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# Book of Abstracts



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## Failure as a Means of Progress: Evidence Based Policy in Practice

**Andrej Svorenčík**

*University of Mannheim*

Martin Filko Award Speech.

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## Is it possible to reconstruct Hayek's theory of religious evolution from his 1980s articles?

**Tomáš Křištofóry**

*Erasmus University Rotterdam*

F. A. Hayek's theory of religious evolution is deeply connected with his 1988 book, *The Fatal Conceit*. As such, it's considered problematic since Hayek's authorship of the book is doubtful. But can't his theory be reconstructed from what Hayek wrote himself since he started to write the book in 1978 rather than in the problematic book itself? In this article, I connect archival research with insights from existing English and German secondary literature to demonstrate Hayek's theory can be reconstructed utilizing those resources. Though present scholars in English language (Caldwell) aren't keen to study Hayek's other sources from 1980s, German historians are (Hennecke). I compare their approaches, evaluate them and then form my own approach. Caldwell's doubts about the utility of Hayek's resources flow from a different research question he follows. He uses Hayek's late interviews to reconstruct Hayek's intellectual development in earlier decades. For such a purpose, those resources might be misleading. We demonstrate on example of the theory of religious evolution that Hayek's 1980s articles fit well with Hayek's earlier works like *Law, Legislation and Liberty*. It sheds a new light on *The Fatal Conceit*. A lot of its theories can be historically reconstructed from Hayek's more than 100 articles written since 1978 onwards even in a better form than they are expressed in the book. Theory of religious evolution is one of them. I reconstruct his theory as a value free theory of how morals come about. Religion's important role is that it provides set of moral rules. Hayek's theory fits neatly with his Vienna background as both Max Weber and Ludwig Mises worked along those lines. On top of that, Hayek offered immanent criticism as a method to carve future moral evolution.

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## Concept of Central Europe and Its Evolution in Economic Thought

**Julius Horvath**

*Central European University,  
Budapest, Hungary*

In this presentation we tackle two issues. First, we discuss the Concept of Central Europe, which is quite alive within political, historical, and generally intellectual discourse. We concentrate on those features which form common past encountered by nations (Slovak, Czech, Hungarian and Polish) living in these lands, i.e. by giving attention to those affairs which were shared by these communities, and were less specific to individual nation or ethnic. We also observe how people of Central Europe feel different to other parts of Europe, or how other Europeans perceive and experience Central Europeans as a different from them. Second, we attempt to transplant the phenomena from the first part into the history of economic thought. We ask whether there exists Central European economic thought, i.e. whether through different historical periods we can observe such a phenomenon, which one could label Central European economic thought as in difference to national histories of economic thought.

Sessions I. Stream B: Growth – Value for Money session (room 2/2nd floor)

## The elusive quest for the holy grail of positive impact of EU funds on regional growth

**Martin Hulényi**

*Institute for Strategy and Analysis*

**Jan Fidrmuc**

*Brunel University*

**Katarína Rimegová**

*Institute for Strategy and Analysis*

**Olga Zajkowska**

*Warsaw University of Life Sciences*

In this paper, we analyze the impact of EU structural and cohesion funds on economic growth of European regions, using 2SLS and GS2SLS to tackle the potential problem of endogeneity. We use the presence of environmentally protected areas (under the European Union's Natura 2000 program) as an instrument for the receipts of funds from the EU Cohesion Policy. Our results suggest that the European funds have an insignificant or even negative impact on regional economic growth in the EU as a whole. The EU-wide result, however, masks considerable heterogeneity: the impact on growth is positive in the EU15 but negative in the new member states. We argue that these disappointing findings reflect the relatively poor quality of institutions in the new member states. In the future, the EU should focus more on institutional change than on redistribution.

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## Has the 1993 split of Czech and Slovak Republics avoided a Mezzogiorno problem?

**Zuzana Brixiova**

*Technical University of Ostrava*

**Andreas Woergoetter**

*Vienna University of Technology*

The 25th anniversary of the peaceful dissolution of Czechoslovakia and the creation of the two successor Czech and Slovak Republics is creating lots of recognition for its success. The split has also received attention as a possible blueprint for other discussed separations. Our paper focuses on the economic success of the separation, which was achieved against all odds, especially in Slovakia. The main point is that in both countries the separation facilitated a transition from central planning to a market economy, which was appropriate for the very different initial conditions in the Czech and Slovak Republics.

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## Industrial robots and global value chains of manufacturing

**Martin Labaj**

*University of Economics in Bratislava*

**Viktória Švardová**

*University of Economics in Bratislava*

In this paper, we identify the effects of industrial robots on global organization of production activities of manufacturing. These effects may differ across industries. Thus, in contrast to De Backer et al. (2018) we focus on specific industries and we try to identify the role of robots for their global value chains' length and spatial distribution. Besides, we analyze the effects of industrial robots on the shape and shifts of the so called "smiley curves". Finally, our aim is to explore whether the increased robotization influenced selected countries' participation in the global value chains differently.

## Financial literacy and voluntary savings for retirement: novel causal evidence

**Zuzana Brokešová**

*University of Economics in Bratislava*

**Andrej Cupák**

*National Bank of Slovakia*

**Gueorgui Kolev**

*Middlesex University*

We utilise recent Household Finance and Consumption Survey microdata to report first causal effects of financial literacy on voluntary private pension schemes participation for a Central and Eastern European (CEE) country, namely Slovakia. Savings for retirement in the supplementary pension schemes are positively associated with financial literacy after controlling for a set of relevant socio-economic variables. One additional correctly answered financial literacy question leads to a 6 percentage points increase in the probability of having a voluntary pension savings plan in our ordinary least squares estimates. The causal impact of financial literacy increases to 16 percentage points when we address potential endogeneity problem by novel to the literature instrumental variables. Interestingly, we find less significant effects of financial literacy on the probability of individuals having employer-supported private pension savings plans.

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## The Impact of the Quality of the Education on the Unemployment in Chosen Regions of the Slovak Republic

**Paulína Stachová**

*Faculty of Management, Comenius University in Bratislava*

**Magdalena Musilova**

*Faculty of Management of the Comenius University in Bratislava*

Paper explores the relationship between the quality of education and the unemployment rate in various regions of the Slovak Republic. The general aim is to determine whether there is a correlation between the results of primary and secondary education graduates and the unemployment rate in the given region. The educational results were taken from the annual state exams done by 9th graders (generally, in the last year of primary education) and the results of the external part of the secondary school leaving examination. The research concentrates on the regions with a long-term high unemployment rate and a long-term low unemployment rate. We take into consideration both the general unemployment rate and the youth unemployment rate. The common view is that students in regions with a high unemployment rate have worse results than in regions with a low unemployment rate.

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## Redistribution and Human Capital Investment in a Heterogeneous-Agent Economy

**Michal Horvath**

*University of York*

**Aarti Singh**

*The University of Sydney*

We use a heterogeneous-agent framework to examine the impact of optimal redistributive policies on human capital investment. In a model in which physical capital is available as an alternative to investment in education we study the decisions of households that differ ex ante in wealth and ability, and in productivity ex post. Their choices are also shaped by the insurance and incentive effects of public policies. Policies that redistribute initial endowments, public provision of education and progressive income taxation providing a radical redistribution of income are shown to generate significant welfare gains and a reduction in inequality. A suitable combination of redistributive measures is consistent with significantly more human capital investment by the less wealthy, and in particular for those with higher ability.

**Sessions I. Stream D: Tax Policy – RRZ session (room 18/4th floor)**

## 'We have good news!' Media Negativity Bias and Tax Compliance

**Miloš Fišar***Masaryk University***Tommaso Reggiani***Masaryk University & IZA***Jiří Špalek***Masaryk University*

We study the effect of the Media Negativity Bias on tax compliance. The Media Negativity Bias is defined as the systematic tendency of media to focus on negative news. We design a framed laboratory experiment to analyze how the systematic exposure to real negative vs. positive news affect subjects' compliance in a repeated taxation game. Resembling the real world setting, experimental manipulations are based on news tickers running on subjects' screens during a taxation game. News tickers report about real media news focusing on public policy/finance issues. Employing a between-subjects design, we contrast tax compliance outcomes under three different conditions: neutral, positive and negative news bias. We found that systematic provision of positive news significantly increases tax compliance. This result calls for a more balanced and pluralistic information provision. The dissemination of positive news sustains tax morale.

## Expenditure imputation and microsimulation of VAT

**Zuzana Siebertova***Council for Budget Responsibility***Jana Valachyova***Council for Budget Responsibility***Norbert Svarda***Council for Budget Responsibility***Matus Senaj***Council for Budget Responsibility*

In this paper, we document the development process of the microsimulation model for the analysis of the indirect value-added tax liabilities of households in Slovakia. This simulation module can be directly integrated into the framework of SIMTASK, the Slovak microsimulation model of income taxes, health and social security contributions and transfers. In the first step, a combined micro-level dataset that integrates information on disposable income and expenditures of Slovak households has been created. Households' expenditures reported in HBS dataset have been imputed to SK-SILC dataset by estimating parametric Engel curves. Validation of the imputation procedure of households' consumption and simulation of VAT has been discussed.

## SIMTASK - Simulate your own reform

**Matus Senaj***Council for Budget Responsibility***Zuzana Siebertova***Council for Budget Responsibility***Jana Valachyova***Council for Budget Responsibility***Norbert Svarda***Council for Budget Responsibility*

SIMTASK is a microsimulation model of Slovak tax and transfer system. It allows to evaluate the effects of changes in personal income tax (of employees, including those working on agreements, and self-employed), in social and health insurance contributions paid by employees and employers. As regards transfers, the model allows to evaluate the effects of changes in family transfers (child birth grant, child benefit and parental allowance) and in material need benefit. SIMTASK is a unique tool, as it allows to evaluate the static effects of legislative changes at the level of individuals and households. By static effects we mean the "day-after" effects, before the individuals and households change their behavior. This type of analysis is important for understanding the mechanism how legislative changes affect public finance and households' income.

# The Exchange Risk on the U.S. International Bond Market

**Blanka Francová**

*Mendel University in Brno*

This paper explores whether various economic variables improve monthly bond return. We apply the International Arbitrage Pricing Theory. The currency movements affect asset's yield and associated risk premiums. The International Arbitrage Pricing Theory is based on a total return of asset decomposition to non-currency return and currency return. We analyze factors affecting corporate bond prices. Using a rich microeconomic dataset from Morningstar and macroeconomic data, we employ OLS models with fixed effects. Using the yield to maturity of corporate bonds for the 2001-2017 period, this study investigates whether including various economic variables in predictive regressions improves the forecasts for monthly U.S. corporate bond return. In the basic analysis indicates that free-risk rate, interest rate and inflation cause bond return. The further analysis show that the exchange risk is important factor affecting bond yield. Results support a predictive relationship between bond yields and several economic variables in a certain historical period.

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# Expert Advice with Financial Transaction Taxes

**Michele Dell'Era**

*National Bank of Slovakia*

This paper develops a model of trading on advice with experts' commission and tax on trading volume to study expert advice with financial transaction taxes. Our analysis uncovers a novel mechanism through which a financial transaction tax affects information available to traders and informed trading. The tax strengthens experts' incentives to misreport information and thereby worsens expert advice. Lower quality of expert advice engenders a mean-preserving contraction of trading volume because traders rely on less accurate information. The tax further reduces both expectation and variance of trading volume by raising the trading cost. Our conclusions may have important policy implications given recent and prospected introductions of financial transaction taxes.

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# Cryptocurrencies, Gold and Euro Fractal Volatility Analysis

**Mária Bohdalová**

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Faculty of Management*

**Michal Greguš**

*Comenius University in Bratislava,  
Faculty of Management*

Bitcoin is breaking down the barriers of digital currency transactions and the technology behind it has the potential to transform the way we pay for goods and services. This is the reasons why a few innovations in the money markets have brought more attention by regulators and policy makers than the digital currency Bitcoin. The Bitcoin is continuously changing its volatility. The unusual level of Bitcoin's volatility can be attributable to speculative trading. We investigate fractal properties of selected cryptocurrencies namely Bitcoin, Ethereum and Litecoin. We have discovered periodical and non-periodical cycles during existence of these cryptocurrencies and dynamics of the Hurst coefficient during analyzed period. Finally we compare fractal structures of cryptocurrencies with gold and Euro.

