Slovak Economic Association Meeting (SEAM 2025)

September 11–12, 2025
Nitra, Slovakia

in cooperation with the Slovak University of Agriculture in Nitra

Book of Abstracts

Sovereign Bond Yield Synchronisation, Fiscal Regimes, and State-Dependent Effects of Monetary Policy Shocks in the Eurozone

Sabri Alipanah
Institute of Economic Research, Slovak Academy of Sciences

Maria Siranova
Institute of Economic Research, Slovak Academy of Sciences

This paper focuses on the impact of the European Central Bank (ECB) monetary policy shocks, as identified by Altavilla et al. (2019), on sovereign bond synchronization in Euro Area during the 2008-2023 period. This study is particularly motivated by the introduction of the ECB's Transmission Protection Instrument (TPI), which aims to enhance effective monetary policy transmission across the euro area by purchasing securities from jurisdictions experiencing unwarranted deterioration in financing conditions based on country-specific fundamentals. Consequently, we examine whether the efficacy of monetary policy transmission can be influenced by different, i.e., high and low, fiscal regimes. To accomplish this, we employ a panel state-dependent local projection method, conditioning on the level of public debt to GDP. As this policy has yet to be implemented, our research aims to enhance understanding of how government bond yield synchronization may respond if the policy were to be activated. Our findings indicate that the effects of monetary policy on synchronization vary between countries with high debt levels and those with lower debt-to-GDP ratios.

Impact of climate change on labor market dynamics: Evidence from Kazakhstan

Dinara Alpysbayeva
Masaryk University

Dana Bazarkulova
Nazarbayev University

Kirsten de Beurs
Wageningen University

Galiya Sagyndykova
Nazarbayev University

We analyze the impact of droughts on labor market indicators across sectors and land types, using Kazakhstan's confidential quarterly firm-level data, which covers 56% of total employment, over 190,000 firms, and 3 million individuals, along with remote sensing datasets to identify drought events. This dataset spans 2012Q1 - 2022Q4, allowing us to measure detailed employment outcomes while overcoming common data limitations in studying agricultural dynamics and labor market responses to climate shocks. Employing a novel difference-in-differences estimation technique, we account for the recurring nature of climate shocks. Our findings reveal that droughts lead to an immediate and significant decline in employment growth and job creation across sectors. The impact on agricultural employment peaks at a 5% reduction in the second quarter after a drought, while non-agricultural sectors also experience disruptions. The most vulnerable districts - those experiencing at least three drought shocks - face a decline in employment growth after a drought. However, they also show resilience, with strong recovery starting in the fourth quarter. These results highlight the broader economic implications of droughts, demonstrating that climate shocks extend beyond agriculture and affect overall labor market stability.

The Role of Vacancy Posting and Unemployed Hiring in Start-up Success

Stefan Angel
Austrian Institute of Economic Research

Rainer Eppel
Austrian Institute of Economic Research

Elisabeth Fidrmuc
Austrian Institute of Economic

Using a unique combination of Austrian administrative data, we show that start-ups' search and hiring decisions matter for their business success. Firms that report vacancies to the Public Employment Service in the early stage of their existence stay longer in the market and grow stronger. Moreover, while hiring the unemployed can benefit start-ups, the timing is crucial. Hiring within the first six months increases exit risk, whereas hiring in the second half-year reduces it. This is probably due to the nature of the positions filled. Key management positions, often filled early, seem to be better suited for other employees. Conversely, once the management team is in place, hiring the unemployed for 'regular' positions fosters survival and growth. This pattern holds for different subgroups of the unemployed. Evidence of learning effects

Research (WIFO), Central European University (CEU)

Helmut Mahringer
Austrian Institute of Economic Research

Andrea Weber
Central European University

suggests that positive experiences with early PES involvement and unemployed hires encourage continued use of these practices later on.

Russia's Wartime Economy: Measuring Regional Inequalities from Outer Space

Irakli Barbakadze

Jan Fidrmuc
Université de Lille

Martin Hulényi

Ketevani Kapanadze

This study examines the full-scale invasion of Ukraine in February 2022 as a natural experiment to assess the impact of disrupted international market access on regional economic inequalities in Russia. Using nighttime lights data as a proxy for economic activity, we compare cities near the EU and Ukrainian borders, where market access was restricted, to cities in southern Russia, which benefited from reoriented trade networks. Our findings reveal that western border cities experienced economic decline due to reduced trade and industrial disruptions, while southern cities showed relative resilience, likely driven by increased trade with non-Western markets. These results highlight the uneven economic impact of the war, with some regions adapting while others stagnate. This study contributes to the understanding of how geopolitical shocks reshape economic geography, offering insights into the long-term consequences of trade disruptions, sanctions, and shifting supply chains on regional development.

The Corporate Undead: Governance, Gender, and Foreign Capital in Slovak Zombie Firms

Eduard Baumöhl
Slovak Academy of Sciences, Bratislava University of Economics and Business, Masaryk University

Štefan Lyócsa
Slovak Academy of Sciences, Masaryk University

We examine the determinants of zombie firms in Slovakia using almost 500,000 firm–year observations. Zombie status is identified under two definitions (Favara and Storz), and we apply cost-weighted logistic regression, double machine learning, and heterogeneity analysis by sector and firm size. We find that financial performance is decisive – low returns on assets, low efficiency, low effective tax rates, and high reliance on tangible collateral significantly increase the probability of zombification. Governance factors play a secondary but still relevant role. Foreign ownership and multiple directors raise zombie risk, while owner–director overlap consistently lowers it. These effects are concentrated in small firms, particularly in manufacturing and services sectors, whereas large firms show weaker patterns. Finally, the choice of definition matters – under Favara, governance effects are largely absent, but under Storz, they become substantial and policy-relevant. Our findings suggest that regulators and lenders should monitor both financials and governance, especially in small firms with high collateral, to limit resource misallocation and reduce zombie survival. This work was supported by the Research Agency under project no. 09I03-03-V04-00337.

Risk of Food Security Shocks

Štefan Bojnec
Slovak University of Agriculture in Nitra

Food security shocks refer to sudden disruptions in the availability, access, stability, or utilization of food, posing risks to populations' ability to obtain sufficient, safe, and nutritious food. These shocks can have short-term or long-term impacts and may be localized, regional, or global. Among most important types of food security shocks are the following: a) climate and environmental shocks such as droughts, floods, heatwaves, storms, wildfires; long-term desertification, soil degradation, water scarcity; and disruption to planting and harvest cycles, crop failures, livestock losses. b) Economic and market shocks such as global commodity price spikes (e.g., wheat, rice, corn), exchange rate volatility in import-dependent countries, energy price shocks (impacting transport and fertilizer costs), and loss of income or employment (especially for poor households). c) Geopolitical and conflict-related shocks, such as war, civil unrest, political instability; trade disruptions and sanctions (e.g., Ukraine-Russia grain and fertilizer corridors); and displacement of farmers and destruction of agricultural infrastructure. d) Health and pandemic-related shocks, such as disease outbreaks (e.g., COVID-19, avian flu, swine fever, foot-and-mouth disease), labor shortages (seasonal works, harvesting, processing, distribution), and border closures and logistic bottlenecks. e) Supply chain and infrastructure shocks, such as transportation blockages (e.g., port closures, strikes), storage losses due to power outages or damage, and cyberattacks on food systems and supply chain networks. Among key risk drivers and amplifiers are global interdependence. Despite some de-globalization developments with introduction of higher tariffs, non-tariffs and transportation barriers, globalized trade makes national food systems vulnerable to international disruptions. In connection with this is cross-national-borders price transmission with local markets that reflect global commodity price volatility. With increasing urbanization and demographic pressures, rising demand, especially in urban areas, increases stress on food supply chains. Moreover, lack of diversification with overdependence on a few staple crops or export/import partners can intensify the impact of shocks. As most exposed to risk of food security shocks are vulnerable populations and regions such as low-income households with high food expenditure shares, import-dependent countries and small islands developing states, conflict zones and politically unstable regions, and regions already suffering from malnutrition or limited agricultural capacity. This is the reason that several studies focus on food insecurity of poor households or developing countries with poorly performed institutions and governance (e.g., Khan et al., 2024) and lack of appropriate infrastructure, knowledge and climate resilience technologies enhancing food security (e.g., Khan et al., 2025). Different risk mitigation and resilience strategies have been developed. Policy and governance have played significant role in providing food security with early warning systems (e.g., Famine Early Warning Systems Network), national food reserves and strategic grain and other food staples stocks, social safety nets and emergency food assistance, and trade diversification and policy coordination. Following green revolution focus has been on agricultural and technological innovation and improvements with climate-resilient crops and practices (e.g., drought-tolerant seeds), improved irrigation and water management, digital tools for supply chain management and market access, and research and investment in agroecology and precision agriculture. The adoption of chemical inputs as a risk mitigation strategy was largely investigated for crop production and crops yield downside risk (e.g., Aleksandrova and Bojnec, 2025). Economic and institutional factors are valid for both developed and developing countries with crop insurance and weather index insurance, investment in rural infrastructure (roads, storage, cold chains), strengthening local food systems and cooperatives or producers' organizations, and public-private partnerships to stabilize supply chains. The most recent years confirmed food security shocks caused by COVID-19 pandemic (2020–2022), which disrupted labor, supply chains with just-in-time rules, and global trade. Then Russia-Ukraine War (2022–), which threatened grain and fertilizer exports, especially to Central European regions and developing countries. Horn of Africa Drought (2020s) with severe hunger crisis due to prolonged droughts and locust swarms, which drives climate change migrations. Finally, El Nino and La Nina cycles impacting rainfall and growing seasons globally.

Decision Tree Insights into Spatial and Temporal Patterns of Convergence in EU Labour Markets

Kamila Borsekova
UMB

Samuel Korony
UMB

Martin Kahanec
CEU, CELSI, BUEB

This study aims to enhance our understanding of convergence patterns within the European Union by analysing labour market efficiency (LME) indicators across 258 NUTS2 level regions from 25 EU countries. Utilizing advanced statistical methods based on decision trees, we investigate whether the data reveal groups of NUTS2 regions that exhibit shared patterns of convergence, divergence, or structural similarities. Our methodological innovation lies in the application of a decision tree model to create detailed maps of European regions. This innovative approach allows us to assess the performance of regions based on multiple labour market indicators, identifying nodes that we translate into regional clusters. This novel method provides a more salient and empirically driven evaluation of convergence patterns in European labour markets and enables us to assess changes in these patterns over time. Our findings highlight the persistence of certain labour market characteristics and uncover regions that deviate from expected trends, revealing a heterogeneous and dynamic labour market landscape across Europe. These findings have the potential to inform more nuanced and region-specific economic policies that cater to the distinct labour market conditions across Europe, fostering more tailored approaches to regional development and convergence. This paper has been supported by the research project APVV-24-0350, Generation gold: challenges and opportunities to realize its full potential in the context of the labor market.

The Geography of Assortative Matching

Giacomo Carlini
Queen Mary University of London

This paper investigates why assortative matching between workers and firms is stronger in large cities than in small cities. I develop a search and matching model with heterogeneous workers and firms to analyze how worker composition and labor market frictions affect equilibrium sorting. I calibrate the model to match salient moments of matched employer-employee data from Germany. I find that matching efficiency plays a major role in explaining differences in assortative matching across cities. Moreover, the effect is amplified by a more disperse workers productivity distribution, since there are higher returns from matching with similar types for both workers and firms. Using the calibrated model, I show that around 5% of GDP gap observed between large and small cities can be explained by differences in assortative matching. Overall, the paper stresses the importance of studying local labor market frictions and workers productivity distribution together to understand why the allocation between heterogeneous workers and firms vary between cities, and the resulting implications for spatial inequality.

Paying for the prices: the cost of taming inflation - Impact of monetary policy surprises on realized demand factors

André Casalis
Národná banka Slovenska

Using high-frequency data on individual bank accounts transactions and card payments, we investigate the impact of monetary policy on consumption at daily frequency, and we focus on the magnitude and the transmission dynamics of interest rate shocks. The granularity of the data allows us to build consumption series segmented by age, gender, education level, and region to explore asymmetric features of monetary policy transmission. A parsimonious local projection specification allows us to flexibly include a variety of controls, to explore the consumption effects of the full maturity profile of the yield curve, and to disentangle extensive and intensive margins contribution. Furthermore, a nonlinear extension of our framework is able to identify

the effects of positive and negative monetary policy shocks. A selection of our findings includes: (a) household spending reaction peaks approximately eleven months after the initial shock, mainly driven by the extensive margin; (b) negative shocks are definitely contractionary, while positive shocks are unable to show a decisive expansionary effect; (c) interest rate shocks from the short and medium-term maturities of the yield curve do not present significant differences in the way in which they affect consumption, while longer term maturities have a quicker transmission to household spending, consistent with the Slovak real estate market structure; (d) monetary policy is symmetric in its effects and transmission timing across the demographic dimensions of age, sex, education, and region.

Indirect effects of simplified tax communications on compliance

Dagmara Celik Katreniak
City St George's, University of London

Lubomir Cingl
VSE

Matej Lorko
EUBA

Berenika Tuzilova
IFS

We experimentally examine how simplified tax communications influence understanding of tax obligations, willingness to declare and pay tax, perception of the tax authority, emotions, and moral sentiments. We find that simplification improves the understanding of tax obligations but does not directly affect tax compliance. However, our results suggest that simplification may trigger indirect drivers of improved tax compliance, namely anticipated feelings of guilt from evading the tax and positive attitudes towards tax authority. Thus, while simpler communication is the key driver of correct tax obligation assessment, emotional response to simpler communication seems to play a more important role in explaining tax compliance.

Opportunity Taken, Opportunity Missed: Household Debt and Subjective Well-being in Slovakia

Martin Cesnak
National Bank of Slovakia

Andrej Cupak
National Bank of Slovakia

This paper examines the impact of several aspects of household indebtedness on life satisfaction in Slovakia using 2017 and 2021 HFCS microdata. We find that life satisfaction increased over time, particularly among mortgage holders, with significant effects emerging in 2021. This shift is linked to unusually favorable pre-2021 credit and housing market conditions, which appear to have boosted the perceived value of mortgage debt. As a result, mortgage-financed households reported higher well-being than outright owners in 2021, and even long-term mortgage holders benefited. In contrast, credit-constrained households experienced lower life satisfaction, resulting from a feeling of missed opportunity. Finally, even if the mortgage debt is taken on under favorable conditions, the intensity of debt, measured by the debt service-to-income ratio, plays a crucial role—moderate debt can enhance well-being, but high burdens reduce it.

