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Book of Abstracts

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The link between investor sentiment and asset valuation is the subject of considerable debate in the profession. This paper abandons the classical asset pricing that relies on expected utility, and introduces a dynamic quantile model for asset pricing, in which the agent maximizes stream of the future quantile utilities instead. Using the model, we empirically investigate if investor sentiment distilled from textual mining analysis can price tails of the return distributions. On the panel of 100 stocks, we document influence of aggregate investor's sentiment on future conditional quantiles of the return distributions. Aggregate sentiment explains cross-section of tails even after controlling for popular factors used in the literature, as well as firm-specific sentiment and volatility.

Measurement of Common Risk Factors: A Panel Quantile Regression Model for Returns

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In this paper, we propose to measure the common market risk factors using newly proposed Panel Quantile Regression Model for Returns. By exploring the fact that volatility crosses all quantiles of the return distribution, and employing penalized fixed effects estimator, we control for otherwise unobserved heterogeneity among financial assets and we focus on the commonalities in the quantiles of the returns in a selected portfolio. In the Monte-Carlo simulation and afterwards empirical application it is shown that our model perform significantly better than several benchmark models. Results of our research are important for correct identification of the sources of systemic risk, and will be particularly attractive for high dimensional applications.

Time-varying volatility co-movements and spillovers on the new EU forex markets

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We analyze the time varying co-movements of the new EU daily exchange rates (Czech koruna, Polish zloty and Hungarian forint) with respect to the euro from 1999 to 2016. We employ the DCC model to study exchange rate co-movements and the Diebold Yilmaz spillover index to study related spillovers. The results reveal descending conditional correlation before global financial crisis, negative correlation during the EU debt crisis, and ascending correlation after the debt crisis. Moreover, after the ECB launched its quantitative easing program the correlation between the currencies immediately decreased. Further, we show that own market volatility spillovers explain large share of forecast error and that the biggest off-diagonal volatility spillovers are bidirectional. Finally, we calculate hedge ratios and portfolio weights based on the DCC model that provide information to improve portfolio diversification.

Network-based asset allocation strategies

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In this study, we construct financial networks in which nodes are represented by assets and edges are based on correlations. To account for different possible topologies, we construct four types of 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 both return maximization and risk minimization benchmark portfolios, we propose simple adjustments to portfolio selection strategies that utilize centralization measures from financial networks. On a sample of 45 assets (stock market indices, bond and money market instruments, commodities, and foreign exchange rates) and data for the period of 1999 – 2015, we show that the proposed network-based asset allocation strategies improve key portfolio return characteristics in an out-of-sample framework, taking into account transaction costs.

"Should I tell you / or should I not?" The (neutral) effect of Transparency on Information Disclosure Nudge

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With the increasing popularity and application of the nudging concept, several ethical objections against it have also emerged due to its subtle architecture. In order to contribute to the debate, this paper examines nudging in the light of transparency. A transparent nudge is when the citizen being nudged knows the intention behind it and the means adopted to pursue the nudging object. A non-transparent nudge works in a way that the citizen cannot reconstruct the object of the intervention and the means by which the behavioral change is pursued. Wide - philosophical - consent claims how nudging can only be regarded as ethically acceptable when the nudge is transparent (Fischer & Lotz 2014; Sunstein 2015). Hausman & Welch (2010) demand for nudging transparency, even if it potentially undercuts the effectiveness of the nudge. However, empirical research on nudging often shies away from incorporating explicit transparency. We design a survey-experiment to examine whether transparency has negative impacts on nudging effectiveness in its configuration of information disclo-

sure nudge (Loewenstein et al. 2015; Wisdom et al. 2010). In partnership with the German Federal Centre for Health (BZgA), we address the very salient and relevant case of the voluntary participation into the German organ donation initiative. We do not find evidence that transparency inhibits the effectiveness of information disclosure nudges. Our finding supports the policy-relevant claim that information disclosure nudges can be transparent and yet effective, reconciling at the same time philosophical and practical issues. This result is in line with recent findings by Bruns et al. (2016): In a lab experiment, focusing on default nudge applied to contributions to carbon emission reduction, they do not find evidence that transparency inhibits the effectiveness of a default nudging strategy. Similarly, Loewenstein et al. (2015) testing the interaction between transparency and defaults, get to similar conclusions according to results from an online-study focused on medical-care related choices.

Experience with Punishment and Specific Deterrence: Evidence from Speeding Tickets

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This paper analyzes how subjective experiences of being punished affect subsequent offending behavior. The context of our study is the enforcement of speed limits through radars and speeding tickets. Using unique data that cover anonymized individual driving and ticketing histories of more than 170,000 car owners over 15 months, we evaluate drivers' responses to receiving a speeding ticket. We exploit two strategies to identify causal effects: (1) A regression discontinuity design, which builds on an arbitrary speed level threshold that is used to decide which speed limit violations actually trigger a ticket; (2) An event analysis of high-frequency driving behavior before and after receiving a ticket. Both analyses provide evidence on a strong and persistent specific deterrence effect from receiving a ticket. Drivers reduce their speed immediately after they receive the ticket and the reduction is sustained over several months.

Do Fixed-Prize Lotteries Crowd-Out Public Good Contributions Driven by Social Preferences?

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Fundraising for public goods by private contributions is often undermined by free-riding. One prominent mechanism suggested to alleviate this problem is a fixed-prize lottery with winning probabilities proportional to individual contributions (Morgan, 2000, Morgan and Sefton, 2000). This design increases contributions by coupling financing of the public good with a private monetary incentive to win the prize. Yet, as extensively documented by economic experiments, subjects often contribute even in the absence of incentives of this kind, suggesting that their contributions are driven by social preferences. This raises a question of how the lottery incentive interacts with such preferences. We present an experiment in which we de-couple one's own ability to win the prize from the ability of the others to do so. This way, we de-couple the contribution effect of own prize seeking from the potential crowding out effect due to the perception that the others contribute because of their prize seeking, rather than to benefit the group. Even though the lottery increases contributions relative to the voluntary contribution case, we find that it also significantly crowds out voluntary contributions that are likely driven by social preferences.

Time preferences and different measures of cognitive abilities

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The paper investigates whether risk and time preferences are correlated with different measures of cognitive ability. Current behavioral literature suggest that peopel with higher cognitive abilities are less risk averse and more patient. Cognitive ability is usually measured in the experiment by the so called cognitive refection test (Fredercick 2005). Several papers use more detailed measures obtained outside the experimental setting such as SAT scores (Benjamin et al. 2013). In this paper, we ask whether these measures are substitutable when explaining time preferences. We conducted incentive compatible choice experiments measuring risk aversion, and time preferences on the sample of 200 students. A measure of cognitive ability is provided by the standard cognitive reflection test and by the universtity admission tests. The results show that better performance in both measures is significantly and positively associated with patience. The results are significant and robust when controlling for personal characteristics. This suggest that the cognitive reflection test measures different aspect of cognitive abilities than the more detailed admission tests.

Male Education and Domestic Violence in Turkey: Evidence from a Natural Experiment

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We utilize a natural experiment, an education reform increasing compulsory schooling from five to eight years in Turkey, to obtain endogeneity-robust estimates of the effect of male education on the incidence of abusive and violent behaviour against women. We find that husband's education lowers the probability of suffering physical, emotional and economic violence. The only aspect of violence not affected by spouse's education is sexual violence. Schooling also lowers the likelihood that the marriage was arranged against the woman's will, and makes men less inclined to engage in socially unacceptable behaviours such as drinking, gambling, and drug abuse. We also find that women whose mothers or whose husbands' mothers experienced domestic violence are more likely to suffer violence themselves.

Do I want to study? Experimenting with students' motivation

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Declining tendency in studentsÂ´ achievements is clearly prevailing in the Slovak Republic. It was firstly observed in primary and secondary education when Slovak students underperformed in PISA testing compared to their peers from Visegrad countries and other OECD countries (OECD, 2016). There has also been criticism of the performance of the current university students and graduates who quickly lose interest in their jobs and their fluctuation is high. How to motivate these students to improve their performance? Should we provide financial incentives to students for increased school attendance, for reading, or for better grades? Does intrinsic motivation work for university students? From field experiment performed by Levitt et al (2016) on elementary school pupils, we learned that nonfinancial incentives for younger students are more cost-effective than financial incentives. This however, does not work with older students. Extrinsic rewards can boost intrinsic motivation and habit formation (Cameron et

al. 2005; Pierce et al. 2003; Bettinger 2012). If immediate rewards increase students' estimated utility returns to education, then properly structured extrinsic rewards could potentially build (rather than crowd out) intrinsic motivation. Few studies document positive effect of financial incentives on academic performance among university students (Herranz-Zarzoso and Sabater-Grande, 2016). In more detail, financial incentives turn out to have positive effects on achievement of high-ability students, whereas they have a negative impact on achievement of low-ability students. (Leuven et al. 2010). We performed experiment at the University of Economics in Bratislava on the sample of 132 undergraduate students all having attended compulsory module Finance which was scheduled regularly on a weekly basis during February - April 2017. We used 10 low-stake tests comprising of 10 open questions from the current seminar topic as homework and had to be returned on the next seminar for assessment and feedback. We studied motivation between subjects by providing 4 different treatments: (i) external motivation with egoistic aspect, (ii) external motivation with altruistic aspect, (iii) internal motivation, and (iv) baseline treatment with no specific motivation applied. The preliminary results of between-subject analysis reveal the treatment effect on the final grading of the students. In general, assignment to any treatment increases the final grading compare to the baseline. Participation in the treatments also substantially decrease the retake rate of the final exam. Our results also support the intuition that the lowest participation in tests will be observed in the internal motivation treatment followed by the external motivation with altruistic aspect and external motivation with egoistic aspect. As expected, after the optimistic beginning students' activity decreases and stabilize. In addition, during the last two weeks of semester the students' activity dropped substantially in all treatments. Further analysis is need for the verification of statistical robustness of our results.

Once a winner, always a winner?

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We investigate whether the winners of a best prize competition at a series of leading academic conferences are in fact more successful in terms of publishing their papers than the losers. Our results are mixed: we find that the winners' papers indeed attract more citations, and get published in journals that are ranked higher and have a higher journal impact factor. However, these results, obtained with OLS and probit, are not robust to employing quantile regression. The latter results suggest that there are few differences in the quality of publications or citation counts between the winners and losers.

Financial literacy and voluntary savings for retirement in Slovakia

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Recent literature has highlighted the importance of financial literacy in optimal economic and financial behaviour of individuals including pension savings. Using new Household Finance and Consumption Survey data, we empirically analyse determinants of the voluntary retirement savings with the main focus on financial literacy in Slovakia. The results show that only 16% of the non-retired respon- dents voluntarily save for their retirement and only 17% can correctly answer all financial literacy questions asked in the survey. The results further demonstrate that the propensity to save for

retirement in the supplementary pension schemes is positively associated with financial knowledge, controlling for a set of socio-economic variables relevant for the financial decision-making. The impact of financial literacy even strengthens when addressing the potential endogeneity problem by instrumental variable approach. Our findings can help policymakers in promoting voluntary retirement saving behavior of individuals in Slovakia.