## Inflation-growth nexus in developing economies: New empirical evidence from a disaggregated approach

**Dr Muhammad Ayyoub**

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**Aisha Riaz**

*Johannes Kepler University,  
Linz (Austria)*

This paper examines the 'inflation-growth nexus' by considering sectoral growth data of 113 developing economies. Research at the aggregate level yields mostly ambiguous results. Here, we perform a disaggregated analysis of inflation and output growth. For each sector – agriculture, industry and services – inflation and value-added sectoral growth, for the period 1981-2015, are considered, and sectoral inflationary spillovers are captured. Empirical analysis reveals that three major sectors of the economy react differently to various impulses of inflation, and the significance of sectoral-inflation is evidenced. Inflation is found to be detrimental to the growth of industrial sector only, and, when sectoral-inflation is accounted for, no significant impact of inflation is found in services and agricultural sectors. The policy relevance for developing economies is that the central banks of these economies must carefully consider the differing consequences of their actions on individual sectors while taking into consideration the value-added share of each sector in the respective economy.

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## Do the historical inflation experiences result in inflation expectations heterogeneity in European Union member states?

**Maria Siranova**

*University of Economics in Bratislava*

**Karolina Tura-Gawron**

*Gdansk University of Technology*

In this study we test for differences in formation of consumers' inflation expectations between two groups of consumers. We hypothesize that consumers who were exposed to high inflation rates during specific period of their life differ from consumers who were not which makes them a natural control group. This effect may be still present even after longer time lag. Impact of high inflation period experience on short-term inflation expectation of consumers may be positive and large, and in broader context may account for consumers' inflation expectations heterogeneity across EU member states. This in-built heterogeneity may result in difficulties in shaping and managing inflation expectations of consumers via one common information strategy in implementing monetary policy. In line with the studies performed by Malmendier & Nagel (2016) we assume that consumers follow adaptive learning from experience mechanism with the historical inflation lag pattern in forming their expectations. We use three sub-samples of the one-year-ahead inflation expectations of consumers: consumers surveyed in age 16-29, 30-49 and 50-64 during the 2006-2017 period. The analysis is performed for two groups of European Union (EU) member states, divided due to their historical inflation experience: (1) the "old" Eurozone member, (2) the states which experienced high inflation periods due to the post-communist transformation. In general, our findings provide tentative evidence in favor of pervasive influence of historical experience of higher inflation rates on contemporaneous formation of consumers' inflation expectations, even after substantial time distance between the exposure and decision making.



# Time-frequency response analysis of monetary policy transmission

**Lubos Hanus**

*Institute of Economic Studies, Faculty of Social Sciences, Charles University in Prague*

**Lukas Vacha**

*UTIA AV CR*

A new approach is considered to look at the effects of economic shocks to dynamics of economic systems. We analyse the widely known phenomenon of price puzzle in a time-varying environment using the frequency decomposition. We use the frequency response function to measure the power of a shock transferred to different economic cycles. Considering both the time-variation of the system and frequency analysis, we can quantify the local dynamics of shocks at given time and over frequencies, and reveal broader policy implications the system can provide. While studying the monetary policy transmission of the U.S., the empirical evidence shows that low-frequency cycles are prevalent, yet, their amplitudes vary significantly in time.

Sessions II. Stream A: Finance II. APVV CIMRMAN session (room 16/4th floor)

## Optimal Granularity for Portfolio Choice

**Nicole Branger**

*University of Muenster*

**Katarina Lucivjanska**

*Safarik University in Kosice*

**Alex Weissensteiner**

*Free University of Bozen-Bolzano*

Many optimization-based portfolio rules fail to beat the simple 1/N rule out-of-sample because of parameter uncertainty. In this paper we suggest a grouping strategy in which we first form groups of equally weighted stocks and then optimize over the resulting groups only. This strategy aims at balancing the trade-off between the benefits from optimization and the losses from estimation risk. We rely on Monte-Carlo simulations to illustrate the performance of the strategy, and we derive the optimal group size for a simplified setup. Furthermore, we show that estimation risk also has an impact via the criterion by which the assets are sorted into groups (like the expected excess returns or betas), but does not negate the grouping approach. Out of sample back-tests confirm the validity of our grouping strategy empirically.

## Modeling EUR/USD Exchange Rate Volatility: The Role of Implied Volatilities

**Tomáš Plíhal**

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**Štefan Lyócsa**

*Institute of Financial Complex Systems, Masaryk University*

We model future EUR/USD exchange rate realized volatility within a class of heterogeneous autoregressive (HAR) models augmented by implied volatilities (IVs) from options with one day, one week and one-month maturities. We find convincing evidence that IVs contain incremental information that is useful in predicting future realized volatility. An in-sample analysis shows that IVs with at least one maturity are always significant for all forecast horizons. The out-of-sample results show increased predictive power of the models with implied volatility up to 17.3% for one day, 42.1% for one week, and 22.8% for one month ahead forecasts. Additionally, the superior set of models contains only volatility model specifications with IVs. Our results hold not only for individual forecast models but also for combinations of volatility forecasts. We show that increased forecasting accuracy is achieved during periods of high market volatility. Our study provides new evidence that also implied volatility from options with shorter than one-month maturity are serious contenders for modeling realized volatility as they outperform various popular HAR model specifications.

## Yield Curve Dynamics and Fiscal Policy Shocks

**Ales Marsal**

*National Bank of Slovakia*

**Adam Kučera**

*Czech National Bank*

We use a shadow-rate affine term structure model to investigate the response of the US Treasury yield curve to both surprise and anticipated changes in fiscal policy. By accounting for the timing of the fiscal policy in the shock identification we can separate the transmission channels. We show that unexpected changes in fiscal policy increase the risk-neutral yield through bond supply channel. Anticipated shocks operate in the

**Evžen Kočenda***Czech Academy of Science*

opposite direction through real economy and precautionary saving channels. We also show that changes in uncertainty about fiscal policy contribute to explanation of the decoupling of short-term and long-term rates. Further, we document that zero lower bound alters the yield response to fiscal policy shocks.

## Network-based asset allocation strategies

**Tomáš Výrost***University of Economics in Bratislava***Štefan Lyócsa***University of Economics in Bratislava***Eduard Baumöhl***University of Economics in Bratislava*

In this study, we construct financial networks in which nodes are represented by assets and where edges are based on long-run correlations. We construct four networks (complete graph, a minimum spanning tree, a planar maximally filtered graph, and a threshold significance graph) and use three centrality measures (betweenness, eigenvalue centrality, and the expected force). To improve risk-return characteristics of well-known return maximization and risk minimization benchmark portfolios, we propose simple adjustments to portfolio selection strategies that utilize centralization measures from financial networks. From a sample of 45 assets (stock market indices, bond and money market instruments, commodities, and foreign exchange rates) and from data for 1999 to 2015, we show that irrespective of the network and centrality employed, the proposed network-based asset allocation strategies improve key portfolio return characteristics in an out-of-sample framework, most notably, risk and left-tail risk-adjusted returns. Resolving portfolio model selection uncertainties further improves risk-return characteristics. Improvements made to portfolio strategies based on risk minimization are also robust to transaction costs.

Sessions II. Stream B: Regional economics (room 18/4th floor)

## Mind the Gap: Macroeconomic Analysis of the Investment Gap in Slovak regions

**Jan Fidrmuc***Department of Economics and Finance,  
Brunel University London***Veronika Zlaczka***Institute for Strategy and Analysis***Martin Hulényi***Institute for Strategy and Analysis***Kristína Gardoňová***Institute for Strategy and Analysis***Alexandra Lešková***Department of Public Administration  
and Regional Development, University  
of Economics, Bratislava*

In this analysis, we evaluate the relative performance of the Slovak Republic in eleven areas: Socio-economic situation, Demography, Agriculture, Environment, Transport, Digital economy, Education, Tourism, Healthcare, Research & Development and Crime. We perform this assessment for Slovakia as a whole as well as at the regional (NUTS 2) level. Slovakia and its regions are compared with two weighted averages of selected European regions: first, regions which are at similar level of economic development as Slovak regions as identified using the synthetic control method (SCM), and, second, selected regions of Western and Northern European countries, chosen so as to constitute a benchmark, which Slovakia should aim to achieve in the long run.

# Economic Geography in the Long-Run: Spatial Concentration of US Manufacturing Industries 1880-1997

**Alexander Klein**

*University of Kent*

**Nick Crafts**

*The University of Warwick*

The paper investigates the location of manufacturing industries in the USA between 1880 and 1997 using a model which subsumes both market-potential and factor-endowment arguments. We model industrial location taking account of interactions between industrial characteristics and regional characteristics. The approach that we use is grounded in a model of production and trade that takes account both of input price variations resulting from factor endowments and from costs of intermediate inputs and also of the spatial pattern of demand. We create a unique data set of the employment shares for 48 US states, 20 SIC two-digit level industries, 6 industry and 4 state characteristics, including market potential for census years during 1880-1940, and after that for the years 1947, 1958, 1967, 1977, 1987, and 1997. The estimation of market potential takes into account the changes in the transportation costs due to the spread of railways at the end of the nineteenth century, and the rise of trucking due to construction of the Interstate Highway System since late 1950s. Specifically, GIS techniques were used to calculate transportation costs including the changes in speed, fuel efficiency, and labor costs of trucking. The results show that market potential was a central determinant of the industrial location until around 1940, that it mattered more than factor endowments, and that its impact came through interactions both with scale economies and with linkage effects. Natural advantage played a role in industrial location decisions in the late 19th century but its importance then faded away. Post World War II industrial location was still influenced by market potential via scale economies, but the most important factor turned out to be human capital endowment, which became the dominant factor by the late 1990s.

## Location? Location! Apartment prices in Bratislava

**Stefan Rehak**

*University of Economics in Bratislava*

Real estate agents agree that the most important factor of the price apartment price is its location. The aim of this paper is to investigate the impact of the location of the apartment in the city on its price. We use data on the prices of apartments and their structural characteristics from 2016, which were obtained from the portal [reality.sme.sk](http://reality.sme.sk). From the urban economic perspective, the differences of real estate prices in the city are mainly due to their distance to the city central business district, mix of local public goods as well as differences in the social composition of households. Apart from structural characteristics of apartments (size, furniture, reconstruction etc.) and attributes of the house (height, age, construction etc.) we use two spatial variables to measure the impact of the apartment location, namely the distance to the city centre and dummy variables for individual urban areas of Bratislava. Our results from spatial hedonic price model show that compared to apartments in Old Town, apartments in other locations are cheaper by 9 percent (Dubravka) to 40 percent (Vrakuna). Each kilometre from the CBD decrease the price of the apartment by 4 percent. We also confirmed a high level of spatial autocorrelation of prices in Bratislava.

## Driven by history: The Czech presidential elections

**Martin Guzi**

*Masaryk University*

**Štěpán Mikula**

*Masaryk University*

In this paper we use the local data from public voting in the first Czech presidential elections to show that historical events shape present attitudes and actions. After World War II, three million of Germans, some 29% of the total population in Czech lands, were forcibly expelled leaving behind empty villages and almost all their property. Abandoned lands were swiftly resettled with Czech inhabitants creating new communities in former German villages. The issue of the German expulsion was raised in 2013 between two rounds of presidential campaign against Karel Schwarzenberg

who eventually lost the elections. The analysis of voting behavior is based on results from two rounds of presidential elections organized within 14 days. Our identification strategy exploits the variation in voting behavior between old (former Czech) and new (former German) communities triggered by the issue of German expulsion before the second round. The preliminary results confirm the activation of citizens in the second round of election in the settlements affected by resettlement process (election turnout increased by 1.7% on average). We further illustrate the increasing support for a winning candidate (Miloš Zeman) by 0.5% of eligible voters in the new communities vis-à-vis the old communities. By measuring the sensitivity of voting behavior to historical events we bring attention to factors that have impact on voters' decisions.