More than peers: how the structure of support networks interacts with mastery goal orientation and shapes academic outcomes

Gabriela Contreras
Radboud University

Jana Vyrastekova
Radboud University

Marieke Altgassen
Guttenberg University Mainz

Abstract In this study, we investigate how social network characteristics moderate the relationship between mastery goal orientation and academic achievement among first-year university students. Using an ego network approach, we analyzed the ego networks of 79 first year students focusing on peer network density, structural holes, and network size in relation to academic outcomes. Our findings show that densely interconnected peer networks negatively moderate the impact of mastery goal orientation on academic performance, especially for students with high mastery goal orientation. Conversely, students with low mastery goal orientation benefit from densely connected peer networks. Structural holes significantly enhance the positive effects of mastery goal orientation, highlighting the value of bridging gaps within networks. Larger networks also positively moderate the relationship between mastery goal orientation and academic performance, primarily benefiting students with high mastery goal orientation. For those with low mastery goal orientation, larger networks rich in structural holes can be detrimental. These results emphasize the critical interplay between students' support networks and their motivational orientations in determining academic success. This research underscores the importance of considering the role of social network structure to assess the benefits of mastery goal orientation in educational settings. Our findings offer valuable implications for educators and policymakers seeking to enhance student motivation and academic success through targeted social network interventions.

Insiders' information advantage: Evidence from competition with short sellers

Harold Contreras
School of Economics and Business, University of Chile

Jana Fidrmuc
Warwick Business School

Roman Kozhan
Warwick Business School

We study the information content of corporate insiders' trades after earnings announcements. We find little evidence that insiders trade on foreknowledge of material information in the post-SOX period. Conditioning on short-selling activity as a proxy for demand of arbitrageurs who exploit short-term mispricing, we show that insiders profit from selling because of their ability to exploit short-term mispricing after earnings releases. In contrast before SOX, insiders do take advantage of foreknowledge of material information while selling. Insider purchases are based on foreknowledge of material information both before and after SOX, but they are rare and have small economic magnitude.

Information Sources and Financial Literacy: Evidence from PISA Microdata

Andrej Cupak
National Bank of Slovakia / Bratislava University of Economics and Business

František Mašek
National Bank of Slovakia

Denys Orlov

This paper examines the impact of social media usage on the financial literacy of secondary school students, using data from the 2018 Programme for International Student Assessment (PISA). While previous studies report mixed results regarding the relationship between social media use and academic performance, our analysis reveals a positive association between social media usage and financial literacy outcomes. Specifically, students who use social media to keep themselves informed tend to perform better in financial literacy assessments. Moreover, unconditional quantile regressions indicate a nonlinear relationship, with the strongest effects observed among students with moderate levels of financial literacy. These findings underscore

National Bank of Slovakia / Bratislava University of Economics and Business

the potential of social media as a complementary tool for enhancing financial literacy education in middle schools.

Digital Inclusion for Leaving the Middle-Income Trap

Vivien Czeczeli
Ludovika University of Public Service

Gábor Kutasi
Ludovika University of Public Service

This paper examines the role of digital inclusion in the success of escaping the middle-income trap. Equality is represented by the Human Development Indicators, digital inclusion is represented by the E-Participation Index, and the middle income trap is represented by TFP and Medium- and high-tech Manufacturing Value Added. The research analyses a time-series panel data set from 2010 to 2021, which includes 45 OECD member, candidate and key partner countries in a fixed effects panel regression. The results show that E-Participation significantly and positively affects the HDI and IHDI, and significantly reduces inequalities in life expectancy. TFP has a positive impact on the HDI, IHDI and life expectancy, and reduces income and health inequalities. Medium- and high-tech Manufacturing Value Added tends to increase income inequality but reduce health inequalities. Conversely, a higher proportion of the workforce in vulnerable situations consistently worsens development and increases health inequalities.

Beyond Gender Quotas: Determinants of Women's Participation in European Corporate Boards

Martin Černek
European Research University

Michal Fridrich
European Research University

Svatopluk Kapounek
European Research University

We investigate the political, institutional, and economic determinants of women's representation on corporate boards. As a testing ground, we employ a unique and comprehensive dataset of over 1,500 observations covering listed companies across 28 EU countries from 2012 to 2022. We show that the presence of women in central banks and the implementation of national gender equality directives have a consistently positive impact on board diversity. The effect of female political leadership is context-dependent and tends to be stronger in sectors and regions with existing diversity. It is also amplified during periods of economic growth. The overall impact of institutional support and political representation is positive, which highlights the importance of multi-layered and targeted gender equality policies. These findings emphasize the need for inclusive corporate governance strategies that are sensitive to economic conditions, sectoral characteristics, and regional differences.

The Effect of Ambulantory Emergency Service Accessibility on Health Care Outcomes

Jakub Červený
Ministry of Health

Richard Kališ
Bratislava University of Economics and Business

This study examines the impact of ambulatory emergency service (AES) accessibility on health care outcomes in Slovakia. Leveraging exogenous variation stemming from a 2017 policy reform that substantially increased AES availability across districts, the authors employ a two-way fixed effects model and event study design to identify effects on hospitalizations, ambulance dispatches, and stroke cases. The analysis uses district-level data from 2014 to 2022. The preliminary findings reveal that the presence of AES reduces hospitalizations among men by, with no statistically significant effect for women. The strongest impact occurs in the second year following an AES opening, after which the effect diminishes. Additionally, AES availability cor-

relates with a reduction in ambulance dispatches, suggesting a potential substitution effect between AES and ambulance services. The study provides empirical evidence supporting the role of decentralized emergency services in improving health system efficiency by potentially decreasing more costly hospital care and ambulance reliance. Future work is set to explore these dynamics further using individual-level data and accounting for patients' choice between ambulance and AES utilization.

The influence of crises' effects on economic growth in selected countries that are characterized with the significant automobile industry ratio on the GDP

Andrea Ecková
Prague University of Economics and Bussines

Gabriela Koľveková
Prague University of Economics and Bussines

In the course of the last five years the global economy was hit by several crisis influencing the next development. Given their severity, they almost always require immediate intervention. Over the past five years, several crises have hit the global economy, affecting further development. The manifestation of the crisis effects, as consequences that appear immediately after the crisis, was the chain reaction within sectors of economy. Concerning the effects of this chain reaction there were twofold effects: negative one in the short run and these have turned into the positive ones in the long run. The main trigger for this situation has been the unexpected pandemic crisis which primarily led to significant reductions in production in many sectors of the economy. The demand for various goods changed due to several factors that represented a short-term demand crisis. One of the most affected sectors was the automotive industry, which was distinctly affected by a chain shock in 2020-2022. The initial decline in demand for cars forced automobile concerns to cancel chip orders, and then the rapid increase in demand for consumer electronics shifted the capacities of semiconductor manufacturers. Over time, demand for cars recovered, but due to the shortage of chips, car production was significantly reduced not only globally but especially in the EU, which also had significant economic impacts. Direct effects that affected the state of the automotive industry included, in particular, a decline in car production, extended delivery times, and an increase in car prices. Indirect effects included mainly macroeconomic effects such as a slowdown in growth in the form of a decline in GDP, a decline in car exports, but also inflationary effects and impacts on employment in related sectors. This study analyses the direct and indirect impacts of the crisis on economic growth, with an emphasis on the decline in GDP caused by the decline in production, chip shortages and changes in the sector. Based on data from 2018–2023 for the Czech Republic, Slovakia and Germany, we quantify the link between the decline in car production and GDP development. The analysis focuses on the impact of this shock with the aim of assessing the macroeconomic impacts of the decline in the automotive industry. Specific research questions are directed at how changes in demand for cars at the beginning of the pandemic contributed to the subsequent crisis and also, what was the relationship, between the decline in production in the automotive industry and GDP development over the given time period. The methodology of the work includes a quantitative approach, time series analysis of car production, GDP and related indicators, with the aim of capturing the pre-crisis state and subsequent shocks caused by the pandemic. Correlation and regression analyses were used to quantify the relationship between car production volume and total GDP in individual countries, and a VAR model was used to model the dynamic relationships between GDP, car production and the chip shortage indicator. The results of the analysis confirm the significant negative impact of the decline in automobile production on the economic growth of countries that have a high dependence on the automotive industry and also confirm the fact that the automotive industry can act as a source of further economic shocks. Discussions and conclusions focus on the consequences of the crisis in connection with the accelerated demand for digitalization, the emergence of electromobility and the effort to diversify supply chains. The results may appear relevant in the creation of economic policies in connection with the creation of a strategy for the resilience of economies, but also in connection with the multiplication effects. Related aspects for further investigation are the current topic of

energy intensity and availability of raw materials for semiconductor production, a detailed analysis of changes in supply chains, environmental standards, the effectiveness of implemented measures and, last but not least, the issue of supporting innovations and investments, especially in electromobility, due to the interconnectedness with the development of the semiconductor industry. It can be stated that the pandemic crisis, as the primary shock to the global economy, contributed to accelerating changes in the automotive industry, and chain diversification is key to resilience to economic shocks.

Inflation Persistence and Consumer Inflation Expectations: Structural Error Correction Modeling

Laura Eleková
Institute of Economic Research SAS

This paper explores the relationship between inflation persistence and consumer inflation expectations in the Euro Area and Visegrad countries. Using monthly data from 2001 to 2023, we estimate a structural error correction model (ECM) that combines quantified survey expectations with rolling-window measures of inflation persistence across different components (core, food, energy). Results confirm a significant long-run link, especially between expectations and persistent core and food inflation. Short-run dynamics show asymmetric adjustment, with stronger reactions to rising inflation than to disinflation, consistent with bounded rationality. The findings highlight the need for targeted communication strategies and inflation literacy to stabilize expectations. The model offers a flexible framework for understanding how consumers respond to evolving price dynamics in a different environment.

Naive Consumers and Financial Mistakes

Florian Exler
University of Vienna/NBS

Alexander Hansak
CERGE-EI

Financial contracts are complicated and consumers often do not grasp them in their entirety. This may lead to financial mistakes when borrowers do not fully internalize the costs of credit. We develop a quantitative theory of unsecured credit and equilibrium default, where borrowers can sign debt contracts and trade off interest rates for penalty fees. These fees make financial shocks—such as paying late or borrowing over limit—costly. While sophisticated borrowers fully understand the risk of paying penalty fees, naive borrowers face higher risk without internalizing this fact. Thus, they make financial mistakes by choosing inefficiently high penalty fees. In equilibrium, naives' fee payments cross-subsidize interest rates for sophisticates. We use our framework to analyze two unexplored features of the CARD act: transparency requirements and penalty fee limits. More transparency makes financial contracts easier to understand, reducing the financial risk for naive borrowers. Thus, naives pay lower penalty fees. Fee limits directly ban high-fee contracts for everyone. Both policies reduce the expected revenue from naive fee payments and consequently interest rates rise. In both cases, naives make fewer financial mistakes and enjoy a welfare gain. Sophisticates, in contrast, suffer: Since naives pay lower fees, sophisticates lose cross-subsidization and experience welfare losses.

Geopolitical risks and global food prices

Jan Fałkowski
University of Warsaw

Geopolitical factors have recently been increasingly recognised as important in shaping macroeconomic outcomes. In addition, the microeconomic literature provides ample evidence that high food prices and social unrest, which often involve international conflicts, frequently coincide. In response to this, we take advantage of a recently developed index of geopolitical risks and analyse how it relates to global food prices. Interestingly, we do not find a strong relationship between the two. Using cluster analysis, we further identify groups of countries for which the relationship varies in intensity, being negative for some, close to zero for others, and positive for the rest.

Economic Impacts and Policy Implications of Local Food Systems: A Multi-Dimensional Analysis

Imre Ferto
ELTE Centre for Economic and Regional Studies

This presentation synthesizes findings from our studies examining the economic dimensions of local food systems and their broader implications for agricultural development and policy. The evidence reveals a complex landscape where local food initiatives demonstrate heterogeneous impacts across different contexts and measurement approaches. The systematic review of multiplier effects in food relocalization shows that while many studies claim positive economic impacts, the magnitude and significance of these effects vary considerably by location, methodology, and type of multiplier examined. Output and employment multipliers show the strongest empirical support, while value-added multipliers present more mixed results. Critically, many studies fail to adequately account for displacement effects and the non-local sourcing of inputs, potentially overestimating the true economic benefits of local food systems. From a food security perspective, the research demonstrates that local food systems can contribute to both economic resilience and nutritional outcomes, particularly in developing countries. However, these benefits are highly context-dependent and require careful institutional design. The evidence suggests that successful local food initiatives depend on complementary investments in infrastructure, market institutions, and farmer capacity building rather than simply promoting local sourcing. The agricultural economics literature reveals significant methodological challenges in measuring local food system impacts. Input-output analyses, while providing useful baseline estimates, often rely on assumptions about local supply chains that may not hold in practice. Survey-based approaches offer more nuanced insights but face sampling and generalizability constraints. The heterogeneity in definitions of "local" across studies further complicates cross-regional comparisons and policy learning. Policy implications emerge clearly from this evidence base. First, local food promotion policies should be designed with realistic expectations about economic multipliers, particularly in regions with limited local supply chain infrastructure. Second, successful interventions require coordinated approaches addressing multiple market failures simultaneously rather than isolated support for direct marketing channels. Third, monitoring and evaluation frameworks must incorporate displacement effects and opportunity costs to provide policymakers with accurate assessments of program effectiveness. The research highlights the need for more rigorous empirical work combining experimental and quasi-experimental methods with detailed supply chain analysis. Future research should prioritize understanding the conditions under which local food systems generate genuine economic benefits versus those where they primarily redistribute existing economic activity. This evidence base will be essential for designing effective agricultural development policies that harness the potential of local food systems while avoiding inefficient resource allocation.

AI Adoption and Inflation in the EU

Jarko Fidrmuc
Zeppelin University Friedrichshafen

Jakub Borowski
Warsaw School of Economics

Krystian Jaworski
Warsaw School of Economics

The paper examines the impact of artificial intelligence (AI) adoption on producer price inflation across economic sectors in the European Union using harmonized 2024 data from Eurostat. The dataset comprises 142 sector-level observations across 24 EU countries, covering both manufacturing and service industries. The analysis relies on disaggregated sector-level indicators: the Producer Price Index (PPI) for manufacturing and the Services Producer Price Index (SPPI) for service industries. AI adoption is measured by the share of enterprises employing AI technologies in at least one business function, such as production, logistics, sales, or administration. The model includes controls for labor cost growth, changes in global commodity prices, and average capacity utilization rates.

Sentiment Driven Loans

Boris Fisera
Slovak Academy of Sciences

Zuzana Kostalova
Slovak Academy of Sciences

Stefan Lyocsa
Slovak Academy of Sciences

Consumer sentiment affects economic growth by influencing consumption and investment choices. We explore one of the channels through which sentiment influences the economy, demand for loans. We create fundamental-driven and pure sentiment indices using several data-driven machine learning (ML) techniques. Fundamental-driven sentiment is the predicted sentiment from ML models augmented with numerous macro-financial variables. Forecast errors from ML models serve as our proxy for unexpected sentiment shocks, pure sentiment. Next, using local projections approach and a panel of Central European economies, we find that positive shocks to sentiment contribute to an increase in housing loans, while sentiment has a limited effect on consumer loans. Moreover, sentiment about future economic conditions has a greater effect on loans than sentiment about present economic conditions. Finally, we find that monetary policy stance influences the effect of sentiment: Sentiment only affects bank lending when monetary policy stance is persistently loose.