The impact of fiscal drag on effective tax rates in Slovakia

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The revenues from taxes and social contributions constitute significant part of government revenues. Their proceeds depend not only on wage growth and on employment but also on the particular setting of the legal framework. The tax systems in many countries usually involve automatic fiscal stabilizers that are changing the effective tax burden even in the absence of direct legislative changes in the system of taxes and social contributions. Fixed tax brackets or tax allowances are good examples of it in progressive tax systems. In time of economic expansion, the wage growth is moderated by excessive taxation, because individuals jump into higher tax bracket. This is the so called "fiscal drag". From the government point of view, the fiscal drag increases its revenues without the necessity of making unpopular changes to the tax system. In the Slovak tax system, allowances of the personal income tax and health insurance contributions take the role of the automatic fiscal stabilizer. Moreover, from 2013 the second tax bracket was introduced. The tax allowances of the personal income tax and tax brackets are linked to the minimum subsistence level. The minimum subsistence level has grown by 16% between the years 2008 and 2016. On the other hand, the median wage in Slovakia has increased by 31% in the same period. Hence, a slow growth of tax allowances compared to wage growth is silently increasing the taxation of income even without direct legislative changes. The Slovak microsimulation model SIMTASK was used to simulate the individual and households' tax liabilities and benefit entitlements according to policy rules from 2008. SIMTASK can simulate all personal income tax components and health and social contributions paid by employees, employers and self-employed along with selected transfers. SILC 2013 was used as an underlying dataset indexed to the corresponding reference year. We found that the tax burden due to the fiscal drag has increased from 2008 across the entire distribution of income on individual level, with the highest impact of 2.3 p.p. on the low income earners. Only in 2009 and 2013 has occurred a negative fiscal drag effect, meaning that the linked tax allowances grew faster than the median wage. We also showed that the average effective tax rate on the household level represented 6.9% in 2016 and rose by 2 p.p. compared to 2008. The average effective tax rate would have risen by only 0.9 p.p if there was no fiscal drag. The tax wedge on the household level was 36% and it has grown by 1.6 p.p. from 2008. The fiscal drag effect contributed by 0.9 p.p. to this growth. We also estimated the fiscal effect of the fiscal drag during the period 2008-2016. The government revenues have increased by 250 mil. euros during the whole period due to the slow growth of tax allowances compared to wage growth.

Tax compliance with endogenous audit selection and heterogeneity of income

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It has been shown in the experimental tax compliance literature that endogenous audit selection mechanism (ASM) increases tax compliance. However, this literature assumes that the tax authority has an unbiased observation of the actual taxpayers' income and consequently the taxpayers with the largest difference between the observed and reported income are most likely to be selected for audit. In reality the tax authority might not have unbiased information about the actual incomes as these might be observed only for taxpayers who have been selected for audit. In this case the ASM can be based on reported incomes only. The aim of the paper is to design an endogenous ASM that uses only the reported incomes and experimentally compare the tax compliance under the endogenous and random ASMs. We develop a theoretical model where taxpayers have heterogeneous income and the ASM is based only on the reported income. We show that in the symmetric Bayes-Nash equilibrium the proposed endogenous ASM entails a higher compliance than the random ASM. The experimental test of the design confirms the theoretical prediction that taxpayers have higher compliance under the endogenous ASM than under the random ASM.

Evaluating Tax Reforms Using Behavioural Microsimulation Embedded in a Dynamic General Equilibrium Framework

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We introduce a new way of embedding microsimulation analysis into a dynamic general equilibrium framework. Our contribution simplifies policy evaluation work in which expectations of agents concerning the dynamic evolution of the economy need to be taken into account when calculating the general equilibrium effects of policy decisions. This behavioural aspect has not yet been captured in existing work aiming to introduce general equilibrium feedback into microsimulation analysis. We demonstrate the practical usefulness of our approach on actual and hypothetical tax reforms evaluated in the context of the Slovak economy.

Eligibility and Take Up Rates of Parental Leave in Poland

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Large body of literature discusses the outcomes of introduction and extension of maternity and parental leaves. Very little attention was assigned to the problem of differences in eligibility due to diversity of labor market contracts. Based on LFS we use latest parental leave in Poland to discuss

the effect of different labor arrangements on female employment, fertility and leave take-up rate. We show different opportunities faced my mothers and children resulting with a negative net effect of the reform.

Career Breaks after Childbirth: The Impact of Family Leave Reforms in the Czech Republic

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The Czech Republic is a country with a strong attachment of women to the labor market, but with one of the longest paid family leaves, which is often followed by a spell of unemployment. Using a difference-in-differences methodology, we study the impact of two reforms of the duration of the parental allowance on the labor market status of mothers 2-7 years after childbirth. While the 1995 reform prolonged the allowance from 3 to 4 years, the 2008 reform allowed some parents to shorten the duration of the allowance to only 2 or 3 years with an equivalent total monetary amount. We find that in response to the 1995 reform, 36% of mothers extended their family leave beyond the 3-year job protection period. The 2008 reform partially reversed this effect. Both reforms had a considerable impact on post-leave unemployment and inactivity of mothers.

Long-term effects of the traineeship programme for graduates

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We utilize a rich administrative dataset to explore the treatment effects related to participation in the most popular active labour market policy programme targeting youth unemployed in Slovakia. Three alternative methodological approaches are applied: propensity score matching, inverse probability weighting and two-stage least square estimations using an instrumental variable. Participation in the programme seems to increase employment chances of participants during the post participation period. Estimated positive and statistically significant employment effect increases 30 months after the participation. Positive employment effect is in contrast with a negative income effect on participants during the post participation period. Estimations are consistent across all three applied methodological approaches.

Do women face glass-ceiling at home? Gender gap in chores, female labor supply and stability of marriage

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Why women have lower wages than men? This question was central to many studies studying labor market as a source of gender pay gap. This includes discrimination, sorting into occupation and sectors, bargaining over firms profit and loss of human capital during motherhood. However, little attention has been paid to within family interactions and division of household chores. Bertrand et al. (2015) shows path breaking evidence US couples often avoid situation when a wife earns more than her husband, which, according to the authors, is inconsistent with many existing

bargaining models. In this paper, we show evidence that social norms may work through household chores, which are considered female responsibility, regardless of her income and labor supply. In particular, we first show evidence from 14 EU countries that working females perform more chores regardless of their observable labor market outcomes. Further, using cross-sectional evidence, we show that if a woman earns more than her spouse, she still does significantly more chores and this holds even if her hours worked at job are higher. We depart from Bertrand et al. by showing that couples do not necessarily avoid situation when wife earns more than her husband, but rather that wife should not work more hours at work than men, because it would impose higher burden on male spouse and threaten stability of the marriage. We will further discuss potential identification strategies that would potentially control for unobserved characteristics of couples where women earn more than men.

Macro Drivers of Credit Risk. Sector Based Analysis with Slovak Data

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Lukas Majer
University of Economics in Bratislava

We investigate the microstructure of the corporate sector, namely dependence of sector specific default rates on the domestic and external macroeconomic factors. We find that strength and importance of macroeconomic determinants differs for explaining individual sector default rates in Slovakia. Our results also confirm a general hypothesis that financial stability of the companies in construction and trade sectors is more sensitive to macroeconomic environment than of the companies in manufacturing and services.

Checking the Pulse of the Economy

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The first release of real GDP as a headline indicator of aggregate economic activity is available within 47 days after the end of the reference quarter. Using available leading indicators of higher frequency it is possible to nowcast the actual state of the business cycle during this "empty" period. Using an assumption of unobserved factor driving the cycle we estimate a dynamic factor model based on a balanced set of domestic and foreign indicators. The model with persistent dynamics of common and idiosyncratic factors is able to predict the actual growth of the economy with a mean square error of 0.1 percentage point and a root mean square error within 0.3 percentage points of quarterly GDP growth during the last month of actual quarter. The CBR monitors closely the actual state of the business cycle of Slovakia. Up-to-date information is crucial for fiscal planning. Unrealistic and outdated macroeconomic forecasts could seriously hamper budgetary objectives.

Comparison of Forecast Performance of DSGE and VAR models: A Meta Analysis

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Dynamic stochastic general equilibrium (DSGE) models have become a standard modelling tool in central banks and policy institutions. Despite their undisputable usefulness in policy scenario analysis, systematic evidence on their forecast performance is both scarce and mixed. Growing number of studies assessing the DSGE models' forecast performance al-

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lows us to quantitatively evaluate this issue by means of a meta-regression analysis. Our hand-collected data from 30 research papers consists of around 350 relative RMSEs estimated for DSGE models and their (B)VAR benchmarks both for the GDP growth and inflation rates. Results from the meta-regression analysis suggest that DSGE models tend to produce more accurate forecast than their benchmarks. We have identified several possible determinants of the forecast performance: (i) DSGE models' forecasts published in better quality academic outlets are more accurate; (ii) DSGE models with more balanced ratio between the number of unobserved and observed variables perform considerably better; (iii) DSGE models forecast better for advanced economies and at longer horizons; (iv) larger sample size helps to forecast inflation, but not the GDP growth. Overall, our evidence suggests that forecasting inflation is more difficult than the GDP growth by DSGE models. We see a further space for DSGE models development regarding forecasting.

Impact of uncertainty in monetary policy response

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We review the findings of Orphanides (2001) that monetary policy rules look different when estimated on real-time data rather than revised data. Consequent differences are then likely to provide misleading impression on the monetary policy responses to inflation. We use Blattner and Margaritov (2010) "thick modelling" framework to estimate policy rules for the euro area. The findings confirm different policy response between use of real-time and revised input data. This is especially the case when estimated with backward looking rules and/or the subset characterised by environment of heightened uncertainty.

Behavioral Sources of Impatience among the Ultra-poor: Scarcity of Attention or Self-control?

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Charles University & CERGE-EI

Ian Levely
Wageningen University

This paper presents experimental evidence on psychological effects of poverty on impatience. We primed ultra-poor farmers in Uganda with a scenario of either a serious or a small income shock, and then measured their time preference using an entertainment discounting task. The results show that concerns about poverty-related problems increase individual preference for earlier consumption of entertainment. In addition to measuring choices, we employed monitoring techniques and gathered uniquely detailed data on decision-making process, which reveal that the behavioral change induced by the poverty scenario can be attributed neither to differences in attention to the task, nor to making more mistakes. Finally, we study whether the effects on time preference are due to increased self-control problems, by manipulating contextual features. We find that the effect of poverty prime on discounting is generally robust, but can be muted when the option of consuming entertainment early is not salient, i.e. when deciding about future allocations or when a default allocation is patient. Taken together, our results support the interpretation that thinking about poverty taxes the ability to exercise self-control, but does not seem to impede attention.

Religion, Leadership and Coordination: Evidence from a Lab Experiment in the Field

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Religious inequality and discrimination targeting religious groups, may translate into resentment and fuel conflict. This paper uses data from an artefactual field experiment and survey conducted in 44 towns in India to examine whether Muslim or Hindu leaders are more likely to overcome co-ordination failure and whether a history of religious conflict influences this behaviour. We find that Muslim leaders encourage greater coordination relative to Hindu leaders. We then investigate possible solutions for group favourtism. Differences across groups disappear when Muslim and Hindus work together in a pre-task contact game. This policy is most effective in conflict prone areas. On the other hand, an affirmative action policy that places Muslims in leadership positions, decreases coordination in Muslim led groups, this impact is strongest in high conflict areas.

Aggressive Competitiveness in Groups

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In this paper, we design a large scale lab-in-field experiment to test a long-standing conjecture in sociology and social psychology that group membership may have a dark side, by motivating hostile behavior towards outsiders even at own expense. We show that being in a group with randomly assigned real-life peers makes people more willing to seek competition with out-siders and elevates aggressive behavior that improves relative position of own group but is costly for the decision-maker, in-group members and the victim. Next, using an integrated design that links literature on group membership and group decision-making, we demonstrate that this behavioral effect of group membership on aggressive competitiveness is the prime source of the discontinuity in the extent of pro-social behavior between unitary groups and individuals, a more important one than a shift towards selfishness and rationality associated with group deliberation and decision-making. We establish these findings by implementing the experiments in the field, among a large and diverse sample of subjects in Central Europe and East Africa. We observe strikingly similar effects of group membership at both sites, which increases our confidence that the preference for competing aggressively when being a part of a group is a deeply rooted and generalizable behavioral response.

