Contents

Parallel Session 1A: Macroeconomic Theory and Policy I

Debt without Investment

Marta Guasch Rusinol (London School of Economics, UK)

This paper studies the link between the rise in corporate debt financing and the increase in market power in the United States since the 1950s. I find that the expansion of non-financial corporate debt is driven by a small subset of large firms issuing capital markets debt. These firms primarily use this financing for acquisitions, rather than for productive investments. To analyze the causal effects of debt on acquisitions and market power, I construct an exogenous measure of debt capital markets supply. I find a strong positive relationship between the rise of this type of financing and acquisitions expenditure, as well as market power: a one standard deviation increase in the predicted debt leads to a 136% increase in acquisition expenditure, and an increase in market share and profits by 2% and 41%, respectively. Finally, I develop an oligopolistic competition model with firms' investment and acquisition choices, incorporating a financial constraint to capture access to debt capital markets. The model rationalizes the empirical findings and highlights a trade-off between efficiency gains and increased market power arising from debt-financed acquisitions.

Ex-Ante Heterogeneity, Separations, and Labor Market Dynamics

Cesar Barreto (OECD, France), Christian Merkl (Friedrich-Alexander-University Erlangen-Nuernberg, Germany)

Our paper documents the importance of workers' ex-ante heterogeneity for labor market dynamics and for the composition of the unemployment pool. We show that workers with high wages have both lower separation rates and larger log-deviations of these separations over the business cycle than those with low wages. Thereby, more high-wage workers enter the unemployment pool in recessions, leading to a positive correlation between unemployment and the prior wage of those losing their job. Based on administrative data for Germany and two-way fixed effects, we show that worker fixed effects are key for the documented facts. We contrast our empirical results with a search and matching model with worker ex-ante productivity heterogeneity. The simulated model can replicate the empirical facts when calibrated to the measured flow rates and to the relative residual wage dispersion from the administrative data for different wage groups. It is the combination of low steady state separation rates and low residual wage dispersion for high-wage workers that generates the patterns documented in the data.

Delivering public investment efficiently: If possible, avoid delays

Matija Lozej (Central Bank of Ireland), Gerard O'Reilly (Central Bank of Ireland), Thomas Conefrey (Central Bank of Ireland), Graeme Walsh (Central Bank of Ireland)

Public investment is a fiscal policy instrument that can be used to affect the economy over the business cycle, but also to boost its long-term potential. However, a feature of public investment is that it is often subject to delays related to planning, construction, or both. We show that these delays can materially affect the usefulness of public investment for managing the economy. In particular in the case of a downturn, a delay in delivering an announced public investment can worsen the downturn if public investment is not delivered quickly. If public investment that has been planned during the recession is delayed so that it occurs when the recession is over, it risks overheating the economy. Delays in the delivery of public investment shift the benefits from higher public capital further into the future and reduce welfare in the short run, even though an increase in public capital is welfare-increasing in the long run. These findings hold both in the standard model as well as int he model with search frictions. From a political economy perspective, the temporary decline in welfare related to delays may lead to governments being more reluctant to announce or implement investment plans, because there is a risk that the resulting welfare increase would occur under the next government.

Heterogenous Firms and the Dynamics of Investment

Fergal Hanks (University of Cambridge, UK), Matias Bayas-Erazo (University of Zürich, Switzerland)

We show that standard heterogeneous firm models of investment feature investment responses that decrease steadily after a shock as positive relationship between the magnitude of the initial response to a shock and the speed of convergence of capital. This is inconsistent with the hump shaped responses found in the data. To resolve this tension tension we add stochastic time to build to the standard model. This feature generates hump shaped responses and enables the model to match micro moments of investment as well as the response dynamics.

Parallel Session 1B: FinTech and Digital Economy

The Crypto Cycle and Institutional Investors

Alexander Copestake (International Monetary Fund, USA), Davide Furceri (International Monetary Fund, USA; CEPR, UK and University of Palermo, Italy), Tammaro Terracciano (IESE Business School, Spain)

We examine aggregate fluctuations in crypto markets and their relationship to global equity markets and US monetary policy. First, we document that changes in the correlation between crypto and global equity markets can be explained by changes in the participation of institutional investors in crypto markets. Second, we find that US monetary policy significantly affects crypto markets, but only when the participation of institutional investors is high. Finally, we rationalize our empirical results in a heterogeneous-agent model with time-varying aggregate risk aversion, in which large investors holding both asset classes create a direct link between them.

Mining Shocks, Blockchain Security, and the Value of Bitcoin

Sören Karau (Deutsche Bundesbank, Germany), Emanuel Moench (Frankfurt School of Finance and Management, Germany)

We exploit exogenous variation in mining intensity to assess the implications of Bitcoin's unique security model for its market valuation. First, we use a narrative approach to identify mining shocks and examine their dynamic effects on the Bitcoin market in a structural Vector Autoregression. While their effects on transaction speed are shortlived, mining shocks persistently impact trading outcomes and market valuations, explaining up to 15 percent of Bitcoin's substantial price variation. Second, we rationalize our findings in a theoretical framework in which the interplay between security and price gives rise to multiple equilibria. Mining shocks affect the likelihood to withstand potential attacks and as such impact investor beliefs about the future state of the network and thus Bitcoin valuations.

Risk Without Reward? The Introduction of Bitcoin spot ETFs

Daniel Pastorek (Mendel University in Brno, Czech Republic), Peter Albrecht (Mendel University in Brno, Czech Republic)

Our study investigates the impact of Bitcoin spot exchange-traded funds (ETFs) introduction on Bitcoin's market dynamics, focusing on volatility, returns, return distribution, and tracking errors. Utilizing methodologies such as block bootstrap simulations, OLS regression, EGARCH modeling, and non-parametric tests, we find that the introduction of Bitcoin ETFs has led to increased volatility and downside risk while average returns remain unchanged. The analysis reveals shifts in return distribution, including reduced skewness and kurtosis, indicating partial normalization. We confirm this normalization to be a side effect of the fail-to-delivery occurrence. Tracking error analysis demonstrates that spot ETFs align more closely with Bitcoin prices compared to futures-based ETFs. These findings provide valuable insights into the operational and market implications for Bitcoin ETFs, particularly concerning market stability and investor behavior.

Managing the transition to central bank digital currency

Katrin Assenmacher (European Central Bank, Germany), Massimo Ferrari Minesso (European Central Bank, Germany and Complexity Lab in Economics, Italy), Arnaud Mehl (European Central Bank, Germany and Centre for Economic Policy Research, UK), Maria Sole Pagliari (De Nederlandsche Bank, The Nertherlands)

We develop a two-country DSGE model with financial frictions to study the transition from a steady-state without CBDC to one in which the home country issues a CBDC. The CBDC provides households with a liquid, convenient and storage-costfree means of payments which reduces the market power of banks on deposits. In the steady-state CBDC unambiguously improves welfare without disintermediating the banking sector. But macroeconomic volatility in the transition period to the new steady-state increases for plausible values of the latter. Demand for CBDC and money overshoot, thereby crowding out bank deposits and leading to initial declines in investment, consumption and output. We use non-linear solution methods with occasionally binding constraints to explore how alternative policies reduce volatility in the transition, contrasting the effects of restrictions on non-residents, binding caps, tiered remuneration and central bank asset purchases. Binding caps reduce disintermediation and output losses in the transition most effectively, with an optimal level of around 40% of steady-state CBDC demand.

Parallel Session 1C: Prices and Inflation I

Anchoring Households' Inflation Expectations when Inflation is High

Giang Nghiem (Leibniz University Hannover and Centre for Applied Macroeconomic Analysis (ANU), Germany), Lena Dräger (Leibniz University Hannover, Kiel Institute for the World Economy and CESifo, Germany), Ami Dalloul (Leibniz University of Hannover, Germany)

This paper explores communication strategies for anchoring households' mediumterm inflation expectations in a high inflation environment. We conducted a survey experiment with a representative sample of 4,000 German households at the height of the recent inflation surge in early 2023, with information treatments including a qualitative statement by the ECB president and quantitative information about the ECB's inflation target or projected inflation. Inflation projections are most effective, but combining information about the target with a qualitative statement also significantly improves anchoring. The treatment effects are particularly pronounced among respondents with high financial literacy and high trust in the central bank.

Inflation Expectations and Consumption in New Keynesian Models: The Role of Heterogeneity

Frantisek Masek (Sapienza University of Rome, Italy & National Bank of Slovakia)

I disentangle assumptions behind the consumption response to changes in inflation expectations in the New Keynesian framework. The standard result of a positive reaction hinges upon implausibly large general equilibrium effects and weak negative real expected income channel even if changes in inflation expectations are not accompanied by similar nominal wage growth expectations. I decompose the total consumption reaction into the intertemporal substitution effect and the income effect in the absence of propagation of inflation expectations into expectations of nominal salaries and show that the consumption response always stays positive in the RANK model due to the profits income channel. However, the total effect can be negative in a stylized HANK model if the profits income channel is dampened and the lack of propagation is strong. I compute the passthrough of inflation expectations into expected nominal wages that returns a positive consumption response in the HANK case. I also discuss the role of cognitive discounting.

Interest rates and inflation in New Keynesian models: The role of expectations

Michele Berardi (The University of Manchester, UK)

How do interest rates affect inflation in New Keynesian models? Such a simple question has a complex answer, centered around the role of expectations. In this paper, I offer some insights on this issue, related to the solution of rational expectations models, and propose a new condition for reasonable equilibria in purely forward looking models with positive expectational feedback, namely that expectations should not reverse the sign relationship between exogenous and endogenous variables as posited by economic theory in the structural model. In all such equilibria of the standard, three equations, New Keynesian model exogenous increases in interest rates lead to lower inflation, and positive demand and cost push shocks increase inflation. Such equilibria exist and correspond to the forward solution of the model if a version of the Taylor principle is satisfied, which depends on the degree of persistence of the exogenous shocks. The same condition ensures that such equilibria are learnable under adaptive learning (E-stable).

The Impact of Forced Household Savings on Inflation Dynamics in the EU During the COVID-19 Era

Jakub Borowski (Warsaw School of Economics, Poland), Krystian Jaworski (Warsaw School of Economics, Poland)

This study uses panel models to examine the effects of forced household savings on inflation across fifteen EU countries from 2020 to 2023. Forced savings are defined as the additional savings accumulated by households due to pandemic-related government restrictions that limited mobility and reduced infection risks. We employ various panel model specifications to assess how changes in these forced savings influenced inflation.

Our findings consistently show a statistically significant negative impact of forced household savings on inflation. Specifically, in 2020, an average increase in forced savings reduced inflation by approximately 0.6 percentage points across the EU. However, in 2021, as these savings were depleted, inflation increased by an average of 0.2 percentage points. The shift from accumulation to depletion of forced savings contributed nearly 1 percentage point to inflation between 2020 and 2021.

This study adds to the understanding of the sharp rise in global inflation post-COVID-19, identifying changes in forced household savings as a contributing factor, alongside expansionary fiscal and monetary policies, supply chain disruptions, and shifts in consumer demand from services to goods. Our findings suggest that swings in forced savings can significantly influence price dynamics. Given their potentially substantial effects on future inflation, forced savings should be considered a forward-looking indicator and an important part of the early warning systems central banks use to detect rising inflationary pressures from major non-economic shocks, such as wars, natural disasters, or pandemics.

Parallel Session 1D: Financial Economics I

The Macro-Financial Effects of Financial Integration in a Monetary Union

Javier Ferri Carreres (University of Valencia and Fedea, Spain), Margarita Rubio (University of Nottingham, UK), José E. Boscá (University of Valencia and Fedea, Spain)

In this paper, we develop a two-country monetary union Dynamic Stochastic General Equilibrium (DSGE) model to answer the following research question: How does financial integration affect macro-financial variables and welfare? We calibrate the model for Germany and Spain, as paradigmatic examples of core and periphery. Our results show that financial integration has effects on steady states and macro and financial volatilities. On the one hand, we find that integration brings positive first-order effects for the case of Germany. However, volatilities unambiguously increase in both countries, implying a more unstable macroeconomic and financial environment. In terms of welfare, we find that the positive steady-state effects predominate in Germany and welfare increases only in that country. However, aggregating welfare we can conclude that the whole union is better off with integration.

Sovereign Risk and Financial Sector Integration: Evidence from the Eurozone

Kari Heimonen (University of Jyväskylä, Finland), Jussi Leskinen (University of Jyvskylä, Finland)

The amount of sovereign debt in banks'balance sheets has increased and varied dramatically in the eurozone banking system. During the eurozone sovereign debt crisis the risk premiums of different countries sovereign bonds escalated. As a result, banks become differently exposed to the sovereign bond risks depending on the composition of their bond portfolio. This study examines the impacts of sovereign bond risk on the eurozone financial market integration. We utilize eurozone sovereign bond risk, financial sector and bank level data of eurozone countries and lend support that sovereign debt yields of GIIPS countries played a significant role in banking sector integration. Sovereign bond yields increased the financial sector integration before the eurozone sovereign debt crisis when the sovereign risks were low but disperse the integration during and after the crisis. Accordingly, enlarged sovereign bond risk disintegrated the eurozone financial and banking sector and could thus jeopardized the benefits attributed to the financial integration in the eurozone.

Determinants of corporate default risk: The role of environmental and financial constraints

Hassen Rais (EDC Paris Business School, France), Nivine Richie (University of North Carolina Wilmington, USA)

Business failure remains a highly researched topic in corporate finance, with empirical methods for predicting bankruptcy receiving increased attention from financial institutions in recent years. This surge in interest is largely driven by the growing availability of financial data (Agarwal and Taffler, 2008; Alberici, 1975; Altman, 2006; Amendola et al., 2011; Becchetti and Sierra, 2003; Bisogno, 2012; Hotchkiss, 2006; Platt & Platt, 2002).

The costs associated with both the physical impacts of climate change and the transition to a low-carbon economy—necessary to mitigate these impacts—result in increased expenses, reduced revenues, and asset revaluation. Consequently, the influence of carbon emissions on various corporate outcomes has drawn growing empirical attention (Bui, Moses, & Houqe, 2020; Gupta, 2018), stock return volatility (Bouslah, Kryzanowski, & M'zali, 2013; Salama, Anderson, & Toms, 2011).

On the other hand, while numerous studies have focused on board characteristics such as board size, independence, and CEO duality, there is limited evidence regarding the role of female directors in financial decision-making. Research by Fich and Slezak (2008) and Kolias et al. (2019) has explored the impact of corporate governance variables on bankruptcy. Similarly, studies by Feng et al. (2020), Juhari and Joseph (2020), Li et al. (2020), and Liang et al. (2020) have investigated whether these variables can predict financial distress and their influence on financing choices.

This paper aims to explore various facets of bankruptcy prediction, with a particular emphasis on the challenge of variable selection. In corporate failure prediction, the goal is to develop a methodological framework that distinguishes firms with a high likelihood of future failure from those deemed financially healthy, to identify the most relevant information, different selection methods can be employed, resulting in varying sets of optimal predictors. We extend the analysis to nonlinear panels and propose a novel machine learning (ML) panel data estimator leveraging deep neural networks. Our theoretical foundation builds primarily on Farrell et al. (2021), expanding their framework to accommodate a panel data setting.

Navigating Financial Crises. Organizational Innovation and Managerial Restructuring in Bad Times

Raoul Minetti (Michigan State University, USA), Pierluigi Murro (Luiss University, Italy), Valentina Peruzzi (University of Rome, Italy), Matthew Schaffer (Eastern Michigan University, USA)

This paper investigates the interplay between financial instability, organizational innovation and managerial restructuring among Italian small and medium-sized enterprises during the Great Financial Crisis. Using firm-level data from the VIII UniCredit survey, we find that financial constraints spurred managerial and organizational innovation, suggesting a Schumpeterian-like response to the downturn. The analysis reveals that this effect was stronger for relatively young and small firms operating in services industries. Limited entrenchment with financial institutions and propensity to engage in financial innovation facilitated firms' organizational transformations. While we find no evidence of an across-the-board effect of public support on firms' organizational and managerial innovations, the results indicate that public policies eased the reorganization efforts of financially constrained firms.

