engagement by different generations and mobile learning. Vigor, dedication and absorption was significantly affected by generation and by mobile learning.

## Key words

Work engagement, Generation, Different generations, Mobile learning

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# Financialization: Curse or Salvation? The Case of Latvia, a Small and Post Transition Economy

Joanna Stawska<sup>a</sup>, Iwona Dorota Czechowska<sup>b</sup>, Maciej Malaczewski<sup>c</sup>, Ramona Rupeika-Apoga<sup>d</sup>, Fatima Sol Murta<sup>e</sup>

## Abstract

Since the 1980s, the financial sector and its role have increased significantly, introducing new term or phenomenon as financialization of the economy. There is still confusion about the nature and dynamics of financialization, including its impact on the economy. The aim of this article is to investigate the relationships between financialization and the state of the economy of a small and post-transition economy. We are looking for these relationships and their strength of influence; at what time after shock these variables reach their original levels by applying standard Vector Auto-Regressive model. Research results show that we hadn't found a confirmation that financialization causes significant changes in the state of the economy, but we found that the change in GDP per capita causes changes in the level of employment and in the value of assets in the financial sector. The research results have an important contribution to policy debates about the impact of financialization on the state of the economy in the small and post-transition economy.

## Key words

Financialisation, transition economy, small and open economy

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# Behavioural Attention to Financial Indicators: Evidence from Google Trends Data

Jolana Stejskalová<sup>a</sup>

## **Abstract**

We investigate the link between stock returns, market risks, financial indicators, and behavioral attention which represents demand and supply of selected assets. We assume that Behavioral Attention represents actions emphasizing importance of information followed by information-selection behaviour. Using rich dataset of 100 US stocks we show the impact of financial ratios along with the indicators related to dividends on stock returns. Moreover, we find the evidence that the stock returns are influenced by behavioural attention based on the level of search intensity. Results prove that (i) the behavioural attention to stock (share) prices has positive impact on stock returns, (ii) the attention vary across the sectors, and (iii) during financial crisis, the attention begun significant and cause the highest coefficients.

## **Key words**

Behavioral attention, behavioral finance, rational inattention

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# The Analysis of Strategy Types of the Renewable Energy Sector

Adam Sulich<sup>a</sup>, Adam Grudziński<sup>b</sup>

## Abstract

Environmental goals can be essential for the realization of modern organization strategies, especially in the case of renewable energy sector company's development in Poland. The aim of this article is to discover different strategies formulated by Polish energy supply companies as a result of the green management. The tools to analyse this type of management and to indicate the common direction of undertaken activities are the SWOT analysis and the Hellwig's taxonomic method. These common points can be described by some factors which are related to the creation of green jobs and the reduction of environmental impact. This analytical study explains and describes possible strategies types, which were implemented in other economic sectors. Therefore, multicriteria analysis of strategy measurement indicators method was used in this article. Performed analysis can open future research area to examine greening of other sectors.

## Key words

Green management, the renewable energy sector, Hellwig's method, proecological strategy

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# Development of Approaches to Performance Measurement and Evaluation: Current View on SMEs in Slovakia

Maroš Šlenker<sup>a</sup>, Zuzana Papulová<sup>b</sup>, Andrea Gažová<sup>c</sup>

## Abstract

The article provides an overview of the historical development of management theory in the field of performance measurement and evaluation and assesses the major development periods to the present. The theoretical overview outlines the new trends, requirements and specifications for measuring and evaluating performance that match the current challenging competitive environment. The article also includes results of our research on the sample of 204 small and medium-sized enterprises (SMEs) operating in Slovakia. The research was aimed to assess the current approaches of SMEs to performance measurement and evaluation in relation to identified trends. The research findings lead to the recommendations on how to improve the approach of managers to performance measurement and evaluation in SMEs.