Vertical and Horizontal Transmission of Social Norms

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In economics, social norms are usually thought of as interpretation of economic behavior otherwise difficult to explain, and have been re-introduced into economic literature only recently. Not much is known about how so-

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cial norms emerge and how they are acquired by children. The study is undertaken in the context of segregated Roma communities, which offers a unique environment for study of the topic. We use an experimental approach to assess the degree to which beliefs about social norms are clustered within families and across different communities. We show that beliefs about social norms of younger children are more closely related than the beliefs of older children. We argue that beliefs about social norms of adults and older children are more likely to be affected by the community than beliefs of younger children. This study sheds a new light on how social norms are acquired by children living in communities with a high concentration of poverty. It particularly contributes to the literature on intergenerational transmission of disadvantages, and provides insights into social norms transmission mechanisms among the poor. The knowledge of such mechanisms may be useful in the processes of improving anti-poverty social policies efficiency.

Parallel Sessions II. — Stream B: Corruption and lobbying

Every Vote Counts: Evidence on Corruption Culture Peer Effects from Representatives' Voting Attendance

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In this paper, we study the effect of peers and culture on corrupt behavior. We use the European Parliament (EP) as a natural laboratory, as Members of the European Parliament (MEPs) face the same institutional setting, however they differ in corruption culture due to different nationalities. This approach allows us to disentangle the effects of culture from the effect of institutional environment on the corrupt behavior. Especially the enlargement of the EP enables us to isolate the effect of bureaucratic setup from corruption culture peer effects, as the majority of new member states are among the most corrupt in Europe as measured by the Corruption Perception Index. The research question is whether and to what extent corruption behavior among MEPs from old EU member states changes after they interact with the MEPs from the new EU member states, who entered the European Parliament in 2004. We study this question by analyzing the patterns of shirking behavior, as MEPs recieve a per diem compensation for every day they sign the attendance sheet. However, this compensation is not affected by their actual attendance. Given that corruption can be defined as the abuse of entrusted power for private gain, we define a measure of corruption as a number of days MEP actually attended a session (taken from his/her voting record) divided by number of times he/she signed the attendance sheet. We show that in political fractions with higher shares of MEPs from new member countries MEPs from older member states shirk more. This is consistent with the hypothesis that individuals from more corrupt cultures affect those from less corrupt cultures.

What Shapes Social Attitudes Toward Corruption in China? Micro-Level Evidence

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This research investigates the determinants of corruption in China using micro-level data. We use survey data on 6,000 households from 28 provinces to estimate logit models that show how corruption perceptions and attitudes to corruption are shaped by individual and provincial determinants. Respondents who see themselves as lower class, as well as

Development and Cooperation

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members of the Communist Party of China, are more likely to perceive and reject corruption than other respondents. People in rural areas perceive less corruption, but do not differ in their attitudes toward corruption.

Lobbying in mergers and acquisitions

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Peter Roosenboom
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This paper studies acquirer lobbying patterns in M&As. Documenting the US antitrust-review process for M&As in detail, we unveil that regulatory costs and risks are significant and that mitigating these risks via lobbying by acquirers may benefit shareholders. An adverse antitrust-review outcome leads to a decline of at least 2.6% in both acquirer and target firm value. Acquirers strategically adjust lobbying expenditures around the merger announcement. Preemptive lobbying before deal announcements increases the chances of favorable review outcomes and is valued by shareholders, especially in acquiring firms with strong corporate governance. Post-announcement lobbying, concurrent with the antitrust-review process, increases with adverse review outcomes. Nevertheless, acquirer lobbying does not seem to be used to lure the antitrust agencies into approving anticompetitive mergers but rather to share information with the agencies. Our results highlight the role of political connections in corporate investments under regulatory uncertainty.

To bribe or not to bribe? Corruption uncertainty and corporate practices

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Using a large sample of private firms over the period from 2001 to 2013, we study the effect of corruption uncertainty on corporate investments and cash holdings. We find that a higher uncertainty about the level of corruption is associated with lower corporate investments and lower cash holdings. These results are sensitive to the ownership structure of a firm. Firms with no foreign majority ownership appear to be more sensitive to corruption-induced uncertainty than majority-controlled foreign firms. They significantly decrease their investments and cash holdings. We hypothesize that they move their cash off-balance-sheet to create cash reserves as the uncertainty of when, whom, and how much to bribe increases.

Money Can't Buy EU Love: European Funds and the Brexit Referendum

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We explore the role of the transfers that UK regions received from the Europeanstructural and cohesion funds, as well as other economic and social factors, in deter-mining the support for the Remain vote in the Brexit referendum. We nd that pastCohesion Policy transfers have played virtually no role in the referendum. Economi-cally strong regions tend to be in favor of remaining in the EU. Somewhat surprisingly,the intensity of

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immigration from the EU is positively correlated with the Remain vote.

Corporate Governance and Executive Officers' Compensation in France

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France is a civil law country where mono and dual boards coexist. Little is known about corporate governance and executive compensation in France. Recently improved corporate disclosure requirements in France allow us to assemble a unique data set covering corporate governance practices and executive officers' compensation in CAC 40 firms, covering the years from 2001 to 2009. We present tabulations of corporate governance practices and executive compensation for this hand collected dataset. Further we study the impact of corporate governance arrangements (dual vs. mono board structure, presence of CEO duality, number of directors on the board, and level of interlock) on executive compensation.

Relationship Between Economic Freedom to Global Entrepreneurship Index

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M.R. Štefánik Conservative Institute

Relationship between Economic freedom and economic growth is well-researched and proven. The correlation is positive and statistically significant. Some authors doubt that since there are countries which enjoy high living standards while they don't hit high in indices of economic freedom, like Nordic countries. This paper argues that it's still better to hit better in economic freedom indices since economic freedom also enhances entrepreneurship indices. Saha, Su a Campbell (2016) a Das a Dirienzo (2009) researched impact of economic and political freedom on incoming Tourism and found significant relationship between examined variables. Others have researched on positive impact of entrepreneurship on further branches of the economy. Paper thus shows that research of the relationship between economic freedom and index of entrepreneurship is decisive for setting the correct economic policies to foster entrepreneurship.

Balance sheet consequences of the CNB's exchange rate commitment

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Czech National Bank

Branislav Saxa
Czech National Bank

As a result of the exchange rate commitment of the Czech National Bank that was in place between November 2013 and April 2017, the size of the central bank's balance sheet reached about 70% of the GDP at the beginning of 2017. In our paper, we simulate the developments of the central bank balance sheet over the next 20 years. Results of our simulations show the expected path of the central bank balance sheet along with profit and loss outlook in baseline scenario as well as in alternative scenarios. Possible consequences are discussed. In addition, the situation is compared with the case of Switzerland, which had the exchange rate floor in place between November 2011 and January 2015 (work in progress).

Frequency response analysis of monetary policy transmission

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Lukas Vacha
UTIA AV CR

In our study, we consider a new approach 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 dynamics of shocks at given time and over frequencies and thus reveal 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, however, their amplitudes vary significantly in time.

The Pass-Through of Monetary Policy Rate to Lending Rates: The Role of Bank Competition, Credit Risk, and Unconventional Monetary Policy

Jiri Gregor
VSB-TU Ostrava

Martin Melecky
VSB-TU Ostrava

The interest rate pass-through describes how sensitive lending rates in an economy are to changes in the monetary policy rate and thus the monetary policy stance. This paper assesses how the monetary policy rate affects the lending rates for the consumer, mortgage, SME, and corporate loans in the Czech Republic. Furthermore, the paper examines whether this interest rate pass-through has been materially affected by the onset of the global financial crisis, which had spillover effects on the Czech economy, and the post-crisis environment. The latter included the use of foreign exchange (FX) interventions as an unconventional monetary policy tool.

Monetary policy announcements and stock market volatility: a multi-country study

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Štefan Lyócsa
University of Economics in Bratislava

Peter Molnár
University of Stavanger, UiS Business School

We investigate the impact of monetary policy announcements on the stock market volatility. In particular, we investigate the impact of policy rate and quantitative easing announcements of Federal Reserve System, Bank of Canada, Bank of Japan and European Central Bank and the stock market volatility in US, Canada, Japan, UK, Germany, France, Italy and Eurozone as a whole. Quantitative easing announcements increase stock market volatility in their respective countries, but the effect is not significant due to low number of observations. Policy rate meetings increase volatility significantly and this increase is higher for interest rate increases. Volatility five days before the meeting is not affected, but volatility five days after the meeting is decreased. We conclude that the impact of monetary policy announcements on the stock markets during the period 2006 - 2016 was stabilizing.

Asset pricing in the quantile-frequency domain

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Despite many attempts to understand cross-section of asset returns, there is no consensus on the functional form of the pricing kernel, cornerstone of the asset pricing theory. Many simplifying assumptions, such as quadratic preferences in CAPM model, led to results not supported by the real-world data. In the recent literature, two fruitful approaches emerged trying to explain risk premium of the assets. One with emphasis on asymmetric features of the asset returns based on the notion that agents put more weight on downside risk then upside potential when pricing an asset. The other approach stresses that risk aggregated over all investment horizons is not an adequate measure and emphasises the importance of frequency-specific risk and its implications for agents caring differently over various economic cycles. We aim to unify these two approaches and show that downside risk possesses complex structure and differs over various cycles. We do this by defining quantile cross-spectral betas that capture exposure to the downside risk over different investment horizons. Downside risk in our approach is characterized by the quantile dependency, which is further decomposed into frequency domain. We apply it to the wide range of asset classes and asses how the model jointly prices them.

Okun's law in the Visegrad Group countries - its time-(in)variance and gender-(non)specificity

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For the post-transition period and using data from Q1/2000 until Q1/2016, the paper investigates whether cyclical fluctuations in output and unemployment in the four Visegrad Group (V4) economies behave in accordance with Okun's law. The gap version of Okun's law is entertained and the initial all-labour formulation is extended into a formulation accounting for cyclical fluctuations also in the male and female part of the labour market. The Hodrick-Prescott filter serves in obtaining estimates of output and unemployment gaps and is improved by the proposals of Kaiser and Maravall as well as Marcet and Ravn to help better comparisons in a cross-country context. Okun coefficients are estimated first as conventional fixed long-run coefficients of an ARDL model and then the state space approach based on the Kalman filter is used to estimate their trajectories to capture their possible non-constancy in time. The findings cast doubt about the universal and constant validity of Okun's law in the V4 countries in the investigated period. Although spells of validity are found to alternate with spells of invalidity and the cyclical responsiveness of output and unemployment changes over time, Okun's law for the investigated period might be considered on average valid in Poland and Slovakia. Gender-specific Okun coefficients are in an offsetting relationship and their trajectories are more volatile. Several reasons are identified that may explain the detected failure of Okun's law and the different behaviour of gender-specific Okun coefficients.