Investment under Fire: Firm-Level Evidence from the War in Ukraine

Zuzana Fungáčová
Bank of Finland

Axelle Heyert
Université du Québec a Montréal

Laurent Weill
University of Strasbourg

This study examines the impact of Russia's full-scale invasion of Ukraine on firm-level investments, utilizing detail firm-level and war data from Ukraine. We find that firm investments significantly decreased during the war years (2022-2023), particularly in war territories. Additionally, we explore the long-term effects of the Holodomor (1932-1933 famine) on current firm behavior, revealing that regions most affected by the Holodomor exhibit lower investment levels during the war. Our findings highlight the profound influence of both historical and ongoing conflicts on economic activities.

The Wage Whisperer: Forecasting Price Pressures from Job Ads

Pavel Gertler
National Bank of Slovakia

Brian Fabo
National Bank of Slovakia

Michal Doliak
National Bank of Slovakia

We develop a new forward-looking measure of wage dynamics and labor market tightness designed to capture early signals of price pressures. By analyzing wage movements across sectors, occupations, regions, and demographic groups, the Wage Tracker may provide timely insights into labor cost shifts, aiding in the anticipation of economic trends and informing policy decisions.

Marginal Propensities to Consume with Finite-Planning Horizons

Ilisa Goenka
CERGE-EI

The empirical literature on marginal propensities to consume (MPC) has identified several puzzles: (i) the liquidity puzzle, where high MPCs are observed for liquidity-unconstrained households that cannot be explained by borrowing constraints; (ii) the size puzzle, where MPCs decrease with the size of positive income shocks; and (iii)

the asymmetry puzzle, where MPCs are higher for negative income shocks compared to positive ones. While theoretical explanations exist for these puzzles, to the best of my knowledge, no papers explain them jointly. This paper proposes a model where households re-optimize over finite horizons when faced with unexpected, transitory income shock. Households face planning costs, which represent the cognitive effort required for re-optimization. In the model, planning to adjust for consumption is costly, with planning for negative adjustments having higher costs. To support the model, I empirically establish a link between planning horizon, income shocks and MPCs using data from the Survey of Consumer Finances and Survey of Consumer Expectations datasets. I find that households facing negative income shocks are more likely to adopt shorter planning horizons than those experiencing positive shocks. The calibrated model produces qualitatively consistent with the puzzles. Subsequently, I use the model as a laboratory to study the effectiveness of redistributive fiscal policy, analyzing the interaction of size and asymmetry effects.

An approach to improve the quality of data for effective churn prediction

Samrat Gupta
Bratislava University of Economics and Business, Slovakia;
University of Agder, Norway

Payel Sadhukhan
Techno Main Salt Lake

Jana Peliova
Bratislava University of Economics and Business

Churn prediction involves identifying customers or employees who are at risk of disassociating themselves from a business or organization (Fahim, 2018). The task is crucial for ensuring financial stability and profitability in upcoming economic cycles. For customers, high churn rates impact revenue, especially in subscription-based services like banking, insurance, or tele-calling. Correct churn prediction provides early warning signs which lets the firms implement retention strategies like personalized offers or improved customer service, reducing attrition costs. For employees, turnover in financial institutions leads to loss of various intangible assets like expertise, reputation, and tangible assets like recruitment expenses and operational disruptions (Coussement, 2014; Van den Poel and Lariviere, 2004). Churn prediction aids in risk management, serving as a strategic asset in financial decision-making. Losing clients or skilled employees is a downside for long-term growth and investor confidence. Nowadays, businesses have metamorphosed from offline to online domains (Ram and Sun, 2020). With this shift, we often encounter an increase in data dimensionality related to churn prediction. Often, the dimensions range beyond human perception. Machine Learning (ML) models help in tackling this issue. ML models are formulated under several idealistic assumptions of training and test data; the violation of which leads to the generation of suboptimal models which provide inadmissible outcomes. Data from the churn domain is afflicted with a common form of data bias known as class imbalance. It is so because the individuals who stay significantly outnumber those who leave; stable retention is more common than disassociation (Zhu et al., 2017). In data from the churn domain, the non-churn individuals form the over-represented or majority class while the churn individuals form the under-represented or minority class. The unbalanced representation of the two classes causes a bias in the ML model trained on this data. To this end, researchers resort to various methods of generating synthetic points for the minority class (Roy et al., 2018). The synthetic minority points augment the dataset and mitigate the classifier's bias in favor of the majority class. However, the heuristic modus operandi of synthetic data generation causes an accentuation in the overlap between the majority and the minority class, comprising the identities of both (Vuttipittayamongkol et al., 2021). The heuristic way of synthetic minority points generation compromises the feature importance of the data through the generation of noisy points as alibi of the minority class. To this end, we propose a novel technique to oversample the synthetic minority class. The key features of a churn prediction dataset are identified through SHAP, a feature explainability paradigm. While generating synthetic minority points, the key features are preserved, and new points are generated through the perturbation of the not-so-important features only. We simulate the study on several real-world datasets from customer and employee churn domain. The proposed scheme is compared for significance on several related methods like Tomek-based data pre-processing and Edited Nearest Neighborhood paradigm. The financial implications are also analyzed.

Gender Differences in the Selection of University Majors

Martin Guzi
Masaryk University

The paper examines the underrepresentation of women in science, technology, engineering, and mathematics (STEM) fields and the lower representation of men in the humanities, based on data on university applications submitted by secondary school graduates to Masaryk University since 2008. The analysis explores gender differences at various stages of the university admission process: submitting an application, being admitted to a program, and enrolling in studies. The results of this study will contribute to the discussion on policies aimed at reducing gender disparities across university disciplines.

Beyond Shortfall: Expected Shortfall and Upside Estimators in Cryptocurrency Portfolios

Matúš Horváth
Slovak Academy of Sciences, Masaryk University

Tomáš Výrost
Slovak Academy of Sciences, Masaryk University

This study investigates the effectiveness of Expected Shortfall (ES) and Expected Upside (EU) estimation models in the context of cryptocurrency markets, with a focus on Bitcoin due to its high volatility. We employ advanced dynamic semiparametric models proposed by Patton et al. (2019) —including the One Factor, Two Factor, and Hybrid models—as well as the Single-Index Expectile Model, and benchmark them against traditional approaches such as rolling window and GARCH models. Model performance for ES and EU forecasting is evaluated using the Model Confidence Set procedure, based on two loss functions: the FZ loss (Fissler and Ziegel, 2016) and the AL log score (Taylor, 2019). The forecasting results are then applied in a portfolio analysis, where we construct cryptocurrency portfolios by minimizing ES and maximizing EU based on the top-performing models, and assess their return and risk-adjusted performance. This research contributes to risk management in high-volatility markets by offering insights into robust ES and EU estimation methods tailored to crypto assets.

Are Large Language Models smarter than central bankers? Evidence from inflation forecasting.

Krystian Jaworski
Warsaw School of Economics

Adam Wałach
Warsaw School of Economics

This paper evaluates the forecasting capabilities of Large Language Models (LLMs) in predicting macroeconomic inflation and explores how input structure and model characteristics influence their performance. Using a novel dataset of over 6,400 quarterly forecasts across six advanced economies (Czechia, Norway, New Zealand, Switzerland, the United Kingdom, and the euro area) from 2014 to 2025, we benchmark two leading LLMs – GPT-4.1 and o3-mini – against central bank projections and a naive statistical baseline. Forecasts were generated using conditional prompting techniques that replicate the information set available to central banks at the time of publication. Performance was assessed using Root Mean Square Error (RMSE) and the Giacomini-White test for predictive accuracy. Our results show that LLMs consistently outperform naive forecasts and, in many cases, match or exceed the accuracy of central bank projections – particularly in the short and medium term. GPT-4.1 emerged as the stronger model overall, demonstrating robust performance even with minimal input data and showing moderate sensitivity to prompt phrasing. In contrast, o3-mini's accuracy was more dependent on the presence and format of structured data inputs and improved notably over longer forecast horizons. We also find that model performance varies across countries and time periods, with evidence of improving LLM accuracy in more recent years. These findings suggest that LLMs – while not a substitute for traditional econometric models – can serve as valuable complements in inflation forecasting. Their flexibility, adaptability, and ability to incorporate narrative economic

information offer meaningful advantages, especially when expert forecasts are prone to bias or when traditional models struggle with structural breaks. The study highlights several promising avenues for future research, including the statistical properties of LLM-generated forecasts, the role of high-frequency data, and the integration of LLMs into hybrid forecasting frameworks.

Who Chooses to Serve? Honesty and Self-Selection into Public Service

Richard Kališ
Bratislava University of Economics and Business

Beáta Beòová
Bratislava University of Economics and Business

This paper investigates whether the Slovak public sector attracts individuals with systematically different ethical standards than those pursuing private careers. Using a survey experiment involving 118 economics and business undergraduates, we replicate the dice-under-cup task to measure dishonest behaviour and link it to career preferences. We find that students who prefer public service or political career are significantly more likely to engage in dishonest conduct, even after controlling for expected salary, academic performance, gender, and altruism. However, those who donate more of their experimental earnings to charity are less likely to cheat, highlighting a negative relationship between altruism and dishonesty. Our findings also show that preferences for public employment are primarily driven by motives, such as higher income and working hours, rather than internal interest in the work. These results raise concerns about adverse self-selection into public roles and suggest that raising public sector wages alone may not improve integrity. Our study contributes to the literature on self-selection and corruption by providing novel experimental evidence from a post-transition economy context.

Risk and Trust Behavioral Patterns: Evidence from ESG Investing

Svatopluk Kapounek
Mendel University in Brno

Evzen Kocenda
Charles University, Institute of Economic Studies

We investigate the direct, mediating, and moderating effects of trust on perceived risk, and demonstrate the empirical impact on open funds' inflows. We use a comprehensive dataset covering 10,000+ US equity open funds from 2015 to 2024 and show that ESG strategy of funds increases the willingness to engage in investment. Our ESG analyses provides additional layers of due diligence, uncovering risks that may not be evident through traditional financial metrics.

The Stabilizing Effect of ESG: Evidence from European Firms

Katharina Kastens
Mendel University

This study examines how ESG performance affects the likelihood of financial distress in European companies between 2011 and 2021. By using the Altman Z-score as an indicator of financial distress and logit models, we find that ESG engagement is generally associated with greater financial stability. However, the effect is not linear: high ESG scores do not always provide greater protection than low or medium scores. The stabilizing effect is most pronounced for moderately leveraged companies, while highly leveraged or small companies benefit less. Our results imply that ESG can act as insurance against financial distress, but only given the right structural and economic conditions.

Unpacking the Description-Experience Gap: Can we Identify its Causes?

Rumen Kerekov
University of Economics in Bratislava: Ekonomicka Univerzita v Bratislave

A well-documented phenomenon in decision-making under risk is the description-experience gap: individuals tend to overweight rare events when decisions are based on described probabilities, but underweight them when learning from personal experience (Barron, Erev (2003); Hertwig et al. (2004)). While numerous studies have sought to identify the underlying causes of the gap, a clear consensus has not been established. This paper presents two experimental studies aimed at disentangling the key drivers of the description-experience gap. Despite this, a clear consensus on the key factors driving the gap remains elusive. In this paper, we present two experimental studies designed to investigate the primary contributors to the description-experience gap. Both studies confirm the existence of the gap but point out different causes for it. The first attributes the effect to differences in information format — specifically, whether outcomes are presented sequentially or in summarized form. The second study, conducted several years later using an identical design, fails to isolate a single explanatory factor. The discrepancy in findings suggests that the gap is likely due to the joint effect of multiple factors, rather than a singular mechanism, and highlights the need for a more nuanced understanding of the cognitive and contextual factors at play.

Housing Market Inefficiencies and the Role of Borrower-Based Macroprudential Policy

Ján Klacso
National Bank of Slovakia

Reiner Martin
National Bank of Slovakia

František Mašek
National Bank of Slovakia/Sapienza University of Rome

M. Udara Peiris
Oberlin College, Department of Economics

Dimitrios P. Tsomocos
University of Oxford, Said Business School and St. Edmund Hall.

We develop a small open economy DSGE model with housing, heterogeneous households, borrowing frictions, and endogenous default to study how incomedriven housing demand can lead to inefficient allocations in economies with low capital market participation. We show that borrower-based macroprudential tools—such as LTV and DTI limits—can reduce these inefficiencies and enhance financial stability resilience. We motivate our analysis with empirical evidence from converging European economies—especially Slovakia.

Impact of Automation on Employment and Productivity: A Nonlinear Input - Output Model

Wolfgang Koller
Institute for Industrial Research, Vienna

Mikuláš Luptáčik
Institute for Industrial Research,

Impacts of automation, digitalization, and artificial intelligence on economic and social development are at the forefront of contemporary academic and policy debates. These technologies offer both transformative opportunities and disruptive challenges. A central concern is their potential to substitute human labour, leading to structural shifts in the labour market. To what extent can productivity gains offset employment losses? Is the working society at risk of running out of jobs, or can demographic

Vienna

Eduard Nežinský
Bratislava University of Economics and Business

pressures—such as the declining working-age population in many EU countries—be mitigated through technological progress? Recognizing that the performance of an economy arises from the complex relationships between individual industries rather than from the merely sum of their activities, we shall use a modified open input - output model where instead of explaining primary inputs by constant coefficients of Walras – Leontief production function substitution possibilities among three primary factors: labour, traditional physical capital (machines, production facilities, production halls etc.), and automation capital (robots, 3D printers, etc.), conceptualized as "programmable labour are admitted. Following Johansen (1960); Schumann (1968), Luptáčik (1977, 2010) we assume constant coefficients for current inputs and variable proportions between primary inputs by using a Cobb – Douglas production function for each industry. When an industry changes over to more automation capital intensive methods of producing goods to satisfy final demand, the structure of current inputs will not be affected very much but will alter the proportion in primary input requirements. For simplicity but without loss of generality, we consider the two-sector economy and formulate a nonlinear optimization problem with the objective of minimizing total labour input for an exogenously given final demand (in other words, maximization of labour productivity) The constraints include sector-specific endowments of both physical and automation capital. This problem belongs to the class of geometric programming problems (Luptáčik, 1977; 2010, ch.6), which allows for efficient solution and meaningful economic interpretation through the lens of duality theory. The solution of the dual problem—characterized by a nonlinear objective function and linear constraints—reveals the dual variables as elasticity coefficients associated with each term of the primal objective function and constraints. These coefficients provide insight into how changes in capital stocks affect employment across sectors. From this dual structure, we derive a nonlinear employment multiplier, which estimates the lower bound on employment growth resulting from an increase in final demand and/or in automation capital endowment under primary factor substitution. The core of the paper is the multiplicative decomposition of the automation impact on employment to the technological effect (described by the output elasticities of a Cobb – Douglas production function) and to the interindustry effect resulting from the input -output table. Several key propositions emerge from the model: • The employment elasticity of automation capital in a given sector cannot be higher than the ratio of the output elasticity of automation capital to that of labour in the same sector. • If the output elasticity of automation capital in sector j exceeds that of labour, the constraint on automation capital is binding; i.e., automation capital is fully utilized. • When the output elasticity of labour equals that of automation capital in a sector, the employment share in that sector equals the elasticity of automation capital. • The employment share in sector 1 depends on the production function parameters of sector 2. An increase in the output elasticity of automation capital in sector 2 leads to a higher employment share in sector 1, while a higher output elasticity of labour in sector 2 reduces it. The framework shows how increased investment in automation in one sector affects employment not only locally, but throughout the economy due to input–output linkages. Moreover, dual variables linked to capital constraints quantify the percentage change in employment resulting from a 1% increase in the availability of physical or automation capital in a given sector. In summary, the proposed model provides a flexible and theoretically sound framework for analyzing substitution processes between labour, physical capital, and automation capital. It supports policy design in addressing technological change by quantifying employment impacts and clarifying the structural conditions under which automation substitutes labour.