Parallel Session 1E: Monetary Theory and Policy I

Revisiting 15 years of unusual transatlantic monetary policies

Jose Garcia Revelo (Paris School of Business, France), Grégory Levieuge (Banque de France), Jean Guillaume Sahuc (Banque de France)

The European Central Bank and the Federal Reserve introduced new policy in- struments and made changes to their operational frameworks to address the global financial crisis (2008) and the Covid-19 pandemic (2020). We study the macroeconomic effects of these monetary policy evolutions on both sides of the Atlantic Ocean by developing and estimat- ing a tractable two-country dynamic stochastic general equilibrium model. We show that the euro area and the United States faced shocks of different natures, explaining some asynchro- nous monetary policy measures between 2008 and 2023. However, counterfactual exercises highlight that all conventional and unconventional policies implemented since 2008 have ap- propriately (*i*) supported economic growth and (*ii*) maintained inflation on track in both areas. The exception is the delayed reaction to the inflationary surge during 2021-2022. Furthermore, exchange rate shocks played a significant role in shaping the overall monetary conditions of the two economies.

Does Firms' Financing in Foreign Currency Matter for Monetary Policy?

Volha Audzei (Czech National Bank), Ivan Sutoris (Czech National Bank), Jan Bruha (Czech National Bank)

In this paper we study the cost channel of monetary policy when the firms can decide to hold foreign currency loans (FCL) in a work-horse 2 country DSGE model. While firms have to borrow in advance to finance their production costs, they choose which share of the loans will be in a foreign currency subject to interest rate differential and exchange rate fluctuations. We further study how transmission of the exogenous shocks and monetary policy decisions is affected by holdings of FCL. We find that the small open economy with a large share of FCL is more vulnerable to foreign shocks and exchange rate fluctuations, while the cost channel of domestic monetary policy is reduced.

Inflation return: look-through policy under incomplete information

Ginters Buss (Latvijas Banka, Latvia), Guido Traficante (European University of Rome, Italy)

This paper studies monetary policy in a New Keynesian model with incomplete information on the persistence of cost-push shocks. Both the central bank and the private sector learn the persistence of the shock as it transmits through the economy. The central bank pursues a look-through policy under a temporary cost-push shock, otherwise it follows a Taylor rule. If agents' prior is that the cost-push shock is of a temporary nature, while the true shock is persistent, it takes a while for the central bank to pursue an erroneous (with the benefit of hindsight) look-through policy before switching to a monetary tightening. As a result, the realized inflation is higher than in a complete information case. Data-dependent discretionary early liftoff strategies can compensate somewhat for the mistaken initial policy path. In contrast to full information conditions, the paper casts doubt on the validity of look-through policies in an incomplete information environment regardless of the true persistence of a cost-push shock.

Monetary Policy, Unemployment, and Employment Concentration

Andrea Colciago (University of Milano Bicocca, Italy and Dutch Central Bank, The Netherlands), Guido Ascari (University of Pavia, Italy and Dutch Central Bank, The Netherlands), Marco Membretti (European Commission, JRC, Ispra, Italy)

Using a mixed-frequency Bayesian VAR model on U.S. data, we find that a contractionary monetary policy shock entails asymmetric effects between new entrants and incumbent firms. The entry of new firms and their job creation decline, while the job creation of incumbents is barely affected. Additionally, the shock concentrates workers in large firms. We label this shift as the reallocation effect of monetary policy. To explain these findings, we develop a model that integrates endogenous entry and exit of heterogeneous firms within a framework characterized by equilibrium unemployment, financial frictions, and nominal rigidities. We estimate the model using a limited information minimum distance method. The higher exit rate among small firms drives the increased concentration of employment in large firms following the shock. Higher concentration helps moderate the rise in unemployment following the shock while preserving the disinflationary impact. Thus, we argue that the reallocation effect of monetary policy improves the inflation-unemployment trade-off faced by the Monetary Authority.

Parallel Session 2A: Journal of Forecasting I

AI-Driven Inflation Forecasting in the Aftermath of COVID-19

Krystian Jaworski (Warsaw School of Economics, Poland)

This study presents an innovative approach to inflation forecasting, integrating advanced artificial intelligence (AI) techniques with econometric modeling to address the challenges of macroeconomic prediction in the aftermath of the COVID-19 shock. Leveraging a large language model, we construct an AI-driven inflation expectations indicator derived from Twitter sentiment data. The framework is applied to inflation forecasting in the USA, Eurozone, and Poland, regions significantly affected by pandemic-induced economic disruptions. Results demonstrate that the AI indicator captures real-time shifts in sentiment, providing early warning signals of inflation trends approximately one year in advance. By outperforming professional forecasters, particularly in volatile post-pandemic environments, this hybrid AI-econometric model highlights the value of unconventional data sources for navigating structural breaks and rapidly changing economic conditions. The findings offer actionable insights for policymakers and market participants, showcasing the potential of AI in enhancing macroeconomic and financial forecasting during periods of heightened uncertainty.

Using DSGE and Machine Learning to forecast public debt for France

Emmanouil Sofianos (BETA, University of Strasbourg, University of Lorraine, France), Hierry Betti (BETA, Strasbourg University, France), Amelie Barbier-Gauchard (BETA, Strasbourg University, France), Periklis Gogas (Democritus University of Thrace, Greece), Theophilos Papadimitriou (Democritus University of Thrace, Greece)

Forecasting public debt is essential for effective policymaking and economic stability, yet traditional approaches face challenges due to data scarcity. While machine learning (ML) has demonstrated success in financial forecasting, its application to macroeconomic forecasting remains underexplored, hindered by short historical time series and low-frequency (e.g., quarterly/annual) data availability. This study proposes a novel hybrid framework integrating Dynamic Stochastic General Equilibrium (DSGE) modeling with ML techniques to address these limitations, focusing on the evolution of France's public debt. We first generate a large synthetic macroeconomic dataset using an estimated DSGE model for France, which allows for efficient training of ML algorithms. These trained models are then applied to actual historical data for directional debt forecasting. The results show that the best machine learning model is an XGBoost achieving 90% accuracy. Our results highlight the viability of combining structural economic models with data-driven techniques to improve macroeconomic forecasting.

Predictive content of term spread during unconventional monetary policy: Evidence from a large sample of counties

Juuso Vataja (University of Vaasa, Finland), Petri Kuosmanen (University of Vaasa, Finland)

This study examines the term spread's ability to forecast economic activity during periods of unconventional monetary policy. The sample includes twenty-five OECD countries, covering the period from 1985Q1 to 2024Q2 for most of the countries. The forecasting results indicate that the term spread loses much, if not all, of its predictive power during periods of unconventional monetary policy. This finding is both novel and significant, as it is based on a large sample of countries and spans the extended period of unconventional monetary policy since the global financial crisis.

An irrationality index for inflation forecasts: Identifying drivers of deviations from rational expectations

Belen Chocobar (Universidad Pontificia de Comillas, Spain), Peter Claeys (Universidad Pontificia de Comillas, Spain)

This paper investigates irrational deviations in macroeconomic expert forecasts by developing a novel "irrationality index" to measure deviations from rational expectations. We use Rossi and Sekhposyan's (2016) Fluctuation Rationality Test to create this new index on monthly inflation forecasts for Italy, Germany, and the United States between 2010 and 2022. This measure reveals significant variability both over time and across individual experts, emphasizing periods of heightened irrationality. Additionally, we apply fixed-effects, Arellano–Bond GMM, and conditional fixed-effects logit models to analyze the drivers of irrationality. Key drivers of forecast irrationality include forecast bias, herding behavior, forecast dispersion, and global political risk. This analysis underscores the importance of accounting for temporal and expert-level variability when interpreting macroeconomic forecasts and designing policies aimed at improving forecast rationality.

Parallel Session 2B: Monetary Theory and Policy II

The Financial Instability - Monetary Policy Nexus: Evidence from the FOMC Minutes

Dimitrios Kanelis (Deutsche Bundesbank, Germany), Lars Kranzmann (University of Muenster, Germany), Pierre L. Siklos (Wilfrid Laurier University and Balsillie School of International Affairs, Canada)

We analyze how financial stability concerns discussed during Federal Open Market Committee (FOMC) meetings influence the Federal Reserve's monetary policy implementation and communication. Utilizing large language models (LLMs) to analyze FOMC transcripts from 1993 to 2022, we measure both mandate-related and financial stability-related sentiment within a unified framework, enabling a nuanced examination of potential trade-offs between these two objectives. Our results indicate an increase in financial stability discussions following the Great Financial Crisis, particularly during periods of monetary tightening and the COVID-19 pandemic. Outside the zero lower bound (ZLB), heightened financial stability concerns are associated with a reduction in the federal funds rate, while within the ZLB, they correlate with a tightening of unonventional measures. Methodologically, we introduce a novel labeled dataset that supports a contextualized LLM interpretation of FOMC transcripts and apply explainable AI techniques to elucidate the model's reasoning.

Monetary Policy Tightening and SME Bank-Credit Demand Substitution

Supriya Kapoor (Trinity College Dublin, Ireland), Michael Mahony (Central Bank of Ireland), Anuj Singh (Central Bank of Ireland)

Since July 2022, European Central Bank (ECB) increased its interest rates for the first time in eleven years to bring inflation back to target. This has huge implication on the credit decision for firms, especially the small and medium enterprises (SME), instrumental in supporting employment, innovation and income. Using ECB's `Survey on Access to Finance of Enterprises' (SAFE) from 2015 to 2023, this paper assesses if the ECB's monetary policy tightening bears any relationship with SME's substituting away from bank credit towards alternative sources of finance. Our results show that contractionary monetary policy shocks were positively associated with the likelihood of SME's substituting away from bank credit. We find this behaviour across SMEs with larger turnover, employee size, age, as well as credit-quality; indicating a much stronger reliance and stickiness to bank credit for relatively smaller, younger, and riskier firms despite increases in the cost of credit following contractionary monetary policy shocks.

Bank lending and macroprudential regulation: A narrative approach

Keaoleboga Mncube (University of Pretoria, South Africa), Nicola Viegi (University of Pretoria, South Africa)

This paper presents evidence on the impact of macroprudential policies (MaPPs) in South Africa for the period 2002-2019. We use narrative methods to document and identify macroprudential policy (MaPP) actions. We find that announcements of MaPPs are negatively associated with bank credit. We further decompose total bank credit by investigating the impact of MaPPs on corporate loans (credit), household and mortgage loans. Our results show that following announcements of MaPP actions, corporate, household and mortgage loans fall. The reaction of mortgage loans is stronger relative to corporate and household loans. Our results also show that the contractionary effects are driven by announced MaPP actions that are implemented in a phase-in approach. Despite the contractionary effects, our results reaffirm that MaPPs are working as intended in mitigating the risks associated with lending and achieve banking sector stability.

Price Stability and Financial Instability Interactions: Evidence from Heterogeneous Financial Cycles

Svatopluk Kapounek (Mendel University in Brno, Czech Republic)

We identify financial cycle heterogeneity across the EU countries and investigate macroprudential and monetary policy interactions during periods of high and low inflation. We use monthly data from 1997 to 2024 and confirm the positive effects of macroprudential policy instruments on financial stability during periods of high inflation. We show that monetary policy increases the likelihood of financial instability in times of declining inflation. We contribute to the trade-off between macroprudential and monetary policy, emphasizing the cross-regional heterogeneity given by financial cycle differences incorporating a frequency-domain approach.

Sentiment Driven Loans

Boris Fisera (Charles University, Czech Republic and Slovak Academy of Sciences, Slovakia), Zuzana Kostalova (Slovak Academy of Sciences, Slovakia), Stefan Lyocsa (Masaryk University, Czech Republic and Slovak Academy of Sciences, Slovakia)

Consumer sentiment affects economic growth by manipulating consumption and investment choices. We explore one of the channels through which sentiment influences the real economy; the demand for consumer and housing loans. We create fundamental-driven and pure sentiment indices using data-driven machine learning (ML) techniques; penalized regressions, complete subset regressions, and random forest. Fundamental-driven sentiment is the expected sentiment as indicated by ML models augmented with common macro-economic drivers of loan growth. Pure sentiment is represented by forecast errors, the unexpected shock to sentiment. Using local projections approach and data for a group of Central European countries that experienced considerable expansion in bank lending over the past decade, we find that positive shocks to sentiment contribute to an increase in housing loans, while it has limited effect on consumer loans. We also find that sentiment about future economic conditions has a more positive effect on loans than sentiment about present economic conditions. Finally, we find that monetary policy stance influences the effect of sentiment: Specifically, sentiment only influences bank lending when monetary policy stance is persistently loose.

Biodiversity risk and bank lending in the USA

Jari-Mikko Meriläinen (Jyväskylä University School of Business and Economics, Finland), Kari Heimonen (Jyväskylä University School of Business and Economics, Finland), Heikki Lehkonen (Jyväskylä University School of Business and Economics, Finland), Chameera Kamburugamuwa Loku Acharige (Jyväskylä University School of Business and Economics, Finland)

This study investigates the impact of biodiversity risk on bank lending growth, using a comprehensive sample of US banks from 2010 to 2020. We employ a biodiversity index developed by Giglio et al. (2020) as our measure of biodiversity risk, which is a county-specific index. By merging bank-specific data with the county of domicile, we enhance the precision of our results, as biodiversity risk varies more significantly between counties than between states. Our findings indicate that higher biodiversity risk is associated with reduced bank lending growth. This effect is more pronounced in states with elevated biodiversity risk. Hence, our results suggest that increasing biodiversity risk reduces bank lending growth.

Cross-border banking, intragroup exposures, and risk-taking

Eric Cuijpers (De Nederlandsche Bank, The Netherlands), Razvan Vlahu (De Nederlandsche Bank, The Netherlands)

Regulatory constraints on intragroup exposures limit the ability of multinational banking groups to allocate capital across jurisdictions. Using a theoretical framework, we examine the potential effects of relaxing these restrictions and show that parent institutions may reallocate risk domestically by drawing on foreign affiliate resources. This effect is more pronounced when affiliates are larger, better capitalized, and subject to less stringent liquidity requirements. We identify key channels of risk transmission and highlight the broader implications for financial stability. These insights contribute to the ongoing debate on prudential regulation, informing policymakers on the effects of intragroup exposure limits and the design of regulatory measures to mitigate potential risks.

Endogenous TVPVARs

Daniel Gründler (University of Innsbruck, Austria)

I propose a new time-varying parameter VAR (TVPVAR) model in which the time variations in the autoregressive coefficients and the components of the covariance matrix are endogenous with respect to structural shocks. In an empirical application, I find that the endogenous response of the model parameters reinforced the recent increase in the pass-through of oil price shocks in the U.S. As a result, oil price shocks were a more important driver of the recent surge in inflation in the proposed model than in a conventional TVPVAR model.

EU ETS Market Expectations and Rational Bubbles

Robinson Kruse-Becher (FernUni Hagen, Germany), Christoph Wegener (Leuphana Uni Lueneburg, Germany), Tony Klein (TU Chemnitz, Germany)

Serious concerns about the existence of a price bubble within the European Union Emissions Trading System (EU ETS) emerged during its third trading period. Existing bubble tests based on costs for switching from cheap, polluting to costly, clean energy sources are restricted to situations of market certainty. This limitation is unrealistic, considering the ongoing CO2 reduction measures. Additionally, the fundamental value is not uniquely identified, leading to inconclusive empirical findings. We apply a robust approach to infer bubbles in the EU ETS. Our findings do not support the presence of a bubble in the third or fourth trading period.

Regional resilience to financial stress episodes and the role of external networks

Luca Bettarelli (University of Palermo, Italy), Pietro Pizzuto (University of Palermo, Italy), Laura Resmini (University of Milan-Bicocca, Italy), Vieri Calogero (University of Milan-Bicocca, Italy)

In this article, we use Jordà's (2005) local projections approach to estimate the heterogeneous response of regional economies to country-level episodes of financial shocks, considering the entire sample of EU NUTS-2 regions over the period 1980–2022. Unlike previous literature, we distinguish between financial shocks originating from domestic and external causes. Furthermore, we examine the role of external networks connecting regions to foreign markets in shaping the response of regional economies to financial shocks. To quantify these connections, we use firm-level data on EU-based multinational firms and their foreign subsidiaries. Results show that episodes of financial stress significantly reduce regional GDP; the effect is larger in the case of shocks of domestic origin and (almost) nullifies in highly connected regions. By extending the granularity of the data to the sectoral level, we confirm that sectors highly connected to foreign markets respond more effectively to financial shocks.