## Key words

Performance, Performance Measurement and Evaluation, SME

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# The GDPR After Almost a Year: Some Positives but Still Rather Too Many Questions

Dušan Šoltés<sup>a</sup>

## Abstract

This paper is about the new EU regulation popularly already known as the GDPR or the General Data Protection Regulation and the first experiences after almost a year since its entry into operation on 25 May 2018. In the legislative system of the EU, this regulation by itself represents one of the most revolutionary legislative changes in the overall history of the EU system of legislation not only on the protection of the personal data or as it is generally well known “acquis communautaire”. It had been enacted after more than two years that have been available for a very careful and comprehensive preparation after the particular GDPR regulation has been approved as the GDPR – General Data Protection Regulation – Regulation (EU) 2016/679, EP. CEU, EC Brussels on 27 April 2016. In the subsequent parts of this paper we are going to evaluate and present the first experiences as collected during our ongoing research being conducted within the EU funded INFORM project. In general, there are evident some positives in protection of personal data but many important questions still remain to be answered.

*The current publication is created within the project “Introduction of the data protection reFORM to the judicial system” (INFORM). The project is funded by the European Union’s Justice Programme (2014–2020) under Grant Agreement № 763866. The content of this publication represents the views of the author only and is his/her sole responsibility. The European Commission does not accept any responsibility for use that may be made of the information it contains.*

## Key words

Protection of data, personal data, GDPR – General Data Protection Regulation, acquis communautaire, EU regulation, EU directive, cyberspace, cloud computing, social networks

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# Digital Transformation Maturity: A Systematic Literature Review

Roman Teichert<sup>a</sup>

## Abstract

The goal of the paper is to present contemporary developments in the field of digital maturity models and to provide insights regarding the concept of digital transformation maturity, because in practice and literature the attention to assess the status and progress of digital transformation efforts is growing. Basing on a systematic literature review of finally 24 relevant studies, characteristics of different digital maturity models were extracted. Focus was placed on the dimensions used to describe digital maturity in different model approaches and on the question, to what extent organizational culture is represented in the examined models. Among other things the findings indicate, that dimensions applied in the various models can be very different and that some models go beyond digital capabilities and also address transformational capabilities. In that context some models include organizational culture as a dedicated dimension of digital maturity, what evidences that culture as enabler/hinder is gaining attention in digital transformation efforts. Beside a comprehensive overview of most common dimensions depicting digital maturity, also a synthesis of cultural attributes reflected in the various digital maturity models is presented in this paper. This systematic literature review finally reveals, that a lot of the existing models give an incomplete picture of digital transformation maturity and demonstrates, that research and scholarly literature about digital transformation maturity as a holistic concept is scarce up to now and needs more attention by research in future. Concluding a summary of issues identified and suggestions for future research are given.

## Key words

Systematic literature review, digital maturity, digital transformation, digital transformation maturity, digital culture

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# Wholesale in Germany: About the Degree of Maturity in E-commerce in Wholesale

Arne Thomsen<sup>a</sup>

## **Abstract**

This paper deals with the degree of maturity in E-commerce in the wholesale in Germany. According to the most studies from in the recent years the use of online shops and digital marketplaces leads to a significant increase of the turnover in the B2B-commerce. The main objective of this article is the development of an assessment system to determine the position of a wholesale company in E-commerce. The results from a preliminary study are pulled up for the development of the frame-works, as well as the results of 238 answers to an online-survey.

## **Key words**

Business-to-Business-Marketing, wholesale, distribution, maturity of E-commerce

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# The Expression of Provisions of Youth Intolerance for Corruption: the Case of Lithuania

Rita Toleikienė<sup>a</sup>, Sigitas Balčiūnas<sup>b</sup>

## Abstract

Corruption is the challenge needed to be solved in the change of generations (Transparency International Fiji, 2013). Many young people have enough potential to strengthen anti-corruption efforts (Cimbo, 2017). Therefore, youth is considered as a targeted group, which is able and capable to fight the dishonest behavior, corruption cases. It is important to ensure, that youth would be able to identify the corruption and inform appropriate institutions about this. This needs the values' background of the youth, the relevant understanding of corruption and intolerance for it.

This presentation aims to reveal the understanding and attitude of the Lithuanian youth towards the corruption and to identify opportunities for strengthening the anti-corruption potential.

The research was implemented in Šiauliai region, Lithuania, using quantitative and qualitative approaches. Few main findings were found out in the research. First, the motives to inform/withhold about the corruption cases depend on the status of occupation, the gender, the social status of the family, the civil and political activity.