The impact of automation on position of vulnerable groups in the labour market in Slovakia and Czechia

Lucia Kováčová
Bratislava University of Economics and Business, Faculty of Economics and Finance, Department of Economic

Introduction: Automation places industrial robots and novel technologies more to the centre of work which, in turn, changes the world of labour, specifically, structure of work organization, adaptation of workplaces to technological advancements and, thus, working conditions and well-being of workers (Baptista et al., 2020; De Simone

Policy

Michaela Grinaj

Bratislava University of Economics and Business, Faculty of Applied Languages, Department of English Language

et al., 2022). Current evidence shows that digital transformation and automation bring uneven benefits to different social and demographic groups in the labour market; vulnerable groups encounter multiple difficulties in accessing digital technologies and digital education (e.g., Higgins et al., 2023; Kitsara, 2022; OECD, 2025). This results in the limited use of technological devices, skills and, in turn, in socio-economic and educational disparities. Although the contemporary literature on the impact of automation on inequalities is focused on exploring variations across different occupational groups (e.g., Gihleb et al., 2022), more attention should be given to other vulnerable groups that may face obstacles in the access to employment and fair working conditions due to intersections of attributes (such as gender, educational attainment, age, ethnicity, etc.). Brief literature review: In this research, we build upon the intersectional theoretical and analytical framework of vulnerability (Atewologun, 2018; Crenshaw, 1990) which enables us to examine how the interconnections and interdependencies between social and demographic identities contribute to different modes of discrimination in the labour market. Digital access and skills are affected by different demographic and socioeconomic attributes that need to be further explored within different national contexts (van Dijk, 2020). Inequalities are results of unequal access to education, a lack of institutional support in social and educational sphere, or limited access to worker's representation (Piketty, 2014). Several studies show that, as a result of automation in production, the well-being is more deteriorated for low-skilled workers (e.g., Gihleb et al., 2022; Majzlíková and Vitáloš, 2021) and other studies indicate that high-skilled workers feel relieved from routine tasks (Abeliansky et al., 2024; Consoli et al., 2023). Additionally, older workers close to the retirement age seem to be more worried about job security as a result of automation compared to the younger cohorts (Abeliansky et al., 2024). Due to accumulation of barriers, vulnerable groups need holistic approach in the labour integration and systemic coordination of key actors in providing social, health care, and employment services (Mýtna Kureková et al., 2022; Greve, 2021). Nevertheless, it remains unclear how the automation will affect employment prospects and working conditions of vulnerable workers in Slovakia and Czechia, including marginalized communities, the elderly, or people with disabilities. Aim: The aim of the research is to map out (1) barriers in the access to digital skills from the perspective of vulnerable groups; (2) how the working environment will change for low-skilled workers; and (3) responses of social partners, companies, and other relevant policy stakeholders to the challenges of automation. The research is policy-oriented, thus, we will also focus on policies that might be beneficial for mitigating the adverse effect of automation. Methodology: The present study will use both secondary (desk research) and primary (empirical) data. The desk research will present a literature review of academic literature, reports, and other outputs about the impact of automation on the labour position and conditions of vulnerable groups, and the responses of relevant policy stakeholders to challenges brought by automation. The research will utilize the actor-oriented approach (Long, 2001) that allows to understand the subject of study through the lenses of key policy actors, their sources of information, interests, and interaction between them. To be more specific, we will use semi-structured qualitative interviews with stakeholders relevant in the topic of the impact of automation on vulnerable groups. Predominantly, the representatives of social partners, employers, public institutions, and non-governmental organizations representing rights of vulnerable groups will be interviewed. The interviews will be conducted in Czechia and Slovakia as integrated peripheries within global value chains in the automotive industry (Pavlínek, 2022) and economies with similar social dialogue and collective bargaining structures (Šumichrast and Martišková, 2023 for Czechia; Kahancová, Martišková and Sedláková, 2019 for Slovakia). We will specifically focus on the automotive sector as a sector substantially affected by automation and an important industry in both countries. Eventually, the analysis will result in formulating policy recommendations.

Exploring the gaps between Roma and non-Roma job-seekers in the access to employment programmes in Slovakia

Lucia Kováčová

Slovak Academy of Sciences – Centre of Social and Psychological Sciences – Institute of Forecasting

Lucia Mýtna-Kureková

Slovak Academy of Sciences – Centre of Social and Psychological Sciences – Institute of Forecasting

Zuzana Poláčková

Slovak Academy of Sciences – Centre of Social and Psychological Sciences – Institute of Forecasting

Miroslav Štefánik

Slovak Academy of Sciences – Institute of Economic Research

The Roma belong to a largest ethnic minority in Central Europe, and in Slovakia, characterized by very poor living conditions, and poor employment outcomes (Kahanec 2014). While the Roma are a diverse ethnic community, especially marginalized Roma communities (MRC) are characterized by poor access to education reflected in low skills; bad housing conditions and spatial segregation; as well as worse health outcomes relative to the majority population (Škobla and Filčák, 2016; Hidas et al., 2022). Labour market exclusion has been one of the dominant dimensions of marginalisation. To date, the Roma in Slovakia have significantly higher unemployment rates than the majority population and often fall into inactivity. Unemployment among the Roma is up to 25% higher than among the non-Roma living in their vicinity (FRA, 2011). Although the Roma social inclusion is a multi-layered issue necessitating a complex intervention cutting across a range of areas, increasing the share of formal employment of the Roma can be a major vehicle of social integration. Literature review: Active labour market policies are a key policy intervention tool for policy makers to bring disadvantaged groups closer to the labour market. While evaluation studies of ALMPs in Slovakia exist (Štefánik and Karasová, 2016; Štefánik, 2021; Karasová, Baláž, and Polačková, 2019), to date relatively little is known about the implementation of ALMPs with respect to Roma specifically. This paper aims to fill this gap by empirically measuring the job placement and participation in active labour market programmes (ALMPs) between the Roma and non-Roma job-seekers in Slovakia, and contextualizing the measured differences in the broader institutional framework of activation and social policies. We in particular investigate patterns in allocation of job-seekers living in high/low Roma density municipalities to different ALMP measures, and interpret it in a broader context of policy design, targeting and labour market placement under conditions of structurally weak labour markets. Methodology: In our analysis, we merge the municipality-level information on MRC population from the Atlas of Roma Communities (Atlas of Roma Communities, 2019) with administrative data on registered job-seekers in Slovakia. The article explores the differences in the probability of job placement and participation in active labour market programmes (ALMPs) based on job-seekers' residence in a municipality with a high share of the population living in marginalised Roma communities (MRC). We then explore administrative data on job-seekers registered in Slovakia during 2017 complemented by information on their participation in ALMPs, and follow their labour market activity paths until 2020. We focus on two labour market activity outcomes and estimate a series of logit models of the probability of a job-seeker: (i) exiting the register of unemployed due to a job placement/de-registration, and (ii) job-seekers' participation in various types of ALMPs, recognizing the different roles of various types of ALMPs including public works (PW), employment incentives (EI), counselling (CS), and training (TR). Findings: Out of the 503 731 jobseekers registered during 2017, 231 823 had a permanent residence in settlements (municipalities) with the share of Roma population above 5 percent (46 percent). A look at the spatial distribution of MRC population and the unemployment rate reveals that regions with a higher share of MRC population are concentrated in areas with higher unemployment. At the municipality level, unemployment is correlated with the share of the population living in MRCs (correlation coefficient = 0.717). This correlation suggests that the districts with a higher share of MRC population are also in more urgent need of public employment services. Our findings show that the probabilities of a job placements fall with a rising share of Roma population in the place of residence. In contrast, the probability to be de-registered (for non-cooperation) increases with the share of population living in MRC. We observe a declining chance of being placed and a growing chance of being de-registered in spite of the fact that, on average, ALMP participation is higher in regions with higher unemployment rate, which is also spatially highly correlated with the density of Roma communities. Moreover, the more "intensive" or expensive ALMP programmes are less accessible for clients living in MRCs and the less "intensive" support is more often taken up by clients residing in municipalities with a higher

share of MRC. The observed portfolio of ALMP services provided in municipalities without MRC population differs from the portfolio provided in municipalities with a high share (above 50 percent) of population living in MRCs. Conclusion/policy implications: In the interpretation of results we go beyond the well-established argument of economic and social discrimination of the Roma based on ethnicity (European Agency for Fundamental Rights, 2022; Kureková, 2015; IFP, 2014). Specifically, in the Slovak case, the plethora of policy tools available to public employment services (PES) staff does not include measures suitable for individuals distant from the labour market due to multiple disadvantages, which in addition to ethnicity include also low education, gender, poor health status or poverty. This, we argue, might lead to what appears a systematic institutional exclusion from PES employment support of the jobseekers living in high-MRC communities. We then argue that the design of current employment integration models seems to fail to address the multidimensional disadvantages that occur in the whole ecosystem in which the integration takes place (e.g., Kureková et al., 2022; Nevala et al., 2015; Shaw et al., 2022). As a result, employment programmes might be exclusionary towards vulnerable groups by not considering their specific disadvantages. From a policy perspective this implies that the plethora of tools available to employment services should be adjusted to enable effective labour market inclusion of those most distant to the labour market, in order to provide real activation options to counsellors as well as marginalized Roma.

Linking ESG to Sustainability and Corporate Performance: A Bibliometric and Conceptual Analysis

Jana Kozáková
Slovak University of Agriculture in Nitra

Tomáš Michalička
Slovak University of Agriculture in Nitra

This study examines the intellectual structure, thematic evolution, and key trends in a field of Environmental, Social, and Governance (ESG) research. The research sample consists of 3,099 peer-reviewed publications from the Web of Science Core Collection (WoSCC) from 1994 up to June 2024. Performed was a bibliometric and cluster analysis of ESG-related scientific literature. VOSviewer was used for network, overlay, and density visualisations of analysed publications. Our results indicate that the ESG research has gained growing momentum in the recent decade, but it is still in the stage of its formation and intellectual consolidation. Increasing volume of publications linking the ESG framework with various themes, particularly within business, finance, environmental studies, and management, demonstrates a clear tendency towards a multidisciplinary approach. Revealed is the existence of four dominant thematic clusters within ESG literature in WoSCC, which consist of investment integration, corporate performance and disclosure, innovation mechanisms, and ESG ratings. Unexpectedly, China currently leads in the volume of ESG-related academic publications, while European countries, despite being at the forefront of ESG regulations, show a comparatively moderate contribution to the scientific literature. Our results also reveal an existence of disciplinary imbalance, according to which ethics, legal compliance, political frameworks, and climate change topics remain less involved in the bibliometric landscape despite their relevance to the ESG discourse. Highlighted is also the importance of technology in practical incorporation of ESG into responsible management and reporting using tools including AI, big data, and blockchain. Our recommendations for policymakers include an adoption of a holistic approach that extends beyond compliance and reporting, as implementation of ESG principles can contribute to improvement of business performance, stakeholder trust, and long-term competitiveness.

Comparative Analysis of Entrepreneurial Readiness Among Slovak and Czech University Graduates

Jana Kozáková
SUA i NItra

Alexandra Filová
SUA in Nitra

Readiness for entrepreneurial career is becoming one of the key prerequisites for fostering innovation, adaptability, and competitiveness in current labour markets characterized by turbulent changes. This readiness is specifically important in in the context of post-transition economies such as Slovakia and Czechia where individuals still struggle with adaptation on market economy and do not fully understand the possibility of self-employment as equal to being employee. In this environment, schools and specifically universities are increasingly expected to play a leading role in shaping entrepreneurial mindsets. It its enhancement it is essential to understand not only the formal outcomes of entrepreneurship education, but also how students perceive their own entrepreneurial capabilities. These self-perceptions are often influenced by both individual and contextual factors which can significantly affect students' motivation and confidence in pursuing entrepreneurial paths. This study analyses this situation and helping to address this need by examining the structure of self-assessed entrepreneurial skills among university students in Slovakia and Czechia, two neighbouring countries that share historical similarities but operate within slightly distinct educational and economic landscapes. Built on the principles of human capital theory, this study utilizes a structured quantitative design to analyse primary data collected from 440 future university graduates (220 from each country). Using Principal Component Analysis (PCA), hierarchical clustering, and non-parametric statistical testing, we uncover three latent dimensions of entrepreneurial self-assessment in both national contexts: (1) business, financial, and managerial skills; (2) technical-digital and communication competencies; and (3) sector-specific or practical knowledge, which are particularly relevant in future career in agribusiness and production. Our outcomes suggest, that while the core structure is comparable, the national profiles in these countries differ. Remarkably, Slovak students tend to cluster more frequently into groups with stronger entrepreneurial self-confidence, particularly in digital and applied domains, suggesting possible links to the structure of national curricula and labour market demands. Interestingly, among the demographic factors we studied (such as gender, type of residence, work experience, and family business background) only gender in the Czech sample shows a statistically significant relationship with skill profiles, pointing to possible socio-cultural influences or confidence gaps. The study also confirms that self-perceptions are not always directly tied to objective experience or background which is highlighting the psychological and educational nuances involved in entrepreneurial development. Our findings contribute to the broader theoretical discussion on how to effectively equip young people with entrepreneurial competences in Central European higher education. From a policy and institutional perspective, achieved results underline the importance of more specific and nuanced educational strategies which are country-sensitive, and inclusive at the same time. According to our results we can conclude that Slovak institutions may benefit from strengthening business-oriented and managerial components of their teaching and training, while Czech universities, despite their broader competency coverage, may address gender-based disparities through targeted mentorship and specific empowerment initiatives. By mapping student typologies and displaying the underlying factors of entrepreneurial self-readiness, this study provides both theoretical insights and practical recommendations for designing educational interventions that reflect the developing economic realities of the region. It also highlights the value of moving beyond a one-size-fits-all approach in entrepreneurship education and calls for future research to deepen the understanding of entrepreneurial identity formation in post-transition societies.

A Tribute to the Works of Július Horváth on the History of Economics in Slovakia and in Central Europe

Tomáš Krištofóry
independent

There's a growing interest in the history of social sciences in the countries of East Central Europe. Before WWII, they not only contributed to their own national thoughts but were also vibrant parts of the German scholarly world which means they were on the World level. Balazs Trencsényi (CEU) recently did this for political science, and while there are more historians of economics in the region, none has done such a great deal to highlight the history of economics in the East Central European countries than Julius Horvath (CEU). He wrote one book, "An Introduction to the History of Economic Thought in Central Europe" (Palgrave 2020), which was introductory not just by name but also by content. The other book is titled "A History of Slovak Economic Thought" (Routledge 2023), and it is a tribute to his home country. An outsider reader who is knowledgeable about the history of Austrian and German economics won't know most of the names but Bratislava is just 60 kilometers from Vienna, and Economics in Prague was written in German - even by the Czechs who wanted to be treated seriously - so many contexts will sound familiar to a reader knowledgeable about the Austrian or German economic thought. However, a reader from the region will still learn a great deal. Horváth's books are swift, drawing out the evolution of economic thought - and economists' capacity to run the economy or assist the politicians from the unnoticed beginnings to the first quarter of countries listed by the GDP per capita. We should give Július much more credit than we currently are. His books invite further developments, we suggest that one possible direction is to engage more with recent economics, the other strand of our interest should focus more on the period prior to WWII when Czechoslovak, Hungarian, and Polish universities were world-class.