Asymmetries in International Financial Spillovers

Florian Huber (University of Salzburg and International Institute fur Applied Systems Analysis, Austria), Karin Klieber (Oesterreichische Nationalbank, Austria), Massimiliano Marcellino (Bocconi University, IGIER, Italy; CEPR, UK; Baffi-Carefin and BIDSA, Italy), Luca Onorante (European Commission, Belgium and European Central Bank, Germany), Michael Pfarrhofer (Vienna University of Economics and Business, Austria)

This paper analyzes nonlinearities in the international transmission of financial shocks originating in the US. To do so, we develop a flexible nonlinear multi-country model. Our framework is capable of producing asymmetries in the responses to financial shocks for shock size and sign, and over time. We show that international reactions to US-based financial shocks are asymmetric along these dimensions. Particularly, we find that adverse shocks trigger stronger declines in output, inflation, and stock markets than benign shocks. Further, we investigate time variation in the estimated dynamic effects and characterize the responsiveness of three major central banks to financial shocks.

European, country, sectoral, and regional factors driving BC fluctuations in the Eurozone

Krzysztof Beck (Lazarski University, Poland), Aikaterini Karadimitropoulou (University of Piraeus, Greece)

Business cycle synchronization (BCS) plays a central role in the monetary integration debates BCS research was heavily utilizing GDP growth/gaps/business cycle components correlations (Frankel & Rose 1998; Hou & Knaze 2022) Dynamic factor models became a popular alternative since seminal work of Kose et al. (2003) BCS research with factor models mainly utilizes macroeconomic data Models with one factor deliver relatively high BCS in Europe (de Lucas Santos & Delgado Rodriguez 2016) Models with more factors examine different macroeconomic aggregates or/and introduce more supranational factors (Kose et al. 2012) ”Granular” sources of business cycles at national (Acemoglu et al. 2011; Gabaix 2011) and international (Di Giovanni et al. 2018) level

Corporate profitability and inflation in the euro area: a bottom-up approach

Mirko Licchetta (EU Commission, Belgium), Giovanni Mattozzi (EU Commission, Belgium)

This paper contributes to the debate on the role of corporate profits in the recent inflation episode, stirred by the significant increase in firms' unit profits and the profit share in 2021, well above historical levels. Although these two variables declined in 2022 in most sectors, they remained above pre-COVID-19 levels in 2023, approaching pre-COVID levels only in 2024. The elevated profits in the post COVID-19 period resulted from a mostly temporary phenomenon reflecting higher input cost-inflation rather than more structural factors including weak competition. There is no compelling evidence that certain firms might have taken advantage of relative price signals being blurred by higher inflation in 2021-22 to exploit their competitive position and increase their markups more than during other (non-accelerating inflation) times. Consistent with previous studies, it is found that firm-level markups increased in the euro area between 1995 and 2023, with the increase being mainly driven by firms with the highest markup. However, these markups increased less during the 2020-2023 period than on average over the whole estimation period. The estimated markups show procyclical behaviour (rising with productivity) and decline with the cost of goods sold (a measure of variable costs). This suggests that firms increase markups when they become more efficient, but lower markups to accommodate higher cost of production for example to maintain competitiveness. Capital expenditures, and spending on R&D are also found important drivers of markups, suggesting that firms with greater innovation, efficiency and investment have higher markups.

New Estimate of Price and Income Elasticity of Industrial Energy Demand for Central and Eastern Europe

Samuel Fiifi Eshun (Charles University, Czech Republic), Milan Scasny (Charles University), Evzen Kocenda (Charles University), Princewill Okwoche (University of Cape Town, South Africa and Charles University, Czech Republic)

This study examines the determinants of industrial energy demand in Central and Eastern European countries, focusing on the effects of energy prices, output, investment, and technological progress. Using a panel dataset covering 16 economic sectors across 24 years, we employ the Mean Group estimation techniques, including the Common Correlated Effects Mean Group and dynamic Common Correlated Effects Mean Group, addressing heterogeneity, cross-sectional dependence, and persistence which have been often overlooked in studies relying on fixed effects. Our results show that output and energy price consistently affect energy consumption, with their effects amplified when cross-correlations are accounted for. Investment positively contributes to energy use, reflecting increased demand during industrial expansion or modernization, while R&D expenditures have a limited impact on energy use. These findings provide valuable insights to policymakers on energy solutions to influence energy demand and mitigate the pressures of industrial growth.

Oil shocks and firm investment on the two sides of the Atlantic

Kostakis Vasileios (European Central Bank, Germany), Pablo Anaya Longaric (European Central Bank, Germany), Francesca Romana Vinci (European Central Bank, Germany), Laura Parisi (European Central Bank, Germany)

European firms are subject to higher energy prices than those in major economies like the U.S., due to reliance on imports and ambitious decarbonization goals. This leaves them vulnerable to external shocks, such as Russia's 2022 invasion of Ukraine, raising concerns about competitiveness as these shocks elevate production costs, dampen economic activity, and potentially hinder firm investment. This paper examines how energy shocks impact firm-level investment, comparing European and U.S. firm responses. Using global oil supply news shocks, S&P's Compustat data, and a local projections approach, the study reveals that European firms significantly cut capital and R&D expenditures after an oil shock, unlike U.S. firms. The disparity is primarily driven by financially constrained firms in energy-intensive sectors. Additionally, differences in capital market structures play a role, as European firms relying more on market-based financing reduce investment less. These findings highlight the need for national and EU policies to secure the energy supply, lower prices, and deepen capital markets, enhancing resilience and future competitiveness amid energy volatility.

Cross-Check of Economic Forecasts

Eleonora Granziera (Norges Bank, Norway), Frida Bowe (Norges Bank, Norway), Pål Ulvedal (Nord University, Norway)

Policymakers cross-checks their projections for multiple variables and forecast horizons with experts' forecasts or satellite models. A qualitative comparison is usually done by plotting competing forecasts in separate graphs. This paper proposes a set of quantitative metrics that can be used to summarize the overall discrepancy between two forecasting models jointly across variables and forecasting horizons. The methodologies can handle situations where only the point forecast is available as well as where the full predictive densities are known. It also allows to take into account the policymaker loss function, by assigning different weights to variables or horizons. We illustrate the usefulness of our measures when comparing the forecasts from the Survey of Professional Forecasters, the Tealbook, a medium scale Bayesian VAR, and a medium scale DSGE (Dynamic Stochastic General Equilibrium) model for the U.S. data. We find that the forecasts substantially depart in the quarters leading to recessions, resulting in our measures spiking.

Forecasting Disaggregated Producer Prices: A Fusion of Machine Learning and Econometric Techniques

Sona Benecka (Czech National Bank, Czech Republic)

This paper introduces a hybrid forecasting framework combining machine learning methods and econometric models to predict disaggregated producer prices. Addressing the diverse pricing dynamics within the euro area, the study highlights the superiority of tailored sector-level forecasts over aggregate PPI predictions. The findings demonstrate that sector-level forecasts can outperform aggregate predictions, offering detailed insights into price dynamics rarely documented in existing research. Due to the complexity and diversity of pricing dynamics within the euro area, no single model consistently outperforms others across all sectors. Our forecasting exercise has highlighted diverse pricing strategies linked to commodity prices, autoregressive behavior, or a mixture of both, with pipeline pressures being especially pertinent to final goods. Still the empirical results emphasize the efficacy of tree-based methods, such as Random Forests and XGBoost, in variable selection and short-term inflation forecasting. Hybrid ARMAX models further demonstrate robustness in sectors with strong commodity linkages. This research also contributes empirical evidence of pipeline pressures propagating across production stages, enhancing understanding of price transmission mechanisms. Additionally, a comprehensive comparison of forecasting methods offers insights into their sector-specific applications, emphasizing the strength of machine learning in addressing variable selection challenges and improving model interpretability.

Lost in Translation: How Predictability Turns Into Performance

Lukas Salcher (University of Liechtenstein), Sebastian Stöckl (University of Liechtenstein), Michael Hanke (University of Liechtentein)

This paper investigates the impact of return predictability on portfolio performance using mean-variance optimization (MVO) and various timing strategies. Our approach captures predictability and performs well in conventional timing exercises, showing how predictability leads to substantial improvements in Sharpe ratios. However, for MVO, the relationship between predictability and performance is more complex. While higher predictability leads to increased mean returns, it also introduces significant volatility and dispersion in predicted values, resulting in extreme weights and poor risk-adjusted performance. These counterintuitive results suggests that mean-variance optimization, may not always yield superior risk-adjusted returns when predictability is increased hinting at a nuanced relationship between predictability and performance in portfolio optimization.

Evaluating the characteristics of the Cobb-Douglas production function for European Union countries

Christos Agiakloglou (University of Piraeus, Greece), Anargyros Panormitis Pellas (University of Piraeus, Greece)

The characteristics of the Cobb – Douglas production function have been studied in the literature, giving a plethora of different results with regards to partial elasticities of inputs and economies of scale. However, these characteristics have not been examined for countries with similar economic activities and income levels. Using panel data analysis, this study finds a uniform behavior for European Union countries that have similar production levels, indicating behavior closer to constant economies of scale, while significant difference are found regarding the magnitude of input partial elasticities and economies of scale using time series regression analysis for each country.

The early winners of the Russian-Ukrainian war: evidence from firm-level FDI data

Maximilian W. Dirks (RWI Leibniz-Institut für Wirtschaftsforschung, Germany)

Geopolitical conflicts significantly reshape global investment patterns, potentially creating unexpected economic opportunities for neutral countries. This paper examines how these economies benefit from the sudden reshaping of international investment triggered by geopolitical disruptions. Using the Russian invasion of Ukraine as a quasi-exogenous shock, this study estimates the impact of redirected foreign direct investment (FDI) flows on economic output in neutral countries following this major geopolitical event. Employing a Difference-in-Differences model using Orbis Crossborder Investment data, the findings reveal a sharp decline in Western FDIs into Russia and Russia-leaning countries, alongside a significant increase in cross-border investment into neutral nations, with India, Mexico, Brazil, Malaysia, and Singapore among the primary beneficiaries. Using a Bayesian VAR analysis, I estimate that these windfall FDIs have increased GDP by up to 2\%, underscoring the economic benefits associated with geopolitical realignments. These findings contribute to the literature on geoeconomics, offering new insights into how neutral countries can emerge as unexpected winners in times of global uncertainty.

Volunteering as a Driver of National Income Growth: An Endogenous Growth Model Perspective

Michael Chletsos (University of Piraeus, Greece), Eleftheria Stergiopoulou (University of Piraeus, Greece)

Our study, based on data from two rounds (10 and 11) of the European Social Survey, delves into the relationship between voluntary work and household income. The findings reveal that increased participation in voluntary activities serves as a robust predictor of higher household income. This positive association is further validated through instrumental variable analysis, where voluntary work is instrumented by interesting in politics. This method underscores the causal relationship, suggesting that reduced engagement in voluntary activities can indeed be linked to higher household income.

By framing voluntary work as a key dimension of social capital, this study sheds light on its critical role as a determinant of household income. The research introduces a fresh perspective of the theory of endogenous growth, suggesting that social capital, in the form of voluntary work, can have significant economic benefits, not only for individuals and their families but also for society as a whole.

The regression output provides insights into the relationship between various factors and income levels, analyzed within the framework of Endogenous Growth Theory. Endogenous growth emphasizes internal economic factors like human capital, knowledge spillovers, and public policy, all of which are connected to variables in the model. The implications of the findings suggest that policies aimed at strengthening social cohesion and fostering trust through voluntary work could lead to enhanced social and economic welfare. Voluntary work emerges as a valuable tool for promoting well-being, with its potential to uplift income levels and foster a sense of community belonging. Thus, promoting social capital via voluntary activities may be a crucial strategy in improving the overall well-being of both families and society at large, offering avenues for both economic growth and social welfare.

Artificial Intelligence, Financial Risk and Sustainable Development

Małgorzata Pawłowska (SGH Warsaw School of Economics, Poland),
Georgios P. Kouretas (Athens University of Economics and Business, Greece and IPAG Business School, Paris, France)

The aim of the paper is to find out what is the impact of FinTech and Artificial Intelligence (AI) on achieving sustainable grow. FinTech may boost the development of green finance, which addresses environmental protection or climate change. Recently, a new trend has emerged focused on the financial system, particularly related to digitalization, Artificial Intelligence (AI), and FinTech companies. Similarly, we have observed the impact of financial risk on achieving the goals of sustainable development. Finally, this paper presents positive and negative impact of FinTech and AI on sustainable growth perspective. To assess the impact of AI and Fintech on sustainable grow, this paper carries out the critical analysis of the newest literature and reports of financial institutions. This paper contributes to the literature on the subject by identifying the strengths and weaknesses of FinTech and AI in the context of sustainable development.

Parallel Session 3C: Macroeconomic Theory and Policy II

A “marginal” tale of two Germanies

Daniel Fehrle (Kiel University, Germany), Vasilij Konysev (Augsburg University, Germany)

The comparative economic performance between the former socialist German Democratic Republic (GDR) and the capitalist Federal Republic of Germany (FRG) remains inconclusive due to valuation problems. We address these problems by applying wedge-growth accounting to a newly compiled dataset. More precisely, we compare the allocation efficiency using wedges between marginal utility and productivity, as well as Total Factor Productivity (TFP) growth. Wedges in marginal utility account for binding quantity constraints in GDR’s goods and FRG’s labor market. We analyze the resulting unitless wedges and swap them in an equivalent growth model for the two Germanies to quantify their impact on output and economic welfare. The analysis reveals that the consequences of GDR’s rationing were multiple times more drastic than FRG’s unemployment. An observed faster output growth in the GDR stems from excessive labor input—depressing consumption-based welfare by a fourth—rather than from physical capital or TFP. Instead, GDR’s economic activity fell comparatively ten years further behind due to lower TFP growth. Lastly, persistent, substantial net inflows increase GDR’s welfare by 25%.

Rethinking Rational Expectations: Dynamic Rational Inattention and Economic Behaviour

Ioannis Petrakis (Northumbria University, UK), Georgios Karanikolas (European Banking Authority, France)

We investigate the influence of information rigidities on household expectations and economic decision-making. By extending the traditional sticky information framework and integrating insights from rational inattention theory, we introduce a dynamic measure of rational inattention that captures the time-varying nature of information processing constraints. Our findings demonstrate that higher levels of information rigidity are associated with increased forecasting errors, particularly in the underestimation of inflation. Comparing our dynamic inattention measure to traditional sticky information and fuzzy inattention models, we highlight the advantages of incorporating stochastic inattention to better understand household expectations and behaviour. Individuals with higher inattention levels tend to form more cautious or overly optimistic expectations about the macroeconomy and their personal spending, often disconnected from actual macroeconomic conditions. Additionally, we examine the impact of information rigidity on behavioural heuristics, revealing that higher inattention levels amplify cognitive biases, such as anchoring and availability bias. The influence of these biases varies significantly across countries and age groups, emphasizing the importance of tailoring communication strategies to specific population segments. Finally, we explore regional differences in how dynamic inattention affects labour market dynamics and proactivity. This study contributes to a deeper understanding of the behavioural dynamics of information processing and offers critical insights for policymakers and central banks in designing more effective communication strategies and macroeconomic policies.

To converge or not to converge: Accounting for the German reunification

Daniel Fehrle (Kiel University, Germany), Vasilij Konysev (University of Augsburg, Germany)

German reunification in 1990 marked the first sudden integration of a socialist and capitalist economy. Despite East Germany's (EG) economic catch-up with West Germany (WG), the integration remains unfinished, as indicated by per capita output in EG still being about one-third lower. To study this unfinished regional convergence, we apply wedge-growth accounting using a human capital-augmented, two-sector, two-region model, incorporating labor supply constraints to capture key qualitative differences between EG and WG. Our findings show that sectoral labor and capital wedges are similar within regions and have significantly converged between regions, with EG initially overusing inputs. While productivity in the nontradable goods sector has fully converged, the tradable sector in EG remains less productive than in WG. Counterfactual analysis suggests that this productivity gap, together with persistent net inflows to EG, explains EG's lower economic activity. However, reducing the inflows would result in significant welfare losses in EG.

Furthermore, we account for the reunification event, identifying a substantial productivity catch-up in EG between 1989 and 1991. Our findings offer clear policy insights, highlighting the trade-offs between economic activity and fiscal transfers.