Sessions II. Stream C: Econometrics (room 11/3rd floor)

## Testing the Validity of Purchasing Power Parity Using Cointegration: Evidence from Visegrad Group

**Martin Pažický**

*Faculty of Management, Comenius University*

This paper deals with the validity of the purchasing power parity (PPP) between the Slovak Republic vis-à-vis the Visegrad Group countries using Augmented Dickey-Fuller test for unit root and the Durbin-Watson, the Engle-Granger and the Johansen techniques for cointegration identification. We found evidence in favour of the PPP between the Slovak Republic and Hungary and between the Slovak Republic and Poland applying both the Engle-Granger and the Johansen procedures. The validity of the PPP was confirmed by the vector error correction model (VECM). Between the Slovak Republic and the Czech Republic the cointegrating vector was not found, which rejects the existence of a long-run equilibrium between exchange rate, domestic prices (i.e. in the Slovak Republic) and foreign prices (i.e. in the Czech Republic).

## Drivers of Deindustrialisation: Structural Decomposition Analysis

**Erika Stracová**

*University of Economics in Bratislava*

**Martin Lábaj**

*University of Economics in Bratislava*

In this paper, we analyse the main drivers of the deindustrialisation trends over the last decades. In the first step, the so-called subsystem analysis allows us to reveal the proportion of the activity of each industry that comes under the individual subsystems. Using this approach, we can identify total effects of final use of manufacturing products on production, value added and employment generation. In the second step, we identify the drivers of deindustrialisation using the structural decomposition analysis. We decompose the overall manufacturing employment (value added) change into the contribution of several factors, mainly changes in labour productivity (direct value added coefficients), changes in the structure of production, changes in the import of intermediate products, changes in the manufacturing final demand structure, changes in the shares of manufacturing expenditures on the total expenditures or changes in the final demand volume. Finally, we use the potential drivers of deindustrialisation identified by the structural decomposition analysis as covariates in a regression model of deindustrialisation proposed by Rodrik (2016).

## Diff-in-Diff in Death: Estimating and Explaining Artist-Specific Death Effects

**Heinrich Ursprung**

*University of Konstanz*

**Katarina Zigova**

*University of Konstanz*

We investigate how an artist's death impacts on the price of her artwork by estimating individual death effects of a sample of famous visual artists who died between 1985 and 2010. Using data from art auctions that took place in a narrow window around the artists' death, we apply various econometric methods, including

regression discontinuity and differences-in-differences strategies. The heterogeneity in death effects across artists turns out to be substantial and can, in large part, be explained by age and eminence at death. This result is robust to various specifications and measures of eminence. We top off our discourse by presenting the case of Keith Haring, whose death was anticipated well in advance.

Sessions II. Stream D: Experimental I. (room 12/3rd floor)

## Group Identity, Internal Promotion and External Hiring

**Michal Ďuríník**

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**Maroš Servátka**

*MGSM Sydney*

**Lyla Zhang**

*MGSM Sydney*

When filling a vacant position, firms often have a choice between an internal and external candidate. Does group identity play a role in deciding between promoting an internal candidate and hiring an external one? If so, is this role just a tie-breaking one, or is the impact of group identity more substantial? Expected reciprocity worker motivation, skill observability, and firm-specific skills among the reasons why internal candidates might be preferred. Additionally, in-group favoritism might be driving the decision to promote internally over external hiring. If this is the case, however, efficiency concerns arise. We report on two simple lab experiments. The first experiment identifies the pure effect of group identity on the decision. We exclude all possible motivators other than group identity to test our conjectures. We observe significant degree of in-group favoritism: decision makers select candidates from their own groups more often. This, however, does not hold if the out-group candidate has higher skill level (and thus provides higher earnings to the decision maker. The second experiment expands the design of the first experiment to answer the following question: who works harder if promoted? Is it the internal candidate, as he shares the group (firm) identity with the employer and is thus more likely to reciprocate? Or is it the external candidate, perhaps surprised by the decision and thankful for the displayed trust? We employ a two-stage laboratory experiment. In Stage 1, the manager chooses either an internal or an external candidate to be assigned to a high-productivity, high-salary job. The other candidate is assigned to a low-productivity, low-salary job. In Stage 2 both the promoted and non-promoted candidate exert effort. We observe the firm's decisions and expectations. We also observe pre-promotion expectations of both candidates and, using the strategy method, effort levels of promoted and non-promoted candidates.

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## The Effect of Housing Conditions on Social Preferences: Lab-in-the-Field Experiments with Participants of a Randomized Controlled Trial

**Rostislav Staněk**

*Masaryk University, Czech Republic*

**Ondřej Krčál**

*Masaryk University, Czech Republic*

The aim of the paper is to study the causal effect of housing on generosity of people. The paper is based on a randomized controlled trial "Rapid Re-Housing" that is aimed at helping homeless families in the city of Brno. This paper studies whether receiving public support in form of better housing increases prosocial behavior of the people who have been helped and what are the motives of the prosocial behavior. The literature provides reasons for the treatment to affect both intrinsic and reputational reasons of prosocial behavior. The families in the treatment group have been helped significantly, which could lead to more prosocial behavior driven by a change in altruism or indirect reciprocity. Moving families to municipal flats also positively affects their housing stability. Families in the treatment group perceive their life situation as more stable compared to control families. This could create reputational concerns which in turn motivate people to prosocial behavior. We will conduct a lab-in-the-field experiment with each adult member of the treatment and control group (roughly 200 subjects) during March and April 2018. The experimental design consists of two dictator games against two charity organizations. Subjects' contributions will be anonymous in the first game and visible for the experimenter and other social workers in the second game.

This gives four treatments: stable housing and visible contribution (T1); stable housing and anonymous contribution (T2); unstable housing and visible contribution (T3); unstable housing anonymous contribution (T4). This design allows us to disentangle the intrinsic and reputational motives for prosocial behavior. While the difference between the anonymous treatments measures the causal effect of better housing conditions on intrinsic motivation, the difference-in-difference comparison (T1-T2)-(T3-T4) measures the causal effect of better housing on prosocial behavior motivated by reputational concerns.

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## What Drives Conditional Cooperation in the Private Provision of Public Goods?

**Tomáš Miklánek**

*University of Economics, Prague*

**Peter Katuščák**

*RWTH Aachen University, School of Business and Economics*

Casual observation as well as an extensive experimental literature document that people voluntarily contribute to public goods. Most of the existing explanations of this empirical regularity rely on existence of social preferences. Fischbacher, Gächter and Fehr (2001) document that a sizeable group of subjects contribute more with a higher average contribution of the others. They call this empirical pattern "conditional cooperation." The goal of our study is to shed light on what preference patterns drive conditional cooperation. It considers reciprocity, inequality aversion, conformity and anchoring as four possible explanations and aims to disentangle them. So far, there has been only a limited amount of work on the relative effect of these explanations. Previous studies suggest that all the explanations, perhaps with the exception of anchoring, might account for conditional cooperation. However, these studies do not consider all four explanations simultaneously and many of them focus on punishment behavior. Our experimental design identifies these explanations and their relative strength for conditional cooperation. The results confirm findings of previous studies that conditional cooperation is the prevalent behavior. Inequality aversion and conformity appear to be the main drivers of conditional contribution. Around one third of the subjects are influenced by anchoring effects. We find no, or very little, support for reciprocity as an explanation for conditional contributions.

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## The effects of corporate social responsibility on labor supply: Evidence from a field experiment with gig-workers

**Tommaso Reggiani**

*Masaryk University*

**Rainer Michael Rilke**

*WHU - Otto Beisheim School of Management*

We investigate the influence of pro-social incentives on workers' labor supply in a natural field experiment. We recruited workers to take part in a survey for a fixed compensation. Having finished the survey, a bonus payment is offered in order to perform an additional optional task. In different treatments, the bonus payment generates (i) a standard private gain, (ii) an equivalent donation or (iii) different combinations of private gain and donation. We observe that high donations in combination with no or only small individual gains lead to negative or null effects on labor supply. Bonus combinations of small donations and generous private gains increase labor supply. Effort provision, as well as job satisfaction, are not systematically affected by the different incentive schemes. The experiment sheds lights on widely accepted claims that corporate philanthropy measures are effective tools to motivate employees. When firms consider the design of pro-social incentives schemes, they should be vigilant about employees' distributional concerns.

## Searching for the equilibrium real interest rate in Slovakia: A semi-structural approach

**Patrik Kupkovic**

*National Bank of Slovakia*

The equilibrium real interest rate is the main concept in the modern macroeconomic theory. The aim of this paper is to estimate and consistently assess the equilibrium real interest rate in Slovakia before and after the joining of the euro area by means of a semi-structural unobserved components model. Contribution to the literature is in two ways: (i) estimation of the equilibrium real interest rate before and after the adoption of the euro, and (ii) development of a suitable modelling framework for a small, open, and converging economy which can be used for other emerging economies as well. Based on the estimated equilibrium real interest rate, monetary policy was on average tight from 1996 to 2003. Situation then reversed with extremely loose monetary policy that lasted until 2006. Despite the monetary loosening during the Global financial and European debt crisis, monetary policy was still tight (2006-2012) because the equilibrium real rate fell to the negative territory. From 2012, extraordinary loose monetary policy has been supporting the ongoing economic recovery.

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## Estimating Models with Rational Inattentive Agents

**Vladimír Novák**

*CERGE-EI*

In this paper we consider a DSGE model with price-setting firms which cannot observe the signals about the money supply and technology precisely. We consider firms to be rationally inattentive, i.e. they are choosing signals about the state variables optimally under the limited attention constraint. Moreover, we conduct likelihood evaluation of such DSGE model with rational inattentive (RI) firms, what is due to our knowledge the first estimation of RI DSGE model. One of the important differences from previous studies is that we are not assuming any particular signal form or signals' independence, but we are allowing firms to choose the optimal signals. We prove that the optimal signal is a one-dimensional signal about the elements of the state vector even when optimal action may be driven by multiple shock. We compare the performance of RI DSGE model, with imperfect common knowledge model (ICKM) and a model with price stickiness a la Calvo. We find that the estimated model with RI firms is more successful than the ICKM or the Calvo model in accounting for the highly persistent effects of nominal shocks on output and inflation. We show that firms pay attention to smaller number of lags as it would be optimal, what further shows that RI macro models can provide new foundation for the natural expectation theory developed by Fuster, Hebert, and Laibson (2010) and Fuster, Laibson, and Mendel (2011).

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## The Interest Rate Pass-Through: A Meta-Regression Analysis

**Jiri Gregor**

*VSB - TU Ostrava*

The interest rate pass-through describes how changes in a reference rate (the monetary policy or money market rates) transmit to bank lending rates. A high interest rate pass-through is an important pre-condition for effective monetary policy. We survey the empirical literature on the interest rate pass-through and systematize it by means of meta-analysis and meta-regressions. We find the estimated coefficients systematically lower in studies that use micro and larger sample, focus on transmission to long-term lending rates, and use the monetary policy rate as the reference rate as opposed to the money market rate. The interest rate pass-through is stronger for more developed economies with higher per capita GDP, and for economies with deeper financial systems with a higher credit to GDP ratio. In contrast, economies with more developed capital markets and a higher stock turnover ratio tend to experience a lower interest rate pass-through.

# The macroeconomic effects of pension reforms

**Daniel Baksa**

*Central European University*

**Henrique Basso**

*Bank of Spain*

**Mihnea Constantinescu**

*Bank of Lithuania*

**Joao Domingues Semeano**

*ECB*

**Pascal Jacquinot**

*ECB*

**Zsuzsa Munkacsi**

*International Monetary Fund*

**Carolyn Nerlich**

*ECB*

**Lara Wemans**

*Bank of Portugal*

Based on several dynamic general equilibrium models, we explore the macroeconomic impacts of fiscal and pension policies in the age of aging. Our country examples are Austria, Portugal and the Slovak Republic which are expected to experience the most severe aging in Europe in the coming decades. The focus is on calculating the short- and long-run macroeconomic impact of fiscal and pension policies which can neutralize the negative fiscal impact of aging, however, could hurt the macroeconomy badly. Labor market reforms could be considered in the shorter term to mitigate the negative consequences of fiscal consolidation on the economy, fiscal consolidation necessary because of the aging.

Sessions II. Stream F: Consumer behaviour (room 2/2nd floor)

## Repeated Implementation with Overlapping Generations of Agents

**Helmuts Azacis**

*Cardiff University*

We study repeated implementation in a model with overlapping generations of agents. It is assumed that the preferences of agents do not change during their lifetime. A social choice function selects an alternative in each period as a function of the preferences of agents who are alive in that period. We show that any social choice function satisfying mild necessary conditions is repeatedly implementable in subgame perfect equilibrium if there are at least three agents and they live sufficiently long.