What Shapes How We Spend? Exploring Expectations and Behavior

Patrícia Krupová
Bratislava University of Economics and Business

This study investigates the relationship between household expectations and consumption behavior in Slovakia. Using data from the 2021 Household Finance and Consumption Survey (HFCS), we explore how expectations regarding future inflation and income influence spending decisions, both for regular consumption and for hypothetical windfall gains. Our regression analysis, which accounts for the complex survey design and missing data, reveals that expectations are a significant determinant of consumer behavior. Specifically, the anticipation of higher future prices is associated with a greater willingness to spend in the present, including a higher Marginal Propensity to Consume (MPC) from unexpected income.

Assessing Participatory Budgeting´s Impact on Voter Turnout: Evidence from the Capital City of Prague.

Soòa Kukučková
Mendel University in Brno

Marek Litzman
Mendel University in Brno

This study investigates the impact of participatory budgeting (PB) on voter turnout in Prague districts across different types of elections. Employing a methodological framework combining synthetic control and regression approaches, we analyse data from local, parliamentary, presidential, and European Parliament elections over a period from 2009 up to 2024. Our findings reveal that PB implementation has a statistically significant positive effect on voter turnout, particularly in local elections where it increased participation by 1.44 to 1.49 percentage points. A smaller but still significant effect was observed in parliamentary elections, with an increase of 0.83 to 0.91 percentage points. However, no significant impact was found for presidential or European Parliament elections. These results suggest that PB's influence on civic engagement is most pronounced at the local level, aligning with the hypothesis that it encourages greater interest in local issues and interaction with local politicians. The study contributes to the broader discourse on participatory democracy, indicating that while PB can be an effective tool for increasing citizen engagement, its impact varies across different levels of governance. These findings have implications for policymakers considering PB as a means to enhance democratic participation.

Long-Run Transition vs. Short-Run Frictions: Modeling Slovakia's Macroprudential Policy Path

Patrik Kupkovič
National Bank of Slovakia

The double-dip recession that followed the Global financial crisis and the European sovereign debt crisis shifted policymakers' focus to systemic risk and financial stability. Macroprudential policy has become a key strategy for curbing excessive credit growth and housing market imbalances, particularly in small, open economies within the monetary union, like Slovakia. Most empirical studies use a reduced-form approach that averages the effects of macroprudential policies over time and across regimes. This paper uses a Vector Error Correction Model (VECM) framework to estimate the long-run structural relationships between the macroprudential policy and its primary target as well as its short-run transmission and adjustment. Using this framework, we identified two distinct cointegrating relationships: a long-run house price equation and a long-run macroprudential rule. Additionally, we estimated a short-run macroprudential rule. The results show that the identified long-run macroprudential rule reflects Slovakia's transition from passive to active macroprudential policy. Next is the usefulness of a short-run macroprudential adjustment that accounts for real-world policy frictions, such as signal extraction and policy implementation lags. Lastly, the constructed model explicitly captures the tension between the short- and long-term dimensions of macroprudential policy. The main contributions are (i) a model that captures the dichotomy between short- and long-run aspects of macroprudential policy in an EA country and (ii) real-world macroprudential policy rules that account for policy frictions.

Why Households Overestimate Inflation: The Role of Food Price Salience

Ondrej Kusenda
National Bank of Slovakia

Michal Marenčák
National Bank of Slovakia

This paper examines the increased gap between households' inflation expectations and actual inflation, commonly referred to as the upward bias of inflation expectations, during Slovakia's 2021-2023 inflation surge. Contrary to hypothesis that greater attentiveness of households reduces this bias, we find that it increased significantly during the inflation surge. We attribute this to households' disproportionate focus on food prices, which are both highly salient and exceeded headline inflation during this period. Using LASSO regressions, we show that grocery prices explained over 80% of the variance in expectations, up from 50% pre-surge. These findings highlight the role of selective attention in shaping inflation expectations and suggest that policymakers should consider food price dynamics when managing inflation expectations.

Green taxes for economic growth

Gábor Kutasi
Ludovika University of Public Service

Ádám Marton
Ludovika University of Public Service

The paper examines the economic implications of green taxes, with a special focus on the relationship between economic growth and inflation. The analysis is based on a dynamic panel GMM regression, following the Solow-Swan growth approach (expenditure-side approach). The database is built on the Eurostat green tax dataset (energy, transport, pollution/resource taxes) and covers 24 European countries between 1996 and 2022. The dependent variable is GDP per capita growth, with green tax revenues and lagged GDP per capita at purchasing power parity as explanatory variables. The instrumental variables include consumption, capital formation, net exports, population change, budget balance (excluding green taxes) and labour productivity. The results show that although green taxes can have a negative impact on economic growth in the short run, they can stimulate it in the long run, especially in the context of technological innovation and the shift towards a greener economy.

New Technology, Job Skills, and Shifts in the Labor Demand in Europe: Digital Divide or Convergence?

Martin Lábaj
Bratislava University of Economics and Business

Jelena Reljic

Lucia Širochmanová

The main aim of the paper is to investigate the interplay between occupational exposure to AI (and more broadly defined digital technologies), cross-country differences in the use of digital skills within occupations, and the use of ICT and other forms of capital. We hypothesize that the AI and digital technologies have different impact on highly developed countries with high level of AI preparedness, high level of digital skills and ICT capital, than on the less developed countries. We seek to provide new insights into the question whether the AI and digital technologies will lead to digital divide in Europe and could slow down or stop the convergence of the less developed countries to the more developed ones.

Correcting for Nonignorable Nonresponse Bias in Ordinal Observational Survey Data

Lukáš Lafférs
Matej Bel University

Jozef Michal Mintal
Matej Bel University

Ivan Sutóris
National Bank of Slovakia

Non-ignorable nonresponse, where participation depends on unobserved outcomes, poses a fundamental challenge for valid inference in political science. We extend the variable-response-propensity framework to adjust for non-ignorable nonresponse in ordinal outcome data, enabling researchers to correct for selection bias in descriptive and inferential estimates. The estimator is implemented as a compact R function and validated through simulations. Applying the approach to 2024 American National Election Study data, we analyze ordinal measures of attitudes toward abortion, the death penalty, national economic conditions, and military intervention. Accounting for ordered non-ignorable nonresponse we show substantively meaningful shifts in key category estimates. This method offers a practical tool for researchers working with observational survey data containing response propensity indicators.

Zombie Firms in the Pandemic Era and The Role of Government Support

Tibor Lalinsky
National Bank of Slovakia

The pandemic-induced recession revived discussions on zombie firms and their impact on aggregate economic developments. Extensive pandemic support for businesses

Eduard Baumohl
Slovak Academy of Sciences and University of Economics in Bratislava

heightened concerns about increased zombie lending and a potential zombie boom. Using a large representative sample of non-financial firms operating in Slovakia, we analyse the evolution and key drivers of zombie firm prevalence during the pandemic. Additionally, we merge detailed balance-sheet data with information on individual pandemic policy support to examine its role. We decompose zombie firm growth into margins. Further, we break down zombie entries and exits based on whether changes in firm profitability, debt or interest costs drive the transition. We then employ logit regressions to assess the allocation of pandemic support to zombie firms and apply propensity score matching technique to quantify its impact on zombie margins. Our findings confirm a negative relationship between zombie firm incidence and economic growth. However, the prevalence of zombie firms is primarily driven by firms' cyclical financial conditions. Interest rates have a limited direct effect, influencing zombie prevalence with a time lag. Our results also suggest that the pandemic support was only marginally allocated to zombie firms, did not trigger a zombie boom, and may have muted zombie margins by providing liquidity to firms in temporary distress.

Trajectories of sustainable use and supply of biomass in Slovakia for the period 2025 – 2050

Jakub Linda
Ministry of Environment of the Slovak Republic

Veronika Tóth
Ministry of Environment of the Slovak Republic

Martin Gális
Ministry of Environment of the Slovak Republic

This study investigates the structure, utilization, and circulation of woody biomass in Slovakia, focusing on the period 2025–2035. It is based on detailed sectoral analysis and wood flow tracking, with special emphasis on energy applications and their sustainability. Biomass accounted for 58% of all renewable energy production in Slovakia in 2023, with significant consumption in households, industry, and the energy sector. Forest growth and harvesting dynamics were modelled using a forest biodynamic simulation model (SIBYLA) under several scenarios reflecting varying harvesting intensities, spatial limitations (e.g., protected areas), and policy trajectories aligned with the National Energy and Climate Plan (NECP) and new Renewable energy directive RED III. These scenarios assess the sustainability of biomass supply while considering forest structure, increment potential, and forest age distribution. Approximately 59% of total wood in circulation is used for energy purposes, of which 45% originates from secondary flows in the wood-processing industry. Direct flows from forests, such as firewood, chips, and logging residues, make up roughly 32% of the energy wood supply. Most energy biomass is of lower quality (grades V and VI or below-industrial standard residues), and in many cases not officially recorded in harvesting statistics. Households remain major consumers of biomass, predominantly firewood and pellets. However, improper storage and combustion practices are widespread: 44% of households do not dry firewood adequately, contributing to local air pollution through elevated PM2.5 emissions. In the industrial and energy sectors, most electricity from biomass is generated in high-efficiency combined heat and power (CHP) installations, often using by-products such as black liquor, bark, or wood chips. Economic factors strongly influence biomass allocation. High-grade timber is prioritized for material use, while lower-grade wood is diverted to energy. In the absence of sufficient local demand and due to high transport costs, wood may be downgraded to fuel use even when higher-value applications are technically feasible. The study concludes with recommendations to enhance biomass flow monitoring, support efficient and sustainable energy use (particularly in CHP systems), reduce inefficient residential combustion, and ensure that biomass deployment remains compatible with climate targets, air quality standards, and biodiversity protection. Modeling outcomes suggest that biomass can play a stable role in Slovakia's energy transition, but only under scenarios with balanced forest management and robust environmental safeguards.

Coordination on altruistic market with imperfect substitutes

Matej Lorko
University of Economics in Bratislava

Tomáš Malinovský
University of Economics in Bratislava

Maroš Servátka
Macquarie Business School

Charitable gifts and volunteering deliver enormous value in areas where neither the government, nor the commercial sector is sufficiently active. However, altruistic markets often develop severe inefficiencies due to miscoordination of volunteers. In this paper, we focus on two coordination failures which result in wasted volunteering labor and resources, and/or losses in recipient welfare, namely (1) oversupply of a single altruistic good and (2) ineffective allocation of volunteers across multiple altruistic goods. We conduct a laboratory experiment, in which participants in a group of four are independently deciding whether to provide a costly help to a charity or not. The baseline condition involves a single (high-priority) altruistic good with a restricted demand. While all those how decide to help incur a cost, only one unit of help generates a benefit for the recipient. In other conditions, we add a second (low-priority) altruistic good with unrestricted demand but lower recipient benefit. All conditions involve a within-subject treatment manipulation - we introduce a coordination device which informs those who decided to provide a high-priority good of whether the demand for this good was already met or not. We find that the coordination device significantly improves the efficiency of the altruistic market in all conditions. Specifically, in the baseline condition, the device decreases the supply of high-priority good (and thus eliminates its oversupply), while in the other conditions, the device increases the supply of high-priority good (and thus eliminates its undersupply) by effectively reallocating volunteers across the two goods.

High-Resolution Inflation Tracking Using Administrative Transaction Data: A Machine Learning Approach from Slovakia

Martina Mahelyová
NBS

Michal Marenčák
NBS

We use the complete universe of receipt-based business-to-consumer transactions in Slovakia to measure regional discrepancies in prices and consumption patterns. The data, collected for tax purposes, include details on quantities and turnover across all sectors. Using a large language model, we classify unstructured product descriptions into COICOP categories, focusing on food and non-alcoholic beverages. This enables the construction of regional price indices and consumption baskets. We find substantial heterogeneity in consumption levels and prices across Slovak regions. Our approach showcases the potential of combining administrative big data with machine learning for economic research and policy making.

Colonialism, Cash Crops and Women in Africa

Flavio Malnati
CERGE-EI/EUBA

Martina Miotto
University of Padoa

We study the impact of an institution-driven shift, introduced by colonial powers, from traditional agriculture to market-oriented, cash crop production in Africa on the current status of women. While historical and some economic literature argue that this shift favoured gender inequality by favoring men entry into the cash economy and excluding women, recent studies suggest it disrupted traditional social and family dynamics, potentially leading to greater female empowerment. We leverage on the differential involvement of colonial districts in cash crop agriculture during colonial rule and compare outcomes measuring women empowerment for the contemporary female descendants. We exploit land suitability for cash crop to isolate exogenous variation in cash crop production. Our findings show a persistent positive effect of cash crop agriculture on women status, measured as higher agency within the household and less willingness to justify husband's violence. The intergenerational transmission of culture plays a key role in explaining the long-run persistent effect, which is especially

prevalent in regions where the main cash crops were cocoa and palm oil, as women played a substantial role in producing these crops.

Fiscal Multipliers and the Maturity Financing of Government Spending Shocks

Jochen Mankart
NBS

Morteza Ghomi
BDE

Rigas Oikonomou
UC Louvain

Romanos Priftis
ECB

This paper shows that debt-financed fiscal multipliers vary depending on the maturity of debt issued to finance spending. Utilizing state-dependent SVAR models and local projections for post-war US data, we show that a fiscal expansion financed with short-term debt increases output more than one financed with long-term debt. The reason for this result is that only the former leads to a significant increase in private consumption. To rationalize this finding, we construct an incomplete markets model in which households invest in long- and short-term assets. Short assets provide liquidity services; households can (more readily) use them to cover sudden spending needs. An increase in the supply of these assets, through a short-term debt financed government expenditure shock, crowds in private consumption. We first show this mechanism analytically in a simplified model, and then quantify it in a carefully calibrated New Keynesian model. We find that differences in fiscal multipliers across short-term and long-term financed shocks can be large. We explore how these differences are influenced by the monetary and fiscal policy rules.

Personal Inflation Rates in the Euro Area

Michal Marenčák
National Bank of Slovakia

Giang Nghiem
Leibniz University Hannover and Centre for Applied Macroeconomic Analysis (ANU)

Using ECB Consumer Expectations Survey microdata, we construct household specific inflation rates for the euro area. Four results emerge. (1) Personal inflation is significantly heterogeneous across households, countries, and time, with differences widening sharply during the 2022–23 price surge. (2) These individual rates strongly predict both perceived and expected inflation. (3) Greater dispersion in personal inflation aligns with stronger cross-household disagreement about perceptions and expectations. (4) Deflating expenditures with personal rather than headline inflation reveals larger consumption inequality. Together, the results highlight how differing consumption baskets shape inflation beliefs and amplify distributional effects of price shocks.