The Impact of the Net-Zero Transition on UK Productivity: A Conceptual Framework and New Evidence

Raphael Abiry (Bank of England, UK), Maren Froemel (Bank of England, UK), Philip Schnattinger (Bank of England, UK), Prachi Srivastava (University College Dublin, Ireland), Ivan Yotzov (Bank of England, UK)

The UK's Climate Change Act mandates an 80% cut in CO2 emissions by 2050 relative to 1990. Although CO2 emissions have already fallen by about 45%, further structural changes are essential for decarbonising the UK economy. This study examines the impact of this transformation on labour productivity, firm demographics and energy consumption. We assess the implications of the transition so far, as well as of the transformation ahead of us. Our investigation employs both empirical and structural approaches. The empirical strategy involves analyzing aggregate data, progressing to the sectoral level, and concluding with an examination of individual firm behaviour. In the theoretical section, we leverage the empirical findings to inform a structural model, facilitating our forward-looking analysis.

Parallel Session 3D: Labor Market and the Philips Curve

Assessing Synchronicity by Exploiting the Resurrection of the Phillips Curve

Nico Petz (Oesterreichische Nationalbank, Austria), Thomas O. Zoerner (Oesterreichische Nationalbank, Austria)

In this paper, we analyze selected Central, Eastern, and Southeastern European economies to understand their business cycle alignment with the euro area. We examine how unemployment rates fluctuate over the economic cycle and find that synchronicity has increased recently, especially for countries preparing to introduce the euro. We also explore the relationship between unemployment and inflation using the Phillips curve (PC). Our findings show a consistent trend: as unemployment decreases, core inflation gradually rises until it reaches a certain point. Beyond this, core inflation sharply increases, indicating nonlinearities in the data. To delve deeper into country-specific Phillips curves, we employ time-varying parameter (TVP) regression models. These models reveal significant variations in the slope coefficients of the PC over time, particularly after the initial shock of the COVID-19 pandemic. Our results suggest a convergence of the slope coefficients towards that of the euro area, especially in countries aspiring to join the currency union. This indicates a growing alignment with euro area economic dynamics.

Ex-Prisoners in the Czech Labour Market

Klára Kantová (Institute of Economic Studies, Charles University, Czech Republic)

This study investigates the impact of economic conditions, specifically unemployment and inflation, on the recidivism rate among ex-prisoners in the Czech Republic. The Czech Republic has a significant issue with the extensive scale of its prison population, which places a substantial burden on the economy. Another big concern is the recidivism rate, which reaches tremendous values every year, ranging from 57% to 75%. The results indicate no significant effect of released prisoners on the unemployment rate. However, the results show that a 1% rise in the unemployment rate causes a 1.1% rise in recidivism. The findings suggest that policies aimed at improving employment opportunities for ex-prisoners may be an effective strategy for reducing the recidivism rate, with broader implications for labour market policies and criminal justice reform.

Inequality, Labour Market Dynamics and the Policy Mix: Insights from a FLANK

Vasileios Rafail Karaferis (University of Edinburgh, UK)

The paper examines the interaction between inequality, distributional dynamics, and labour market conditions within a Finitely-Lived Agent New Keynesian (FLANK) framework with search-and-matching frictions in the labour market. Finite-lived agents coupled with a non-zero net supply of government bonds break the Ricardian equivalence. Additionally, all living households face a constant probability of transitioning to "inactivity" thus, permanently losing access to labour and financial markets. This structure generates rich inter-generational and cross-sectional inequality. The analysis mainly focuses on the short-run dynamics following a one-off autocorrelated government spending shock, modelled as a temporary increase in the wealth transfer made to inactive households. The numerical analysis reveals that a dovish monetary policy stance, deviating from strict inflation targeting, consistently delivers better outcomes in terms of economic efficiency and labour market conditions, regardless of whether the shock succeeds in stimulating the macroeconomy.

The slope of the euro area price Phillips curve. Evidence from regional data

Joan Paredes (European Central Bank, Germany), Anna Beschin (European Central Bank, Germany), Gaetano Polichetti (Boston College, USA), Theodore Renault (International Monetary Fund, USA)

This paper contributes to the literature on the price Phillips curve by leveraging subnational regional data from 15 euro area countries. Beyond controlling for aggregate fluctuations common to all euro area regions, our approach accounts for country-specific dynamics, including national inflation expectations, addressing key limitations in previous studies. Our findings indicate that the slope of the Phillips curve in the euro area is flat, though non-zero. Furthermore, our evidence suggests no signs of nonlinearity for the euro area price Phillips curve and a relatively stable Phillips curve over time up to 2022. These findings provide new insights for the conduct of monetary and the relevance of regional data for macroeconomic policy analysis in the euro area.

Dynamics among carbon emissions, renewable energy, and economic growth

Eleftheria Kostika (The Bank of Greece), Nikiforos T. Laopodis (The American College of Greece; Roger Williams University, USA)

We examine the dynamic interactions among CO2, economic growth, the stock market and renewable energy for the G7 countries using VAR and panel VAR models over the period from 1990 to 2023. We find that CO2 emissions continue boosting real GDP. However, the impact is unclear on the stock markets. When we include the renewable energy (RE) variable, we find that RE decreases CO2 emissions. Further, when we included several control variables, the main findings remained the same. The findings illustrate how CO2 emissions and RE are associated with economic growth and financial markets. The results provide evidence for the policy makers to assess the implications of climate change for the macro-financial interactions and to create policy impetus assisting financial markets to achieve a low-carbon transition.

The Role of Carbon Disclosure in Influencing Valuation Adjustment Mechanisms (VAM) and M&A Performance: Evidence from Chinese Listed Firms

Haithem Awijen (Inseec Grande Ecole, France), Maria-Eleni K. Agoraki (University of the Peloponnese, Greece), Sami Ben Jabeur (Institute of Sustainable Business and Organizations, Switzerland), Yassine Bakkar (Queen's Belfast University, UK)

This study explores the interplay between carbon disclosure practices and the utilization of Valuation Adjustment Mechanisms (VAM) in mergers and acquisitions (M&A) among Chinese listed firms. Drawing on data from the Shenzhen CSMAR databases on VAM and the Carbon Disclosure Index, this research investigates whether transparent environmental reporting influences the likelihood of employing VAM and its impact on financial performance. By integrating statistical analyses and event studies, the study examines how carbon disclosure affects key MA outcomes such as stock price changes, goodwill adjustments, and operational metrics. Additionally, the research highlights sectoral variations, with a focus on high-carbon-emission industries, providing insights into the strategic role of environmental transparency in shaping corporate valuation and investment decisions. The findings contribute to the growing literature on sustainable finance by offering evidence-based recommendations for integrating carbon disclosure into corporate governance and investment strategies.

Carbon emission cycles in the U.S.: Greening through browning?

Javier Ferri Carreres (University of Valencia and Fedea, Spain), Alessio Di Genaro (University of Valencia, Spain), José E. Boscá (University of Valencia, Spain), Rafael Doménech (BBVA Research and University of Valencia, Spain), Javier Andrés (University of Valencia, Spain)

This paper analyzes the carbon emissions cycle and its driving factors in the U.S. economy from 1975Q1 to 2023Q3. We identify key stylized facts regarding the link between emissions and the business cycle, particularly around the trend reversal of the environmental Kuznets curve in the late 20th century. Using a dynamic stochastic general equilibrium environmental (E-DSGE) model, we find that: (a) innovations in green energy production play a marginal role in U.S. emissions cycles; (b) only one-fifth of emissions cycles are explained by shocks related to total factor productivity (TFP) or household consumption, while the remaining four-fifths stem from changes in brown energy productivity and emissions per unit of brown energy; (c) since 2000, brown energy shocks have positively affected emissions growth, while emissions technology shocks have negatively impacted emissions, particularly following a structural break around 2007; and (d) without these shocks, the U.S. would have experienced a negative emissions gap for over 40 years. Since 2007, emissions reduction has accelerated, leading to convergence of observed and counterfactual Kuznets curves at around \$16,000 per capita GDP. Our findings explain the intriguing negative correlation between emissions and the share of dirty energy observed over the past twenty years. They suggest a connection to innovations in shale oil and gas production, highlighting both the potential for emissions reduction through advancements in brown energy and the urgent need for a decisive shift to renewable energy to achieve long-term climate goals.

Risk and Trust Behavioral Patterns: Evidence from ESG Investing

Svatoplik Kapounek (Mendel University in Brno, Chech Republic),
Evzen Kocenda (Charles University, Czech Republic)

We investigate the independent, mediating, and moderating effects of trust on perceived risk, and demonstrate the empirical impact on open funds' inflows. We use a comprehensive dataset covering over 30,000 global open funds from 2016 to 2024 and show that ESG reporting builds a foundation of trust and attracts capital from investors. We employ Morningstar Sustainability Ranking, Carbon Risk, and Product Involvement to measure the activity of open funds' ESG strategy, building investors' trust. Perceived risk measurement is based on the fund's historical performance compared to other funds. We examine the interactions of trust and perceived risk on investors' behavior identified as the net investment flows. We find three behavioral patterns: (1) perceived risk and trust affect investors independently, (2) risk perception mediates the effect of trust on investors' behavior, and (3) risk perception moderates the effect of trust on investors' behavior. We argue that independent effects, or perceived risk and trust built by ESG reporting, resulted from idiosyncratic ESG risks caused by firms' environmental and social activities. The mediating relationship emerges from the ESG strategy mitigating financial and operational risks. In that case, the ESG strategy of open funds helps to identify companies with sustainable business models, reducing exposure to volatility or financial instability. ESG analysis provides additional layers of due diligence, uncovering risks that may not be evident through traditional financial metrics. Thus, ESG screening often uncovers underappreciated sectors or regions, enhancing diversification and reducing overall portfolio risk. In that case, the ESG strategy of funds increases the willingness to engage in investment. The moderating relationship uncovers that the effect of ESG strategy on net investment flows differs when the level or perceived risk is low or high. We show that transparent decision-making or ethical behavior of firms is relevant when the fund's historical performance is risky.

Parallel Session 4A: Monetary Theory and Policy III

Analysis of the interaction of monetary and macroprudential policies: Empirical evidence from Albania

Gent Sejko (Bank of Albania and Universiteti i Tiranës, Albania), Altin Tanku (Bank of Albania), Meri Papavangjeli (Bank of Albania, Albania and Charles University, Czech Republic)

This study investigates the dynamic relationship between monetary and macroprudential policies in Albania. It analyzes the implementation of these policies by the Bank of Albania (BoA) from 2000 to 2022, focusing on their impact on each other's objectives. A new quantitative indicator for Albania's macroprudential policy is introduced, summarizing all BoA decisions during this period. Using structural vector autoregressive (SVAR) models combined with vector error correction (SVEC) models for accurate identification based on the underlying structure of the data-generating process, the interaction between monetary and macroprudential policies is analyzed, where all variables are integrated of the first order I(1). The study confirms the effectiveness of monetary policy in macroeconomic variables. The findings suggest that BoA coordinates the tightening of macroprudential measures with the easing of monetary policy. Furthermore, while monetary policy operates independently, macroprudential measures reinforce its autonomy.

Economic structure and the real effects of monetary policy

Federic Holm-Hadulla (European Central Bank, Germany), Elisa Saporito (European Central Bank, Germany), Sebastian Hauptmeier (European Central Bank, Germany)

We study how changes in economic structure shape the impact of monetary policy on output. Using granular data on economic activity in the euro area, we show that the service sector is less responsive to monetary policy than the industry sector. The rise in service intensity observed over recent decades thus dampens the effect of monetary policy on total output. However, we find this dampening effect to be moderate, implying that the transmission of monetary policy to economic activity remains effective. By contrast, differences in economic structure emerge as an important source of heterogeneity in transmission across space.

Stock Market Bubbles and Monetary Policy: A Bayesian DSGE Analysis

Arthur Galichère (University of Warwick, UK)

This paper develops and estimates a DSGE model with stock market bubbles and nominal rigidities using Bayesian methods. Bubbles emerge through a positive feedback loop mechanism supported by self-fulfilling beliefs, and their movements are driven by a sentiment shock. The analysis highlights that stock market bubbles significantly contribute to fluctuations in investment, output, and inflation. Furthermore, a monetary policy rule that targets stock prices can mitigate the impact of bubble-driven sentiment shocks, enabling faster stabilization of the real economy compared to a policy framework that ignores asset price movements.

Do the effects of monetary policy differ between sectors? – evidence for the euro area

Martin Mandler (Deutsche Bundesbank, Germany), Michael Scharnagl (Deutsche Bundesbank, Germany)

We investigate sectoral differences in euro area monetary policy transmission using a multi-sector Bayesian vector autoregression. The model captures the joint dynamics of output and prices in the manufacturing, construction and services sectors and identifies monetary policy shocks using sign restrictions. Inference based on the estimated joint distribution of sectoral impulse responses shows marked differences between the impacts of monetary policy on the three sectors. In the short-run, output in manufacturing and construction is more affected by monetary policy than in services. In the medium term, the effects on activity in services and manufacturing become more similar with the monetary policy impact on output of the construction sector remaining stronger. The effects of monetary policy on prices are strongest in construction, followed by manufacturing and weakest in services. Our results point to changes in the relative importance of sectors as a possible driver of changes in the monetary transmission mechanism.

Parallel Session 4B: Financial Economics II

Literacy and Advice: Substitutes or complements?

Panayiotis Andreou (Cyprus University of Technology, Cyprus), Sophia Anyfantaki (Cyprus University of Technology, Cyprus), Demetris Koursaros (Cyprus University of Technology, Cyprus), Alessandro Previtero (Indiana University, USA)

We investigate the relation between financial literacy and financial advice. We first introduce a simple two-period model of convincing between a financial advisor and a household. In our model, households have heterogeneous beliefs with respect to the distribution of true returns. More dispersed beliefs correspond to less sophisticated households. We show that financial advisors face a lower cost to shift beliefs and convince a financial unsophisticated household to invest in a larger amount, which is however a sub-optimal decision for the household, and earn a higher reward. Eventually, households which are more financial sophisticated are more likely to ask for financial advice. We extend our model in many directions and provide simulation exercises. A novelty of our model is that we allow the sophistication level of the advisor to vary and provide empirical predictions for the matching with households with different sophistication levels. We test these within a large sample of Canadian financial advisors and their clients.

Got the X-factor? A simple estimate for TIPS liquidity risk

Marcel Stechert (Aarhus University, Denmark)

The market for US inflation protected treasury securities (TIPS) has grown rapidly over last decades but remains less liquid compared to nominal government bonds. This paper proposes a simple but convenient estimate for TIPS-specific liquidity risk at any maturity. If interest is only in the liquidity risk component this approach works within a fraction of seconds, compared to other estimation strategies which estimate the whole state-space, e.g. no-arbitrage term structure models. This enables real-time monitoring of liquidity risk conditions, e.g. during large-scale asset purchase programs. The proposed approach only requires a joint panel of (smoothed) zero-coupon nominal and TIPS treasury yields and, thus, provides yield-consistent and TIPS-market specific liquidity risk estimates. This comes with two main advantages. First, this circumvents researchers to a-priori specify empirical liquidity risk proxies as often done in the literature. Second, it does not require estimation of a fully-fledge term structure model. Instead, static principal components and linear projections are sufficient to estimate a generalized, but rotated, linear factor model for the joint set of yields. This is easy, fast and robust, i.e. a minimum of modeling and identifying assumptions. The resulting TIPS-specific liquidity risk factor and implied liquidity risk premium estimates show economically plausible dynamics and, seemingly, only a small 'loss' compared to existing, more sophisticated methods. Additionally, monte-carlo simulations show that the PCA approach recovers the true liquidity state from a state-of-the-art joint term structure model with TIPS specific liquidity risk.

Finally, bond risk predictability exercises empirically verify the connection between the simple two-step PCA TIPS-specific factor and risk premia associated with the illiquidity of TIPS, and show that TIPS liquidity is a priced risk factor in the US treasury market for inflation-protected securities.

Modeling interdependent assets: a global perspective

Francesco Roccazzella (IESEG School of Management, France), Angelo Luisi (Ghent University, Belgium)

Existing literature has acknowledged two fundamental characteristics of asset returns: they are drifting and interconnected. We show that it is possible to account for such features jointly, through Global Vector Error Correction modeling and employ this framework to study comovements across asset classes or investment styles. We show how this novel methodology systematically improves the fit of buy-and-hold strategies and, therefore, delivers realistic forecasts of long-term returns, regardless of the asset class under analysis. Moreover, through Generalized Impulse Response analysis we show how to intuitively identify portfolio strategies featuring low exposure to equity market shocks. Such strategies consistently outperform traditional approaches mitigating exposure to market fluctuations like minimum variance portfolios or those concentrating on diversified bond portfolios, especially across annual and semi-annual periods.