## How treatment of missing prices influences a household demand analysis?

**Šarlota Smutná**

*Charles University, Faculty of Social Sciences, Institute of Economic Studies*

**Milan Scasny**

*Charles University*

The definition and treatment of prices both present an important issue for analysing household demand. For purpose of these analyses the budget survey data is usually employed. To conduct a demand analysis leading to estimates of elasticities, most often price and income elasticities, the information on price of the good is necessary. The first problem with price definition is that the real prices of purchased goods are not usually available in this data type. Instead, the overall quantity and expenditures for a good is available. Hence, unit values can be used in lieu of the price. In cases the unit values are employed instead of real or regional prices, for the households that do not report expenditures or do not buy the good in the moment of a survey (or not at all), we do not have an information on their unit values. The literature offers several treatments. Assign to those observations sample mean of unit value, input regional or national prices, estimate missing prices on the base of other observations and their socio-demographic information, or delete these observations with missing



prices. We compare these techniques and analyse household meat demand to evaluate them on an empirical example. We conduct an analysis through a demand system for six categories of meat. We choose for an estimate an AIDS model complemented by socio-demographic information. We show on our empirical example that the results of income elasticities are only slightly influenced. On contrary, the results of own-price elasticities where the prices play crucial role differ significantly. Although our results are sample specific, we want to bring the discussion about the replacement of missing price information and remind that the chosen method should be very well discussed and verified to be suitable before being employed in concrete analysis.

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## Do the Fates Spin Longer for the Rich?

**Martin Šuster**

*National Bank of Slovakia*

**Radoslav Peter**

*National Bank of Slovakia*

We test a hypothesis that wealthier individuals live longer. Using a large micro data base of current and former pensioners covering years 2005 - 2016 from the Social Insurance Company our paper aims to study and explore trends and differentials in life expectancy based on lifetime earnings in Slovakia. Tobit and probit models confirm a positive relationship between lifetime earnings and life expectancy. Furthermore, we estimate remaining life expectancy at age 63 for Slovak pensioners. Despite low level of earnings variance, our findings indicate a difference of over 4 years in life expectancy between the lowest and the highest income percentile in males. The gap in life expectancy is smaller in females. Results of our analyses are in line with ample foreign literature on this topic. The outcomes of the conditional life expectancy may also provide normative implications for the design of Slovak merit based pension system and the pay-as-you-go pillar settings. The results also imply that all pension systems, including the second and third pillar, will have higher expenditures compared to estimates based on representative pensioner with an average pension.

**Sessions III. Stream A: Commons – From Tragedy to Survival (room 18/4th floor)**

## Journey from tragedy to survival: Co-Ordination Problems in Polycentric Governance

**Tatiana Kluvankova**

*CE SPECTRA*

**Susan Baker**

*Cardiff University*

**Veronika Gezik**

*CETIP Network*

Insight to the 50 years of the Tragedy of the commons demonstrating i) how collective action change individual decision making being capable of crafting rules and institutions that allow for sustainable and equitable management of shared resources, ii) how polycentric governance can address emerging and urgent social challenges and mechanism of governance co-ordination.

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## Promises and Pitfalls of Polycentric Governance in Addressing Contemporary Complex Environmental Challenges

**Jouni Paavola**

*Centre for Climate Change Economics and Policy, University of Leeds*

Annotation Fifty years after introducing the Tragedy of the Commons by G. Hardin in journal Science it is essentially understood that unlimited use of resources does seriously disharm natural resources and property rights itself are not a strategy for success to overcome open access. Thus freedom of commons is guaranteed by clearly designed boundaries and rules as such Lin Ostrom has determined in her life journey.

”Complexity is not the same as chaos” she said in Stockholm after being awarded Nobel prize in 2009. Session will explore the way the COMMONS has undertaken since the Tragedy and in particular how modern theory of Commons has been approaching dilemma of resource use under the growing global pressure already approaching tipping points.

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## Polycentricity to Enhance Social Innovation in Marginalised Rural Regions

**Stanislava Brnkalakova**

*CETIP Network*

**Tatiana Kluvanková**

*CETIP Network*

**Veronika Gezik**

*CETIP Network*

**Tomas Szabo**

*Slovak University of Technology,*

*CETIP Network.*

Natural resources as public or common goods under global governance face social dilemma of individual and collective interests, which often generate conflicts, overuse, and resource depletion. As a result, the coordination of the power and interests of actors and related policies across governance levels is in conflict, and strategic objectives, such as CO2 mitigation, lack the incentive for local level implementation. The debate regarding social innovation has rapidly gained pace over the last decade. Considerable expectations exist for the potential of social innovation in addressing actual societal challenges. Under the Horizon 2020 project SIMRA (Social Innovation in Marginalised Rural Areas) social innovation are seen as the reconfiguration of social practices, in response to societal challenges, which seeks to enhance outcomes on societal well-being and necessarily includes the engagement of civil society actors”. We argue that social innovations may arise from informal institutions where the self-organisation regime of the commons enhance the collective actions of the community that lead to the reconfiguration of social practices. In our example preservation of traditional local knowledge, community well being, and flexible rules are conditions of survival and drivers for social innovation development. Carbon smart innovations contribute to reducing deforestation and supporting forest multi-functionality thus enhancing both well-being and CO2 objectives from global to local policy arenas.

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## Cross-border Governance - Polycentricity in Practice?

**Martin Špaček**

*CETIP Network, CE Spectra, Faculty of Management, Comenius University, Bratislava*

**Milan Husár**

*CE Spectra, Slovak University of Technology, Bratislava*

Problems and challenges emerge and develop across different jurisdictions in administrative and political units. Many of complex problems are demanding for cooperation across national borders. To address such cross-border issues better coordination is needed based on decision-making platforms which go beyond current hierarchical governance systems and enable flexible interactions among actors from different sectors and governance levels. Many innovative solutions, such as polycentric cross-border governance, aiming towards more effective coordination of cross-border activities were developed thanks to the support of EU territorial cooperation schemes. Analysis of two Central European cross-border regions brings empirical evidence that polycentric governance seems to be suitable for overcoming key institutional challenges in cross-border governance. Polycentric governance is usually based on self-organization of regional or local actors, well-defined common problem as well as around common natural resources. On the other hand, there is no systematic promotion of these institutional innovations on both sides of the border which hamper their long-term sustainability and therefore polycentric governance is an exception rather than a regular practice in cross-border cooperation in Central Europe.

## From restitution to revival: A case of commons re-establishment and restitution in Slovenia

**Andrej Udovč**

*University of Ljubljana*

**Tine Premrl**

*University of Ljubljana*

**Janez Krč**

*University of Ljubljana*

**Nevenka Bogataj**

*Slovenian Institute for Adult Education*

Agrarian commons in Slovenia share a common historical origin with other commons from Central European countries. In the twentieth century, commons in some of these countries experienced the process of abolishing traditional management institutions and nationalising their property. During the transitional period in the 1990s, one third of former agrarian commons were re-established and restituted in Slovenia. In this paper, we evaluate the response of three different types of agrarian commons (forest, pasture and agriculture commons) from three different landscapes (Alps, Pannonia and Mediterranean) in the context of the legal framework in which the commons were restituted. We use the upgraded version of Ostrom's design principles to evaluate the ability of the legal framework to enable the robustness of these historical institutions. It is not the first time that governments misunderstood commons and tried to impose rules which are not common to the commons.

Sessions III. Stream B: Inequality and Labor Markets – APVV Social trap session (room 17/4th floor)

## Why do high-skill workers move more? The role of job search in moving decisions

**Maria Balgova**

*University of Oxford*

The aim of this paper is to examine the role of job search in migration decisions. Our motivation comes from two stylised facts on within-country migration: not only do college graduates move more than high school dropouts, they are also more likely to move for a specific job rather than move speculatively. We estimate a logit model of joint location-employment choice and allow for variation in workers choice set to model different job search strategies. We find that, controlling for the returns to migration, more educated workers can move more because they are more likely to receive job offers from other regions. We then model this mechanism explicitly in a theoretical model of local labour markets and migration. We estimate this model to match the US data. The results suggest that labour market frictions are a significant driver of the migration pattern in the US.

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## Income Inequality and the Size of Government: a Causal Analysis

**Martin Guzi**

*Masaryk University and CELSI*

**Martin Kahanec**

*CEU, UEBA, CELSI and GLO*

Expansion of the public sector and redistributive policies may reduce income inequalities, but formal tests suffer from the problem of endogeneity of government size with respect to the distribution of income. Studying 30 European countries over the period 2004-2015, we apply fixed-effect, system generalized method of moments, and instrumental variable estimation techniques to identify a causal relationship between income inequality and government size, measured as government revenue and social expenditure' share in GDP. Using a novel instrument - the number of parties in the ruling coalition - we find that accounting for the possible endogeneity of government size increases the magnitude of the estimated (negative) effects. Our findings thus indicate that much of the literature underestimates the true role of the government in attenuating income inequalities. The results are robust to different measures of inequality and measures of government size.

# Convergence of Labour Force in the EU Countries

**Marina Fađoš**

*Faculty of Management, Comenius University in Bratislava*

**Mária Bohdalová**

*Faculty of Management, Comenius University in Bratislava*

Participation of women in the labour market has been increasing during the past years. Surprisingly, participation of men has been decreasing. The structure of the labour force by gender has been adjusting. Participation of women has been increasing faster than the participation of men has been decreasing. A question remains, has the structure of the labour force converged in favour of women? This paper investigates the gender structure of labour force participation in the EU countries. Labour force participation rates of the 27 European Union countries over the sample period 2000-2017 were obtained from the Eurostat database. We focus on comparing labour force participation by gender in the EU countries, and we introduce a gender inequality indicator, which captures changes in the labour force structure by gender. This indicator is based on the indicator of the gender gap introduced by Queneau and Sen (2007) but eliminates its shortcomings and captures and measures gender inequality more accurately. We continue with investigation of the convergence of the labour force participation of men, labour force participation of women, and gender inequality indicator, using the method proposed by Phillips and Sul (2007). We consider this method to be the most suitable for this type of analysis since the EU countries are heterogeneous and this approach also allows us to study convergence clubs.

## On the marginal implicit tax rate of various types of households in Slovak republic

**Michal Páleník**

*Faculty of Management, Comenius University Bratislava; IZ Bratislava*

System of taxes, social contributions and social benefits creates difference between labour costs, brutto salary and net income of given household. The aim of this paper is to identify weaknesses of the Slovak system affecting low wage earners and propose changes to the legislation so that marginal implicit tax rate is fair and predictable.

Sessions III. Stream C: Labor (room 11/3rd floor)

## Impact of LDD status on the rate of unemployment

**Kristína Gardoňová**

*Institute for Strategy and Analysis*

**Jan Fidrmuc**

*Brunel University*

**Veronika Zlaczká**

*Institute for Strategy and Analysis*

Slovak regions are characterized by a high diversity of regional development, including unemployment. In December 2015, the Act on Support for the Least Developed Districts no. 336/2015 was adopted on the basis of which 18 districts were granted the status of the Least Developed District (LDD). Municipalities in LDDs have the possibility to receive technical support, a non-refundable financial grant as well as preferential access to projects funded by EU funds. In this analysis, we evaluate the impact of this initiative on the unemployment rate for the years 2016 - 2017. More precisely, we study the impact of the LDD status and of the regional grant on the unemployment rate. When analyzing the above effects, we work with panel data and use the econometric approach Difference-in-Differences. Our treatment group consists of 838 municipalities in districts that were granted LDD status before the end of 2017. The control group is made up of 670 municipalities in neighboring districts (non-LDDs) to the LDD districts of our treatment group. Our results show that the rate of unemployment in municipalities in LDDs has fallen faster than in municipalities located in neighboring districts without LDD status. Specifically, in 2016 the unemployment rate in municipalities in the LDDs decreased by 4.9 percentage points, while in non-LDDs municipalities it fell by 4.2 percentage points. In year 2017, average unemployment in the LDDs fell by 9.6 percentage points, compared with a fall of 7.7 percentage points in municipalities belonging to the control group. In 2017, municipalities in LDDs had the possibility of earning a regional grant, contributing to a further drop in the rate of unemployment: a euro 100 regional grant per capita is associated with a fall in unemployment rate of 0.4 percentage points. Further research is needed to fully clarify the mechanisms behind these results.