DEEPLAB – Implications of deep decarbonization of high-emission industries on employees and the labour market

Monika Martišková
CELSI

Jakub Barszcz
CELSI

Our study aims to identify trends of future demand for labour and employee qualification levels of hard-to-abate and emerging sectors, focusing on a small, open economy in Europe's Central Eastern periphery, Slovakia. Adopting a mixed-methods approach, it combines data collection from interviews with input-output modelling. Specifically, it builds upon the IMPACTECH model (Stadler et al., 2018), utilising the environmentally extended multi-regional input-output database EXIOBASE to simulate the impacts of the adoption of low-carbon technologies on employment and the labour market in Slovakia through four alternative pathway scenarios. The scenarios are then discussed with stakeholders and policymakers in the co-creative workshops (planned). The preliminary results from the four scenarios suggest an increased need for highly qualified workers in all hard-to-abate industries, especially under the renewables and circular scenarios. The model will be further fine-tuned based on the inputs from stakeholders currently interviewed, and results will be presented at the

conference in September 2025.

Food Waste in the Eyes of Generations Z and Y: The Role of Marketing Communication in Shaping Sustainable Habits

Adriana Mateášiková
Slovak University of Agriculture, Faculty of Economics and Management, Institute of Marketing, Trade and Social Studies

Dávid Takács
Slovak University of Agriculture, Faculty of Economics and Management, Institute of Marketing, Trade and Social Studies

Food waste is currently an important issue in discussions on sustainable development. The main objective of the study is to approach the attitude of generations Z and Y to the issue of food waste and to analyse the impact of marketing communication on the formation of sustainable consumer behaviour, with an emphasis on the future development of trends in food waste in Slovakia, especially in the household environment. Our own research was conducted through a consumer questionnaire survey. 593 Slovak consumers participated in the survey, 284 from Generation Z, and 309 from Generation Y. To estimate future trends in food waste, we used data from the Eurostat database and the FORECAST.LINEAR function in Microsoft Excel. Based on the objectives of the study, we established 2 hypotheses, one was confirmed and the other was not. The results indicate the existence of a value-action gap, i.e. a gap between values and behaviour. Although Generations Z and Y are aware of the seriousness of food waste, in practice they often do not take action to mitigate the problem.

Covid-19 and the Shift Towards Sustainable Consumer Behaviour Through Environmental Awareness and Social Responsibility: Case of the Slovak Republic

Kristína Medeková
Faculty of Economics and Management, Slovak University of Agriculture in Nitra

Drahoslav Lančarič
Faculty of Economics and Management, Slovak University of Agriculture in Nitra

We are currently experiencing the effects of multiple crises more than ever before. The spread of COVID-19 around the world has posed a significant challenge to public health. It has also harmed the environment, people's behaviour, and lives. This study aims to analyse the impact of the COVID-19 pandemic on sustainable consumption in Slovakia. The focus is on the mediating roles of environmental awareness and social responsibility, as well as generational differences between Generation X, Y, and Z. We adopted a quantitative approach. Data were collected via an online survey completed by 247 Slovak respondents, and structural equation modelling (SEM) was used to analyse this data and test the hypotheses. The results confirm that COV had a positive indirect effect on SC through EA and SR, with SR being the predominant mediator. The overall impact of COV on SC was significant, indicating that it primarily catalysed sustainable behaviour based on values, rather than awareness. Although ANOVA revealed generational differences in construct levels (Generation X scored highest on EA, SR, and SC), SEM multiple-groups analysis did not show any significant moderate effect of generation on structural paths. These findings suggest that, to sustain behavioural changes beyond the crisis. Slovak policymakers should prioritise long-term social responsibility initiatives over short-term environmental messaging. Despite limitations such as sample size and uneven income distribution, the study emphasises the important part that SR plays in the transition to value-based sustainability during crises.

Sectoral Dependencies and Climate Risk through Quantile Connectedness in the S&P 500

Michala Moravcova
EU SAV

Adam Šejvl
ECON MUNI

Abstract: Study investigates the interconnectedness of sectoral indices within the S&P 500 index. Our primary focus is on sectoral connectedness across different quantiles, enabling a deeper understanding of interdependencies, particularly during periods of heightened market volatility and uncertainty. We employ the Quantile Vector Autoregression (QVAR) framework (Chatziantoniou et al., 2022a). This study aims to empirically examine whether climate risks intensify sectoral connectedness and whether they contribute to the propagation of systemic risk across financial markets. Climate risk can be categorized into two types: (i) physical risks and (ii) transition risks. We will employ different climate indices to represent both physical and transition risk. By integrating climate risk indices that capture both physical and transition dimensions, we seek to analyze market dynamics and sectoral interdependencies.

Expected Discrimination and Job Seeking Behavior: Experimental Evidence from Kenya

Winnie Njoroge
CERGE-EI

Although previous research has established the existence of discrimination in the labor market and the negative effects on firm productivity, little is known about how job seekers from disadvantaged groups behave when they anticipate discrimination in the labor market. I conduct a natural field experiment in Kenya, a developing country with a history of deep ethnic rivalry between the Kikuyu (dominant) ethnic group and the Luo (disadvantaged) ethnic group, to investigate: (i) whether anticipated ethnic discrimination deters job seekers from applying for jobs and (ii) the quality of job seekers who are most responsive to anticipated ethnic discrimination in the hiring process. To create a pool of job seekers, I first sent a general job advert where interested individuals filled in an expression of interest form. I collected multiple characteristics for the entire pool of job seekers at this stage, which I use to construct predicted wages as a proxy for quality. In addition, I contracted HR managers to review the materials provided and their scores provide a second proxy for the quality of job seekers. I randomly assigned job seekers to one of the three treatment groups (Control, Equal-Only, or Equal + Blind), where I exogenously varied the signals about equal treatment in the hiring process, and invited them to apply. I find that signaling equal treatment in the hiring process increases job applications from the disadvantaged ethnic group by 19% (p ¡ 0.01) and the effect is mainly driven by high-quality job seekers. Specifically, applications from job seekers in the top decile of quality distribution increase by 79% (86%) when using predicted wages (scores by HR managers) as a proxy for quality (p ¡ 0.01). Signaling equal treatment has an insignificant effect on the dominant ethnic group on average (reduction by 6%; p = 0.133). These findings suggest that job seekers' responses to expected discrimination in the hiring process partially explain the observed ethnic inequalities in the labor market. Hence, firms should aim to credibly signal their commitment to equal treatment of job seekers during the hiring process.

Balancing Support and Savings: The Role of Targeting in Social Welfare Policy

Viktor Novysedlák
Council for Budget Responsibility

Zuzana Siebertová
Council for Budget Responsibility

Reevaluating the targeting of the social welfare system would bring greater transparency, predictability, and help shape an atmosphere that supports more effective and transparent resource management. More is at stake than just potential savings, which alongside other measures could contribute to reducing the high budget deficit. Aside from clearly targeted benefits for households in material need, the majority of social benefits are paid in roughly the same amount across all income groups. They

Norbert Švarda
Council for Budget Responsibility

are not conditioned by household income or assets, but by specific life situations. As a result, households in the top 30% income deciles receive €1.1 billion, only slightly less than the €1.4 billion directed to low-income households. When looking at different family types, it appears that family benefits as a whole are more helpful to low-income families, with their impact decreasing as income rises. They are thus more targeted than, for instance, the 13th pension payment, which does not aid the poorest but instead improves the situation of middle- and higher-income pensioner households—regardless of their regular pension level. Targeting does not necessarily imply radical cuts; it can take various forms, provided that eligibility for transfers is based on predefined principles. However, if savings were to be sought in this area, gradually reducing the level of social transfers as household income rises—depending on the chosen parameters—could create room for both modest and substantial savings.

Unemployment Underreporting in LFS across EU Countries

Michal Páleník
Faculty of Management, Comenius University Bratislava; IZ

Long term unemployment is the primary target group of most intermediate labor market policies. In this article, we focus on other groups in populations that fulfill broader definition: those that are without a job for a longer period of time, regardless of unemployment status. We approximate this using LFS data with individuals, that are classified as inactive but are either seeking work or wanting to work (but not both). This share of the target group varies across EU countries with Slovakia having one of lowest shares (together with Spain, Greece, Lithuania, and Romania). The goal of this analysis is to quantify possible increase of labour force given successful labour market policies that would target inactive wanting to work to have them search for jobs. In case of Slovakia, this would mean increase of unemployment by 40% (the number slightly varied between 40 and 57% since 2015). In Czechia, the increase of the target group would be by 100 to 200% (reaching the levels of registered unemployed). In Hungary, the number of inactive wanting to work is decreasing since 2000's values of 450 000 people to 2024's 110 thousand. Poland drastically decreased the number of unemployed in years 2005-2007, but the number of people in the target group had only a slight decreasing trend. Even though there are significant differences accross countries, we can conclude that ALMPs should have the capacity to absorb additional unemployed.

Risk Without Reward? The Introduction of Bitcoin spot ETFs

Daniel Pastorek
Mendel University

Peter Albrecht
Mendel University

Our study examines to what extent the introduction of Bitcoin spot exchange-traded funds (ETFs) affected Bitcoin's properties, including market dynamics, volatility, returns, return distribution, and tracking errors. Using block bootstrap simulations, OLS regression, EGARCH modeling, and non-parametric tests, we find that Bitcoin ETFs increase volatility and downside risk while leaving average returns unchanged. Return distribution shifts, including reduced skewness and kurtosis, suggest partial normalization, typically linked to greater liquidity and market participation. However, unlike traditional ETFs, Bitcoin ETFs introduce fail-to-deliver (FTD) occurrences—previously absent in Bitcoin markets—which mitigate extreme price movements through delayed settlement. Tracking error analysis confirms that spot ETFs more accurately track Bitcoin's price than futures-based ETFs. These findings offer critical insights into Bitcoin ETFs' market effects, particularly regarding stability and investor behavior.

Transaction costs and willingness to donate

Jana Peliova
Bratislava University of Economics and Business

Zuzana Brokesova
Bratislava University of Economics and Business

In economic decision-making, transaction costs could have a substantial impact on final decisions. As documented in previous research, they could be a factor that significantly reduces the willingness to donate or the amount of donation. We run a laboratory experiment shed the light on the effect of transaction costs on willingness to donate. We use real effort task and depending on the amount of money subjects earned, they could decide whether not to donate or to donate a share of it to Slovak charity ?erven nos. To differentiate the effect of transaction costs and opportunity costs, we use 2 x 2 design when manipulating transaction and opportunity costs in four treatments. We simulate different levels of transactions costs of donation by the extend of data needed to donate and different opportunity costs by addressing donors before, during or after real effort task. In the first treatment, subjects were asked to donate during the real effort task simply by hitting the DONATE button. In the second treatment, subjects could also donate during the real effort task, but in this treatment, they had to register to donate, which meant that they had to fill in information into a registration form. In the third treatment, subjects have the option to donate after the completion of the real effort task by simply by hitting the DONATE button. In the fourth treatment, subjects have the option to donate after the real effort task, but they have to register to do so. In two control treatments we offer subject option to donate before the real effort task (one with registration and one without registration). In the pilot experiment, we studied behaviour of 80 subjects, of which 19% decide to donate. The willingness to donate varies between treatments. Our preliminary results follow the intuition and show that introducing transaction costs substantially reduce the willingness to donate. In the case of the opportunity cost, an increase in opportunity costs reduces the willingness to donate to charity.

When the Environment Responds: Experimental Evidence on Dynamic Collective Action

Veronika Piovarči
Bratislava University of Economics and Business

Jana Péliová
Bratislava University of Economics and Business

Over the past few decades, climate change has emerged as a pressing global issue of high importance. Long-term changes in global surface temperature impact access to basic environmental public goods, such as clean water and air (Jacob & Winner, 2009; Delpla et al., 2009). The primary factor of these changes is the level of emitted greenhouse gases into the atmosphere (IPCC, 2021). The relationship between human activity and Earth system response is inherently interconnected. Here, a duplex endogenous dynamics exists that governs both human strategies as well as environmental feedback (Moss, et al., 2010). Long-term consequences of environmental changes also have a pronounced influence on the global economy. Without concerted efforts, a significant decline in average global incomes, as well as a notable decline in economic productivity and a deepening of income inequality, can play a crucial role in the foreseeable future (Burke, Hsiang, and Miguel, 2015; Kahn et al., 2021). To escape from these prognosed consequences, coordination towards cooperation at some level is needed (Paris Agreement, 2015, art. 4). Environmental changes are therefore tied to collective human behavior and are subject to what has been referred to as a “collective action problem” (Hormio, 2023). The less we coordinate, the more greenhouse gases we emit and the more adverse effects it potentially could have on our well-being. Therefore, sustained cooperation among diverse societal actors becomes crucial (Petzold et al., 2023; IPCC, 2023). Despite the urgency and relevance of this topic, experimental research on endogenous dynamics in the context of a collective action problem, where the state of the environment evolves in response to group behavior, is surprisingly scarce. Most of the current experimental studies fail to account for the feedback loops between group success in coordination and the long-term viability of the public good provision. To address this gap, we propose a novel experimental design that reflects real-world collective action dilemmas in the context of climate change. Our research interest is twofold. To shed more light on the factors that shape the group coordination process when endogenous environmental feedback is employed. And to examine whether the coordination success rates differ in response to two different environmental feedbacks. In our experimental setting, the environment is represented as a state variable that evolves in direct response to the level of collective contributions made by group members toward its preservation. The changes in the environment are reflected in the economic consequences for individuals' disposable income through their endowment in a given round. We introduce two treatments inspired by plausible climatological scenarios (Moss, et al., 2010). An Evolvable Scenario, where the state of the environment can fluctuate, and an Irreversible Scenario, where negative change accumulates permanently. In addition, we test a third treatment regimen in which selected groups of participants are allowed to recover from a previous failure by re-participating in the collective action game with the same irreversible scenario rules. This design allows us to isolate the impact of different environmental trajectories on the capacity for successful collective action. Our findings aim to advance understanding of how people respond to institutional environments that closely resemble real-world climate dilemmas. This research thus contributes empirical insights about whether loose cooperation is sufficient or whether global coordination mechanisms and paternalistic interventions are necessary to prevent long-term societal harms.

Robots and the Wedge between Wages and Productivity: A European Analysis

Klaus Prettner
Vienna University of Economics and Business

Tomáš Oleš
Bratislava University of Economics and Business,

Martin Lábaj
Bratislava University of Economics and Business,

Erika Majzlíková
Bratislava University of Economics and Business,

Dávid Hojdan
Ministry of Finance of Slovak Republic

We study the relationship between robot adoption and the wage–productivity wedge across European countries from 1995 to 2020. Guided by a tractable theoretical framework, we test three predictions: (i) robot adoption increases the gap between value added per worker and wages, (ii) this effect is stronger in routine-intensive sectors, and (iii) rising robot productivity may amplify the wedge over time. Using harmonized country-sector-year data, we find a robust positive association between robot intensity and the wage–productivity wedge, particularly in economically large sectors. The relationship is stable to controls for outsourcing and capital intensity, and descriptively stronger in routine-intensive industries. However, the link weakens over time, consistent with institutional or compositional adjustments. Instrumental variable estimates based on external robot trends from the U.S., South Korea, and New Zealand support a causal link between robot adoption and the wage–productivity wedge in weighted models, while highlighting reduced precision in fully saturated specifications and no robust evidence of heterogeneity by sectoral task routineness.