The Rise and Fall of Sustainable Funds: Analyzing Liquidation Patterns

Thomas Dulak (Université Libre de Bruxelles, Belgium), Jean-Yves Gnabo (Université de Namur, Belgium)

In recent years, the growing demand for sustainable investment options has driven a rapid expansion of sustainable mutual funds. While much research has focused on their characteristics and performance, relatively little attention has been paid to their closure. This paper investigates the liquidation decisions of sustainable funds, comparing them to those of conventional funds. Using a dataset of open-end UCITS equity mutual funds from 2019 to 2024, we examine whether sustainable funds differ in their likelihood of liquidation and in the factors that drive these decisions. Our findings indicate that sustainable funds are just as likely to be liquidated as their conventional counterparts, and that the determinants of liquidation are broadly similar across fund types. However, we also observe that fund families adjust their strategies in response to the decreasing popularity of sustainable investing over the period. In the later years of the sample, there is some indication of a proactive reallocation away from sustainable products on average and of more sustainable families increasing their exposure while others reduce it. We also find that fund families become more selective in their treatment of sustainable funds early in their lifecycle.

Macroprudential loosening and mortgage borrower outcomes: Evidence from Ireland

Anuj Pratap Singh (Central Bank of Ireland), Fang Yao (Central Bank of Ireland)

Borrower based macroprudential policies such as the loan-to-income (LTI) and loan-to-value (LTI) limits have become increasingly popular following the global financial crisis. By minimising the pro-cyclical dynamics between house prices and mortgage credit, these policies aim to improve the resilience of borrowers and banks. However, these policies face an inherent trade-off between the benefits of reduced indebtedness and the erosion of liquidity buffers through larger deposit requirements. Given large body of research studying the effect of "introduction/tightening" of these measures, we contribute to the relatively scarce literature on macroprudential "loosening" by assessing the increase in LTI limit from 3.5 to 4 for first time buyers (FTBs) in Ireland in January 2023. Using difference-in-difference estimator on granular mortgage origination data, we find that LTI loosening for FTBs led to an increase in credit. Our results suggests that this additional credit was used differently across Dublin and non-Dublin regions due to differences in housing supply. For Dublin, we find additional credit channelled towards higher house purchase price, while there is a relative fall in deposits across the non-Dublin counties, indicating a liquidity enhancement effect.

Regional house prices and local banks

Vera Baye (Osnabrueck University, Germany), Valeriya Dinger (Osnabrueck University, Germany and Leeds Business School, UK)

We empirically document deviations of residential real estate prices from fundamental values at the micro level and investigate their relationship with local bank lending growth during a period of unconventional monetary policy. Our findings indicate a positive relationship between credit growth and excessive price increases in real estate markets, with interest rate reductions further amplifying these credit-driven price distortions. Additionally, we provide evidence that banks' search-for-yield behavior explains the increase in lending, particularly among deposit-funded banks that experienced a squeeze of margins during the negative monetary policy rate period. This credit expansion, in turn, directly influences the real economy by fueling local housing markets. In our analysis, we exploit that the introduction of negative monetary policy rates affected banks differently depending on their ex-ante liquidity and relate micro-level real estate data to balance sheet information from locally operating banks and macroeconomic variables.

Carbon Pricing in Residential and Non-Residential Sectors: Household Inequality and Compensation Strategies

Francisca Herranz-Baez (University of Valencia, Spain), Javier Ferri Carreres (University of Valencia, Spain)

This paper analyzes the macroeconomic and distributional impacts of carbon pricing policies targeting both residential and non-residential sectors. Using a model that incorporates nominal price rigidities, sectoral labor adjustments, and financial frictions tied to housing collateral, we uncover critical transmission mechanisms affecting household welfare. Our analysis highlights the distinct effects on borrowers and lenders: carbon pricing in the non-residential sector reduces labor demand and wages, disproportionately impacting borrowers, while residential carbon pricing lowers housing prices, tightening credit constraints for borrowers but imposing higher welfare costs on lenders who own more housing assets. We explore compensation strategies, particularly the allocation of carbon dividends. An equal distribution initially stabilizes consumption for borrowers but becomes less effective as emissions decline and carbon revenues shrink. Robustness checks show that factors like labor mobility, firm markups, and debt distribution significantly influence inequality. Flexible prices can mitigate early consumption inequality, while a higher share of debt among borrowers affects policy efficiency and the required carbon price levels. Our findings underscore the need for sector-specific carbon pricing and adaptive compensation mechanisms to balance efficiency and equity. This research provides policymakers with insights for achieving environmental targets while addressing socioeconomic disparities.

Housing tenure choice and the transmission of macroprudential mortgage policies to aggregate demand

Martina Fazio (Bank of England, UK), Andrew Gimber (Bank of England, UK), David Miles (Imperial College London, UK)

Macroprudential mortgage policies are designed in part to mitigate aggregate demand externalities from highly indebted households. Critics argue they distort the allocation of housing. In a model with wealth heterogeneity, we show that housing tenure affects the transmission of such policies through several channels: households' accumulation of housing wealth, their marginal propensities to consume, and the sensitivity of house prices. If there were no rental market, or households did not prefer owner-occupancy, tighter ex ante mortgage limits would always curb future liquidity traps. However, when housing tenure decisions are non-trivial, borrower-based macroprudential policy can have counterproductive effects on aggregate demand.

Macroprudential reciprocity in the Eurozone in a high inflation environment

Pauline Gandre (Nanterre University, France), Stefan Gebauer (European Central Bank, Germany), Margarita Rubio (University of Nottingham, UK)

Absent international coordination, macroprudential policy can lead to cross-border spillovers and leakages, which reduce its efficiency. In a high inflation environment, ensuring that macroprudential policy reaches its goal is even more crucial, because monetary policy is focused on fighting inflation. In the European Union, reciprocity of countercyclical capital buffers (CCyB) is mandatory among member states, while this is not the case for borrower-based measures. We build a core-periphery New Keynesian dynamic stochastic general equilibrium (DSGE) model for the euro area with domestic and foreign banks' lending to evaluate the optimality of macroprudential reciprocity in the presence of global cost-push shocks. We find that reciprocating a countercyclical rule on the loan-to-value ratio (LTV) is welfare-enhancing for the activating country when the domestic CCyB rule is not too responsive. We also find that the optimal degree of reciprocity depends on the weight monetary policy puts on stabilizing inflation.

Households Under Constraints: The Macroeconomic Consequences of Borrower-Based Macroprudential Policy in Europe

Luca Riva (Central Bank of Ireland), Laura Moretti (Central Bank of Ireland)

We assess the impact of Borrower-Based Measures (BBMs) frameworks on household macroeconomic indicators across a panel of European countries from 1995 to 2021. To derive causal estimates of the Average Treatment Effect on the Treated (ATT), we employ the staggered Difference-in-Differences (DiD) estimation method proposed by Callaway and Sant'Anna (2021). Our results indicate that the introduction of MMs is associated with a significant decline in the growth rate of house prices and house-price-to-income ratios (-7 pp), as well as a reduction in household credit growth (-5 pp). The peak of the effect occurs between 7 and 10 quarters, and reverts back around three years from introduction. We are unable to find effects on home ownership or private credit growth.

Does monetary policy reinforce the effects of macroprudential policy?

Barbara Livorova (Czech National Bank and Charles University, Czech Republic, Czech Republic), Adam Gersl (Charles University, Czech Republic, Czech Republic)

This paper contributes to studying the interaction between monetary and macroprudential policies by examining whether the impact of macroprudential policy on credit and house price growth differs between the cycles of monetary policy tightening and loosening. The dataset covers 32 advanced and 31 emerging market countries over the period 2000 – 2019 in quarterly frequency. Using GMM estimations, the results show that tightening of monetary policy does, on average, reinforce the effects of macroprudential policy on credit and house prices. Furthermore, this reinforcing effect works for some but not all types of macroprudential policy measures, and the results differ between advanced countries and emerging markets. The reinforcing effect is visible for periods of monetary tightening rather than for monetary easing periods. Moreover, the effects differ between credit growth and house price growth – the results show the reinforcing effect on house prices only in advanced economies and at the same time the reinforcing effect on credit in both advanced and emerging market economies.

Macroprudential Policies and Capital Controls Over Financial Cycles

Adam Gersl (Charles University, Czech Republic), Maria Arakelyan (Joint Vienna Institute, Austria), Martin Schindler (International Monetary Fund, USA)

In this paper we assess the effectiveness of macroprudential policies and capital controls in supporting financial stability. We construct a large and granular dataset on prudential and capital flow management measures covering 53 countries during 1996-2016. Conditional on a credit boom, we study the impact of these policy measures on the probability of the credit boom ending in a bust. Our analysis suggests that macroprudential tools are effective from this perspective. If credit booms are accompanied by capital flow surges, in addition to macroprudential tools, capital controls on money market instruments including cross-border interbank lending tend to contribute to reducing the likelihood of a credit bust.

Inflation Forecasting post COVID-19: Evidence from Germany

Tiphaine Wibault (ifo Institute, LMU Munich, Germany)

I compare the forecasting performance of a wide range of univariate and multivariate forecasting models for both headline and core inflation in Germany. The analysis is conducted using a full sample containing quarterly data from 1995 to 2024, which includes the COVID-19 pandemic and subsequent inflation surge, and a shortened sample spanning the years 1995 to 2019, a period of low and stable inflation. I firstly find evidence to support Atkeson & Ohanian (2001)'s original claim that univariate models are hard to beat, but show that this holds particularly for single indicator models, at times of stable inflation. Furthermore, upon testing 30 indicators for German inflation in both single-indicator and combination (i.e. factor and pooling) models, I find that the performance of multivariate models is improved by i). including the years 2020 to 2024 in which inflation was high and volatile, and ii). by *combining* information contained within the indicators. Specifically, I find that the multivariate models improve upon the univariate benchmark by up to 20% in the full sample, providing evidence for the performance of forecasting models to vary with the economic environment. The analysis also sheds light on which indicators are particularly useful for forecasting inflation in Germany. Additionally, it appears that multivariate models provide a greater forecasting gain over the univariate benchmark for headline, rather than core, inflation. Finally, I show that, since the second quarter (Q2) of 2014, just under half of the 84 models I evaluate out-perform the 1 quarter-ahead Consensus forecast for headline inflation in Germany.

Cast out the pure? Inflation and relative prices on both sides of the Atlantic

Emanuele Franceschi (European Central Bank, Germany), Chiara Osbat (European Central Bank, Germany), Miles Parker (European Central Bank, Germany)

What drives inflation -- domestic monetary policy or relative price shocks? After decades of low inflation in advanced economies, large relative price shocks -- notably those related to energy prices -- seem to have accounted for the bulk of inflation movements. We illustrate how even aggregate shocks can generate persistent relative price changes in the presence of heterogeneity in price flexibility. We then estimate the role of "pure" inflation versus relative prices, using a Bayesian dynamic factor model on disaggregated, comparable price data for the euro area and the United States. We document the different responses of pure inflation and relative prices to various aggregate and sectoral shocks in both monetary areas. We find that relative prices substantially explain the movements of inflation over the past 20 years, with an even more sizeable role since 2021. Our analysis finds little support for pure inflation being a material cause of recent inflation dynamics and arguments to that effect should, we contend, be cast out.

Forecasting Inflation in the Presence of Structural Breaks

Stephen G. Hall (Leicester University, UK; Bank of Greece; and University of Pretoria, South Africa), George S. Tavlas (Bank of Greece and the Hoover Institution, Stanford University, USA), Yongli Wang (Birmingham University, UK)

This paper follows on from Hall, Tavlas, and Wang (2025) which demonstrated that while structural break tests for an unknown structural break are unable to detect structural breaks near the end of a data period, they can be quite effective if the user has a prior expectation of where the break occurs. In this paper we demonstrate that a time varying parameter forecasting model can also be quite effective if we know approximately where the break occurs. We use a Kalman filter time varying AR forecasting rule where the degree of time variation is governed by the Q matrix. We argue that this is a better formulation than the standard rolling window literature.

Parallel Session 5B: Macroeconomic Theory and Policy III

Fiscal Consolidations and Public Sector Efficiency: Evidence from Emerging Market Economies

Joao Jalles (University of Lisbon, Portugal), Jose Alves (University of Lisbon, Portugal), Lucas Menescal (University of Lisbon, Portugal)

This paper investigates the impact of fiscal consolidations on public sector efficiency, focusing on emerging market economies. The research question explores how fiscal consolidation episodes – policy measures aimed at reducing government deficits and debt—affect the efficiency of public sector operations. To answer this, we rely on the local projections approach, which estimates the dynamic effects of consolidation shocks on proxies of public sector efficiency on a panel of 41 emerging market economies from 1997 to 2019. Key results reveal that fiscal consolidations, especially those based on expenditure cuts, tend to improve public sector efficiency, particularly in cases where consolidations are large and occur during economic downturns or when public debt levels are initially high. Tax-based consolidations show no significant impact on efficiency. These findings highlight the potential for expenditure-based consolidations to enhance operational efficiency in the public sector, providing valuable insights for policymakers in emerging markets.

AIR: Reinforcement learning in the economic policy toolkit

Tesi Aliaj (Sapienza University of Rome, Italy), Esmerald Aliaj (University of California, Irvine, USA)

We present AIR (Agent Integrated Reinforcement) model, a human-AI collaborative framework that synergizes artificial agents with human expertise in macroeconomic policymaking. Unlike traditional models that rely solely on rational agents (Chen et al., 2023), AIR enables AI agents with individual policy objectives to engage in competition, negotiation, and cooperation within advanced game-theoretic environments. This approach will foster a dynamic interplay between human decision-makers and AI agents, enhancing the effectiveness of policy development. The most prominent use case of AIR lies in developing functional strategies for regional and international agreements in both cooperative and competitive diplomatic scenarios. By providing a foundation for complex negotiation protocols, it models regions and countries as rational agents that initially follow utility-maximizing behaviours. In subsequent phases, these agents can incorporate bounded rationality constraints and asymmetric information, where certain agents gain additional economic insights through access to nowcasting algorithms and natural language language processing algorithms. Within this environment, agents engage in policy dynamics, implementing interests and tariffs, adjusting saving and tax rates, and executing negotiation strategies. The framework models comprehensive world-state dynamics including population growth, capital accumulation, technological advancement, and trade balance fluctuations. These parameters evolve temporally based on specific agent actions while simultaneously affecting the entire agent population, creating a dynamic and interconnected simulation environment. The objective is to develop a tool that reinforces the synergy between human experts, AI agents, and the computational advantages of Machine Learning (ML) and Reinforcement Learning (RL). By facilitating this collaboration, AIR aims to improve the adaptability and responsiveness of macroeconomic policies in complex, evolving environments.

Macroeconomic policy under currency mismatches in an imperfect financial market

Tatyana Shelovanova (Bank of Russia)

There is a large body of evidence documenting that many emerging market economies are subject to external financial shocks. We propose a two-country Dynamic Stochastic General Equilibrium (DSGE) with three empirically-relevant frictions: currency mismatches, moral hazard in banking and dominant currency pricing. Building upon Aoki, Benigno and Kiyotaki (2020) and Akinci, Queralto (2020), we analyze the optimal macroeconomic policy in response to foreign interest rate shocks under the presence of the frictions. The results show that foreign monetary policy tightening leads to sharper local currency depreciation when import and export prices are set in the dominant currency compared to producer currency pricing. The optimal policy response to the foreign interest rate hike is a foreign exchange (FX) intervention with relatively strict inflation targeting. Macroprudential measures offer a modest macroeconomic and financial stabilization effect. We also conclude that inflation targeting for domesticallyproduced goods alone is the worst monetary approach for emerging market economies (EMs) that attribute several real economic and financial imperfections. Nevertheless, allowing for integration of different monetary tools as well as introduction of FX hedging would be an interesting extension of our analysis.

Geo-economic fragmentation and (de)globalisation: What role for global supply chains?