## Key words

Intolerance for corruption, youth, provisions, anti-corruption

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# Creating a Food Menu Application for Mendel University in Brno

Petr Tykal<sup>a</sup>, Diana Brnovik<sup>b</sup>, Jaromír Landa<sup>c</sup>

## Abstract

The presented paper describes the creation of a mobile application module for showing a current menu at Mendel University cafeterias. Nowadays, the students and the university staff have the menu accessible through a static webpage. The presented module serves as a dynamic presentation of the current menu at all Mendel University in Brno cafeterias. The module consists of two parts, server backend and a mobile application module for both Android and iOS. As a server backend, the Google Firebase service was chosen. The Firebase realtime database is used to store a menu list and data shared by the users. The Firebase storage is used to store meal images.

## Key words

Android, iOS, food, canteen, mobile application

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# Agility, Adaptability and Alignment as Secondary Effects of Achieving Supply Chain Flexibility

Lenka Veselovská<sup>a</sup>

## Abstract

This research study focuses on a current topic of supply chain management which serves as a tool for manufacturing enterprises to cope with pressure put on them by continuously changing market conditions and global economy itself. Paper presents results of research conducted on sample file of Slovak production enterprises. The main aim of this research study is to explore the extent of achieving agility, adaptability and alignment as secondary effects of supply chain flexibility in Slovak manufacturing enterprises. Representativeness of the sample file was confirmed by application of Pearson's chi-squared test ( $\chi^2$  – test) due to criterion of enterprise's size. The results of this research provide a clear image of business reality in terms of supply chain organization and therefore have implications for business practice which may serve managers in their decision-making process in supply chain management.

## Key words

Supply chain management, agility, adaptability, alignment, flexibility

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# Industry 4.0 in Relation to Project Management in SMEs

Jaroslav Vrchota<sup>a</sup>, Petr Řehoř<sup>b</sup>

## Abstract

Changes are pushing businesses increasingly to drive automation and the use of more sophisticated information tools in operation. In order to maintain, speed up, or streamline the process, access to Industry 4.0 is the right path. This industry concept is based on the idea of linking digitization and complete automation of production using the latest technology. All this requires businesses to make many changes and major project events in very short times, with limited costs and resources. Mastering the core elements of project management is a prerequisite for the successful deployment of new technologies. The paper summarizes the results of the 2017 research focused on the use of project management in small and medium-sized enterprises in the Czech Republic in relation to the fourth industrial revolution. First of all, the most important concepts are followed, followed by hypothesis testing, a discussion of how Industry 4.0 companies are dominated by project management, and how businesses affected by industry 4.0 expect more automation. The data were obtained through personal interviews with 358 SME managers.

## Key words

Industry 4.0, project management, SMEs, automatization

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# Stock Returns and Real Activity: A Tale of Left-Tails

Tomáš Výrost<sup>a</sup>, Štefan Lyócsa<sup>b</sup>, Tomáš Plíhal<sup>c</sup>

## Abstract

This study investigates the predictability of production growth with stock market returns by using a cross-quantilogram analysis, a new method enabling the estimation of directional quantile dependence. Using a sample period of over fifty years of monthly data for Canada, Japan, the United Kingdom and the United States, we find strong asymmetry where market returns that fall below the 25th percentile in previous months tend to predict production growth below the 25th percentile in the next period. Furthermore, the reaction of production growth is strongest to market returns in previous 6 months, but the gradual cumulative effects of market returns might last up to 24 months since they materialize as production growth. The prediction capability of the stock market is significantly driven by periods of higher volatility, as quantile dependence is non-existent in devolatilized market- to production-growth series. The economic significance of our findings is also supported in an out-of-sample framework. Therefore, policy makers could use recent extreme stock price declines as a signal of declining future production growth.