Micro-Level Perspectives On Perceived Economic Well-Being In Transition Economies

Elkjer Qema
Slovak University of Agriculture, Faculty of Economics and Managment

Kushtrim Braha
University "Ukshin Hoti" Prizren, Republic of Kosovo

ABSTRACT In transition economies, economic development is not solely reflected in GDP or employment rates but in how households perceive their financial stability. This study examines self-perceived economic well-being (PEWB) across six Western Balkan countries using microdata from the 2022–2023 Life in Transition Survey (LiTS IV). A generalized ordered logit model is utilized to investigate how diverse household assets, ranging from monetary resources and educational attainment to institutional trust, affect perceived economic well-being. The results highlight that perceived economic security is shaped not only by material assets but also by the trust individuals

Artan Qineti
Slovak University of Agriculture, Faculty of Economics and Managment

place in institutions and their ability to withstand financial shocks. Cross-country differences are evident, with Albania showing significantly lower PEWB than its regional neighbors. The results highlight the importance of designing policy frameworks that enhance households' financial stability, promote equitable access to learning opportunities, and strengthen trust in public institutions within the context of transitioning economies.

AI Inventions and Task Changes Within Occupations: New Work for Whom?

Francesco Roncone
francesco.roncone@unibo.it

Tomáš Oleš
Bratislava University of Economics and Business

This paper examines how the uneven diffusion of both non-AI and AI technologies—whether automating or augmenting—reshapes occupational skill demand within occupations, following Atalay et al. (2020), across U.S. commuting zones (CZs). We construct two novel exposure measures. Automation exposure is derived by embedding the full universe of U.S. patent texts (1980–2015) and computing their cosine similarity to the AI taxonomy of Gitzy et al. (2021), following the theoretical and empirical framework of Autor et al. (2024). Augmentation exposure is constructed from a new database linking patented AI-enabled tools to the occupations that use them, based on the flow of tool-specific innovations. Each patent is classified as AI or non-AI and assigned to occupations using the occupational panel by Roncone (2025). We then aggregate these measures to the CZ level using 1990 occupational weights, allowing for exogenous variation in exposure driven by pre-existing task structures. Leveraging this exposure framework, we document that occupations characterized by routine, programmable tasks—especially those with limited social interaction—were disproportionately affected. These effects are most pronounced for low-skilled workers, whose tasks (e.g., clerical, cognitive, and visual processing) were more amenable to substitution by AI technologies. We find that larger commuting zones (CZs), which concentrate complex and socially embedded work, experienced systematically lower exposure—consistent with agglomeration dynamics. Strikingly, high-skilled workers appear to drive the aggregate exposure pattern due to their spatial concentration and the resilience of their tasks to automation. Furthermore, our results reveal opposing distributional effects: AI exposure correlates positively with wage–occupation complexity (i.e., cognitive task intensity changes within occupations) for high-skilled workers, but negatively for low-skilled ones. These findings suggest that early automation followed a familiar pattern—displacing mid- and lower-skilled labor—rather than substituting for expert or socially complex tasks. However, these results are descriptive and will be refined in a full panel specification with CZ, sector, and potentially finer demographic group resolution. Nonetheless, the framework—combining NLP-based patent mapping with rich local labor-market data—offers a new perspective on the spatial and distributional consequences of AI adoption. References: Atalay, E., Phongthiengtham, P., Sotelo, S., & Tannenbaum, D. (2020). The evolution of work in the United States. American Economic Journal: Applied Economics, 12(2), 1-34. Autor, D., Chin, C., Salomons, A., & Seegmiller, B. (2024). New frontiers: The origins and content of new work, 1940–2018. The Quarterly Journal of Economics, 139(3), 1399-1465. Giczy, A. V., Pairolero, N. A., & Toole, A. A. (2022). Identifying artificial intelligence (AI) invention: A novel AI patent dataset. The Journal of Technology Transfer, 47(2), 476-505. Roncone, F. (2025, April). The impact of within-occupation technological change on spatial sorting and wages [Unpublished manuscript].

Direct Job Creation in the Public Sector: The Case of Marginalised Roma in Slovakia

Tomas Sarkozi
Bratislava University of Economics

There is broad international evidence that direct job creation in the public sector, an active labor market policy instrument, has a limited effect on integration of

and Business

Martin Kahanec
Central European Labour Studies Institute

the unemployed into the labor market. However, there is a lack of causal evidence on the effectivity of this instrument when focusing on marginalized Roma population in Slovakia, mainly due to data constraints. This is concerning given that Roma communities in Slovakia experience significantly lower employment levels than the majority. The aim of this paper is to estimate the effect of direct public job creation program on the employment outcomes of Roma labor force. The estimation strategy is based on counterfactual analysis. We use panel data on Roma labor market participation and exposure to the policy instrument, obtained from the Survey of Income and Living Conditions of marginalized Roma Communities, available for two consecutive time periods: 2018 and 2020. This panel structure allows us to apply a Difference in Differences approach to estimate the causal impact of direct public job creation on employment outcomes. Specifically, we compare changes in employment between policy participants and non-participants over time. To strengthen the comparability between groups, we additionally employ propensity score matching prior to the analysis, ensuring balance between treatment and control groups. Our preliminary results indicate a negative impact of participation in the public job creation program on employment outcomes, consistent with broader international evidence. Furthermore, we find that increasing age (50+) does not significantly influence the likelihood of employment, whereas gender plays a role — with males exhibiting a positive association with employment outcomes. However, a key limitation of the analysis is the use of panel data covering only one pre-intervention year, which may risk violating the parallel trends assumption required for robust Difference-in-Differences estimation. Future analyses would benefit from incorporating additional waves of the survey to strengthen causal inference. Despite this limitation, we recommend that policymakers reconsider the role of direct public job creation in public sector as an active labor market policy, given its apparent ineffectiveness to integrate unemployed into the labor market. This paper has been supported by the research project APVV-24-0350, Generation gold: challenges and opportunities to realize its full potential in the context of the labor market.

Bureaucratic Rumours and Policymaking

Shafin Shabir
CERGE-EI

This paper examines how bureaucrats strategically use informal communication to influence policymaking. I construct a two-period model with three agents: a Leader who plans to enact a policy, a Citizen who can block the policy, and a Bureaucrat who transmits information about the policy through rumours. I model bureaucrats as strategic agents whose preference alignment alters equilibrium outcomes, rather than passive intermediaries. I characterise Perfect Bayesian Equilibria under two bureaucratic alignment scenarios. Citizen-aligned bureaucrats use truthful information transmission when management costs are low, enabling citizens to prevent extreme policies preemptively. In contrast, leader-aligned bureaucrats strategically withhold or misrepresent information, thereby facilitating policy implementation that would otherwise face citizen opposition. I also analyse the impact of bureaucratic alignment on citizen-weighted welfare. These findings demonstrate that bureaucrats impact policy outcomes through rumours, even when bureaucrats lack formal authority.

Labeling, Price Signal, Information, and Earmarking: Factors Influencing Vehicle Fee Acceptance in Slovakia

Matúš Sloboda
Comenius University in Bratislava

Jakub Szabó
Comenius University in Bratislava

The research article presents four pre-registered survey experiments that provide evidence on the acceptance of a vehicle fee in Slovakia. While the existing literature predominantly studies environmental fee acceptance in the context of carbon taxes, this article focuses on vehicle fees. The experimental materials used a real policy

Richard Priesol
Behavioural and Experimental Unit at the Institute for Financial Policy, Ministry of Finance

Berenika Tužilová
Behavioural and Experimental Unit at the Institute for Financial Policy, Ministry of Finance

Paulína Jalaksová
Behavioural and Experimental Unit at the Institute for Financial Policy, Ministry of Finance

setting (registration fee) with flat price levels and small differences by car type, and a policy alternative (emission fee) that charges progressively based on CO2 emissions and vehicle weight. The first two studies tested the effects of labeling the vehicle fee (registration/emission) and the justification of the fee, including explanation of its calculation with flat and progressive price levels. The third study examines the impact of three information signals on fee acceptance: environmental rationale, solidarity, and policy transfer information. The final study investigates the effects of general and specific earmarking of the vehicle fee (data collection in July 2025). As research on the acceptance of environmental fees and taxes is mostly conducted in the UK and USA, this article aims to contribute to the literature by providing evidence from a non-WEIRD country during a period of austerity measures. The first two studies suggest that awareness of human-induced climate change and trust in public institutions increase vehicle fee acceptance. Conversely, older individuals, SUV owners, and those with higher perceptions of corruption are less likely to accept the fee. The results indicate that people are sensitive to the price level of the vehicle fee, with no preference for a high flat fee over a progressive fee if the cumulative return to the state is similar. The name of the vehicle fee and the explanation of how the fee is calculated and which vehicle specifications are considered have no statistically significant effect on acceptance. However, providing explanations about the fee has a small positive effect on perceived fairness especially in high flat and progressive price levels. Studies 3 and 4 will build on the first two studies to provide a more nuanced understanding of information signals and earmarking.

The Consequences of Internationalization of Production and Technological Change for the EU Labor Market

Karina Stelmakh
Technical University of Košice, Košice, Slovakia

Júlia Ďurčová
Technical University of Košice, Košice, Slovakia

This study examines how the internationalization of production (represented by offshoring) and skill-biased technological change (represented by the intensity of investments in intangible capital) affect the EU labor market, focusing on employment across different skill levels. We estimate employment shares equations for the three labor types derived from a translog cost function using SUR techniques. The analysis of the panel data indicates that offshoring has a negative impact on the employment share of low-skilled labor while having a positive effect on the employment share of high-skilled labor. Regarding investment in intangible assets, we find that its impact may vary across different types of skill levels; in general, however, it tends to negatively affect low-skilled labor the most. We also observe that there are slight differences in the effects when we analyze the EU-15 and CEE-11 countries separately. This information is crucial for policymakers and companies, as understanding these labor market dynamics can support more informed decision-making and future planning. Overall, our results highlight the need for targeted policies that address the challenges faced by low- and medium-skilled workers in an increasingly globalized and technology-driven economy.

Systematic Signals of Short Squeezes: Insights from Rare Events

Dominik Svoboda
Mendel University in Brno

Svatopluk Kapounek
Mendel University in Brno

Peter Albrecht

Our paper investigates the determinants of short squeeze occurrences from rare events using a unique hand-collected dataset. Our results show that elevated short interest and spikes in investor attention significantly increase the likelihood of a short squeeze, while institutional ownership has a stabilizing effect. These findings suggest that short squeezes are not random episodes but can be systematically anticipated based on observable market signals. The study offers implications for traders, portfolio

Mendel University in Brno

managers, and regulators seeking to better understand and monitor the conditions under which short squeezes are likely to occur.

Bridging the Borders: the International Economic Association in the 1960s and 1970s

Andrej Svorencik
University of Pennsylvania & SAS

The International Economic Association (IEA), established in 1950, holds a unique position in the landscape of economics. As the only truly global association encompassing East and West, North and South, the IEA has served as a vital platform for bridging the geographical and ideological divides that had fractured the world, reestablishing international dialogue within the discipline of economics. Nevertheless, historians of economics have not examined the IEA's role and impact. My research project aims to illuminate the IEA's remarkable journey through its first comprehensive history and this particular paper investigates the intellectual roots and connections of the IEA's founding men and women, tracing their different trajectories before, during, and after WWII, their variegated motivations for a transnational project, and the challenges in establishing the IEA. This presentation focuses on the turbulent events of the 1960s and 1970s when the IEA fully engaged with economists from the Eastern Block and had to navigate the complicated political, economic, and social landscape.

The bigger, the better. Identification of Urban Scaling

Juraj Šimčisko
Bratislava University of Economics and Busines

Urban scaling laws posit that larger cities exhibit disproportionate socio-economic output, including higher levels of innovation. While empirical studies consistently document superlinear scaling between population size and innovation, these relationships are typically estimated without addressing endogeneity. This paper offers a causal interpretation by treating city population as an endogenous regressor and estimating its impact on university-level innovation—measured by patents and academic publications—across 417 European Functional Urban Areas (FUAs). Using a novel historical instrument—the log number of Christian saints venerated before 1100 AD—we implement a two-stage least squares (2SLS) approach to identify the scaling exponent. Our results confirm robust superlinear effects, even after controlling for country and year fixed effects. The 2SLS estimates consistently exceed their OLS counterparts, suggesting that conventional methods may underestimate the true causal impact of population on innovation. This is the first study to apply an IV strategy to urban scaling, offering new insights into the geographic roots of agglomeration economies and the causal drivers of urban innovation.

Macroprudential tightening and multiple-property ownership: new evidence from European wealth microdata

Mária Širaòová
Slovak Academy of Sciences

Andrej Cupak
National Bank of Slovakia; Bratislava

While there exists a rich empirical literature on the causes and consequences of home ownership (typically looking at the household main residence), there is very limited evidence on the multiple property owners. At the same time, it is argued that (speculative) real estate investments contribute significantly to the credit cycle and market overheating. We analyze the socio-economic determinants driving the Euro-

University of Economics in Business

Ján Klacso
National Bank of Slovakia

pean household (speculative) real estate investment decisions by using EU-level microdata from the 3rd wave of Household Finance and Consumption Survey (collected at around 2017/2018). Additionally, we investigate the impact of macroprudential policy tightening experienced during the period of 2014-2017 on the household real estate investments. Results on determinants of household multiple property ownership are conventional: richer, better educated households are more likely to hold several properties. Interestingly, tightening of the macroprudential Borrower-based measures (BBMs) significantly decreases the propensity to engage in (speculative) real estate investments. This result is robust to possible endogeneity issue addressed by conventional IV-ML framework and employed one of the recently suggested instruments in the financial stability literature. However, we also report a substantial heterogeneity in effects of macroprudential tightening conditional on various household characteristics. Our results are among the first to inform policy about the effectiveness of the BBMs on the multiple property ownership in a cross-country setup using micro-level data.

Female politicians in gender-unequal countries of the EU: Evidence from post-communist Central Europe

Sofia Trommlerová
Comenius University Bratislava

Women constitute 51% of population, yet they are considered a minority, as their representation in positions of power, in business, and in political decision-making is significantly lower than their share in the population. Within the EU, access to power is the most gender-unequal area of life (out of 6 areas) covered by the Gender Equality Index (GEI). All four post-communist Central European countries (PC-CEU; Slovakia, Czechia, Poland, Hungary) rank in the worst quartile in GEI, with a worsening tendency over the last 10 years. Since targeted policies could be instrumental in improving gender equality, and women might be more motivated to promote such policies, this research focuses on political representation of women in top politics and on barriers and promoting factors thereof. The focus is on gender-unequal countries of the EU, through the example of two culturally close countries from PC-CEU with slightly different electoral systems – both Slovakia and Czechia have a proportional electoral system with semi-open lists where citizens can cast preferential votes, but the number of constituencies differs (one constituency in Slovakia, 14 constituencies in Czechia). By focusing on parliamentary elections over the last 30 years, we study two determinants of women's long-term underrepresentation in top politics: supply of female candidates by political parties (number of women and their positions in electoral lists) and demand for female politicians by voters (number of preferential votes for women). Additionally, we examine two "natural experiments" in national politics that might improve women's representation in parliaments – bottom-up initiatives run by the citizens, and a top-down approach implemented by one major political party.