Maria-Eleni K. Agoraki (University of the Peloponnese, Greece), Georgios P. Kouretas (Athens University of Economics and Business, Greece and IPAG Business School, Paris, France), Francisco Nadal De Simone (UBI Business School, Wiltz, Luxembourg)

Most recent literature suggests that the globalisation process started during the late 1980s is in retreat and accelerated due to the Covid-19 pandemic. Several forces are singled out as drivers. These include notably the perception that technological forces and the expansion of the WTO membership with the accession of China have lost momentum, and the changes in economic policy toward protectionism and regionalisation as a response to people's perceptions that globalisation has brought with it job losses and increased income disparity. The Covid-19 pandemic added to those concerns and provided support to geo-fragmentation arguments as the original negative supply-side shock resulted in product and service shortages along the complex worldwide network of supply chains because of the containment, closure, and economic policies enacted to arrest the spread of the virus. This paper uses a large macro-financial and trade database to explore the response of global supply chains to the nitial negative supply-side shock and, as health-related and economic policies were withdrawn, the ensuing positive demand shock. The framework to understand global supply chain dynamics of Kim and Shin (2023) and the Trade in Value Added (TiVA) Indicators (2023) of the OECD suggest that global supply chains faltered during a short period due to government policies to address health concerns, but recovered quickly as restrictions were lifted. A policy message is that the network of global supply chains responded to economic policies as expected and does not constitute per se an argument to support the pre-existing and growing disbelief about the net benefits of unhampered international trade.

Parallel Session 5C: Fiscal Policy I

Public Debt Surprises and Fiscal Rules

Roberto Perrelli (International Monetary Fund, USA), Marcos Poplawski-Ribeiro (International Monetary Fund, USA), Zhonghao Wei (International Monetary Fund, USA)

This paper analyzes whether fiscal rules reduce public debt and its different components' forecast errors, in particular those on debtstock flow adjustments. Using forecasts for public debt from the IMF's World Economic Outlook database for 187 countries from 1996 until 2023, results show that countries with fiscal rules in place have a more accurate projection of stock flow adjustments. Moreover, governments that comply with their fiscal rules have a more predictable public debt trajectory. These findings indicate the importance of the public financial management institutions related to fiscal rules, such as those reporting and monitoring compliance with the rules.

Fiscal policy and commodity price shocks in a small open economy DSGE model

Tumisang Loate (University of Pretoria, South Africa), Vincent Dadam (University of Pretoria, South Africa)

This paper investigates the effect of commodity price shocks in a commodity-exporting small open economy (SOE), and the role of fiscal policy in transmitting these shocks to the rest of the economy. We first estimate an empirical model using a Bayesian vector autoregression model. We then develop a New Keynesian small open economy with labour market hysteresis and commodity price shocks. The results from our DSGE model match the data. In addition, despite not modeling the tradable and nontradable sectors explicitly, as standard in the literature, our model is able to capture standard features of the Dutch disease.

Business Cycles and Fiscal Policy in the United States

Anna Sznajderska (SGH Warsaw School of Economics, Poland), Lukas Berend (FernUniversitat in Hagen, Germany)

We use a Bayesian proxy FAVAR model to trace out the effects of fiscal policy and its interaction with monetary policy in the United States. We study the impact of shocks on a large number of variables included in output and price factors. We estimate the levels of spending and tax multipliers. Next, we examine how their values change when we relax the orthogonality assumption between proxies and shocks, when we estimate missing proxy observations, when we extend the specification for additional variables, or when we allow for proxy interaction.

Fiscal Monitoring with VARs

Jacopo Cimadomo (European Central Bank, Germany), Domenico Giannone (International Monetary Fund,USA), Michele Lenza (Universite Catholique de Louvain, Belgium), Francesca Monti (Bloomberg LP, USA), Andrej Sokol (Bloomberg LP, USA)

We propose a Bayesian Mixed-Frequency VAR model to nowcast the government deficit-to-GDP ratio in real time and, at the same time, simulate the responses of fiscal variables to monetary policy shocks. The model incorporates both monthly cash and quarterly accrual fiscal indicators, together with other high-frequency macroeconomic and financial variables, as well as nominal GDP. Our model produces timely nowcasts of the annual deficit ratio, while governments and official institutions generally only publish their predictions biannually. Based on 208 real-time vintages from January 2007 to April 2024 for Italy, we show that our model exhibits similar or superior accuracy to European Commission projections, depending on the nowcasting month. We also show that a tightening monetary policy shock induces a deterioration of the deficit ratio, which is driven by both higher expenditures and lower revenues accompanying a slowdown in economic activity.

On equilibria in the model of deposit markets with exogenous switching costs of depositors

Dmitriy Aldokhin (Bank of Russia), Anton Belyakov (Bank of Russia, Moscow School of Economics, Lomonosov Moscow State University, Russia), Elena Deryugina (Bank of Russia), Alexey Ponomarenko (Bank of Russia), Sergei Seleznev (Bank of Russia)

We model the deposit market, where commercial banks compete using deposit interest rates, and depositors initially distributed among banks, when switching to another bank, bear the exogenous switching costs associated with a lack of information and money transfer fee. We consider both discrete and continuous distribution of depositors over switching costs and find equilibria in pure strategies.

Leverage actually: The impact on banks' borrowing costs in euro area money markets

Desislava Andreevaa (European Central Bank, Germany), Anna Samarina (De Nederlandsche Bank, The Netherlands), Lara Sousa Faria (NOVA Information Management School, Portugal)

This paper explores the impact of the regulatory leverage ratio (LR) on banks' demand for reserves and thus the pricing of overnight liquidity in the euro area money markets. We use daily transaction-level money market data during the period between January 2017 - February 2023 and examine the two major overnight money market segments – the unsecured and the secured one, distinguishing between over-the-counter (OTC) and CCP-cleared trades for the latter. We find a significant positive link between a bank's LR and the spread between its money market borrowing rate and the DFR. Banks with a higher LR offer deposits at higher interest rates, thereby reducing the markdown vis-à-vis the DFR. The impact of the LR dampens during the period in which central bank reserves did not count towards the LR exposure measure (or the denominator of the ratio). It is stronger for G-SIBs, who need to comply with a G-SIB LR surcharge on top of the minimum requirement applicable to all euro area banks. Moreover, the impact is weaker for CCP-cleared transactions compared to OTC trades, likely reflecting the possibility to net bilateral exposures if cleared via CCPs, which effectively allows banks to finance the respective gross money market exposures with a smaller share of Tier 1 capital.

On the carbon premium in Swiss stock returns

Thomas Nitschka (Swiss National Bank, Switzerland), Jonas Heim (University of Bern, Switzerland)

This paper analyses the carbon premium in Swiss stock returns with asset pricing methods. The carbon premium is the difference in returns on portfolios of firms with high and low carbon emissions. Similar to US evidence, the Swiss carbon premium was negative in the sample period from 2010 to 2024. However, controlling for exposures to standard risk factors, the carbon premium in Swiss stock returns is indistinguishable from zero. In contrast to US evidence, the carbon premium in Swiss stock returns is only weakly linked to variation in global climate change concerns and to events associated with higher risks for carbon-intensive firms from the transition to a low-carbon economy.

A Realtime Analysis of Fundamentals and Bubbles in the S&P 500

Lukas Wiechers (Paderborn University, Germany)

Standard empirical methods for the identification of rational bubbles in asset markets solely rely on examining explosive time series behavior but do not contain any additional information about the fundamental value and the bubble component. However, obtaining an explicit fundamental solution gives a reasonable starting point for estimating these two components simultaneously. In a decomposition approach on monthly S&P 500 stock data from 1871 to 2023, I show that assuming static information next to a constant discount rate only poorly fits the actual data. By engaging a realtime perspective that highlights the importance of market participant's changing information set over time, the results fit much better the underlying data. Bubbles become analyzable not only on grounds of explosive time series behavior, but also in terms of their size. I further derive a bubble cycle that depicts periods with autoregressive patterns relatable to bubbles. Moreover, by engaging a growth rate perspective, real price growth rates become attributable to fundamental and non-fundamental bubble factors.

Parallel Session 5E: Geopolitical Risk

Geopolitical risk and extreme spillovers among oil-based energy commodities

Peter Albrecht (Mendel University in Brno, Czech Republic), Evzen Kocenda (Charles University, Czech Republic, Czech Republic), Daniel Pastorek (Mendel University in Brno, Czech Republic)

We investigate the impact and propagation of geopolitical risk among oil-based energy commodities. First, we endogenously identify key geopolitical events affecting the connectedness among the oil-based commodities and then evaluate their transitory and persistent impacts. We identify four major shocks that resulted in persistent shifts in connectedness: the 9/11 attacks, the Crimea crisis, the political shift in Nigeria, and the Russian invasion of Ukraine. Using a quantile-based framework, we demonstrate that volatility transmissions due to geopolitical risk are not uniform but significantly depend on market conditions. Notably, heating oil and crude oil are identified as primary transmitters of risk, especially during economic turmoil. We quantify the negative economic and financial impacts of geopolitical risks through a multivariate dynamic portfolio analysis and through an impact on the profitability of ten global banks with high exposure to oil commodities. Our findings enhance the understanding of how geopolitical shocks influence connectedness and informed portfolio decisions, highlighting the need for adaptive strategies in finance.

Geopolitical Risks and Financial Market Stress

Ernest Owusu Boakye (University of Jyväskylä, Finland), Kari Heimonen (University of Jyväskylä, Finland)

Geopolitical risk can indirectly influence financial stability through heightened market volatility, increase investors' risk aversion, and raise uncertainty in the financial system. This study employs the dynamic conditional correlation multivariate generalized autoregressive conditional heteroskedasticity (DCC MGARCH) approach to investigate the first and second moment effects of geopolitical risk on financial stress. The study highlights the strong time-varying and transitional geopolitical risk on financial instability. We show how geopolitical risk associates with an increase in financial instability, suggesting that geopolitical tensions pose significant risks. Specifically, we indicate that a positive and time-varying degree of interconnectedness in geopolitical risk and financial stress coincides with major geopolitical events such as the 9/11, Brexit, and the Ukraine war. Among the financial markets explored especially the banking and equity sectors were the most susceptible to geopolitical related-induced risks, which stresses the potential negative impacts of financial stress for financial transmission.

The Impact of Geopolitical Risk on Credit Risk

Nikos Paltalidis (University of Bath, UK), Christos Ioannidis (Aston University, UK), Bingzhi Zhang (Durham University, UK)

This paper examines how geopolitical risk (GPR) affects U.S. corporate credit risk, as measured by credit spreads in the secondary corporate bond market. Using the GPR index of Caldara and Iacoviello (2022) and adverse geopolitical events, we find that increases in geopolitical risk significantly widen credit spreads, with realized actions (e.g., wars and terrorist attacks) exerting a stronger influence than threats. We further uncover substantial cross-industry heterogeneity. Exploring the underlying mechanisms, we show that the impact of geopolitical risk on credit spreads is linked to declines in firm operating performance and amplified by firms' external finance dependence. Additionally, we document that different geopolitical events, such as wars and terrorist attacks, can generate divergent within-industry credit market responses. These findings highlight the multifaceted ways through which geopolitical tensions propagate to firm-level credit conditions.

New-based measure of geopolitical risk - Macroeconomic effects and the role of sentiment

Joscha Beckmann (FernUniversität Hagen, Germany), Michael Murach (FernUniversität Hagen, Germany), Michał Rubaszek (SGH Warsaw School of Economics, Poland), Karol Szafranek (SGH Warsaw School of Economics, Poland)

In this paper, we shed some new light on the measurement and effects of geopolitical risk. We use daily cross-country data on media coverage for over 150 countries to disentangle we contribute to the literature from several perspectives. At the first stage, we provide daily measures for several country groups. We distinguish between high income, upper middle income and lower middle income countries. We analyze whether and how geopolitical risk measures and their effects differ between calculations based on newspaper and social media coverage. At the second stage, we turn to the resulting effects at the country level. We analyze the interactions of our geopolitical risk with overall sentiment related towards the corresponding economy. We then evaluate the macroeconomic effects at the country level by also taking periods of positive and negative sentiment into account. At the final stage, we assess the effects of global geopolitical risk on economic activity, global inflation and commodity prices. Again, we pay specific attention to the role of global sentiment.

Parallel Session 6A: Monetary Theory and Policy IV

Talking Policy: An automated index of inter-meeting central bank communication

Nataliia Ostapenko (National Bank of Slovakia), Pavel Gertler (National Bank of Slovakia), Marek Bojko (Yale University, USA)

We introduce a fully automated Hawk/Dove index to analyze inter-meeting communications of the ECB Governing Council. Using advanced machine learning techniques, we develop an index that captures the policy stance sentiment of unscheduled verbal interventions.

A comparative evaluation of models shows that pre-trained and fine-tuned FinBERT outperforms alternative approaches, offering high accuracy in capturing policy signals. Our findings show that the index provides predictive power for future monetary policy decisions as well as for market dynamics. This makes it potentially valuable tool for policymakers, central bank communication strategies or further research in this field.

The Chicago Plan Revisited - Debt-free Money, Growth, and Stability

Michael Kumhof (Bank of England, UK)

The Chicago Plan, proposed by leading economists during the Great Depression, envisaged the separation of banks into money banks with 100% reserve backing for deposits and credit banks financed through non-monetary liabilities. Fisher (1936) claimed four advantages: (1) Reduction of public debt through a debt-to-equity swap. (2) Reduction of private debts as money creation no longer requires debt creation. (3) Elimination of runs on the payment system. (4) Better control of credit-driven business cycles. Using a DSGE model of the US economy, we find strong support for all four claims. Furthermore, steady state output gains approach 17 percent and monetary policy is much more effective in response to every shock. Monetary policy improves welfare by combining a conventional Taylor rule with a countercyclical rule for the interest rate on treasury loans to credit banks.

Broad Divisia Money, Supply Chain Disruptions, and Inflation Following the COVID-19 Recession

John V. Duca (Oberlin College and Federal Reserve Bank of Dallas, USA), Michael D. Bordo (Rutgers University; National Bureau of Economic Research; Hoover Institution, Stanford University, USA), Barry E. Jones (Binghamton University, USA)

The rise of U.S. inflation in 2021 and 2022 and its partial subsiding have sparked debates about the relative role of supply and demand factors. The initial surge surprised many macroeconomists who ignored the 2020-21 surge in money growth because of past instability in the demand for simple-sum monetary aggregates. We find that the demand for the more theoretically-based Divisia M3 measure of money can be well modeled both in the short- and long-runs. We combine information from the long-run behavior of Divisia M3 money demand and from a supply chain disruption index into a P-Star framework. We find that recent movements in inflation were largely driven by aggregate demand with a role played by supply chain disruptions.

Who Gets the Message? Household Engagement and Central Bank Communication

Joni Heikkinen (Bank of Finland & University of Jyväskylä, Finland),
Kari Heimonen (University of Jyväskylä, Finland)

This paper examines how differences in information processing relate to the formation of household inflation expectations and consumption behavior. Using U.S. survey data from the University of Michigan, we document systematic variation across income groups in both the level of inflation expectations and their responsiveness to news and central bank communication. Higher-income households report lower and more stable expectations, while lower-income households appear more sensitive to information from media coverage and policy announcements. To interpret these patterns, we develop a structural model with heterogeneous households that differ in their consumption dynamics and responsiveness to information. The model incorporates consumption persistence and an engagement friction, where the complexity of central bank communication limits the extent to which households adjust their expectations. The analysis highlights how communication clarity and complexity are associated with differences in expectation formation and consumption behavior across households facing varying information environments.

Parallel Session 6B: Financial Economics III

On the effects of global uncertainty shocks on portfolio flows

Joscha Beckmann (FernUniversität in Hagen, Germany), Timo Bettendorf (Deutsche Bundesbank, Germany)

In this paper, we analyze the effects of uncertainty shocks on portfolio flows in 25 emerging market and 21 advanced economies and shed light on socio-economic characteristics that may be relevant for the country-specific sensitivity towards the shocks. We derive uncertainty shocks from a Proxy-SVAR model, where the uncer- tainty shock is identified by changes in the price of gold at selected events. Given the structural shock, we employ local projections of investment fund flows into 25 emerging market and 21 advanced economies for a period from 2005M8 to 2023M12. Our results show that uncertainty shocks have much stronger negative effects on capital flows in emerging economies for both bond and equity flows. Our results also show that bond fund flows are much stronger affected by uncertainty shocks compared to equity flows over both the short- and the medium-run. Finally, we find that socio-econmic characteristics relating to the sensitivity towards the shock differ across advanced economies and emerging markets

Capital Inflow Shocks and Convenience Yields

Nadav Ben Zeev (Ben Gurion University, Israel), Noam Ben-Zeev (Bank of Israel), Daniel Nathan (Bank of Israel)

We show how shocks to capital inflows from foreign financial institutions (FFIs) fundamentally alter convenience yields, asset pricing, and monetary transmission. Exploiting novel granular data on daily transactions in Israeli sovereign bonds, we identify exogenous capital inflow shocks from large FFIs' idiosyncratic investment activity. These shocks create persistent increases in convenience yields as measured by wedges between central bank monetary stance and market interest rates, explaining 39.6% of their divergence and generating substantial spillovers across assets: corporate bond yield spreads narrow by up to 31.6 basis points while equity prices rise by 5.7%. Our findings reveal a significant channel through which global capital flows affect monetary transmission and asset pricing in integrated markets, with important implications for monetary policy effectiveness.