Specialisation in unpaid work - an insight into time economics of Slovak households

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The paper is intended to offer an insight into time economics in the context of Slovak households. It deals with the division of housework and specialisation within heterosexual couples in productive age. The aim of the paper is to identify factors which influence specialisation of households in unpaid work and to describe a typology of Slovak households concerning their specialisation. The study is based on the data collected within the project VEGA 1/0935/13 "Unpaid work as a potential source of socio-economic development of society and the determinant of individual's wellbeing" consisting of a sample of 5120 individuals within 1854 households. Using exploratory factor analysis and linear regression it analyses the influence of bargaining power of partners, time availability and gender role attitudes. Empirical results point out significant role of family- career orientation of women as well as changing pattern of housework division among generations.

Testing for labour market segmentation in Europe

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Over the past few decades the existence of separate labour market segments characterised by unexplained wage differentials, unequal working conditions and stability patterns has been claimed lacking to provide recent evidence. To fill this gap, this paper tests for the existence of labour market segmentation, based on the assumption that wage-setting mechanisms differ between labour market segments using the longitudinal data from European Union Statistics on Income and Living Conditions (EU-SILC). First, labour market segments are constructed using cluster analysis. Second, the returns to human capital investment are then estimated within each segment. Additionally, switching regressions model as an alternative estimation strategy is implemented. Preliminary results suggest, that the earnings differentials between segments are not based on individual differences in productivity. I find that the schooling and work experience are non-significant in determining the wages in marginalised segments.

Sensitivity of the Bounds on the ATE in the Presence of Sample Selection

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Matej Bel University

Roman Nedela Jr.
Matej Bel University

This paper reformulates the problem of bounding average treatment effects under sample selection studied in Lee (2009) as an optimization problem. This allows researchers to easily conduct sensitivity analyses of the identifying assumptions while the bounds remain sharp. We provide a mathematical formulation of the problem, replicate the existing analytical results and extend them to a sensitivity analysis.

Political risk and the timing of oil exploration

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Norwegian University of Science and Technology

Štepán Mikula
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Peter Molnár
University of Stavanger

This paper documents a strong negative relationship between political risk and investments in the petroleum industry. Our unique data set allows us to study the timing of investments in individual oil and gas fields around the world. We find that oil and gas firms invest faster in countries that are politically stable and have solid protection of property rights. We also document that major international companies respond to all risks investigated more strongly than national oil companies. In addition, we provide evidence that companies with higher relative valuation (Tobin's Q) and companies with lower debt invest faster.

Asset prices in a production economy with long run and idiosyncratic risk

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Czech National Bank

This paper studies risk premia in an incomplete-markets economy with households facing idiosyncratic consumption risk. If the dispersion of idiosyncratic risk varies over the business cycle and households have preference for early resolution of uncertainty, asset prices will be affected not only by movements in current and expected future aggregate consumption (as in models with a representative agent), but also by news about current and future changes in cross-sectional distribution of individual consumption. I investigate whether this additional effect can help to explain high risk premia in a production economy, where the aggregate consumption process is endogenous and thus can potentially be affected by the presence of idiosyncratic risk. Analyzing a neoclassical growth model combined with Epstein-Zin preferences and a tractable form of household heterogeneity, I find that countercyclical idiosyncratic risk increases the risk premium, but also effectively lowers willingness of households for intertemporal substitution and thus changes dynamics of aggregate consumption. Nevertheless, with the added flexibility of Epstein-Zin preferences, it is possible to both increase risk premia and maintain the same dynamics of quantities by a suitable recalibration of utility parameters.

State history and the growth-finance nexus

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This paper examines the role of ancestral institutions in shaping the relationship of financial development with economic growth. Ancestry, measured by state history, is understood as the exposure of the population inhabiting the current territories of countries to organized statehood and institutions. Our research builds on three strands of the literature: the growth-finance nexus, the political economy of financial development and the deep roots of economic development, more precisely the effect of ancestral institutions on contemporary economic development. Our main hypothesis is that state history (ancestry) above a certain threshold level adversely affects the relationship of financial development with economic

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growth through reinforcing extractive institutions and the capture of the financial sector by vested interest groups. We test this hypothesis on the global sample of countries by estimating typical Barro-regressions by the technique of dynamic panel threshold regressions. Our results show that, indeed, a too long state history deteriorates the growth effect of financial development and extractive institutions can undermine the growth-finance nexus.

Do co-jumps impact correlations in currency markets?

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Lukas Vacha
IES FSV UK

We quantify how co-jumps impact correlations in currency markets. To disentangle the continuous part of quadratic covariation from co-jumps, and study the influence of co-jumps on correlations, we propose a new wavelet-based estimator. The proposed estimation framework is able to localize the co-jumps very precisely through wavelet coefficients and identify the statistically significant co-jumps using bootstrapped test statistics. Empirical findings reveal the different behaviors of co-jumps during Asian, European and U.S. trading sessions. Importantly, we document that co-jumps significantly inflate correlation in currency markets.

Parallel Sessions III. — Stream A: Corporate finance / BvD session

Economic research with Bureau van Dijk

Tomáš Karchutňák
Bureau van Dijk

The aim of this presentation is to introduce Bureau van Dijk and its main company databases. Bureau van Dijk is now a Moody's Analytics Company. Orbis, the flagship of Bureau van Dijk's company databases covers around 250 million companies all over the world. All over, our products cover a wide set of variables, delivering information on private companies in globally comparable formats, M&A deals, economic metrics, corporate ownership structures, and data on banks, insurance companies and non-banking financial institutions. We offer the ideal information packages for academic research and learning resources. Our solutions are simple-to-use, detail orientated and have extensive, authoritative coverage. We have a 10 year history on Orbis. Our software helps the users research changes over time and includes options like time-series searching where it can searched for values that are consistent over a number of years. If there is a need to go back further than 10 years we have a specific solution - Orbis Historical. In the second part of the presentation, various examples of the usage of Bureau van Dijk databases in academic research are named. In the last practical part, the various examples of the academic usage is being elaborated in bigger detail.

Capital Structure Changes after Acquisitions

Jiri Tresl
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Jan Hanousek
CERGE-EI

While capital structure is believed to be stable, recent literature documents significant instability of leverage ratios in the life of a company. We examine the leverage ratios of the acquirer and target before and after an acquisition, where the post-acquisition target firm is a separate entity. Our results show that acquisitions cause a significant increase in the leverage of acquiring firms which remains elevated in subsequent years. However, the acquisitions are found to have no effect on the leverage of targets. We hypothesize that the controlling company must have had motives for its own capital structure, without changing the capital structure of the target.

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University of East Anglia and CERGE-EI

The acquirer could be interested in enhancing performance through additional leverage for its own company without increasing its riskiness, which is offset by not changing the leverage of the target, and thereby maintains the merger risk diversification motives.

Firm survival in new EU member states

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Evžen Kočenda
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We analyze firm survival determinants in four new European Union member states (Czech Republic, Hungary, Poland, and Slovakia). We employ the Cox proportional hazard model on our rich dataset containing numerous characteristics of 36,498 firms over the period of 2006 – 2015. We show that less concentrated control of large shareholders, higher solvency, and more board directors are linked with increased probability of firm survival in all four countries. However, excessive number of board directors shows detrimental effect. Firms with foreign owners and higher returns on their assets exhibit better survival chances. Surprisingly, larger firms and those hiring international auditors show lower probability of survival. Number of determinants produces specific influence on firm survival that differs across countries. This fact emphasizes that differences in business conditions are important when studying firm survival.

Youth Unemployment in Slovakia Based on the Attained Level of Education

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This article explores the development of youth unemployment in Slovakia in recent years in the context of the transition of young adults from education to the labour market. The objective of this paper is to analyse the impact of the completed level of education on the unemployment of youth in the Slovak Republic. Two fac-tors are particularly relevant: a steep rise in participation in the labour market between the ages of 15 and 24, and the fact that young people in education are often also employed or unemployed, so there is some overlap between the labour market and education. In the recent years, university students started to work more and more during their studies. This fact goes hand in hand with the change in the point of view of companies - for them it is worth creating positions for students or trainees and employing them part-time (in Slovakia: student temporary job agreements), with the potential of full-time employment after finishing studies. In the paper, we compare the situation in Slovakia with other European countries from different perspectives (e.g. the unemployment rate, the quality of education systems as measured by PISA). The position of young people in the Slovak labour market is more serious than in most of the EU-28 countries. Based on the retrieved data, it is clear that more education improves job prospects in general, as well as the likelihood of remaining employed in times of economic hardship. Secondary education graduates are in a more difficult situation than tertiary education graduates. The paper points out the necessity of general policy frameworks to prepare youngsters for a successful entry into the labour market.

Computers in Slovak schools: Impact on Student Performance

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This paper examines the impact of computer use on the performance of Slovak students in mathematics, reading and science as measured in OECD's Programme for International Student Assessment. To this end, it compares the performance of those students who use computer at school with students who do not. The causal impact is estimated using a Bayesian modeling procedure, known as Bayesian Additive Regression Trees (BART). The results indicate that the effect of computer use on student performance is relatively strong and ranges from 6.2 PISA points in case of science scores to 8.9 PISA points in case of reading scores. However, treatment status is among the most important variable in explaining the response only in case of science scores.

Beautiful minds: the impact of beauty on research productivity in economics

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Boontarika Paphawasit
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We examine the impact of physical attractiveness of on productivity. Previous literature found a strong impact on wages and career progression, which can be either due to discrimination in favor of good-looking people or can reflect an association between attractiveness and productivity. We utilize a context where there is no or limited face-to-face interaction, academic publishing, so that scope for beauty-based discrimination should be limited. Using data on 2,800 authors who published their papers in 2012 in 16 economics journals, we find a significantly positive effect of authors' attractiveness on research productivity measured by citations, journal ranking, and journal impact factor. Other strong predictors of productivity are team size (positive effect on productivity) and work tenure (negatively correlated with productivity). These results are obtained with both OLS and quantile regression. Our results suggest that physical attractiveness has important benefits even in the absence of face-to-face interactions.

Sovereign default risk and debt limits: Case of Slovakia

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Council for Budget Responsibility

Ludovit Odor
Council for Budget Responsibility

We use a sovereign default model developed by Hatchondo et al. (2015) to study the implications of adopting constitutional debt limits. It can be shown, that for a benevolent government issuing long-term debt it is welfare-enhancing to introduce credible fiscal rules to mitigate the so called "debt dilution" problem. By calibrating the theoretical model to Slovak data, we estimate the optimal (net) debt brake threshold at 48 percent of the mean annual output. Compared to a no-rule economy, the introduction of a fully-credible debt limit represents a substantial decrease in average sovereign spreads (50 basis points). In the empirical part of the paper we find that the introduction of the constitutional Fiscal Responsibility Act in Slovakia in 2011 might have helped to lower sovereign spreads compared to euro area peers by 20-30 basis points.

The Renminbi: A Warrior for Competitiveness?

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António Portugal Duarte
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Matheus Santos
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The purpose of this paper is to describe the evolution of China's exchange rate policy, relate it to the international competitiveness of the Chinese economy and assess the claims that China has been manipulating the exchange rate to foster its competitiveness. We begin by reviewing the historical evolution of China's exchange rate policy. We then describe the implications of the constraint represented by the "trilemma" (or "impossible trinity") of international economics for China's economic policy. We assess whether the Renminbi can meet the requirements to be considered an international reserve currency. We also propose to evaluate the degree of currency manipulation by looking at the magnitude of the exchange rate forecast errors. Our interpretation of the test is that currencies subject to higher degrees of manipulation should be easier to forecast. We find that the magnitude of the forecast errors associated with the Chinese currency's exchange rate is not noticeably smaller than the magnitudes observed for other currencies. This leads us to conclude that our test does not corroborate the view that China is a notorious currency manipulator. Countries wishing to improve their international competitiveness may therefore look to China's history for insights. However, it is unlikely that policies oriented to setting the exchange rate to artificial values will find support in China's exchange rate policy in recent years. Our conclusion runs counter the common view on China's exchange rate policy.