Evaluating the Impact of Consolidation Measures Using the Microsimulation Model TATRASK

Jana Valachyová
Council for Budget Responsibility

Zuzana Siebertová
Council for Budget Responsibility

Norbert Švarda
Council for Budget Responsibility

In response to fiscal challenges, modern societies require advanced analytical tools to assess the impact of tax-benefit policies on households' welfare and public finances. This paper evaluates the effects of a broad package of consolidation measures using the newly developed microsimulation model TATRASK, created by the Council for Budget Responsibility in Slovakia. The primary objective is to analyze how these measures, which became effective in 2025, influence income distribution and fiscal sustainability. By leveraging extensive administrative datasets, TATRASK provides precise simulations of personal income tax, social and health insurance contributions, and social transfers, allowing for a comprehensive ex-ante assessment of these policies. TATRASK is a unique analytical tool that enables the quantification of policy mea-

sures which cannot be adequately captured using standard survey-based microsimulation models. In the context of the assessed consolidation package, this applies specifically to two measures. The first one is the increase in the assessment base for social insurance contributions for high-income earners, which requires precise income data at the top of the distribution. Secondly, the granularity of the administrative data underlying TATRASK allows to identify interpersonal relationships across households, such as links between parents and their adult children. This feature proved to be essential for evaluating the parental pension supplement, a policy reform included in the consolidation package.

Prerequisites and barriers of emerging technology diffusion – empirical evidence from Advanced Technologies for Industry (ATI) project

Anna Vallušová
Matej Bel University

Ján Huòady
Matej Bel University

Žaneta Lacová
Matej Bel University

We describe the advanced technologies diffusion and adoption patterns as documented by Advanced Technologies for Industry (ATI) project. We identified three typical patterns of emerging technologies adoption using the latent class analysis. In the sample of firms with 10 and more employees, there are 12 % of the firms with high probability of using all the analysed emerging technologies. The innovators are more likely to be a big (1000+ employees) and multinational firm. They tend to be a firm with sufficient resources to invest to significant portion of its revenues to technologies, upskilling and they are able secure employees with satisfying skillset. The innovators do not differ from other firms in the types of financial resources for the innovations. As to the types of cooperation, the innovators are more likely to create the innovations through EU/government-funded research projects, sharing innovation resources within industry network and through mergers and acquisitions. Upskilling frequency, multinational status and size of the business are the most important predictors of the fact that company is using the emerging technologies thoroughly. There is a variation of usage in emerging technologies by industry segment: the innovators are less likely to be the firms in government/education, wholesale/ retail, transport /logistics and agriculture. The significant differences among industries disappears after controlling for the level of innovation fixed costs (acquisition of the technology, upskilling the employees and retaining the talents). By identifying the properties of innovators/ early adopters we points out the potential barriers of emerging technology diffusion – mostly important the fact that adopting the highest level technology into business operation is costly what can prevent small and medium size companies to participate in the technological progress.

Foreclosing transformation: A critical analysis of power and exclusion in EU bioeconomy foresight

Julien Vastenaekels
University of Reims Champagne-Ardenne

This article applies a process-relational framework to critically analyze how European Union bioeconomy foresight exercises function as performative world-making practices that systematically foreclose transformative possibilities while reproducing global hierarchies. Through examination of the Standing Committee on Agricultural Research (SCAR) foresight series (2007-2020) and Joint Research Centre scenarios (2021), we employ four analytical operations: pattern analysis (identifying persistent framings across documents), exclusion analysis (systematically mapping what is marginalized), hierarchy analysis (tracing power relations and colonial continuities), and reflexive analysis (examining our own role in knowledge production). Our analysis reveals how these exercises shape rather than explore possible futures through three entangled processes: materialization (how certain futures solidify into policy reality through repetition and institutionalization), participation (whose realities can emerge

through selective stakeholder networks), and foreclosure (how alternatives become systematically unthinkable through methodological architectures). Despite sophisticated methodologies and inclusive rhetoric, EU bioeconomy foresight consistently reproduces growth imperatives, technocratic solutions, and colonial relations while rendering post-growth, commons-based, and decolonial alternatives impossible within dominant scenario frameworks. This critical sustainability science approach contributes methodologically to futures research by developing analytical operations that reveal foresight's performative power and its role in maintaining global inequalities. The analysis suggests that transformation requires fundamentally different practices of collective imagination that can redistribute the power to envision and materialize currently foreclosed alternatives.

Who Is to Blame? Perceived Service Quality and Institutional Responsibility in Multilevel Government: Experimental Evidence from Italy

Dmitriy Vorobyev
European Research University

Tommaso Capezzone
University of Turin and Collegio Carlo Alberto

Pierluigi Conzo
University of Turin

Willem Sas
Hasselt University

Roberto Zotti
University of Turin

We conduct a survey experiment with a nationally representative sample of 5,000 Italian citizens to investigate perceptions of governmental responsibility for public services and their quality under multi-level governance system. Respondents are asked to attribute responsibility for various local public services to the appropriate level of government—local, regional, or central. We find widespread misattribution of responsibility among citizens. A subset of respondents is then provided with accurate information about which level of government is actually responsible and asked to evaluate the quality of service provision. Our results show that receiving corrective feedback generally increases perceived service quality, particularly among respondents whose initial attributions were accurate, suggesting a confirmation effect. Furthermore, we find that when feedback shifts responsibility toward a level of government politically aligned with the respondent, service quality assessments become more favorable. These findings highlight the importance of information and political alignment in shaping citizen evaluations of public service performance.

EU Cohesion Funds and Slovak Enterprises: Insights from Programming Period 2014-2020

Tomáš Výrost
Slovak Academy of Sciences, EUBA, MUNI

Eva Výrostová
Masaryk University

The main objective of the European Union (EU) Cohesion policy (CP) is to strengthen economic, social, and territorial cohesion by reducing regional disparities. Brexit, the new challenges facing the EU, and the socio-economic consequences of the COVID-19 pandemic created pressures, particularly on the effectiveness and efficiency of its resources. By far, most studies find a conditional impact of CP on growth and convergence, where the effectiveness of CP depends on various factors, such as quality of institutional set-up, decentralized administrative structure, other supportive policies on national and regional levels, sound macroeconomic policies, industrial structure, territorial capital and regional characteristics, human capital, and others. Newer studies in the field point out that an analysis should also be conducted at the micro level. The microeconomic analysis may be conducted from two different perspectives. On one hand, the national or supranational financing and management bodies may be interested in the effectiveness of the use of provided funds, reaching project goals, and their alignment, transmission channels, and contribution with respect to the overall CP objectives. From the individual company's perspective, a direct (beneficiary) or indirect involvement in CP projects (as a subcontractor or supplier)

may present a substantial source of income and revenue that would be unavailable. As the provision of EU funding bypasses the usual market allocation mechanism that, in classical and neoclassical theories, ensures efficient use of scarce resources, it may be viewed as a source of unfair advantage and potential misallocation. To consider such effects, we evaluate the consequences of EU Cohesion policy funds in Slovakia from the perspective of corporate efficiency, performance, and financial standing of companies directly or indirectly involved in EU Cohesion policy-funded projects. In our paper, we present an analysis of the Cohesion policy and its effects during the 2014-2020 programming period in Slovakia. Our analysis is augmented by using granular microeconomic data on Slovak enterprises engaged in EU Cohesion policy-funded projects by utilizing a unique dataset on financials and ownership structures spanning all Slovak legal entities in the given period. This work was supported by the Research Agency under project no. 09I03-03-V04-00429.

Who Spends the Most on Food? Consumption, Food Security, and Vulnerability in Slovak Households during the global crisis.

Peter Watter
Slovak University of Agriculture in Nitra

Context: Slovakia experienced strong food price pressures from 2020 to 2023, which significantly affected food security, particularly for vulnerable households. Recognizing these at-risk households is crucial for policymakers to develop targeted actions that mitigate the negative effects of rising food prices. Methods: We use microdata from the Slovak Household Budget Survey (HBS), 2020–2023 (15,209 households; HA10 weights; COICOP classification). To prevent undue influence from extreme reports without excluding observations, we winsorise continuous expenditure variables at the 1st and 99th percentiles. Descriptively, we examine expenditure levels and shares, classifying “high food-share households” each year as the top decile of the weighted food-share distribution. Descriptive statistics offer an overview of expenditure trends, while machine learning methods, specifically Extreme Gradient Boosting (XGBoost) and SHapley Additive exPlanations (SHAP), are employed to identify the key factors driving household food spending. Results and Conclusions: Between 2020 and 2023, household purchasing power declined, with a larger portion of spending on food and housing, increasing from 49.5% to 53.9%. This suggests a growing risk of food insecurity. Vulnerability is concentrated among groups with limited earning capacity, including single-parent households, pensioners, households with no employed members, and disabled individuals, who spend a disproportionately high share of their budgets on food. Using XGBoost, we find that socio-economic factors such as household size and the year of data collection have a moderate but noticeable impact on food expenditures. However, expenses on restaurants and hotels, transportation, and housing significantly affect the share of food expenses—households with higher costs in these categories tend to spend less on food.

Study on the Possibilities for Production of By-products from Plant Raw Material

Dimitar Yakimov
University of Agribusiness and Rural Development

Delyan Plachkov
University of Agribusiness and Rural Development

Svetla Dimitrova

The production of two or more products from the same crop raw material, especially when combined with biotechnological waste recycling, requires a comprehensive scientific and practical management approach. This includes transportation; analysis of raw material composition; selection of a specific extraction method based on the types of compounds content; choice of biotechnological conversion; suitable purification method; selection of a standardization option; assessment of appropriate preservation; selection of suitable technological equipment for food processing; technological management; research into the content and impact of the obtaining products

University of Agribusiness and Rural Development

Ekaterina Arabska
University of agribusiness and rural development

on physiological processes in plants and humans; based on the results of the research, further refinement of the doses for treating plants with the produced fertilizers and the daily intake of food supplements for human consumption, and others. The aim of this report is to present our research and implemented practices for integrated technological processes for for production of main product and by-products from the same crop raw material, combined with waste recycling. It is emphasis on the effective utilization of fruits with a high content of low-polar biologically active compounds and the seeds rich in oil and protein. By producing the main product and by-products for food purposes and utilization of the waste with a view to obtaining various types of organic fertilizers, we achieve a very low cost prize. For overall cost reduction in the aspects of circular economy and bio-based economy discussed in the article the application of an interdisciplinary management approach is essential.

Work and family - the case of Poland

Olga Zajkowska
University of Warsaw

Work and family reconciliation is much more difficult for women than men. Women are more often faced with stereotypes, discrimination in the labor market, and are disproportionately more burdened with caregiving and domestic responsibilities. The situation of women is gradually improving in these aspects, but change is relatively slow. The COVID epidemic has required significant reorganization of the work and family lives. Using the case of Poland we diagnose the occurrence and persistence of changes in Poland in terms of women's workload and family responsibilities and their combination. An additional objective is to measure the attitudes and beliefs of Polish women and men regarding the labor market and women's work situation. We use time use, LFS, ESS and ISSP data.

Returning Toward Equilibrium: A Meta-Analysis of Adjustment Speed in the Interest Rate Transmission Channel

Karina Zhemelko
Technical University of Košice

Kristína Kočišová
Technical University of Košice

This paper presents a meta-analysis that synthesizes evidence from 459 estimates reported across 38 empirical studies to investigate the determinants of the speed of adjustment toward a new interest rate equilibrium. Employing Bayesian Model Averaging, we systematically evaluate a comprehensive set of explanatory factors, including data structure, methodological choices, institutional characteristics, and macro-financial conditions. The results reveal substantial heterogeneity in adjustment speeds across studies, driven by differences in study design, geographical coverage, inflation dynamics, and the degree of market development. Cross-country analyses based on panel data tend to report slower adjustment speeds, likely reflecting the averaging of heterogeneous monetary policy regimes and national contexts. An advanced publication bias analysis indicates that published estimates may overstate the true speed of adjustment. The first meta-analytic evidence on the adjustment speed coefficient offers valuable guidance for future empirical research and the assessment of monetary policy transmission.

Who Are the Outliers, Anyway? A Closer Look at Corporate Taxation in Slovakia

Martin Zoričak
Technical university of Košice

The study of outliers in corporate effective tax rates is critical for understanding inconsistencies in tax burdens, the effectiveness of tax policy, and the degree of tax avoidance or preferential treatment among firms. These anomalies often reveal sig-

Jana Zoričaková
Technical university of Košice

nificant distortions in the tax system that are not visible when examining average or statutory rates alone. But what determines whether a firm pays less—or more—than the statutory corporate tax rate? This paper examines why firms deviate from the statutory corporate tax rate, using a unique two-step approach that combines machine learning and regularized regression. Drawing on data from Slovak firms between 2013 and 2023, we first apply the Isolation Forest algorithm to assess financial outlier behavior, followed by Lasso regression to identify key predictors of unusually low and high effective tax rates. The results point clearly in one direction: who the firm is matters more than what it earns. The firm-level characteristics—such as legal form, ownership type, and industry affiliation—consistently outperform financial indicators in explaining deviations from STR, across both underpaying and overpaying firms. These findings underscore the importance of firm identity and structure in shaping tax outcomes.

Network-Based Analysis of the Contagion Effect of Risks in European Banking During Crises

Jana Zoričaková
Technical University of Košice

Noémi Filičková
Technical University of Košice

Kristína Kočišová
Technical University of Košice

Understanding how systemic risk evolves during large-scale crises is essential for financial stability and effective macroprudential oversight. Events such as the COVID-19 pandemic and the war in Ukraine not only raise risk levels but also reshape interbank contagion dynamics. This study examines how these two shocks affected systemic risk transmission in the European banking sector using Transfer Entropy—a method that captures directional and nonlinear dependencies between institutions. Based on daily stock returns from 24 major European banks, we construct dynamic TE-based networks to analyze changes in risk intensity, connectivity, and systemic roles. Both crises led to a clear rise in overall risk, though with differing magnitudes: COVID-19 caused a sharper surge in market-based indicators, while the war resulted in a more moderate increase. The contagion structure also diverged—COVID-19 produced uneven, bank-specific spillovers and a concentration of influence, whereas the Ukraine war triggered a more uniform rise in contagion and a decentralized, multi-centered network. Despite these differences, both events increased systemic linkages and redefined the distribution of influence across the network. Our findings reveal greater closeness centrality, denser interbank connectivity, and dynamic shifts in systemic roles, highlighting the need to monitor both individual risk and evolving network structures during periods of financial stress.