Degrees of Asymmetry in Loss Functions: Improving Volatility Forecasts and Trading Performance

Daniel Stašek (Masaryk University, Czech Republic), Štefan Lyócsa (Masaryk University, Czech Republic)

Asymmetric loss functions are commonly used to evaluate volatility forecasts but are almost never used in the actual estimation of volatility models. We predict future volatility with a model estimated under negative (positive) asymmetric loss, which imposes a stricter penalty for underpredictions (overpredictions). We evaluate such volatility forecasts within a sample of 190 US equities via a standard statistical evaluation framework and a straddle option trading strategy. We find that not only are volatility forecasts under asymmetric loss more accurate but also that option traders who reflect asymmetric loss in their volatility predictions are likely to achieve higher returns than are traders with symmetrical loss preferences. Specifically, losses that penalize volatility underprediction more are preferable. Using Apple, Inc., as a case study, we discuss possible explanations for such results and show that to some extent, asymmetry may already be priced into the market's expected volatility, as represented by implied volatility. This finding may provide an alternative explanation for the existence of a volatility--risk premium.

A structural model of capital buffer usability

Jan Hannes Lang (European Central Bank, Germany), Dominik Menno (Deutsche Bundesbank, Germany)

Under which conditions do usability constraints for regulatory capital buffers emerge? To answer this question, we build a non-linear structural banking sector model with a minimum capital requirement that banks are not allowed to breach, and a capital buffer requirement (CBR) that banks can breach but if they do so potential stigma applies. We prove that even very low stigma costs induce large buffer usability constraints, i.e. when faced with losses banks will deleverage excessively to avoid that their capital ratio falls below the CBR. Our findings imply that a greater share of regulatory capital buffers should be releasable to mitigate the potential stigma of breaching the CBR and to support aggregate loan supply when the banking system faces losses.

Parallel Session 6C: Prices and Inflation II

Whose Inflation Rates Matter Most? A DSGE Model and Machine Learning Approach to Monetary Policy in the Euro Area

Daniel Stempel (Heinrich Heine University Duesseldorf, Germany),
Johannes Zahner (Goethe University Frankfurt, Germany)

In the euro area, monetary policy is conducted by a single central bank for 20 member countries. However, countries are heterogeneous in their economic development, including their inflation rates. This paper combines a New Keynesian model and a neural network to assess whether the European Central Bank (ECB) conducted monetary policy between 2002 and 2022 according to the weighted average of the inflation rates within the European Monetary Union (EMU) or reacted more strongly to the inflation rate developments of certain EMU countries. The New Keynesian model first generates data which is used to train and evaluate several machine learning algorithms. We find that a neural network performs best out-of-sample. We use this algorithm to (i) generally classify historical EMU data, and to (ii) determine the exact weight on the inflation rate of EMU members in each quarter of the past two decades. Our findings suggest disproportional emphasis of the ECB on the inflation rates of EMU members that exhibited high inflation rate volatility for the majority of the time frame considered (60%), with a median inflation weight of 58% on these countries. We show that these results stem from a tendency of the ECB to react more strongly to countries whose inflation rates exhibit greater deviations from their long-term trend.

Inflation risk and heterogeneous trading down

Mar Domenech-Palacios (European Central Bank, Germany)

I examine how households adjust the quality margin of their purchases in response to adverse shocks. Using household scanner data for Germany, I document that households respond differently depending on their income levels: First, those with higher income levels appear to lower the quality of goods. Second, lower-income households who on average tend to purchase lower-quality goods exhibit a low propensity to trade down, presumably due to a limited capacity to do so. Next, I examine the short run equilibrium response of supply to a sudden increase in demand for lower quality varieties by higher income consumers. To understand the general equilibrium implications of this shift in aggregate demand toward lower quality goods, I employ a shift-share research design. It relies on two components: predetermined spending shares for middle-quality varieties across the product space for a large number of sociodemographic groups before the Great Recession, and heterogeneity in the population growth for these groups during the Great Recession. I find that a 1% aggregate demand shift towards lower quality goods in the aftermath of a recession increases the relative price of low quality varieties compared to the price of higher quality ones by 0.3% on average.

Uncertainty Shocks and Inflation: The Role of Credibility and Expectation Anchoring

Joscha Beckmann (FernUniversität Hagen, Germany), Robert L. Czudaj (Technical University of Freiberg, Germany)

This paper focuses on the uncertainty effect on consumer price inflation based on a panel of 82 advanced, emerging, and developing economies studied over a sample period running from 1995 to 2022. In contrast to the previous literature, we particularly control for the role of monetary policy credibility by considering the monetary control classification of Cobham (2021) and by measuring the degree of anchoring of survey inflation expectations. We argue that the interpretation of uncertainty as a negative demand shock is appealing from a theoretical perspective but is unlikely to reflect uncertainty dynamics for countries with high inflation and/or low monetary policy credibility. We find that higher uncertainty boosts inflation. However, this effect is significantly reduced (or even eliminated) by both a strong degree of monetary control and a strong anchoring of inflation expectations, illustrating that both factors are of key importance for the propagation of uncertainty shocks.

Word2Prices: Embedding central bank communications for inflation prediction

Douglas Araujo (Bank for International Settlements, Switzerland), Nikola Bokan (European Central Bank, Germany), Fabio Comazzi (European Stability Mechanism, Luxembourg), Michele Lenza (European Central Bank, Germany and CEPR, UK)

Word embeddings are vectors of real numbers associated with words, designed to capture semantic and syntactic similarity between the words in a corpus of text. We estimate the word embeddings of the European Central Bank's introductory statements at monetary policy press conferences by using a simple natural language processing model (Word2Vec), only based on the information and model parameters available as of each press conference. We show that a measure based on such embeddings contributes to improve core inflation forecasts multiple quarters ahead. Other common textual analysis techniques, such as dictionary-based metrics or sentiment metrics do not obtain the same results. The information contained in the embeddings remains valuable for out-of-sample forecasting even after controlling for the central bank inflation forecasts, which are an important input for the introductory statements.

Parallel Session 6D: Banking and Finance II

Bank concentration and asymmetric interest rate pass-through: Evidence form selected euro area countries

Zacharias Bragoudakis (Bank of Greece) and Alexandros Tsioutsios (Bank of Greece)

This study examines the dynamics of asymmetric interest rate pass-through in the selected euro area countries, focusing on the impact of banking sector concentration on the strictness of lending-deposit spreads. Understanding these asymmetries is essential for evaluating the transmission of monetary policy, particularly in banking systems with varying degrees of market concentration. While existing literature extensively documents interest rate pass-through mechanisms, it often employs static models that overlook the temporal evolution of these relationships. This research fills this gap by employing a rolling estimation framework, offering a nuanced perspective on how banking market structures influence the asymmetry in interest rate adjustments over time. Using data from Greece, France, Portugal, Spain, Germany, and Ireland spanning 2003–2021, the study provides insights into the temporal and structural factors that shape interest rate behavior, particularly during periods of economic volatility.

A new way to measure bank-level competition

Michiel van Leuvensteijn (Netherlands Ministry of Social Affairs and Employment, The Netherlands), Ivan Huljak (Croatian National Bank, Croatia), Gabe J. de Bondt (European Central Bank, Germany)

This paper extends Boone (2008) by introducing a competition measure at the individual bank level, termed marginal relative profitability (MRP). The MRP measures competition vis-à-vis other market participants and is based on the elasticity between profits and efficiency. When a small change in efficiency derived from marginal costs causes a large change in profits, a bank exercises pressure on its peers and gains profits. We apply this extended Boone indicator to banks in the loan markets in the four largest euro area countries and Austria. The MRP distribution is skewed to the left, indicating many banks have little incentive to increase profits by operating more efficiently. The MRP approach is a powerful tool to test various market structure hypotheses and detect weak non-competitive banks. Our new measure enriches and complements other competition measures and offers a promising starting point for future market power analyses.

Interchange Fees in Payment Networks: Implications for Prices, Profits, and Welfare

Konstantinos Serfes (Drexel University, USA), Robert M. Hunt (Federal Reserve Bank of Philadelphia, USA), Yin Zhang (Drexel University, USA)

In a two-sided model of the payment card market, we introduce a specific form of elastic demand (constant elasticity), merchant market power, ad valorem fees, and cash as an alternative. We derive the "credit card tax," consisting of an endogenously determined interchange fee and any rewards paid. We characterize how this tax influences prices, profits, and welfare. We also examine how these relationships vary under different assumptions about the elasticity of demand, merchant market power, and differentiation between cash and credit. Under the assumptions of our model, by endogenizing the credit card tax, we show that capping interchange fees benefits all consumers by lowering these taxes, even if rewards decrease.

Do Rating Agencies Consider Other Banks When Rating a Commercial Bank

Deborah Gefang (Leicester University, UK), Stephen G. Hall (Leicester University, UK; Bank of Greece; and University of Pretoria, South Africa), George S. Tavlas (Bank of Greece and the Hoover Institution, Stanford University, USA), Yongli Wang (Birmingham University, UK)

In their assessments of commercial banks, rating agencies claim to base their decision on information; each bank is evaluated strictly on the basis of its particular financial characteristics. We test this claim by using a new-developed spatial logit model. The spatial model allows us to test the possibility that, rather than just using information on the bank being evaluated, the rating agencies draw on information regarding similar banks – for example, banks of similar size. If this is the case, then it raises the possibility that ratings may be subject to a rational bubble, whereby a bank is given a spuriously good rating because other similar banks already have a good rating (and vice versa). The spatial model provides a formal test of the hypothesis that the ratings given to other banks significantly affect the rating given to an individual bank.

Going green: Will the r-star shine brighter?

Marie Jézéquel-Royer (Laboratoire d'Économie d'Orléans, France),
Grégory Levieuge (Banque de France)

This paper investigates how financial markets perceive the long-term macroeconomic implications of the green transition in the Euro area, focusing on its expected effects on the natural rate of interest (r*). Using high-frequency identification, we extract carbon policy shocks from EU ETS futures price reactions to regulatory announcements. We then assess their impact on both a semi-structural measure of r* and a finance-based proxy derived from dynamic term structure models estimated on inflation-linked bond prices, reflecting investors' expectations. Our results show that, while the semi-structural r* rises persistently -- consistent with theoretical expectations of higher productivity, lower macroeconomic risk, and reduced inequality -- investors anticipate a more short-lived increase. This mispricing of the long-term cost of capital may bias the estimation of the social cost of carbon, distort investment and asset pricing, reduce perceived monetary policy space, and pose risks for financial stability if expectations were to suddenly realign with the structural changes induced by the green transition.

ESG Reputation Risk and Loan Syndication Structure

Maria-Eleni K. Agoraki (University of the Peloponnese, Greece), Georgios P. Kouretas (Athens University of Economics and Business, Greece and IPAG Business School, Paris, France), Haoran Wu (University College Dublin, Ireland), Binru Zhao (Bangor University, UK)

This paper examines how bank ESG reputation risk influences syndicated loan structures. We find that a lead bank's ESG reputation risk is positively associated with the ESG risk levels of its participant banks, predominantly driven by governance related exposures. Consistent with the adverse selection problem, higher ESG reputation risk among lead banks is related to smaller syndication sizes (fewer participant banks). Moreover, the lead bank's ESG reputation risk significantly increases loan spreads, with this effect becoming more pronounced when participant banks also exhibit high ESG risk. We further show that lead bank ESG risk is positively associated with an increased number of financial covenants. However, lead bank ESG risk is positively associated with both loan maturity and overall loan amount, suggesting a strategic arrangement for higher price premiums. These findings highlight the important role of bank ESG reputation in shaping both the composition and contractual terms of syndicated loans.

A New Keynesian Model to Assess the Role of Government Preferences over Climate Investments

Ioannis Kalientzidis (University of Strasbourg, BETA, France), Amelie Barbier-Gauchard (University of Strasbourg, BETA, France), Moise Sidiropoulos (University of Strasbourg, BETA, France; Aristotle University of Thessaloniki, Greece)

This paper develops a New Keynesian Environmental Dynamic Stochastic General Equilibrium (E-DSGE) model to analyze the role of government investment in facilitating the transition to a green economy. We extend the standard framework by incorporating two types of capital—polluting (brown) and non-polluting (green)—both used in production. Firms choose their capital mix while subject to carbon taxation, and the government directly invests in capital formation, favoring green and brown investments. The model includes adjustment costs for producing green capital, capturing the frictions associated with its deployment and the slow adaptation of firms to green alternatives. Our analysis explores the macroeconomic and environmental effects of fiscal policy under varying government investment preferences. We find that when the government invests solely in brown capital, the crowding-out effect on private investment leads to lower output, reduced consumption, and increased emissions. In contrast, when the government prioritizes green capital, economic growth accelerates while emissions decline, despite the presence of a private investment crowd-out effect. A mixed investment strategy, where the government allocates resources to both types of capital but still favors brown investment, yields results similar to the green-focused scenario but with more moderate effects.

Firms' ESG performance, mandatory ESG disclosure and syndicated loans' pricing: A cross-country analysis

Maria-Eleni K. Agoraki (University of Peloponnese, Greece), Matthew Imes (Stetson University, USA), Georgios P. Kouretas (Athens University of Economics and Business, Greece and IPAG Business School, Paris, France), Aaron McCullough (Stetson University, USA)

This study examines how ESG score of the borrower influences syndicated loan spreads, highlighting the role of lender and borrower climate concerns in shaping borrowing costs. Using a dataset of U.S. syndicated loans from 2007 to 2020, we find that firms with lower ESG score face elevated loan spreads. To quantify misalignment in lender-borrower climate perceptions, we introduce the Euclidean Distance Index, showing that greater gaps between borrower and lender ESG scores, further increase borrowing costs. Moreover, the present study shows that the higher the cost of borrowing is the lower the growth opportunities of the firm are. A natural experiment based on mandatory ESG disclosures reveals that lenders in countries that have implemented mandatory ESG disclosures are more sensitive to climate risks and to ESG scores of the borrowers, leading to lower syndicated loan spreads. Our findings underscore the growing integration of the firm's ESG score into loan pricing, contributing to the literature on climate risk pricing and sustainable finance. The results highlight the need for firms and financial institutions to adapt to evolving climate-related risk assessments in credit markets.

Predicting Commodity Market Returns with Stock Market Anomalies

Amin Sadeghi (University of Jyväskylä, Finland), Juha-Pekka Junttila (University of Oulu, Finland), Heikki Lehkonen (University of Jyväskylä, Finland)

This study examines the linkage between stock market anomalies and commodity returns. Using the partial least squares (PLS) method to extract key information from a large anomalies dataset, the findings reveal that stock market anomalies exhibit statistically and economically significant predictive power for the returns of commodity indices, especially within the oil market. Specifically, the highest R-squared out-of-sample (R^2_{oos}) values reach 8.34% for a commodity index and 6.19% for Crude Oil WTI futures, outperforming the traditional macroeconomic and financial predictors. Further analysis shows that sentiment and uncertainty-related indicators partially explain this predictive relationship mechanism. The results remain robust across a variety of tests and highlight the predictive power superiority, especially during market crises. The study contributes to the literature by introducing stock market anomalies as a novel predictor for commodity returns and providing valuable tools for risk management and investment decision-making. For policymakers, the results can help mitigate volatility during market crises, ensuring greater market stability and economic resilience.