## Parental leave outcomes in Poland - 2000-2013 reforms- LFS evidence

**Olga Zajkowska**

*Warsaw University of Life Sciences*

Several changes in parental leave scheme were introduced in Poland over last 20 years. In this paper we investigate the influence of parental leave duration on fertility outcomes. We show negative effect of small changes and positive effect of large change that took place in 2013. We discuss possible explanations of observed outcomes, methodological issues and policy implications.

## What determines return and labour market integration in intra-EU mobility context? Examining the case of Slovakia

**Lucia Mýtna Kureková**

*Slovak Governance Institute*

**Zuzana Žilincíková**

*Slovak Governance Institute*

This paper examines labour market trajectories of return migrants in Slovakia. We analyze in particular the selectivity of return migrants relative to stayers and migrants/non-returnees and their short-term labour market outcomes. For the analysis of the selectivity of returnees, we employ a two-stage modelling approach in line with previous research in this field (Barrett and O'Connell 2001; De Coulon and Piracha; Vadean and Piracha 2010) and Heckman (1976) which is suitable for the analysis where a selection of the sample plays a role. The analysis is based on national LFS dataset between 2008 and 2016, covering crisis and post-crisis periods. This allows us to examine relative importance of macroeconomic and individual-level factors in determining return decision and post-return labour market integration. The results show that return migrants are a specific group in the labour market especially in terms of demographic characteristics and previous experience in the labour market. Return migration is strongly stimulated by labour market factors. From micro-level perspective, past labour market status in terms of unemployment or inactivity differentiates returnees from migrants. Importantly, the performance of home state labour market in terms of work opportunities also plays an important role.

## Earnings premium of Russians speakers in Ukraine

**Brian Fabo**

*National Bank of Slovakia*

The Maidan uprising and the successive fall of president Yanukovich has been a subject of substantial scholarly attention. Nonetheless, the focus has been largely on political aspects of these events, which the economic implications have not been tackled nearly to the same extent. This study aims to contribute to filling this gap by analyzing the post-Maidan changes to the Russian language earnings premium in the country. Past research has identified sizable advantage of earnings enjoyed by Russian language speakers over Ukrainian language speakers. Meanwhile, the literature on Maidan suggests, that the upheaval has strengthened Ukrainian speaking, pro-Western forces in the society over the interests rooted in the Russian speaking community and thus it could be expected that this premium could have disappeared. Our analysis, nonetheless, shows that it remains present. Additionally, we test the effect of proficiency in English, the main commerce language of the West, to see whether the pro-Western orientation of the new Ukrainian government generated a similar effect to the Russian language premium. However, once we control for characteristics of the respondent, we found no strong evidence of such an effect.

## Sessions III. Corporate Finance I. – BvD session (room 12/3rd floor)

## Why Do Firms Bribe? The Persistence of International Corporate Corruption

**Stephen Ferris**

*University of Colorado  
Colorado Springs*

**Jan Hanousek**

*CERGE-EI*

**Jiri Tresl**

*University of Mannheim,  
Business School*

We examine the persistence of corporate corruption for a sample of over 112,000 unique firms from 15 Central and Eastern European countries during the 2001 to 2015 sample period. Using a new measure of corporate corruption based on firm operating inefficiencies, we find that corporate corruption provides immediate improvement in income growth when corruption levels increase from previous levels. Corruption also positively influences returns on assets, equity, and sales. A channel analysis reveals that staff costs is the most common approach by which firms divert funds to make extra-legal payments.

## Is It Better when It Is Longer? Maturity of Firm Loans and Economic Growth

**Eduard Baumöhl**

*University of Economics in Bratislava*

**Zuzana Fungáčová**

*Bank of Finland*

**Tomáš Výrost**

*University of Economics in Bratislava*

**Laurent Weill**

*EM Strasbourg Business School,  
University of Strasbourg*

This paper investigates the influence of the maturity of firm loans on economic growth. While a large strand of literature examines how bank lending influences economic growth, no work has compared the influence of short-term and long-term bank credit on economic growth. We combine firm-level data on firm loans with region-level data on economic growth to build a sample of 5.8 million firms from 238 regions in 33 European countries. We find that the long-term bank credit is positively related to growth, while for the short-term bank credit this relation is negative. These results are nonetheless conditional on the degree of economic and financial development: long-term credit is only beneficial in the countries with high economic and financial development. On the other hand, short-term credit exhibits positive relation to growth in the countries with low level of economic and financial development. Overall, our results indicate that it is necessary to consider the maturity of bank loans when assessing the importance of bank lending for economic growth.

## Institutions and Determinants of Firm Survival in European Emerging Markets

**Eduard Baumöhl**

*University of Economics in Bratislava*

**Ichiro Iwasaki**

*Hitotsubashi University*

**Evžen Kočenda**

*Charles University*

We analyze the impact of institutional quality on firm survival in 15 Central and Eastern European (CEE) countries. We employ the Cox proportional hazards model with a large dataset of firms from 2006-2015 and control for firm-specific determinants and country differences. Our results show that institutional quality (IQ) is a significant preventive factor for firm survival, and the result is robust to different measures of IQ and industry sectors. Furthermore, we document the existence of diminishing productivity of IQ, as the economic effect upon institutions is largest for low-level IQ countries and smallest for high-level IQ countries. In terms of firm-specific controls, ownership structure plays a vital role in strengthening the probability of firm survival. Notably, foreign ownership helps firms survive in all three country groups, and the effect is again larger for countries with low- and mid-level IQs. ROA, profit margin, solvency ratio, and firm age represent additional significant preventive factors, albeit with smaller economic effects.

# Does feeling trusted increase exploratory behavior? Testing the effects of 'felt trust' on ambidextrous decision-making

**Diya Abraham**  
*Masaryk University*

This paper studies the effects of being trusted on ambidextrous decision-making in a bandit task in which participants can make either 'exploratory' or 'exploitative' decisions. We add to the literature on trust which has so far tended to focus more on the determinants of trust rather than the effects of feeling trusted on trustees' decisions. One theory (referred to as the broaden-and-build theory) suggests that being (and consequently feeling) trusted instils a sense of pride in the trustee who may then be more confident about taking on the greater risks associated with searching for new avenues for growth (exploratory behavior) rather than trying to incrementally increase efficiency of existing processes (exploitative behavior). However, there is also evidence to suggest that feeling trusted could lead to 'emotional exhaustion' due to an increased perceived workload and greater reputational maintenance concerns on the part of the trustee and so it is possible that 'felt trust' may actually decrease the quantum of exploratory decisions. We use a controlled lab experiment to explore this question in the four-armed bandit task that has been employed widely in the past to study the exploration-exploitation dilemma. Our findings suggest that being trusted lowers the level of exploratory decisions of the trustee compared to the control thus validating the 'emotional-exhaustion' theory of being (and feeling) trusted. Implications of these findings are discussed.

# Are you willing to help a classmate even when you have to give away something? Altruistic and egoistic behaviour in groups.

**Martina Feherova**  
*University of economics in Bratislava*

Altruism is a moral principle that results in selfless helping to other people in order to give up resources in order to benefit others. But what are the limits of human altruism? Is human altruism affected by religion, gender, number of siblings or social background? On the example of three groups, we examined how increasing costs of giving up resources affect whether are individuals willing to help their classmates. According to the recent literature, there is no consistent evidence whether males or females are more altruistic oriented. By looking at the altruism from the greater perspective and taking into the consideration other factors as social ties, number of siblings the research has proven interesting results. Group C does not hold the hypothesis when by donating a higher amount of points in each round the relations in the class and team work was marked as: average - below the average. The possible explanation can be found in the vision of improving the in-group relations by helping others. Two subjects in the belief of atheism have manifested altruistic behaviour (donating 4 or 5 payoff points in each round), and the rest - four subjects donated 0 in all three rounds. From four cases when the subject does not have any siblings, all two were showing egoistic behaviour by not donating any payoff points for other classmates. On average females were showing altruistic behaviour, while men manifested egoistic behaviour on average.

## Is it worth to cheat? Experimental study of compliance in decision-making under the litigation risk by using different liability rules regimes.

**Martin Kocúrek**

*Macquarie Graduate School of Management & University of Economics in Bratislava*

We introduce model for experimental study of individual and group decision-making under litigation risk and comparison of the performance of three liability rules: (i) strict liability, (ii) no liability and (iii) negligence in environment with litigation and without litigation threat on a decision-maker who is a risk-neutral and profit-maximising firm (subject A) with the intention to maximise their profit by cheating, i.e. not complying with law by minimising investments into compliance, e.g. The Clean Air Act or The Motor Vehicle Air Pollution Control Act. Subject A has to decide to what extent to comply, considering the cost of compliance as increasing and convex. A noncompliance does not cost subject A anything, however causes negative externality, i.e. harm on society (subject C). The compliance with regulation is actively enforced by the government agency (subject B) with high probability of being found non-compliant, ordered to pay administrative fine, followed by litigation of subject A under one of three liability rules regimes which determine the amount subject A has to pay in order to compensate negative externality it imposed on subject C. Under strict liability rule, subject A always bears the entire amount equal to fines and damages it caused to a third party and must pay for them in the future when is brought to a court. Under negligence rule subject A is held liable for fine and damages its externality caused on subject C only if is found negligent and under no liability firm is caught up not complying with the rule, but does not have to compensate for damages it caused. We suppose the use of strict liability is the most effective for enforcement of compliance, followed by negligence. We also suppose the use of negligence rule would not prevent subject A from non-compliance.

## Why do bystanders choose not to intervene to stop bullying? A laboratory experiment

**Katarína Čellárová**

*Masaryk University*

**Ondřej Krčál**

*Masaryk University*

**Rostislav Staněk**

*Masaryk University*

We use a laboratory experiment to study the role bystanders have in bullying. We devise an experimental design that incorporates the defining properties of bullying. We explore two reasons why bystanders may choose not to intervene to stop bullying. The first reason is the different social identity of the victim. Bystanders might also tolerate bullying because of the fear of retaliation, as the intervening bystander might expect to become a victim in future. We find that while the different social identity of the victim makes the bystander more likely to tolerate bullying, fear of retaliation has no significant effect on her choice.

Sessions III. Stream F: Financial stability (room 16/4th floor)

## Consequences of Monetary Policy for Credit Risk in the USA

**Mária Bohdalová**

*Comenius University in Bratislava, Faculty of Management*

**Martin Pažický**

*Comenius University in Bratislava, Faculty of Management*

Financial institutions have faced difficulties for many years. The main reasons for these problems include moderate credit standard rules for borrowers and counterparties, poor portfolio risk management, lack of attention to changes in economic growth or other circumstances that may lead to a deterioration in the credit standing of the bank's counterparties. Moreover, macroeconomic conditions and the monetary policy can affect the client credit behaviour. Therefore, each bank should know their credit risk evolution to establish the objectives guiding the bank's credit-granting activities



and adopt the necessary policies and procedures for conducting such activities. Credit behaviour of bank's client is described using transition probability matrices in this paper. We deal with the analysis of influence of macroeconomic conditions and the monetary policy on the stationarity of credit migration probabilities. Macroeconomic conditions reflecting the business cycle were approximated by an output gap. We have used well-known Hodrick-Prescott filter to estimate the output gap. Monetary policy effect has been investigated using the Fed fund rate. The entire analysed period was divided into sub-periods depending on short-run trends. For each period, we have estimated and compared transition probability matrices.

## Tracking the Impact of Monetary Policy Risk-Taking Channel: a Multi-Country Perspective

**Oleg Deev**

*Masaryk University*

**Martin Hodula**

*Technical University of Ostrava*

The study examines the time-varying impact of monetary policy decisions on the state of financial stability in the overall Euro area and chosen European developed countries in the form of systemic risk in the banking sector. We argue that the environment of low-interest rates encourages bank risk-taking and increases systemic risk. We employ time-varying parameter structural vector autoregressive model estimated via Bayesian inference to test the response of systemic risk measured by the market-based SRISK indicator to changes in monetary policy based on official central bank statistics. We provide macroeconomic evidence for the monetary policy risk-taking channel, even though the strength of systemic risk responses to policy shocks vary between individual countries. Our results indicate that unconventional monetary policy in form of quantitative easing further escalates financial instability in Eurozone countries.