Subsystem analysis of the deindustrialization trends and their drivers in European countries

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University of Economics in Bratislava

In this paper, we analyze the extent and main drivers of the so-called deindustrialization in European countries over the last decades. The analysis is based on a subsystem perspective that allows us to reveal the proportion of the activity of each industry that comes under the individual subsystems. We analyze several research questions. Have the European countries become more deindustrialized considering both direct and indirect effects? Does the magnitude of the changes (direct vs. direct and indirect) differ? How did market services integrated into the manufacturing help to mitigate the deindustrialization effects? Is manufacturing more integrated at the subsystem level? What was the role of international trade and "tertiarization" in this process?

Reception of Austrian Economic Thought in Central Europe

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Július Horváth
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A recent trend welcomes comparative histories of thought, supposing that countries have more in common when it comes to economic thought than nationalist histories found until now. Economic thought in the Central European countries (CEECs) Czech republic, Hungary, Poland and Slovakia, still lacks such a comparative history. This paper identifies one connecting pattern of thought in CEECs in their vicinity to and intellectual dependence on Austria. Paper is framed in the literature on how ideas transmit from one country to another. It uses a general framework of the

distinction center - periphery of the science. It cloths the frame with the concrete experience of individual countries with the transmission of ideas from Austria, which was part of the center countries for supervised period of 1880s through 1930s. Paper concentrates more closely on the example of the Czech republic, where the transmission of ideas proceeded within one country - from German universities to the Czech universities.

Who Runs the AEA? Leadership Hierarchy in American Economics

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The American Economic Association (AEA) comprises approximately 20,000 professional economists, belonging mostly to hundreds of universities, government and international agencies, and businesses. It is a key institution of the economics discipline, serving as the public face of the profession and operating the central labor market for economists in the United States, which is also important internationally. The governance of the AEA is formally democratic, although it is widely perceived to be run by a consistently narrow group of prominent economists. To investigate the nature of the leadership of the AEA and to try to understand how that leadership has changed over time as the economics profession has developed in the post-World War II era, we have constructed an extensive biographical database. The database is essentially a complete record of the leadership from 1950-2014, covering the offices of President/President-elect, Vice-president, members of the Executive Board as well as the Nominating Committee. For each person we have identified education and employment histories and academic and other honors. We have compiled similar information on losing candidates for VP and Executive Board positions, holders of notable awards who have not been involved with the AEA, other most cited economists and a random sample of ordinary members of the AEA over the same period. We use the database to document patterns in the leadership, including identifying a small core set of universities to which the majority of the leadership are affiliated through education and/or employment. We show how the composition of the core has shifted and narrowed with the expansion of graduate education in the postwar period. And we address the question, is the narrow core a response to merit or institutionalization of a self-perpetuating elite?

Economics in Central Europe till the World War One

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This paper discusses the contribution of Central European economists till the World War One. We discuss mostly contributions in the Hungarian Kingdom, but also discuss the contributions coming from the Czech Lands. Works of economists, political economists, thinkers, intellectuals, political and social activist are discussed. Among those who are in consideration we mention Ladislav Chleborád, Josef Kaizl, Albín Bráf, Karel Havlíček Borovský, Kautz Gyula, Berzeviczy Gergely, Michal Balugjanskij, Peter Kellner-Hostinský, Juraj Fandly, Juraj Palkovic, Ludovit Stur, and others.

Economics of the Vanity Secession

Hana Lipovská
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Secession has become the subject of wide discussion among economists in the 21st century. Case of Catalonia, Scotland and Flanders promotes the importance of the political economy of conflict. This paper challenges the conventional discussion of economic and romantic factors of secession. Our unconventional approach is based on the application of game theory. A one-shot sequential secession game is developed to describe the bargaining between two regions. Secession serves as the main threat in the secession game. We have found that even if a country does not want to give a higher degree of autonomy to the region, it might be forced into it by the mere threat of secession. The optimal strategy for secessionist region is not to trigger the debate about a higher degree of autonomy but to require secession. The existence of a constitutional law enables a region to achieve autonomy easier and with lower costs, as it makes the threat of secession more reliable. The implementation of this model on the case of Catalonia reveals that the mere threat of secession is sufficient for gaining autonomy. A model can be used to also assess the disintegrational tenses in the current European Union.

Industries Evolution Modelled by Cellular Automata

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Traditional economic theories often neglect evolutionary aspects of the economy and so became sterile in answering some important questions raising in economic reality, like dependence of the industrial structure on the scientific and technical progress, evolution of the cooperation / competition within or among the industries, evolutionary stability of the cooperation networks etc. In the presented study, we provide a simulation model of the industrial evolution based on the Agent-Based modelling and Cellular automata. The proposed model is inspired by the models of the biological evolution, e.g. Bak-Sneppen and Penna bit-string models reflecting basic principles of the Modern Evolutionary Synthesis. In the course of the evolution simulation, the least fitted firms are repeatedly enforced to adopt to their environment via partial mutation of their profiles. In the long-term, new industrial profiles emerge and firms become self-organized in clusters that can not be analytically derived from the micro-level. As achieving the self-organized criticality, small changes in industrial profile of the firms may cause massive waves of the firms reorganisations and a new industrial structure containing new industrial profiles emerges.

Margins of Trade: CEE Firms Before, During and After the Crisis

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Jan Hagemejer
National Bank of Poland

Tibor Lalinsky
Natinal Bank of Slovakia

We investigate the extensive and intensive margins of trade of CEE firms in periods before, during and after the crisis of 2008-2009. The intensive margin explains most of the aggregate export growth, which corroborates previous findings for other countries. The contribution of the extensive margin is smaller and declined in post-crisis years. The lower contribution of the extensive margin may signal a lower rate of convergence. The results indicate that the crisis had a more severe impact on small exporting firms and that exports to countries outside the EU gained more prominence after

Ivan Sutoris
Czech National Bank

the crisis. Our results are similar to findings from previous studies on the impact of participation in global value chains on firms' trade.

Gender, Stress and Financial Speculations: An Experiment

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Miroslav Zajicek
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In this paper we study the effects of acute stress on speculative behavior using a controlled laboratory experiment with 208 healthy subjects. We employ a recently introduced measure that captures individual speculative behavior, the Speculation Elicitation Task, and an efficient stress-inducing procedure, the Trier Social Stress Test for Groups, with a special focus on the gender-specific effects. Our design allows for the separation of the main channels behind the treatment effects. Generally we observe strong gender differences: in the non-stressed, control group women want to speculate significantly more than men, while we observe no gender difference in the risk attitudes. The treatment (stress-inducing) procedure increases men's willingness to speculate compared to control men, but it decreases the speculative behavior of women by about the same amount. As we do not observe any change in the risk-preferences due to treatment, nor in the expected shift in others' equilibrium behavior, we conclude that the behavioral change is driven by the change in abilities for speculations, though in a different direction for both genders. The analysis of salivary cortisol shows that the subjects were under a considerable level of stress.

The role of numerical anchors in performance time estimation process

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The ability to accurately estimate the duration of planned tasks is the cornerstone of successful time and project management. It is naturally appealing to expect that the accuracy of estimates increases with estimators' professional experience. However, contrary to the intuition, many companies keep estimating over-optimistically. Projects then run late and trigger budget extensions. We hypothesise that project time estimates can be influenced by anchors such as managerial suggestions or customer expectations. Suggestions driven by wishful thinking can cause the estimates to become too optimistic. Moreover, in the absence of estimation feedback, the effect of anchor can persist over time and influence subsequent estimates of the same or similar task. Even when there is no anchor before the first estimate available, the first estimate itself can serve as an anchor for future estimates and cause systematic bias. We experimentally test the influence of numerical anchors on duration estimates of a simple real effort task. In addition, we test the interplay between anchor and task experience by repeating the task estimation and performance process in multiple rounds. We find strong anchoring effects which persist over time. We also find an evidence of a self-anchoring effect.

Optimal Experimentation under Risk Aversion

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This paper solves the two-armed bandit problem when decision makers are risk averse. It shows, counterintuitively, that more risk-averse decision makers might be more willing to take risky actions. The reason is that taking the risky action produces information on the environment - thereby reducing the risk that a decision maker faces in the future. The counterintuitive result arises when pulling the risky arm reveals enough information on the nature of the associated pay-off stream (high or low?). This finding gives reason for caution when inferring risk preferences from observed actions: in a bandit setup, observing a greater appetite for risky actions might actually be indicative of more risk aversion, not less. Studies which do not take this into account, might produce biased estimates.

Parallel Sessions IV. — Stream A: Fiscal policy (CBR session)

Lessons Learned from Fiscal Consolidation in the Euro Area

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European Union member countries are currently exposed to negative implications of the economic and debt crisis. Questions associated with disputable implications of fiscal incentives seem to be contrary to the crucial need of the effective fiscal consolidation that is necessary to reduce excessive fiscal deficits and high sovereign debts. While challenges addressed to the fiscal policy and its anti-cyclical potential rose steadily but not desperately since the beginning of the economic crisis, the call for fiscal consolidation became urgent almost immediately and this need significantly strengthen after the debt crisis contagion flooded Europe. In the paper we provide an overview of main trends in public budgets and sovereign debts in the Euro Area member countries during last two decades. We identify episodes of successful and unsuccessful (cold showers versus gradual) fiscal (expenditure versus revenue based) consolidations by analyzing effects of improvements in cyclically adjusted primary balance on the sovereign debt ratio reduction. Economic effects of fiscal consolidating adjustments are evaluated for two periods (pre-crisis and extended) to reveal crisis effects on fiscal consolidation efforts. Our results indicate that the rate of success of consolidation efforts significantly decreased during the crisis period. Most of fiscal consolidations were conducted on the one-year basis that indicates a lack of intention to improve fiscal discipline over longer horizon of their political cycle.

The evaluation of fiscal consolidation strategies

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In this paper we present a framework and perform an assessment of different fiscal consolidation strategies both on the revenue as well as on the expenditure side of the budget. Simulations are implemented in a framework of a behavioural general-equilibrium what-if model together with the microsimulation model SIMTASK and the model of labour supply at the extensive margin, all developed by the Council for Budget Responsibility. We analyse simulated impacts of consolidation strategies on growth and the fiscal balance (both in short- and long- term) and the microsimulation approach allows us also to evaluate distributional impacts.

I just estimated twenty million fiscal multipliers

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We analyse the role played by data and modelling choices as determinants of the size of estimated fiscal multipliers. Using data for European economies, we assess empirically how the methodology used to obtain the multiplier affects its size and accuracy. Preliminary results, based on Bayesian model averaging applied to over twenty million fiscal multiplier estimates, indicate that many seemingly harmless choices play a significant role. Spending multipliers tend to be higher if the data follow European System of Accounts ESA95 methodology (instead of recent ESA2010), and on the other hand tend to be lower if the data was smoothed beforehand, if we choose less lags in the VAR, or if we add deterministic time trend to the VAR. Tax multipliers are sensitive mainly to the choice of identification method and are fairly robust to the choice of lag length and deterministic terms in the VAR. Both spending and tax multipliers are quite sensitive to the calibration of elasticities and different composition of spending and taxes net of automatic stabilizers. The accuracy of the multiplier estimation is increased if ESA95 methodology is used. On the other hand, the accuracy is lower if sign restriction identification is used or if the data is smoothed beforehand.