## Key words

Production growth, Stock market, Quantile dependence, Cross-quantilogram

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# A DEA Model for Measuring Financial Intermediation

Emilia Zimkova<sup>a</sup>, Martin Bod'a<sup>b</sup>

## Abstract

It is common practice in data envelopment analysis (DEA) to assess commercial banks by the efficiency that they display in their operations under different outlooks on their behaviour; yet, even the intermediation approach does not measure actually the success with which commercial banks or a banking sector fulfil their mission of financial intermediaries. Such an assessment is traditionally accomplished by means of the loan-to-deposit ratio that captures rather size or depth of financial intermediation, but no link is sought to best practices that are observed in the banking sector. The paper proposes a model of financial intermediation that permits assessing on a comparative basis the attainment in financial intermediation. The devised index of financial intermediation recognizes through weights that diverse outcomes of financial intermediation exhibit differentiated importance to the economy and is closely connected with the weighted slacks-based measure (WSBM). The WSBM that emerges in this respect encompasses only production variables that define financial intermediation (i.e. deposits and intermediated outputs) whilst other production variables are treated as non-discretionary. The model can be applied in variants for a single commercial bank in one specific year (Model I) or for aggregated bank-years such as one particular bank over the entire period or various banks in one year (Model II). The ideas are demonstrated on a data set of Slovak commercial banks for the period between 2008 and 2016 and the difference of the proposed approach with traditional efficiency measurement under the intermediation approach is discussed.

## Key words

Financial intermediation, loan-to-deposit ratio, data envelopment analysis (DEA), weighted slacks-based measure (WSBM), aggregation over years or banks

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# Comparison of DEA Models with Penalties

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## Abstract

The paper deals with data envelopment analysis (DEA) models that can be applied as a tool for ranking of candidates with penalties in advanced voting systems. The main aim of the system is to find a general winner and ranking of all candidates. Every voter gives the ranking of the first  $t$ -candidates and can give penalties to the candidates that are not acceptable for him/her. Advanced voting systems are being used based on the application of DEA models. The original contribution of the paper consists in the formulation of a new DEA/AR model with penalties. This model is derived from the traditional DEA/AR model. The proposed models are illustrated on a simulated data set. The results of all presented models are compared. Possibilities of the research in this area are discussed in the final section of the paper.

## Key words

Data envelopment analysis, ranking, voting systems, penalty

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# Freedom of Decision-making at Work and Workload. What is the Impact on Health? A Gender Perspective

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## Abstract

Karasek (1979, 1981) introduced the idea that the workload and time strains can have a various impact on health. This impact is moderated by the freedom of decision-making which an individual has. We analyse the amount of chronic diseases and the self-rated state of health in relation to the two working conditions: freedom of decision-making at work and the extent of workload. We use data from the Survey of Health, Ageing and Retirement in Europe (Share), for the segment of economically active persons above the age of 50. Results are not straightforward as proposed by Karasek; as the findings show noticeable gender differences: For males, subjectively perceived health problems and the number of chronic diseases culminate in quadrant “low freedom and low workload”; females in quadrant “low freedom and high workload”. Hence, both gender suffer the most under the conditions of the low freedom; however, the suffering culminates under the condition of “low workload” for males and “high workload” for females. We assume this might be due to the gender differences relied to the preference of the competition and professional challenge, where men score significantly higher. And similarly, males achieve the best health (self-perceived) under the working conditions in quadrant “high freedom and high workload”; females in quadrant “high freedom and low workload”; what corresponds to the logic of the previous results. Results bring interesting implications for HR management and further research is needed to illuminate the gender differences, as regards the impact of working conditions on health.

## Key words

Health, labour, stress, freedom, human resource management

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# Men and Women at Work. What is the Difference in Motivation?

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## Abstract

In the frame of the effort of organizations nowadays to improve their talent management and to optimize the motivational system, based on the individual, tailor-made approach, it is crucial to understand the specific impact of particular motivational drivers, especially in the optics of gender differences. Hereby presented research provides an answer on the impact of motivational drivers, stemming from the gender differences. We analyse motivational drivers as monetary reward, need for the professional growth, helpful and supportive environment at work, quality of the premises where the work is carried out, etc. The findings are interesting and suggestive for the optimization of the motivational system in the organizations. There was not found a statistically significant difference between the men and women, as regards the importance of the height of monetary rewards; what provides a strong argument for the incentive on the equality of wages for the same work. The gender differences were found, f.e. in the need for professional growth, which is more important for men. On the other hand, helpful and supportive environment and the quality of working premises is more important for women. Men are also more stimulated by the competitive settings at work, when compared to women. Further research in this domain might bring important findings, especially in the relation to the increased share of women in the leadership positions and to the process of implementation of the equality policy and, in the organizations nowadays.

## Key words

Labour, motivation, gender, human resource management

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