## Dynamics of Perceived Bank Lending Policy and Credit Market Experience: Evidence from a Firm Survey

**Jarko Fidrmuc**

*ZU Friedrichshafen*

**Christa Hainz**

*ifo Munich*

**Werner Hölzl**

*WIFO Vienna*

Bank lending policy has gained importance since the financial crisis. We study the determinants of firms' perceived bank lending policy using panel data from the Austrian Business Climate Survey between 2011 and 2016. Our results show that firms' perceptions of aggregate lending policy depend on their individual credit market experience. Different categories of negative experience, ranging from worse conditions to loan rejections, have strongly negative, persistent and surprisingly similar effects on perceptions. Moreover, firms that do not need a loan are more likely to perceive lending policy as standard and are less likely to revise their perceptions. Our results are in line with theories on sticky information, rational inattention and pessimism bias.

## International linkages of inflation-output dynamics: Fresh GVAR evidence from Pakistan and its trading partners

**Dr. Muhammad Ayyoub**

*Higher Education Department,  
Government of the Punjab,  
Lahore*

This article develops a global vector autoregressive (GVAR) model to illustrate the dynamics of inflation and output. We analyze quarterly time-series data from Pakistan and 32 major trading partners which account for around 95 percent of international trade of Pakistan, over the period 1979Q2-2016Q4. The findings show that both foreign and global variables jointly and significantly matter for the inflation-output relationship in developing economies, in general, and, in particular, in the economy of Pakistan. After taking into account the impact of increasing interdependencies, trade spillovers and changing global conditions, the general impulse response function (GIRF) analysis revealed that the impacts of shocks to foreign variables (such as US real GDP, oil and food prices) are transmitted rapidly, and put forward a significant impact on key variables. However, the responses differ across economies. The findings indicate that, since Pakistan is increasingly integrated with key global players, worldwide developments play a crucial role in explaining major domestic variables. Inflation in Pakistan is driven more strongly by the global changes in oil and food prices than GDP. For monetary policy formulation, the essay suggests that the central bank should take into account developments in inflation-output dynamics of Pakistan's major trading partners.

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## Inferring Structural Ordering: How does the UK economy respond to international shocks?

**Arnab Bhattacharjee**

*Heriot-Watt University*

**Atanas Christev**

*Heriot-Watt University*

We develop an identification result based on relative variances of the idiosyncratic shocks. The analysis allows to make inferences on the structural ordering of macroeconomic variables in a vector autoregression (VAR) or a Factor-Augmented VAR (FAVAR) context. To illustrate our findings we apply the framework and methods to the study of propagation of international and UK economy wide shocks, based on an extension, initially proposed by Mumtaz and Surico (2009). There is a the FAVAR model developed in Bernanke, Boivin, and Eliasch (2005) in to a small open economy setting. However, the structural ordering implied by the model, whereby UK macroeconomic factors trail the international economic variables, is not supported by the data. The empirical evidence rather reveals an ordering where real activity in the UK emerges at the top of the order, followed by the international economy, and finally the UK policy rate. This suggests characterisation of the UK not as a small open economy, but an (mediumsized) open economy with significant contemporaneous influences on the international economy.

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## Financial (in)stability in the Russian Federation

**Dimitrios Tsomocos**

*SAID Business School and St. Edmund  
Hall, University of Oxford*

In the aftermath of the oil price shock driven macroeconomic instability in the Russian economy of 2014-2016, the dual targets of inflation and financial stability have been increasingly interdependent. To study this we build a small open economy New Keynesian DSGE model with a heterogenous real and banking sector, and endogenous default. We show that the distribution of firm default rates results in a distinct transmission mechanism from real shocks to financial instability across the distribution of bank size. Idiosyncratic shocks to smaller banks permeate the economy via their contagious effects through large systemically important banks.

# Impact of Euro Adoption on International Trade within the Heterogeneous Euro Area

**Svatopluk Kapounek**

*Mendel University in Brno and  
National Bank of Slovakia*

**Martin Šuster**

*National Bank of Slovakia*

We identify impact of the Euro adoption on international trade within a group of euro area trade partners and other EU countries. We deal with the problem of heterogeneity across the countries in Europe and assess the transmission of international trade shocks using Global Vector Autoregressive (GVAR) models. The effect of euro adoption is represented by changes in monetary independence, exchange rate stability and financial integration and openness. Model uncertainty is reduced by employing Dynamic model averaging (DMA).

Sessions IV. Stream B: International Trade (room 16/4th floor)

# The Impact of International Cultural Institutes on Trade Flows

**Steven Yamarik**

*California State University  
Long Beach*

**Mariya Mileva**

*California State University  
Long Beach*

This paper estimates the impact of international cultural institutes on bilateral trade flows. By exposing the citizens of one country to the culture of another, cultural institutes will raise cultural awareness and proximity between the two countries. We collect data on the foreign locations of 15 different cultural institutes, including the British Council, French Institut français, German Goethe Institute, Confucius Institute and Russian Mir Foundation. We then estimate the effects of hosting a cultural institute on exports to the home country. We find that the presence of a cultural institute raises exports to the host country.

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# Do the rich (really) consume higher quality goods? Evidence from international trade data

**Vincenzo Merella**

*University of Economics Prague*

**Daniel Santabarbara**

*Bank of Spain*

We provide novel evidence on the relationship between importer income and import quality. Instead of using prices as proxies for quality, we exploit quantitative markets shares differentials across goods from distinct exporters to obtain disaggregated quality measures, within a discrete choice model where richer consumers demand higher quality goods. We test how income influences the resulting quality measures by treating EU members as distinct consumers operating in a single market. We find that the relationship is positive and robust to different specifications and controls. We also develop a novel quality upgrading indicator that conveniently quantifies import quality improvements as importer income rises.

# Determinants of Export and Import Functions in the EU Member Countries

**Rajmund Mirdala**

*Faculty of Economics,  
Technical University of Košice*

**Jozefína Semančíková**

*Faculty of Economics,  
Technical University of Košice*

**Anna Ruščáková**

*Faculty of Economics,  
Technical University of Košice*

Main objective of the paper is to examine effects of price and non-price determinants of exports and imports in 21 EU member countries. The main motivation that is behind this idea is to (a) identify the key drivers of export and import path (relative importance price/cost and demand drivers will be examined); b) reveal mutual relationship between exports and imports (considering that international fragmentation of production chains makes exports and imports mutually dependent and thus affects long-term convergent/divergent movement); c) examine effects of the crisis period on estimated results.

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# The effect of introducing the euro on trade using the synthetic control method

**Peter Tóth**

*Národná banka Slovenska*

**Tibor Lalinský**

*Národná banka Slovenska*

We study the effect of the euro adoption in Slovakia on the country's international trade. In the baseline scenario, we compare the evolution of Slovakia's trade flows to each of the euro area countries during 2009-2016 with counterfactual flows between euro area countries and EU countries that had not adopted the euro during the same period. The counterfactuals are estimated as convex combinations of trade flows taking into account country characteristics, by applying the synthetic control method. In the baseline scenario we use five pre-2009 country characteristics to match suitable country pairs. Following Saia (2017, J. Int. Econ.), the characteristics include the values of bilateral trade flows, the sum of the logs of country pair gross domestic products and three derived endogenous variables taking into account bilateral distance between countries, their physical and language adjacency. Detailed annual bilateral data on exports and imports are used from the IMF's Directions of Trade Statistics (DOTS) database. Average two-way trade flows for every pair of countries are constructed in order to smooth differences in values of exports and imports recorded by the individual countries. Our results suggest that the adoption of the single currency has led to an increase in Slovak trade within the euro area. The baseline specification based on IMF DOTS database indicates that Slovakia's trade with euro area countries has on average increased by about 6.6 % in the period 2009-2016. In addition, based on the Broad Economic Categories (BEC) classification we separate trade in intermediate goods, consumption goods and capital goods. The results indicate that the euro trade effect has manifested itself mainly via intermediate and capital goods.

Sessions IV. Stream C: Behavioral (room 3/3rd floor)

# Employing Behavioral Economics: Improving the Efficiency of License Fees Collection

**Lubomír Cingl**

*University of Economics in Prague*

The efficient tax and fees collection by the public authorities is crucial for their proper functioning as it usually constitutes the main source of their revenues. Similarly, the public broadcasting bodies face a worrying situation when the license fee collection gradually decreases while it forms over 90% of its revenues. In cooperation with one major public broadcasting body, we ran a large scale field experiment in order to increase the efficiency of the collections and to test several motivations for the non-response and non-compliance of the liable households. Letters were mailed to the households potentially evading the fees. We (i) simplify the structure of the letters,

(ii) vary their informational content to separately address five distinct motives of non-compliance, and (iii) in an orthogonal design to that we vary the levels of attention the envelopes raise. The households are randomly allocated to treatments, stratifying on a regional level and on two age groups. The main outcomes are (i) the response rate and (ii) the registration rate. Our results show that only manipulation including threat induced higher responses and registration rates than the baseline.

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## German Wind Auctions Modeled as a Participation Game

**Silvester van Koten**  
*University of Economics (VŠE)*

When business licenses are sold in auctions with considerable sunk bid preparation costs, efficiency and auctioneer income may be negatively affected. Inspired by the support regime for onshore wind developers in Germany (EEG 2014), we model a reversed multi-unit auction with mandatory sunk pre-investment as a participation game, and analyze the effects of bid preparation costs on the bid strategies, overall efficiency and resulting prices. In the scenarios we consider, bid preparation costs have surprisingly strong effects, inflating the resulting prices. In a later stage, experiments are planned to test the theoretical predictions.

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## A new measure of stereotypes in the workplace

**Stanislava Bajzikova**  
*University of economics in Prague*

**Lubomir Cingl**  
*University of economics in Prague*

In order to study stereotypes towards other groups regarding the attitude to work we introduce a new measure that is built on the principle of a multiple-price list, a method well known in the experimental economic literature. We apply it on an example of the Roma minority in the Czech Republic – an ethnic group which is typically thought to be marginalized due to stereotypes of the majority in the domain of social-preferences (trust), but also different perceived norms about work-attitudes may play a role. We apply our measure on a sample of 100 students from the majority to estimate the lower threshold of the stereotypes expected in the whole population. Subjects first perform a simple effort task alone, then in a team of two where they are paid on a team-based principle, and before the third round again in a team of two they choose the ethnicity of the second team-member (Roma/non-Roma) in 11 situations from which one will be randomly selected. These situations differ in that there is a different preferential treatment of one of the two potential team-members. We also elicit subjects' expectations regarding the productivity of the two potential team-members; risk, social and time preferences. Our results show that the Romas are expected to produce smaller output than non-Romas, and this correlates only with subjects' personal life experience with Romas but not other measured preferences. The preference of non-Roma partner correlates also with the personal experience, but not other types of preferences.

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## Are Economists' Preferences Psychologists' Personality traits?

**Tomas Jagelka**  
*Ecole Polytechnique*

Risk and time preferences are at the core of economic decision making and yet we know remarkably little about how they are determined. This paper takes advantage of a unique Canadian field experiment to establish a mapping between the Big Five personality traits and economic primitives governing choices which involve uncertain or future payments. It is the first to structurally estimate population distributions of risk aversion and discount rates as well as of parameters governing their stability using the Random Preference Model (RPM). It relates them to four fundamental underlying latent factors which are noisily measured by observed indicators. These factors are

associated with a subject's cognitive and non-cognitive skills. Results show that overall the conscientiousness trait explains the largest part of the population variation in the estimated preference and rationality parameters. Furthermore, the extraversion trait is related to lower risk aversion while high cognitive ability leads to more rational choices.