Is the Maastricht debt limit safe enough for Slovakia? Endogenous fiscal limits and default risk premia

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We study the interactions among fiscal policy, fiscal limits and the associated sovereign risk premium. The fiscal limit distribution, which measures the ability of the government to service its debt, arises endogenously from dynamic Laffer curves. We assume a feedback loop between the fiscal limit distribution and the risk premium and determine them simultaneously us-

ing and efficient iterative scheme. A nonlinear relationship between the sovereign risk premium and the level of government debt then emerges in equilibrium. The model is calibrated to Slovak data assuming steeply growing age-related transfers and volatile business cycle. We study the impact of various model parameters on the conditional (state-dependent) and unconditional distributions of the fiscal limit. Fiscal limit distributions obtained via Markov-Chain-Monte-Carlo regime switching algorithm depend on the rate of growth of government transfers, the degree of countercyclicality of policy, and the distribution of the underlying economic conditions. We find that both distributions are considerably more heavy-tailed compared with those usually obtained in the literature for advanced economies, and are very sensitive to the size and rate of growth of transfers, the business cycle phase and the fiscal policy credibility. The main policy message is that the Maastricht debt limit of 60 percent of GDP is not safe enough for Slovakia. Furthermore, credible reforms reining in age-related spending and thus stabilising public finance in the long-run, should be a priority.

Parallel Sessions IV. — Stream B: Finance III.

The Impact of Brexit on Cohesion Policy

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The departure of the United Kingdom from the European Union has the potential to exert a significant negative impact on the EU Cohesion Policy. In this paper, we estimate the allocations of Cohesion Policy funds during the next programming period, 2021-27, and compare them with the current period, 2014-20. We compute the allocations under two scenarios: (1) the UK leaves the EU, and (2) the UK remains an EU member. For Slovakia, our calculations suggest a reduction in Cohesion Policy receipts by EUR 1.41 billion in case Brexit goes ahead. Out of this, EUR 1.275 billion reflects the expected improvements in the economic conditions in Slovakia, and the remaining EUR 134 million can be attributed to the impact of the UK's exit from the EU. Importantly, our projections suggest that Western Slovakia will retain the status of a less developed region also in the next programming period. Estonia, Portugal, Czech Republic and Germany also stand to lose significantly during the next programming period.

Where is the information on USD/Bitcoin hourly prices?

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This paper analyses the price discovery in the USD/Bitcoin market since March 2014 until November 2016. The results show a positive relationship between the informational relevance of exchanges and their market shares. Information is mostly transmitted between exchanges within an hour, at least for the main exchanges, although lagged feedbacks occur from the major exchanges. Minor exchanges are merely satellite ones and react to price information with some delay. Bitfinex is the most important exchange (the lagged feedback from this exchange to the market is 18.3%, while the reverse feedback accounts only for 0.6% of the total feedback). Volatility in the major exchange is the main factor explaining the feedback measures, which sustains the claim that the relative importance of the information-based component of volatility increases with the relative dimension of each exchange.

Analysis of Using Two Methods of Online Dispute Resolution in B2B Relationships

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The paper presented results of the multiple case study. For simulating negotiations between the companies were selected 40 students who formed pairs. Each pair consisted of one participant from Faculty of Economics, Technical University of KoĹˇice in Slovakia and one participant from Faculty of Informatics and Statistics, University of Economics, Prague in the Czech Republic. It was carried out 20 individual case studies. Half of the case studies was conducted through e-NeGotiAtion method, in which is used a genetic algorithm for selection of the most appropriate resolution to the dispute from the perspective of involved parties, and the second half in the form of free communication via e-mail. For each of these forms were completely different case studies of the dispute between buyer and seller. It was measured the participant's personality using the Ten Item Personality Measure (TIPI) and emotions by the Positive and Negative Affect Schedule (PANAS) instrument. Moreover, respondents assessed the process and results of the e-negotiation in a questionnaire. In the paper, this information is linked and analyzed. One of the interesting findings is that all participants using e-NeGotiAtion method were satisfied with the overall solution.

Getting the Measures of Trade Misinvoicing Right: Bilateral Panel Data Approach

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Trade misinvoicing has been traditionally used as one of the measures of illicit capital flows. The issue of capital flight has recently come to the centre of public attention due to increasing role of capital flows not only from developing but also from developed economies to countries with favourable tax environment. Yet, determinants of trade misinvoicing remain underinvestigated in the relevant literature. On top of that, we argue that traditional measures of capital flight based on trade misinvoicing tend to be biased due to the insufficient treatment of transportation and insurance costs. In this paper we construct large data set containing bilateral panel data on trade misinvoicing covering 194 countries over the period 2001-2015. This allows us to identify extent of misinvoicing practices at individual country level while acknowledging differences between incentives to misinvoice on exporter's and importer's part. We decompose the extent of misinvoicing into contributions of selected determinants, such as transaction costs, measures of economic and financial development, trade openness and tax policy variables.

Parallel Sessions IV. — Stream C: Stock markets

Influence of the Brexit on European Equities Using Quantile Approach

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The aim of this paper is to give a comprehensive description of the interdependence between selected European stock markets and Brexit uncertainty in the period spanning from January, 7, 2000 to February, 3, 2017. We have studied behavior of extreme quantiles using quantile regression approach. This approach is robust because it is based on the use of various measures of central tendency and dispersion statistics for a detailed analysis of the relationship between variables. We have found evidence of significant interdependence between financial markets and Brexit uncertainty. The analysis of upper and lower quantiles allows to observe that the interdependence is positive asymmetric and higher for bear markets compared to bull or normal markets conditions during period before Brexit voting. Moreover we have analyzed influence Brexit voting on selected European markets. We have found that one, two or three days after voting the dependence structure was changed mainly in normal market conditions for French and Turkish and Germany markets, while Polish and Spanish markets were not significantly influenced.

The Role of Sentiment at the Stock Markets

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There is a large and rapidly growing literature examining the impact of investors' sentiment on financial markets, especially the predictive power of internet message postings. The empirical studies commonly employ distinct classifier machine learning algorithms to extract sentiment proxies from the huge quantity of text messages published in the news, in social media or on internet message boards (Antweiler and Frank, 2004; Arias et al., 2013 or Kim and Kim, 2014). These sentiment proxies are associated with specific words or expressions identified by rules or lexicons. We suppose that sentiment changes the risk perceptions of economic agents and therefore expectations about a final return. Risk perception is subjective (Sitking and Weingard, 1995; Weber, 2004; Ricciardi, 2008) and this individual assessment can be influenced by media coverage or the judgment of others, meaning that e.g. the notions of crowd psychology, herd behavior (Renn, 1990; Ricciardi, 2008) or social mood (Nofsinger, 2005) become relevant. In the context of the project, the sentiment of society changes investors' risk perception. The paper augments Solnik's (1983) model of IAPT (empirically tested by Armstrong et al. 2012). We employ panel data mixed-effects models and identify links between stock returns and volatility, market risks, exogenous market shocks, firm specifics and sentiment, where sentiment is represented by news posted on 20 sources, mainly Reuters, Bloomberg, WSJ, LA Times, CNBC, Forbes, Business Insider, and Yahoo Finance. We use intraday data of S&P 500 companies in the years 2013-2016. The empirical strategy is based on the multifactor asset pricing model in the domain of the IAPT. We show that the changes in sentiment represent specific company and market risks and provide an extended capital asset pricing model for inefficient markets.

The Relationship between Financial Ratios and Stock Prices of Central European Food Companies Listed on Stock Exchanges

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Stock prices can be influenced by many factors. It is possible to determine two categories of variables which can affect the stock prices, macroeconomic and microeconomic variables. According to the study of Drummen and Zimmermann (1992) the individual characteristics of companies affect stock prices up to 50 %. The aim of the paper is to analyze existence of relationship between financial ratios and stock prices of food companies listed on Central European Stock Exchanges. Time series on annual frequency are used to examine the occurrence of long - term cointegration links by using Johansen test. The short-run dynamics of the long-term equilibrium relationship is examined using the Vector Error Correction Model (VECM). Based on previous research we assume to find some linkages especially between stock prices and the return on assets (ROA) and the return on equity (ROE).

Is Imperfection Better? Evidence from Predicting Stock and Bond Returns

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The standard predictive regression assumes expected returns to be perfectly correlated with predictors. In the recently-introduced predictive system, imperfect predictors account only for a partial variance in expected returns. However, the out-of-sample benefits of relaxing the assumption of perfect correlation are not clear. We compare the performance of the two models from an investor's perspective. In the Bayesian setup, we allow for various distributions of the coefficient of determination to account for different degrees of optimism about predictability. We find that relaxing the assumption of perfect predictors does not pay off out-of-sample. Furthermore, extreme optimism or pessimism reduces performance of both models

The role of labour market institutions in reducing wage inequalities in Slovakia

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The aim of this paper is to study an impact of labour market institutions in addressing wage inequalities in Slovakia. The term labour market institutions refer to legally defined instruments that influence wage formation and distribution on the labour market, namely the minimum wage and collective bargaining at the sector level. We apply a unique approach of looking at administrative data on wage distribution and confront it with the approaches of the social partners. At the national level we focus on the role of the statutory minimum wage and the social partners' activity in setting its amount, as there is no collective bargaining at the national level since 2001. At the sector level, we study institution of collective bargaining in four sectors: metal, retail, banking and education. This allows us to confront the development of wage inequalities with social partners' strategies in applying LMIs. We build our study on statistical evidence and previous research on similar issues done by the authors, supported by the interviews with representatives at the national, sector and company level.

On the Subjective Perception of Poverty in the Czech and Slovak Republics Two Decades after the Split

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Prior to 1993 Czechia and Slovakia were parts of a common state. Both countries had a number of common features, and at the same time they differed in numerous characteristics. After 1993, the two new countries developed independently in terms of choices regarding movements toward open markets, consumer demand, opportunities in labour markets, and the challenges of production. These choices have influenced country policies, economic structures, labour markets, and institutions; and were later followed by further external factors and changes in the global economy. During the early stage of the economic transition, the disparities between the countries accelerated rapidly, the Slovak GDP per capita reached around three-quarters of the Czech GDP in 1992, and the Slovak unit labour costs belonged among the lowest in the Central European countries. While Slovakia reached 64% of the Czech GDP per capita (in PPS) in 1995, this disproportion decreased to 88% in 2016. In addition, according to the latest Eurostat data Slovakia reached 96% of Czech median hourly earnings in EUR (91% terms of PPS). Our aim is to study the differences in the subjective perception of poverty and living standard by Czechs and Slovaks in the past and at present. While the lower level of economic performance and income level in Slovakia in the past suggests a higher share of the subjectively poor in Slovakia; the convergent processes in objective economic terms should result in shrinking the difference in subjective perceptions between the two countries. Two main data sources are used in the study: In order to compare the perceived living standard in the past Social Stratification in Eastern Europe 1993 data are used, and the analyses of the recent situation are based on EU-SILC (2005-2015) microdata. The preliminary results suggest that Slovaks (retrospectively) evaluated their relative living standard slightly better than Czechs at the end of the communist era, while the opposite hold in 1993, the year of the split. In 2005, about 20% of Czechs perceived their actual income insufficient to what is their minimum income needed to make ends meet, compared to 60% in Slovakia. After another 10 years, in 2015, these figures dropped to 10% and 25%, respectively. The preliminary results thus show a convergence of subjective indicators, however, we hypothesise that the "subjective" convergence does not keep pace with the "objective" one.