Sessions IV. Stream D: Fiscal Policy (room 17/4th floor)

## The stabilizing role of Fiscal rules

**Matej Boór**

*University of Economics in Bratislava*

Many countries have introduced fiscal rules over the last two decades to ensure the sustainability of public finance and to create a responsible fiscal policy. Transnational fiscal rules are primarily implemented in monetary unions and the reason for their implementation is the sanctioning of Member States in case of having irresponsible fiscal policy. On the other hand, the implementation and enforcement of national fiscal rules is a good signal for financial markets, where countries can negotiate better terms for refinancing their own public debt. The classification of fiscal rules is not uniform and can be viewed at various levels, the effects of fiscal rules may vary depending on the type of fiscal rule. The paper focuses primarily on the stabilizing effects of fiscal rules. However, we can see that not all types of fiscal rules have anticyclical character. Prušvic (2008) and Anderson - Minarik (2006) in their studies claim that only the fiscal expenditure rule has anti-cyclical effects, both in the case of recession and expansion. Other fiscal rules, according to previous authors, tend to have pro-cyclical effects that differ from one another by their intensity. In his empirical study, Perry (2003) has demonstrated the stabilizing effects of fiscal rules in Latin America and the Caribbean, with fiscal rules helping to achieve balanced budget and to prevent the use of pro-cyclical fiscal policy. Different views were offered by Andr s-Domen ch (2006), who examined the impact of fiscal rules on the effectiveness of discretionary measures and automatic stabilizers, concluding that the strictness of fiscal rules does not affect fiscal policy instruments in terms of their effectiveness as an economic stabilizer. The aim of the contribution is to summarize the theoretical background to this research area and examine the correlation between the fiscal rules and the magnitude of cyclical fluctuations in the economy.

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## Determinants of Budget Deficits in the European Union: Political Economy Approach

**Jan Janků**

*VŠB - Technical University of Ostrava,  
Faculty of Economics, Department of  
Economics*

Fiscal policy in the EU countries has to manage to play two often contradictory roles. It is supposed to smooth a business cycle and to promote a long term economic growth, while it has to stabilize or reduce public debts and budget deficits at the same time. This unpleasant position is even more pronounced after the economic and debt crisis. Some of the economic, social and political institutions can substantially contribute to excessive budget deficits and debts which in turn prevent the implementation of an active fiscal policy. The aim of the paper is to evaluate fiscal policy reactions to the changes in the economic environment and to assess social and political determinants of budget deficits in the European Union countries. We use an unbalanced cross-country time series data set, comprising all 28 EU countries over the period 1995-2016. We find out that fiscal policy in the EU countries plays a stabilizing role, but its counter-cyclical reactions are significantly stronger in recessions than in economic upturns. A government ideology and its support in the parliament showed to have significant impact on the budget balances. Left-wing governments and governments with a weak support in the parliament tend to record higher budget deficits (lower surpluses). Moreover, the stronger fiscal rules and the EMU pre-entry requirements appear to be effective tools in reducing excessive deficits.

## Optimal sovereign debt: Case of Slovakia

**Zuzana Mucka**

*Council for budget responsibility*

We study the impact of the presence of public infrastructure in determining the optimal quantity of public debt in a heterogeneous agent economy with incomplete insurance markets. Calibrating the model to distributional moments and key aggregates we demonstrate that the inclusion of infrastructure, transitional dynamics between stationary states and fiscal policy style affect essentially the characterization of the optimal level of public debt. We show that it is optimal for the government to be indebted, however the optimal level of the public debt is substantially smaller than the current level of the debt.

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## Evaluating the Aggregate Effects of Tax and Benefit Reforms

**Michal Horváth**

*University of York*

**Matúš Senaj**

*Council for budget responsibility*

**Zuzana Siebertová**

*Council for budget responsibility*

**Norbert Švarda**

*Council for budget responsibility*

**Jana Valachyová**

*Council for budget responsibility*

The paper introduces a new way of linking microsimulation models with dynamic general equilibrium frameworks to obtain an evaluation of the impact of detailed tax and benefit measures on the aggregate economy. The approach involving polynomial approximation to aggregated output from behavioural microsimulation permits the solution for the long-run steady state and the transition path in one numerical simulation of the dynamic aggregate economy. The practical usefulness of the approach is demonstrated by evaluating actual and hypothetical tax reforms in the context of Slovakia.

Sessions IV. Stream E: Health economics (room 11/3rd floor)

## Potential mergers in Slovak hospital sector: effects on efficiency

**Richard Kališ**

*University of Economics Bratislava*

According to few studies of Slovak health care system, there exists significant inefficiency within the sector. Particularly weak management and a high number of unused beds seems to be main areas of inefficiency. We use a cross-section sample of 62 Slovak general hospitals in 2016, applying Data Envelopment Analysis (DEA), to analyse the potential efficiency gains from hypothetical scenarios of horizontal mergers. The standard DEA approach is widened by using mortality as undesirable output and labour force as uncontrollable input. We decompose total efficiency into three parts. Particularly, individual, harmony and scale effect. Our results suggest, that there exists some space for efficiency gains through horizontal mergers within the hospital sector. However, most of the inefficiency is linked to the individual inefficiency.

## Entry and Competition in Healthcare professions: evidence from Slovakia

**Richard Kališ**

*University of Economics in Bratislava*

**Martin Labaj**

*University of Economics in Bratislava*

**Peter Mandžák**

*University of Economics in Bratislava*

In this paper, we follow Schaumans and Verboven (2008) and provide first empirical entry model on the relationship between market size and number of firms for pharmacies and physicians as strategic complementarities in Slovakia. We focus on estimation of market size thresholds required to support different number of firms. Our aim is to explore whether number of pharmacies can affect market size threshold to support given number of doctors, and vice versa. Our preliminary results suggest significant drops in entry thresholds for given profession once there is at least one firm of another type present in the local market.

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## Long-term impact of maternity leaves on the female health in the context of their labour market participation

**Olga Zajkowska**

*Warsaw University of Life Sciences*

**Sonia Buchholtz**

*Warsaw School of Economics*

**Piotr Bartkiewicz**

*Warsaw School of Economics*

The literature provides very little evidence on the long-term effect of maternity leave. We investigate the impact of maternity leave on long-run female health. We provide robust (but mixed) results over several different outcomes. Eligibility (ATE) gives positive both self-reported health and employment outcomes. Mixed results of eligibility on cognitive and motoric outcomes. On the other hand, usage of maternity leave supports most of the health outcomes - both eligibility take up and rate (ATE and ATT).

Sessions V. Stream A: Corporate Finance II. (room 16/4th floor)

## Licence to pay

**Marian Saling**

*Council for Budget Responsibility*

In 2014 Slovakia introduced a minimum tax that applied to the corporate income aiming to increase the tax revenue, tackle tax evasion and reduce the number of inactive companies. Around 35 000 companies reacted to the new measure by increasing profit or switching from loss to profit, and adjusting their declared tax to the tax license thresholds. This behavioral response indicates a high degree of flexibility in tax reporting of the CIT among small companies. Moreover, the one-time adjustment of profits allows us to analyse the tax evasion strategies of small companies and to determine whether the effect can be attributed to additional reported revenues or a reduction in expenditures. The introduction of the minimum tax also prompted liquidation of more than 14 000 companies which are examined in the paper in order to determine whether the measure was successful in eliminating inactive companies.



# Default Prediction Modelling in Entrepreneurial Context

**Zuzana Jančovičová**

*Comenius University in Bratislava,  
Faculty of Management*

**Mária Bohdalová**

*Comenius University in Bratislava,  
Faculty of Management*

The default prediction topic is current not only thanks to the long-lasting low interest rates, which have made debt in European countries historically the highest, but also in terms of a constantly changing business environment. In this turbulent period, it is necessary to identify the most important factors affecting the credibility of businesses in terms of their financial health and stability. In this study, we focused on the analysis of the financial health of companies in the selected region from the credit risk point of view. The main objective is to analyze available data to compile models of predicting financial health of companies. We examined the available finance data from the Finstat database. From all the steps of modelling, we focused the paper mainly on the modelling, validation and application of the models. We used logistic regression, decision trees and neural network and built several models out of which a decision tree model using C5.0 method was chosen as the most reliable based on a subsequent validation of created models. The final tree model was rather pruned but fairly precise - 99,38%. The key was to balance the data so that the number of defaulted enterprises corresponds more to the reality. The final model was at last compare to well-known models and also applied to the most recently established companies so that a default prediction could be drawn. The conclusion is that when choosing a model to implement, regional differences and last update of the model play crucial part when validating the data thus by decision making. Moreover, based on a developed model, a very low default rate of a newly established companies in Slovakia is to be expected, which is a very good sign for the economy since the first year of entrepreneurial existence is always the most problematic.

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## Corporate Governance and Stock Prices of Companies Listed on the Vienna Stock Exchange and the SIX Swiss Exchange

**Marie Ligocká**

*Slezská univerzita v Opavě, Obchodně  
podnikatelská fakulta v Karviné*

Many studies are focused on identifying evidence whether the quality of corporate governance of companies is related to the achievement of higher stock returns, stock prices or firm values. This paper examines the impact of selected corporate governance variables on stock prices of companies listed on the Vienna Stock Exchange and the SIX Swiss Exchange over the period 2005 - 2015. The food, energy, metallurgical and chemical companies are considered. The relationship is analyzed by Johansen cointegration test and by Generalized Method of Moments (GMM). With accordance with the empirical literature there is expected positive impact of selected corporate governance variables on stock prices of food, energy, metallurgical and chemical companies listed on the Vienna Stock Exchange and the SIX Swiss Exchange.

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## Savvy target insiders' trading before the public takeover announcements

**Jana Fidrmuc**

*Warwick Business School*

**Chunling Xia**

*Queen Mary London*

On a sample of 1098 US publicly listed target firms during 2005-2011, we contribute to the literature by showing savvy insider trading activity before their deal public announcement. Our results are threefold. First, we show that target insider net purchases become significant only after bidders start signing confidentiality agreements, once the deal becomes more certain and insiders have more and more precise information. Second, insider sales and net purchases are in line with insiders guessing well the final offer price, but their trading strategies additionally reflect also their knowledge of deal characteristics. Third, insiders are wary of uncertainty. Insider net purchases are significantly stronger in firms with lower stock price volatility, dominating the other information they use for trading.

## Interdependences between the EU and the US equity markets

**Leoš Šafár**

*Technical University of Košice,  
Faculty of Economics*

**Jakub Sopko**

*Technical University of Košice,  
Faculty of Economics*

**Erik Suchý**

*Technical University of Košice,  
Faculty of Economics*

**Zuzana Čarnogurská**

*Technical University of Košice,  
Faculty of Economics*

In our work we examine interdependence of equity markets in the US and the EU. While general opinion is that the US equity market is more developed and more interconnected than the EU stock market, we attempted to prove which partial market drags others in short-term. For this purpose, we considered main equity indices from the US (Dow Jones Industrial Average, NASDAQ, Standard & Poor's 500, Russell2000) and the EU (DAX, CAC40, FTSEMIB, Eurostoxx50) as significant representatives, while we tracked them on daily basis since 2008. We applied VAR methodology to estimate impulse-responses in order to observe if there is significant transmission of movements between stated indices and persistence of these effects. We tested these interdependences both within separate markets and intercontinentally, while our main hypotheses are that S&P500 is the main leader among every other index, causing significant reactions on other indices both in the US and the EU in short-term, then indices in the US are more interdependent than indices in the EU. Also that within the EU, we expect Eurostoxx50 to be a main leader, and another presumption is, that Italian (FTSEMIB) benchmark index does not react significantly to other index except from S&P500. From trading (short-term) perspective, we believe that accepting or rejecting stated hypotheses could either lead to profitable positions after major move is observed in particular index/partial market, or bring new insight in topic examining interconnections between aforementioned markets. Our ambition is to widen our research and focus more on the EU with respect to announced Capital Market Union.

## The Relative Effectiveness of Spot and Derivatives Based Intervention

**Milan Nedeljkovic**

*National Bank of Serbia and CESifo*

**Christian Saborowski**

*International Monetary Fund*

This paper studies the relative effectiveness of foreign exchange intervention in spot and derivatives markets. We make use of Brazilian data where spot and non-deliverable futures based intervention have been used in tandem for more than a decade. The analysis finds evidence in favor of a significant link between both modes of intervention and the Real/Dollar exchange rate return. In line with theory, the impact of spot market intervention is strikingly similar to that achieved through futures based intervention worth an equivalent amount in notional principal when convertibility risk is limited. We show that both types of interventions also affect the level and the price of hedging risk in the foreign exchange market.

## Do the hot capital flows submit to the Lucas paradox in Europe?

**Maria Siranova**

*University of Economics in Bratislava*

**Menbere Workie Tiruneh**

*Slovak Academy of Sciences*

**Boris Fisera**

*University of Economics in Bratislava*

Issue of hot capital flows has been at the forefront of scientific research predominantly in the context of developing countries. Yet, the literature for developed countries remains scarce and the analysis of spatial dimension of such flows is currently absent. In this paper we use the Net errors and omissions as standard estimates of hot capital flows in order to construct Europe-wide directed network of hot capital flows by rolling window Granger causality method. Our sample include 31 European countries over the 2006-2017 period. In the second stage we investigate factors determining creation of links among pairs of countries in this network by Cragg's two-stage tobit model. Usual suspects include spatially weighted matrix of geographical distance, economic distance based on FDI and portfolio capital flows and long-term interest rate differential, as

the standard theory postulates (and Lucas paradox rejects). Our results tentatively suggest that the creation of links is conducive to long-term interest rate differential in the first stage, while frequency of links occurrence is predominantly determined by strength of trade linkages and more stable long-term indebtedness in form of FDI liabilities.

Sessions V. Stream C: Education II. (room 17/4th floor)

## Education and Mental Health

**Jan Fidrmuc**

*Brunel University*

**Mustafa Ozer**

*Kilis YEdi Aralik University*

**Mehmet Ali Eryurt**

*Hacettepe University Institute of  
Population Studies*

We use a natural experiment, an increase in compulsory education from 5 to 8 years in Turkey in 1997, to estimate endogeneity-robust effect of education on health among Turkish women. We find limited evidence of a favorable effect of education on self-reported physical health. We also find positive correlation of incidence of mental health issues typically associated with depression, and of suicidal thoughts, with education. We argue that the latter finding may reflect greater awareness of symptoms of mental health problems among educated women.

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## Persistent overconfidence: Evidence from a randomized control trial in Uganda

**Dagmara Celik  
Katreniak**

*National Research University Higher  
School of Economics, Moscow*

People are often illusory superior and overestimate their outcomes. Overconfidence is an important behavioral bias observed in different domains and may have economic consequences, especially due to misperception of signals during decision making. Although informing subjects about their own performance has been shown to decrease their inflated beliefs, subjects often remain overconfident. A possible explanation is that they have insufficient information about others. I offer new evidence from a randomized control trial conducted in Southern Uganda. More than 5000 primary and secondary school students received repeated feedback about own performance and performance of group members. The results show that, while in the absence of feedback repeated exposure to a task makes students increase their overconfidence by 87 per cent, detailed feedback helps them to offset the increase but their overconfidence slowly converges to its original level. Taking advantage of my experimental design I go one step further and I bring suggestive evidence on causal effect of change in students' confidence level on students' performance and well-being. Decrease in overconfidence is associated with higher performance but lower happiness. Such trade-off may help to explain persistence of overconfidence. In a tournament setting - with (non)monetary rewards, girls with no feedback significantly increase their overconfidence as opposed to boys, which may relate through the confidence channel in girls' underperformance. Overconfidence may be an alternative reason for gender differences in performance in tournaments. Finally, the design gives me the opportunity to document that the "unskilled-and-unaware phenomenon" is a behavioral bias rather than a statistical artifact.

# Barriers to Participation of Adults in Lifelong Learning: New Evidence from 30 European Countries

**Miroslav Stefanik**

*Slovak Academy of Sciences*

**Sofie Cabus**

*KU LEUVEN - HIVA*

**Petya Ilieva- Trichkova**

*Institute for the Study of Societies and Knowledge, Bulgarian Academy of Sciences*

The aim of our paper is to explore the barriers to participation in lifelong learning. In doing so, we search for ways of broader inclusion of adults in lifelong learning. More specifically, we look at these barriers from the perspective of individuals, while, at the same time, acknowledging that institutions may (structurally) impose barriers to individuals. Hereby, we adhere to previous literature that has focused on barriers for the participation in lifelong learning (Cross 1981; Chapman et al. 2006; Laal 2011; Boeren 2016; among others). In particular, we build upon the bounded agency model proposed by Rubenson and Desjardins (2009). This model is based on the assumption that welfare state regimes can affect a person's capability to participate through the way it constructs structural conditions and helps individuals overcome both structurally and individually based barriers. It also suggests taking into account the interaction between structurally and individually based barriers to participation. We plan to explore the application of mixed level models or SEM-models in a next phase of the research in order to account for the different levels in the model (namely individual-level vs. institutional- or country-level). Finally, we will estimate these models for various forms of lifelong learning participation to see if we will find differences in the influence of the barriers on participation in various forms of lifelong learning.

# Kindergartens in Slovakia: Impact on Student Performance

**Marcela Veselkova**

*Institute for Strategy and Analysis, Government Office of the Slovak Republic*

This paper examines the impact of pre-primary education on the performance of Slovak students in mathematics as measured in OECD's Programme for International Student Assessment. To this end, it compares the performance of those students who attended the kindergarten with those who did not. The causal impact is estimated using a Bayesian modeling procedure, known as Bayesian Additive Regression Trees (BART). On average, pre-primary education improves the PISA scores in mathematics by 31.1 PISA points and the 95% interval for this effect is between -17.7 and 42.2. However, this extreme effect is most likely driven by (1) extremely small control group and (2) stark differences between the treatment and the control group. Further analysis is planned to estimate the treatment intensity (did not attend pre-primary education vs. attended for one year or less vs. attended more than one year).

Sessions V. Stream D: Experimental III. (room 18/4th floor)

# Experimenting with Price Gouging and Newsvendor problem

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**Cary Deck**

*Culverhouse College of Business, University of Alabama*

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In the newsvendor problem, a seller must decide how much inventory to hold prior to the quantity demanded being realized when the price is fixed. We introduce the game similar to the newsvendor problem, but translated into the price dimension. This game represents a price gouging game. In daily reality, this phenomenon could be observed regularly after a natural disaster, when the news is filled with stories of price gouging due to the shortage of goods regarding items like water, food and gas as well as accommodation or travel fares. For example, after the hurricane Irma in Florida of Harvey in Texas, packs of bottled water with price around \$5 to \$10 have reached the price above \$40 to \$99. This behavior of retailers repeat during almost every natural disaster even though that price gouging is prohibited by the law and usually a subject of high fines. However, price gouging is not limited to emergency situations or US region. To explore Price Gouging, we conducted a series of controlled laboratory

experiments using a 2 x 2 design, where we tested the difference in the behavior within the Price gouging and Newsvendor under the low and high costs. Laboratory experiments were run at the University of Alabama where 104 experimental subjects made 5 200 decisions regarding the price or quantity in total. Our preliminary results support pull-to-center effect in Price Gouging similar to the effect observed in the Newsvendor game. We do not observe the difference in choices based on the type of the game but we observe the difference based on the costs. We also identified that the CRT score affected the consistency, where higher score reduced the price/quantity switching in both games and these decision were the same across different phases of decision making.

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## Historical information and project duration estimates

**Matej Lorko**

*Macquarie Graduate School of Management*

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**Le Zhang**

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The ability to accurately estimate the duration of future activities is the cornerstone of successful project management practice. Accurate project estimates reduce not only the risk of schedule and cost overruns, but also the possible underutilization of company resources. Traditionally, thorough project specification has been perceived as a crucial determinant of accurate project duration estimates. However, even the most extensive description cannot capture every detail of the proposed project activities, especially at the early project stages, when the exact scope is often unclear. Thus, project planners focus on provided information, often neglecting that it might be incomplete. As a result, project duration estimates may become understated. We conjecture that accuracy of project schedules can be improved by consulting historical information regarding the same or similar projects. We experimentally test our conjectures in a real effort task. Subjects first estimate the time it will take them to complete the task, indicate their subjective confidence with the estimate and then perform it. We manipulate the description of the task and whether and when subjects receive the historical information. We examine the relationship between the detail of the task description, estimation accuracy, subjective confidence in estimates and the effect of historical information on former beliefs regarding the task duration. We find that although very detailed task description eliminates the typical underestimation of the task duration, it also induces large variance in individual estimates, which impairs the overall estimation accuracy. On the other hand, the provision of historical information significantly improves the estimation accuracy. This effect is independent on the timing of information provision. Finally, we find that subjective confidence in estimates is not a function of quality or the quantity of available information, supporting the conjecture that people often do not account for the possibility that they miss critical evidence for their judgment.

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## Killing two birds with one stone: Reducing scal and welfare loss of tax evasion

**Rostislav Staněk**

*Masaryk University*

**Ondřej Krčál**

*Masaryk University*

Tax evasion causes not only a fiscal losses to the tax authority, but it may also lead to social welfare losses due to taxpayers investment in the concealment of tax evasion. We develop a theoretical model that explores the effect of audit selection rules on the losses from tax evasion. In the proposed experimental design, we test the main prediction of the model that the endogenous audit selection mechanism reduces both the fiscal and welfare loss of tax evasion. Furthermore, our model shows that a higher basic audit probability motivates taxpayers to increase their socially wasteful activities. Our experimental results confrm the predictions of the model. Our paper shows not only that the endogenous audit selection mechanism provides an additional benefit if socially wasteful concealment activities are possible, but also its relative advantage compared to an increase in the audit probability.

# Moral licencing of altruistic behavior: incentivized experiments

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*Radboud University*

**Rosita Verheij**

*Radboud University*

Moral licensing is defined as behavior when "past good deeds can liberate individuals to engage in behaviors that are immoral, unethical, or otherwise problematic, behaviors that they would otherwise avoid for fear of feeling or appearing immoral." (Merritt, Effron, & Monin, 2010). For economists, moral licensing opens the question whether moral behavior is guided by stable preferences, or should be seen as a path-dependent phenomenon, predicting individual oscillation between moral and immoral behavior. So far, the extent, size and contextual dependence of moral licensing has to remain open to discussion, as suggested by recent meta-studies and replication attempts (Blanken, van de Ven, & Zeelenberg, 2015; Blanken, van de Ven, Zeelenberg, & Meijers, 2014). We therefore run a high powered incentivized online experiment on the Amazon Turk platform, addressing moral licensing of altruistic behavior. Altruism is measured in a give&take dictator game, and moral license is generated by a charity donation. Our study contributes to the few controlled experimental works on moral licensing in economics, and does not remove the doubts about the stability of the phenomenon in incentivized decisions.

Sessions V. Stream E: DEA (room 3/3rd floor)

# Efficiency of Digitization Using Data Envelopment Analysis

**Patrik Jankovič**

*University of Economics in Bratislava*

The aim of this paper is to suggest digitization efficiency as a new aspect of digital economy rankings. The paper examines how effectively is digital infrastructure used by individuals, firms and governments. Firstly, development of the mobile internet and the increased role of internet-based social networks connected with commercial platforms, have greatly shaped economy and have profoundly affected businesses, public organizations and personal life (EC, 2018). Lately, there have occurred many digital economy indexes, that provide vast of data series. In this paper we focus particularly on the Digital Economy and Society index (EC, 2014-18) and Networked Readiness Index (WEF, 2012-17). Furthermore, we distinguish elements of indicators, that describe digital infrastructure and others, which show how it is used by individuals, business and government. Afzal and Lawrey (2012) assessed relative efficiency of knowledge-based economies by identifying its input-output framework. Based on their paper, we design an input-output framework for the process of digitization and apply data envelopment analysis (DEA) to reach digitization efficiencies. There are several advantages of using DEA. Firstly, infrastructure and usage indicators can be treated as inputs and outputs. Furthermore, the indicators are measured in different units. Then compared to basic digital indexes the DEA does not use predetermined weights. Finally, the DEA particularly, allows us to use variable returns to scale and identify efficient benchmarks with the very common level of digital network.

# Detection of suspicious businesses: data envelopment analysis

**Matej Hladiš**

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Corruption in public procurements has been considered to be a major problem of modern society. This work offers a new method for detection of illegal machinations in public procurements. Here we suggest using data envelopment analysis (DEA) for the identification of firms suspicious of corruption in public procurements. DEA models are used for multicriterial comparison of decision-making units based on the inputs they use and the outputs they produce. The drawback of these models is high sensitivity with respect to the selection of inputs and outputs. In order to overcome this drawback for additive DEA model, we have developed a method for the selection of inputs and

outputs from a given set of potential attributes. An additive DEA model with the above-mentioned enhancement was used for the analysis of 188 construction companies which won at least one public procurement contract comprising construction works on buildings for leisure activities, sport, culture, accommodation and restaurants between years 2009 and 2016. Super-efficiency was also considered as an alternative and the results for inputs and outputs selection were compared with the results obtained by group lasso method applied in DEA.

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