Measuring Wellbeing: Individual Based Approach

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Output based measures of economic development, such as GDP and GNI per capita, measure only one relatively narrow aspect of wellbeing: value of goods and services produced or consumed over a given period. This has a number of well-known shortcomings. We propose an alternative measure based on objective individual-level determinants of wellbeing. We proceed in two steps. First, we identify factors that are associated with individual-level happiness. In this way, we obtain a happiness production function, relating individual happiness to a broad range of objectively measurable individual, regional and national determinants. Then, we use the resulting relation to construct an indicator of 'predicted happiness'. The resulting indicator is closely correlated with the actual happiness but can be decomposed into the contributions of the various determinants. Furthermore, although happiness is a highly subjective and abstract concept, our indicator is constructed entirely based on objective and measurable factors.

Rising regional difference among counties of Slovakia

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Slovak legislation on least developed regions defines a formula to identify least developed regions. According to this definition, there are currently 12 least developed regions (LDR). In the main part of the article, we discuss several approaches to measure regional convergence and divergence. Standard sigma and beta convergence do not put emphasis on worst performing regions. Another metric we discuss is the size of the group concentrated in given regions. In our case we studied the number of unemployed in LDR as a percentage of total number of unemployed in Slovakia. This share was stable in the years 2013-2015 at about 23%, then rising to 27%. This metric does not reflect development of other regions, which are not LDR. The main result of this paper is metric describing the number of people living in badly performing regions compared to country average. This metric was stable in years 2013-2015 but increased in years 2015-2017. For example, in years 2013-2015, 14% of inhabitants of Slovakia lived in regions, where unemployment rate is higher than 1.6 times country average. In the first five months of 2017, it was already 20.5%, which is a 46% increase. In case of long-term unemployed, the rise was from 19% to 24%, in case of available unemployed 13% to 20%.

Comparative Analysis of Client Credit Behaviour in Slovakia and the Czech Republic

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In response to the recent global financial crisis, banks have started to measure financial risk, especially the credit risk. Our paper presents a comparative study of the dynamics of the credit risk through rating migrations. It also shows linkages between rating migration and prevailing macroeconomic conditions expressed in GDP growth in Slovakia and the Czech Republic. We have split the analysed data into two parts, namely when GDP growth was above and below average. We have also computed the conditional transition matrices given one of these two states. We show periods with a GDP growth above the average were more stable in both countries. Our findings may have implications for credit risk managers in financial institutions. Moreover, our results give a useful framework for stress testing of credit portfolios.

Updating the Ultimate Forward Rate over Time: A Possible Approach

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This study proposes a potential methodological approach to be used by regulators when updating the Ultimate Forward Rate (UFR) for the evaluation of insurers' liabilities beyond the last liquid point observable in the market. Our approach is based on the optimisation of two contradictory aspects - stability and accuracy implied by economic fundamentals. We use U.S. Treasury term structure data over the period 1985-2015 to calibrate an algorithm that dynamically revises the UFR based on the distance between the value implied by the long-term growth of economic fundamentals in a given year and the regulatory value of the UFR valid in the prior year. We employ both the Nelson-Siegel and Svensson models to extrapolate yields over maturities of 21-30 years employing the selected value of the UFR and compare them with the observed yields using the mean

square error statistic. Furthermore, we optimise the parameters of the proposed UFR formula by minimising the defined loss function capturing both mentioned factors.

Interest Rate Pass-through in the Euro Area: Financial Fragmentation, Balance Sheet Policies and Negative Rates

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We examine interest rate pass-through in the euro area over the period 2008-2016 and investigate the effects of financial market fragmentation, European Central Bank balance sheet policies and negative rates on the nature of pass-through. We use heterogeneous panel cointegration methods and bank interest rates for four different loan categories: small and large firm loans, as well as jousing and consumer loans. We find that interest rate pass-through is typically incomplete. Our results suggest that interest rate pass-through has been weakened by higher sovereign credit risk, but the European Central Bank's balance sheet policies helped curb these adverse effects on pass-through. Lower financial market fragmentation translates into lower lending rates, albeit mostly for housing and consumer loans. In addition, we fail to find evidence that bank interest rates become less responsive to market rates when market rates became negative.

Forecasting the Term Structure of Interest Rates in Slovakia

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We evaluate forecasts of the term structure of Slovak government bond yields at horizons ranging from one to 36 months in the out-of-sample period from January 2009 through December 2016. We split the forecasting exercise into two steps. First, we forecast the term structure of German government bond yields using a dynamic Nelson-Siegel (DNS) model and a three-factor model of the yield curve with economically motivated factors which we call a "trend-cycle" model. In the second step, we forecast the term structure of spreads to German government bond yields. This "sum-of-the-parts" forecasting model delivers forecasts that outperform the random walk benchmark at most forecasting horizons. A combination of the trend-cycle model for forecasting German government bond yields and an AR(1) model for spreads delivers the best results at horizons up to one year. At longer horizons, the trend-cycle model combined with the random walk spread forecast is the best forecasting model. The main source of the improvement in forecasting performance relative to the random walk benchmark is the negative correlation between credit spread forecast errors and forecast errors on German government bond yields, i.e. negative surprises to the future path of the policy rate tend to coincide with positive surprises to sovereign credit spreads. We show that the forecasting performance of the dynamic Nelson-Siegel model deteriorates significantly in periods when short-term interest rates are at or close to the effective lower bound.

Effect of overeducation on wage inequality

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This work in progress paper aims to explore the impact of overeducation on inequality in Europe. Our intended value added is in considering the developments over the 2005-2015 period in the individual EU member states and decomposition of interquantile wage differences to observe the effects along the wage differences. Further, we aim to control the measured effects for a range of institutional and individual variables.

The Qualitative Aspect of Human Capital in Economic Growth

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The role of human capital in a question of economic growth is undeniable. Since 1992, when the concept of a contribution was for the first time seriously estimated, the great progress on the field has been noticed. The significant part of the difference in income p.c. between countries can be explained by the uneven level of physical capital, population growth as well as human capital (Mankiw, Romer, Weil, 1992). However, at the empirical level, all the methods of measurement of such contribution itself are mainly focused on the quantitative way. This is partly because, the lack of comparable data across countries. The traditional way of estimating as a rate of accumulation and the level of human capital has been based on the rates of school enrolment as well as years of schooling. As one can see, such approach includes mainly the quantitative aspect of the factor. However, treating human capital simply as a stock of engaged school years omit key assumption. There is significant variance between a school year in e.g. USA and Egypt, even on the same level of education (Hanushek and Kim, 1995). As a data of qualitative measures of education have recently become available, several studies have occurred. Hanushek and Kimko (2000) demonstrated significant relationship between the quality of labour force and the economic growth. Moreover, including such a factor more than doubled adjusted R2. In general, there is no doubt that the quality matters, but on the other side is still the factor quite neglected in the literature due to the lack of data and proper estimating (Savvides and Sengos, 2009). The aim of the paper is to estimate the effectiveness of different educational systems across countries as a proxy to their quality. In the first part of the two-stage model, the effectiveness via the nonparametric model is estimated. Thanks to the PISA international survey, the data on the quality of educational systems are available for 70 countries. The CCR-O model with unity input and three outputs (namely three dimensions of the survey: mathematical skills, reading and science) is used. In the second part of the research will be such a proxy used in augmented economic growth model. The explanation of the difference in income per capita level by quantitative as well as qualitative aspect of human capital is the expected result of the research.

Exploring differences in financial literacy across countries: the role of individual characteristics, experience, and institutions

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We examine unique and recently compiled microdata by the OECD which covers information on the financial literacy for representative samples of individuals from twelve countries around the globe. We find large differences in financial literacy of individuals across countries and decompose them into a part explainable by differences in individual characteristics and experience and a part that cannot be explained by such differences. Both, individual characteristics and experience matter with regard to differences in average financial literacy, but do not explain observed differences fully. We further exploit the unexplained differences of our microeconometric analysis and relate them to different institutional environments across countries. We find strong relationships between the differences in financial literacy, which are neither explained by individual characteristics nor experience, with life expectancy, welfare state spending, and internet usage, and to a lesser degree, GDP per capita and stock market capitalisation. We identify policy conclusions with regard to (i) enhancing financial literacy in an efficient way and (ii) potential interactions between financial literacy, the macroeconomic and institutional environment and financial stability.

Youth employment in Hungary: Barriers and Opportunities

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To gain better insight and understanding of the barriers to and enablers of youth employment in Hungary, this study complements evidence generated based on existing datasets, such as the Hungarian Labor Force Survey, with versatile web-based data collection techniques. Traditional data enabled the team to measure key regularities of youth employment. To gauge the critical role of hard and soft skills for youth employment, primary data was collected using the WageIndicator web-based survey, a powerful platform designed to provide transparent information on wages and careers across countries. Enabling a better understanding of skill-matching and the demand for young workers, an analysis of vacancies by age group and sector from job portal profession.hu was conducted. Through these approaches, and a complementary qualitative inquiry, the research team was able to shed light on the key challenges faced by Hungarian youth in the labor market and effectively and efficiently produce evidence necessary for informed policy intervention.

Selectivity problem in demand analysis: single equation approach

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This paper deals with a problem of censored data in the household demand analysis when budget survey data is used. Micro-data, in contrast with aggregated data, usually contains a significant portion of zero observations (no consumption recorded) that leads to censoring of data and potential selectivity problem resulting in biased estimates if inappropriate econometric model is used. We compare performance over six single-equation demand models when the selectivity is controlled including Tobit model, Two-part model, Double-hurdle model, Sample selection model with three different estimators - FIML, Heckman two-step, and Cosslett's semi-parametric estimator - and OLS. The household demand is analysed for 13 different food products with high variety of level of censoring. We found that the Heckman two-step procedure and Cosslett's semi-parametric estimators performed best among all examined single-equation demand models and these two estimators yield similar estimates of income and own price elasticities. The Two-part model performs equivalently but the estimation results differ from the Heckman two-step and the Cosslett's estimator. The OLS estimates are biased and perform poorly together with Tobit model with weak performance.

Real-time secondary spectrum market with heterogeneous investors

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Ongoing development of wireless technologies has caused increased interest in frequency spectrum. Steadily rising demand for wireless technologies and the lack of the frequency spectrum limit the further development thus there is a need to increase the efficiency of frequency spectrum usage. One of the possible solutions represents the integration of cognitive radio. The implementation of new systems and the emergence of the real-time frequency spectrum market allow entities, whose primary objective is not to provide services for end-users but to speculate, to enter the market. There is a opportunity for investors, who have free funds and want to invest them. In this form, the spectrum market is very similar to the financial and commodity market. This paper considers the purchasing of frequency spectrum as a risky investment and non-risky investment represented by term deposit. Investor compares returns from these two investments to allocate his money. The behaviour of market participants is influenced not just by changes of the interest rate but also by heterogeneity of investors that is here represented by different disposable amount of money. We aim to point out the effects of these parameters on spectrum trading activities.

Optimal stopping in a principal-agent model with hidden information and no monetary transfers

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We study optimal stopping rules in a simple principal agent framework when the exchange of contingent monetary transfers is infeasible. In each period, the agent privately learns the value from stopping today, but disagrees with the principal about when to stop. A stopping rule commits the principal to a stopping probability conditional on communication by the agent. The optimal stopping rule exhibits a finite deadline. Within the deadline, the agent can make one proposal to stop. In case of rejection, the relation is terminated. If the deadline is reached without a proposal, the agent obtains the decision right.

Dynamics and factors of inflation convergence in the European Union

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Synchronization of inflation rates is one of the assumptions of the optimum currency area theory and as the vast majority of the countries of the European Union will have adopted the common currency at some point in the future, it is needed to analyse their inflation convergence even nowadays. Using the harmonised index of consumer prices measure and employing the seemingly unrelated regressions framework built on Augmented Dickey-Fuller tests, we uncover a widespread, sustained and robust occurrence of inflation convergence in the entire EU between 1999 and 2016. Moreover, this methodology allows us to include several dummy variables indicating specific periods with a potential impact on the process of inflation convergence. In this sense, we show that price stability-oriented monetary strategies (inflation targeting, constraining exchange rate arrangement) overwhelmingly exhibit a contributive effect, the periods of the global financial crisis and the zero lower bound in general do not have a distortive one while the impact of implementation of acquis communautaire (the common EU law) in new EU member states is rather beneficial for inflation convergence. Our main conclusions imply that inflation synchronization does not seem to pose a challenge for further enlargement of the euro-area.

The Impact of Forward Guidance on Inflation Expectations: Evidence from the ECB

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This paper empirically investigates the impact of forward guidance announcements on inflation expectations in the Eurozone. The ECB first resorted to forward guidance on July 4, 2013 thereby expanding its array of unconventional policy instruments in the vicinity of the zero-lower bound. We use an ARCH model and identify forward guidance shocks as changes in the 2-year nominal ECB yield on specific announcement days to measure changes in daily inflation swaps of different maturities. In the process, we also separately identify the effect of quantitative easing and interest rate change announcement shocks. We find that forward guidance was successful in reviving inflation expectations in the medium to long term. Analyzing the transmission channels of forward guidance, we find evidence that both a reanchoring channel and a portfolio effect might have been at play.

A BVAR Model for Forecasting of Czech Inflation

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We assesses the performance of medium-term forecasts of main macroeconomic variables obtained with a DSGE model currently used as the core forecasting model in Czech National bank Bayesian vector autoregression (BVAR) models. Our comparison exercise is motivated by recent works suggest that BVAR approach turned out to be useful for medium-term macroeconomic forecasting. Several features of the Czech economy support applying BVAR approach – especially short time series available and uncertainty related to the evolution of long-run trends. We compare forecasts based on a small-scale mean-adjusted BVAR to the official forecasts published by the Czech National Bank (CNB) over the period 2008Q3–2016Q4. Our comparison results demonstrate that the various specifications of BVAR models can provide improvements in the forecasting performance of inflation forecasts over the monetary policy horizon. However, for other macroeconomic variables CNB forecasts either outperform or are comparable to forecasts based on the BVAR model. We explore possible reasons for the differences in forecasting performance. Our results are broadly consistent with the findings of similar studies for other advanced economies.

Review of Utilization of Cardiovascular Medicines by Daily Defined Dose in the Czech Republic and Slovak Republic

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Drug utilization is an important field of drug policy and an integral part of public health internationally. This area of research attracts increasing interest but the pioneering work was done 50 years ago when the first

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drug consumption report from six European countries for the period of 1966-1967 showed great differences in drug utilization between population groups (WHO, 1968). These results gave important stimulus for creation of Anatomical Therapeutic Chemical (ATC) classification and technical unit of measurement called the Defined Daily Dose (DDD) which is specified as "the assumed average maintenance dose per day for a drug used for its main indication in adults" that dealt with the objections against traditional units of measurement in drug utilization studies (WHO, 2016). The ATC/DDD methodology has in the meantime proved its suitability in drug utilization monitoring and research. As mentioned previously, consumption of pharmaceuticals is often used as a basis for comparison between countries. Based on our professional expertise, we decided to analyze the consumption of cardiovascular medicines by DDD in the Czech Republic and Slovak Republic within all ATC groups reported to OECD (OECD, 2016a). According to OECD indicator results, the Slovak Republic showed in 2014 a higher pharmaceutical consumption by DDD in ATC group C (cardiovascular system) compared to the Czech Republic (OECD, 2016a). We decided to proceed with a thorough analysis of available consumption data with the aim to better understand the cause behind the differences between the Czech Republic and Slovak Republic. For the Czech Republic, we used data from the Czech State Institute for Drug Control which is also the reporting source for OECD health statistics (SUKL, 2015). The Czech data includes distribution of medicines to individual pharmacies. The Slovak Republic reports data to OECD based on distributors' quarterly reports sent to the Slovak State Institute for Drug Control (OECD, 2016b). We, however, used data obtained from the National Health Information Center which collects data from health insurance companies and hospital pharmacies (NCZI, 2015). Then we measured consumption by actual DDD per 1000 inhabitants per day for the year 2014. Our observations were surprising with a potentially significant impact on future reporting from the Slovak Republic. We found that the Slovak Republic does not report consumption to OECD by actual DDD. DDD has changed for some ATC codes with time and for some ATC codes DDD has changed more than once, for example for simvastatin - in 1994 and 2009 (WHO, 2017). As DDD alterations have not been updated in reports from the Slovak Republic, reported consumption of simvastatin calculated by DDD from 1994 is twice as high as consumption calculated by actual DDD. A similar situation is with other statins (atorvastatin, fluvastatin, lovastatin and pravastatin) which DDD increased in 2009 (WHO, 2017). Since drug consumption in ATC codes in which DDD has changed is relatively high in the Slovak Republic, our analysis has shown significantly different consumption data in cardiovascular medicines based on actual DDD compared to consumption reported to OECD. Additionally, we have confirmed that consumption in the Czech Republic is reported by actual DDD. Finally, we suggest that for the purpose of adequate and correct international comparison of drug utilization it will be necessary for official authorities in Slovak Republic to start reporting data by actual DDD. Disclosure Responsibility for the information and views set out in this abstract lies entirely with the authors. This research received no specific grant from any funding agency in the public, commercial or not-for-profit sectors.

A Microsimulation Model of Healthcare Costs in the Slovak Republic

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The study describes a microsimulation model of healthcare costs of all persons insured in Slovakia. Its aim is to refine the existing projections and to create a basic platform for examining the impact of different policies on the overall costs. Projections used so far were mostly based only on cost

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profiles and other characteristics were not taken into account. Relative to the cost profiles method two improvements were introduced. First, data on the individual level show that per capita healthcare costs are concentrated in the last years of life. Simulation of death-related costs separately influences the dynamics of individual expenditures in time and improves the projections of healthcare costs. Second, simulating expenditures on the individual level opens the possibility for a wider range of sensitivity scenarios. Considering the health status of the Slovak population and expenditures spent towards pharmaceuticals, scenarios using alternative assumptions on the development of costs and incidence of diagnosed illnesses might be of particular interest.

Economic analysis of the link between diet quality and health: Evidence from Kosovo

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We analyse the link between diet diversity, which is a proxy of diet quality and health outcomes measured by body-mass index (BMI) in a representative sample of Kosovar adults using household expenditure micro-data. Building on a household model of health production we devise a two-stage empirical strategy to estimate the antecedents of diet diversity and its effect on BMI. Economic factors and demographic characteristics play an important role in the choice of balanced diets. Results from the BMI analysis support the hypothesis that diet diversity is associated with optimal BMI. One standard deviation increase in diet diversity leads to 2.3% increase in BMI of the underweight individuals and to 1.5% reduction in BMI of the obese individuals. The findings have important implications for food security policies aiming at enhancing the public health in Kosovo.

Measuring income inequalities beyond Gini coefficient

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Growing interest in the analysis of interrelationships between income distribution and economic growth has recently stimulated new theoretical as well as empirical research. Since existing theoretical models propose inequality is detrimental to growth, while others point at income inequality as an essential determinant supporting economic growth. The mechanisms linking inequality and growth have also been addressed in empirical literature, e.g. Campano – Salvatore (2006). Measures such as head-count ratio for poverty index or widely used Gini coefficient are aggregated indicators without deeper insight into income distribution among the poor or the households. To derive an indicator accounting for income distribution among the income groups, we propose output oriented DEA model with inputs equal unit and weights restrictions imposed so as to favour higher income share in lower quantiles. We demonstrate the merit of this approach on the quintile income breakdown data of the European countries. Countries with the same Gini index – e.g. Sweden and Finland – can thus be distinguished by the new proposed indicator with respect to the Rawlsian prioritizing lower income groups´ welfare.

Why do high-skill workers move more? Explaining internal migration.

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Internal migration is often thought to be an important equilibrating mechanism of the large and persistent regional differences in developed economies (Bryan et al., 2014). However, not all workers move equally. College graduates are 3 times as likely to move as high school graduates. They move differently, too: they are 3 times less likely to move speculatively (into unemployment) rather than for a specific job (SIPP, 1996-2000). The aim of this paper is to decompose these differences in variation in the profitability of migration opportunities, and variation in choice sets. In other words, to what extent is the greater migration propensity of college graduates due to better return to their skills in other regions, as opposed to the ability to search for jobs in different regions before moving? We build a random utility model that gives the worker a choice between employment and unemployment in different geographic locations, and that allows the availability of these options to vary across occupation and education groups (McFadden, 1974; Goeree, 2008). We fit this model to a simulated dataset replicating some of the features of the US labour market, and to a subsample of US data (SIPP, 1996-2000).

Old sins cast long shadows: long-term effects of social capital desctruction on residential migration

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The formal models of social capital formation (e.g. David et al 2010; Glaeser et al 2002) suggest the existence of a world with low social capital and high mobility and world with high social capital and low mobility. We test theoretical predictions of multiple equilibria by exploiting the postwar resettlement process in Czechoslovakia as a natural experiment. After World War II over 3 million 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 and Slovak inhabitants creating new communities in former German villages. Our identification strategy exploits the variation along the historical dividing line between old and new communities. We confirm the loss of social capital during resettlement persisted over generations and it is documented by the higher migration rates in the new communities vis-á-vis the old communities. A set of falsification tests validates the interpretation of the results.

Economic research in Slovakia. Productivity of tenure track staff.

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This paper analyses the publication productivity of economics departments and tenure track (TT) staff in Slovakia based on journal publications and citations extracted from for the SSCI database for the period 1990-2016. The majority of TT staff has done little or no research over the last 26 years. The publication of internationally competitive papers is concentrated in few departments (13% of all departments) and is conducted by a small number of TT staff (2.5% of all TT staff). More than half of departments and 90% of all TT staff generate insignificant or zero economics publications. The majority of TT staff (93%) do not have intellectual capacity to supervise PhD students.

Publication Impact of Slovak Economists

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The study examines scientific output of 1,400 economists in Slovakia. We cover the faculty associated with all economic-oriented domestic academic institutions and all members of the Slovak Economic Association, including the researchers at the National Bank of Slovakia and the Economic Institute of the Slovak Academy of Science. The analysis is conducted based on a dataset obtained through the Application Programming Interface of the Scopus indexing database. For each researcher we track all their publications in the database and all their citations in impacted economic journals. The output is weighted by the standard impact factor or by an eigenfactor indicator obtained from the Web of Science database. Our preferred weighting metric is the eigenfactor, as it is much more robust than the standard impact factor with respect to predatory practices and manipulation. In general, the findings are in line with previous studies: over half of Slovak economists have no publication in international databases and over half of those with publications still lack any output in journals with an impact factor. A vast majority of the researchers with journal publications only publish in a limited number of journals originating in former Communist countries. Nonetheless, we identify several islands of positive deviation, a narrow group of researchers concentrated at a handful of institutions, who are making inroads into the world of mainstream, internationally recognized publishing in economics. Slovak economists based abroad generally stand out with significantly higher output and impact than most home-based economists, although a small number of top home-based economists produce comparable research output. The algorithm for collecting data and computing the ranking(s) is fully automated, so it can be frequently updated.

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