Term Spread Volatility as a Leading Indicator of Economic Activity

Dimitrios Bakas (Nottingham Trent University, UK), Anastasios Megaritis (University of Hull, UK), Athanasios Triantafyllou (IESEG School of Management, France), Theodora Bermpei (IESEG School of Management, France)

In this paper we examine the predictive power of the volatility of the US Treasury yield curve slope (term spread volatility) for economic activity. Our forecasting exercise shows that the US term spread volatility has significant forecasting power on measures of US economic activity. The predictive power of the term spread volatility is higher for medium- and long-term forecasting horizons and remains robust to the inclusion of well-established predictors of economic activity, like interest rates, inflation, the term spread, stock market returns, credit spreads, and popular measures of economic uncertainty, like the VIX, and economic policy uncertainty index. Our results also show that the term spread volatility has statistically and economically differentiated forecasting power with that of other economic uncertainty measures. Moreover, the predictive power of the term spread volatility increases significantly after the 2008 Great Recession, showing that the linkages between uncertainty about macroeconomic expectations and macroeconomic performance have increased in the post-Great Recession period. Finally, our out-of-sample forecasting results show that the term spread volatility outperforms the term spread when forecasting economic activity in the longer run.

The impact of uncertainty on forecasting the US economy

Angelica Ghiselli (University College Dublin, Central Bank of Ireland, Ireland)

This research provides novel empirical evidence comparing Vector Autoregressive family models to machine learning techniques (i.e. Lasso, Ridge, and Elastic Net) to forecast industrial production, consumer price index, and federal fund rate at different forecast horizons. Each model's accuracy is estimated with and without uncertainty measurements, including EPU, VIX, geopolitical risk, macroeconomic and financial uncertainty. Our findings show that no model fully captures all three variables of interest, and adjustments for uncertainty are effective only in a limited number of cases. However, when forecasts are combined, accuracy improves substantially.

Parallel Session 7B: Macroeconomic Theory and Policy IV

Dynamic Sparse Restricted Perceptions Equilibria

Volha Audzei (Czech National Bank), Sergey Slobodyan (CERGE-EI, Czech Republic)

This paper studies convergence properties, including local and global strong E-stability, of the rational expectations equilibrium under non-smooth learning dynamics, and the role of monetary policy in agents' expectation formation. In a simple New Keynesian model, we consider two types of informational constraints operating jointly - adaptive learning and sparse rationality. For different initial beliefs, we study if the convergence to the minimum state variable rational expectations equilibrium (MSV REE) occurs over time for positive costs of attention. We find that for any initial beliefs the agents' forecasting rule converges either to the MSV REE equilibrium, or, for large attention costs, to a rule that disregards all variables but the constant. Stricter monetary policy slightly favors the constant only rule. Mis-specified forecasting rule that uses variable not present in the MSV REE does not survive this learning algorithm. Theory of non-smooth differential equations is applied to study the dynamics of our learning algorithm.

Income inequality and credit cycles: booster or anchor?

Alessandra Centinaio (LIUC - Universitá Cattaneo, Italy), Fausto Pacicco (LIUC - Universitá Cattaneo, Italy), Massimiliano Serati (LIUC - Universitá Cattaneo, Italy), Andrea Venegoni (LIUC - Universitá Cattaneo, Italy)

Recent literature has investigated the possible existence of a direct, causal relationship between the observed rising inequalities in advanced economies, the excess leverage, and financial crises (Bazillier and Hericourt, 2017). Using a Factor Augmented Regime-Switching VAR model on Mixed Frequency data (i.e., yearly and quarterly) from 1996Q1 to 2022Q1 for the 10 main Euro Area countries in terms of GDP, we explore whether credit reacts differently to rising inequality depending on whether it stems from gains at the top or losses at the bottom of the income distribution. Findings reveal that inequality's nature matters: top-end inequality tends to boost credit, while bottom-end inequality constrains it. Significant cross-country differences emerge, highlighting the need for tailored policy responses to address the complex effects of inequality on credit markets.

Uniform vs. Local Deposit Rate Setting in a DSGE Framework

Kirill Anikeev (Bank of Russia; International Laboratory for Macroeconomic Analysis; HSE University, Russia), Sofya Kolesnik (Lomonosov Moscow State University; Gaidar Institute for Economic Policy, Russia)

This paper investigates how uniform and local deposit rate setting strategies influence banks' monopolistic power, social welfare and financial stability. While recent studies highlight the role of network effects and switching costs in shaping banking market power and pricing strategies, we shift our focus to the macroeconomic implications of these strategies. Specifically, this paper contributes to the debate on the existence of the deposit transmission channel by examining whether local or uniform pricing results in greater monopolistic power for banks at the aggregate level. We incorporate the Calvo deposit rate setting procedure in the standard DSGE model with a two-tier banking system to capture three different scenarios (uniform, intermediate and local pricing) by adjusting the probability or fraction parameter. Our analysis reveals that, in response to contractionary monetary policy shock, banks under uniform rate setting tend to increase financial risks in the short run and accumulate greater monopolistic power compared to local pricing in the long run, negatively affecting households' welfare. Additionally, the model simulations indicate that banks with market power adjust deposit rates at less than a one-to-one ratio, regardless of the pricing strategy.

The Dynamic Consequences of Inflow-driven Sudden Stops

Romain Houssa (University of Namur, Belgium), Jean Paul Madrigal Rodríguez (Univeristé Catholique de Louvain, Belgium)

This paper documents a significant rise in episodes of sudden stops, drawing on a newly constructed database covering 136 countries from 1991 to 2024. Using local projections with instrumental variables, we analyze the dynamic impacts of these events. We also introduce a methodology to examine the dynamic behavior of key macroeconomic aggregates preceding sudden stops. Consistent with the theoretical framework in Mendoza (2010), we find that sudden stops are typically preceded by economic booms. Sudden stops cause recessions that persist over two years. These effects are driven primarily by sharp declines in investment and increases in net-exports. We explore two main causal channels: depreciation of domestic currency and financial market distortions. Additionally, we examine heterogeneous effects based on exchange rate regimes and levels of economic development.

Parallel Session 7C: Financial Economics IV

Are there fences in the global factor zoo?

Merlin Bartel (University of Liechtenstein), Sebastian Stöckl (University of Liechtenstein), Joshua Traut (University of St. Gallen, Swiss Institute of Banking and Finance, Switzerland)

We revisit the established dominance of local factors in international asset pricing by examining the predictability anomalies through the lens of factor momentum signals. Differing from previous results for asset pricing models where local factors are typically seen as superior to regional and global factors, our research reveals that regional and global signals surpass local signals in forecasting factor risk premiums. Strategies formed on non-local signals generally outperform strategies formed on local signals in all considered metrics. This outperformance is more pronounced for factors and regions with high structural integration. Non-local factor predictability potentially improves leading asset pricing models. Moreover, non-local signals revive momentum investing in markets previously thought to lack momentum opportunities, such as Japan.

Factor Chasing

Pedro Barroso (Catolica Lisbon, Portugal), Merlin Bartel (University of Liechtenstein), Sebastian Stöckl (University of Liechtenstein)

We demonstrate that, in the presence of global market frictions, even highly specialized style mutual funds exhibit delayed responses to publicly available information. We first establish a distinctive pattern in international risk factor returns, which we term ”Factor Chasing”. A factor performing better in a country than in others tends to continue outperforming in the following months. Strategies that chase single factor returns over the world yield highly positive returns that are not spanned by leading factor models. We test several different channels of factor chasing and trace down the economic mechanism. Given the well-documented tendency of fund managers towards positive feedback trading, factor chasing should, in theory, be particularly appealing to specialized style mutual funds. Our findings confirm that managers do act on this signal; however, their trades are delayed. Consequently, global specialized style mutual funds do not effectively time their trades when implementing straightforward long-only chasing strategies.

Systemic Implications of Financial Inclusion

Sami Ben Naceur (International Monetary Fund, USA), Bertrand Candelon (Universite catholique de Louvain, Belgium), Farah Mugrabi (Central Bank of Ireland)

This study contributes to the literature by analyzing the impact of financial inclusion (FI) on various bank risk dimensions, including systemic risk, which has been underexplored. We expand on recent research by examining not only the type of financial services, but also the source of FI, particularly the role of non-commercial banks (NCB). Our findings reveal that contrary to developed countries, credit expansions are linked to lower commercial banking risks, underscoring the benefits of loan diversification in developing and emerging economies,. However, while FI in deposits generally reduces individual banking risks, its effect on systemic risk is weaker in these countries, likely due to limited asset diversification. Moreover, NCBs tend to increase systemic and idiosyncratic risks for commercial banks through competitive pressures in the loan and deposit markets. Our results suggest that coordinating macroprudential policies with credit developments further reduces systemic risk by discouraging excessive risk-taking when banks' capital is more at stake. Banks with stronger Basel capital ratios show reduced idiosyncratic risks, yet there is evidence that banks may relax these ratios to accommodate lending demands. These insights underscore the necessity for regulators to synchronize macroprudential policies with FI developments and consider NCBs' role in financial stability.

Dissipating green bond premium

Jesper Simola (University of Jyväskylä, Finland), Kari Heimonen (University of Jyväskylä, Finland), Heikki Lehkonen (University of Jyväskylä, Finland)

This study examines the green bond premium, or greenium, which is the pricing differential between green and conventional bonds for bonds issued between 2007 and 2023 in the EU and US markets. Results indicate that a greenium exists in the primary markets for non-corporate issuers and euro-denominated bonds, but not for corporate or USD-denominated bonds. In the secondary market, the greenium is smaller but significant, especially for non-corporate issuers, with banks showing a notable greenium. The green bond market has grown rapidly, which has led to a saturation of market demand, reducing the greenium. Other factors influencing the greenium include climate concerns, geopolitical risks, and monetary policy uncertainty. Heightened climate concerns decrease the greenium as investors demand higher returns for brown bonds due to associated climate risks. Understanding these determinants is crucial for policymakers to design effective incentives for green investments, reducing financing costs for environmentally friendly projects and promoting sustainable economic growth. Keywords: Green bonds, greenium, bond pricing.

Parallel Session 7D: Fiscal Policy II

Fiscal Policy under the Eyes of Wary Bondholders

Gregor von Schweinitz (Corvinus University, Hungary), Ruben Staffa (DIW Berlin, Germany)

This paper studies the interaction between fiscal policy and bondholders against the backdrop of high sovereign debt levels. For our analysis, we investigate the case of Italy, a country that has dealt with high public debt levels for a long time. We derive an external instrument for bond demand shocks from a novel news ticker data set to address the empirical challenge of pinning down political uncertainty and investors' forward-looking behavior. We further derive a fiscal rule and a bond demand schedule from theory and incorporate them alongside the instrument in a Bayesian structural VAR model. Our main results are threefold. First, the interaction between fiscal policy and bondholders' expectations is critical for the evolution of prices. Fiscal policy reinforces contractionary monetary policy through sustained increases in primary surpluses and investors provide incentives for ``passive'' fiscal policy. Second, investors' expectations matter for inflation, and we document a Fisherian response of inflation across all maturities in response to a bond demand shock. Third, political risk is critical in the determination of bondholders' expectations and an increase in the perceived riskiness of sovereign debt increases inflation and thus complicates the task of controlling price growth.

International spillovers of fiscal news shocks

Mehmet Burak Turgut (University of Warsaw, Poland), Grzegorz Wesołowski (University of Warsaw, Poland)

This paper investigates the domestic and international transmission of U.S. fiscal news shocks emphasizing the importance of the sentiment channel for the global economy. We identify these shocks using federal government spending forecasts from the Survey of Professional Forecasters. Employing the local projection method, our findings suggest that anticipated increases in U.S. government spending are expansionary domestically, leading to improved sentiment and enhanced financial conditions. On the other hand, the U.S. dollar appreciates, and the U.S. trade balance deteriorates when future fiscal expansion is expected. In the international context, we apply panel local projection models across a large set of countries and show that positive sentiment and improved financial conditions driven by U.S. fiscal news spill over, stimulating domestic demand and output growth in other economies. However, we find no significant effect of currency depreciation on net exports in a broad sample as rising domestic demand tends to boost imports. In turn, in a subsample of countries with high trade exposure to the U.S., the trade channel becomes significant, while sentiment and financial channels diminish in importance. At the same time, financial channel seems to be important only for the advanced economies.

On the heterogeneity of regional fiscal multipliers in Spain, 1980–2019

Iván Medrano-Escalada (University of Zaragoza, Spain), Marcos Sanso-Navarro (University of Zaragoza, IEDIS, Spain)

This paper examines the heterogeneity of fiscal multipliers across Spanish regions using a balanced panel dataset spanning the period 1980–2019. By employing a local projection approach in combination with a dynamic common correlated effects estimator that accounts for weakly exogenous regressors, we identify significant regional variations in the effects of government spending on output, employment, and consumption. While government expenditure shows a persistent positive impact on GDP per capita in some regions, its influence on employment and consumption appears more limited. These findings highlight the importance of tailoring fiscal policies to account for region-specific effects rather than relying exclusively on aggregate multipliers.

Fiscal policy transmission, the twin deficit hypothesis and uncertainty: Evidence from the U.S.

Theodoros Bratis (Athens University of Economics and Business, Greece), Georgios P. Kouretas (Athens University of Economics and Business, Greece and IPAG Business School, France), Prodromos Vlamis (University of Piraeus)

Fiscal transmission and the association of twin deficit or divergence hypothesis has been studied from Mundell-Fleming to Barro resulting to the Feldstein and Horioka puzzle. In this paper we examine the time varying relationship of federal fiscal balance to current account balance for US (1973Q1-2024Q4) testing for exogenous shocks: political polarization; fiscal uncertainty; climate change (natural disasters), focusing in the peak of GFC and Covid19 crisis. We find evidence for the twin divergence hypothesis for the US under the floating regime period of USD, under different fiscal stance measures with either Bayesian or frequentist inference. An increase in federal balance (deficit) tends to have the reverse impact on current account balance (surplus). Current account balance appears to be impacted more to shocks from fiscal balance than the reverse. Fiscal policy is more aggressive during the Great Recession to stabilize the economy. We document mild fiscal and external balance responses from other factors political, fiscal uncertainty, natural disaster cost, besides real exchange rate. We have evidence of asymmetries and non-linearities in the relationship between US CAB and other determinants of the CAB in both the short and long run.

Parallel Session 7E: European Economics II

Bottlenecks and Corkscrews: Macroeconomic Perspectives on Maritime Supply Chain Disruptions

Alessandro Nava (University of Padua & CRIEP, Italy)

This paper investigates the macroeconomic impacts of exogenous maritime transportation shocks through the flow analysis of the Panama Canal, Suez Canal, and Strait of Malacca chokepoints on the European Union. In contrast to previous studies that rely on price-based indexes, this research incorporates vessel flow data to directly assess supply chain fragility and persistence, eliminating endogenous factors related to container spot prices. Employing a Bayesian Vector Autoregression (BVAR) model with sign restrictions, the main findings highlight the prolonged impacts on producer and consumer prices, emphasizing the necessity for robust policy measures to mitigate vulnerabilities in global maritime networks.

Comply and invest: The effect of EU fiscal rules on public investment

Martin Larch (European Fiscal Board, European Commission, Belgium),
Wouter van der Wielen (European Investment Bank, Luxembourg)

In the late 1990s, the EU adopted common fiscal rules to keep national public finances on a sustainable path and allow centralised monetary policy to effectively implement its mandate. After the global financial crisis, when public investment posted a particularly sharp decline, the same fiscal rules were seen as culprits. This paper takes a fresh look at the interplay between public investment and EU fiscal rules. Using a new database covering all EU countries from 1998-2023, our analysis shows that compliance with the commonly agreed fiscal rules is not the problem. On the contrary, governments who follow the rules have the space to spend on investment. Policy makers tend to sacrifice public investment expenditure when they face trade-offs within the more general constraints on public finances.

European Governments' Fiscal Behaviour and Public Debt Holders: What Is the Financial Connection?

Peter Claeys (Universidad Pontificia Comillas, Spain), Bettina Bökemeier (Bielefeld University, Germany), Benjamin Owusu (Bielefeld University, Germany), Juan Equiza Goñi (University of Navarra, Spain), Andreea Stoian (Bucharest University of Economic Studies, Romania)

Concerns about fiscal sustainability and worsening balance sheet conditions of major banks triggered a doom loop between banks and sovereigns during the European Sovereign Debt Crisis. Despite closer financial integration and additional institutional safeguards, the home bias, i.e. domestic bank preference for holding domestic sovereign debt, is still high in most EU countries. We examine the effects of home bias on fiscal sustainability. We first apply panel smooth transition regression models on a fiscal rule, extending two IMF database on sovereign debt holdings to all EU Member States. We do not find evidence for a reduced reaction to public debt by governments under a high home bias, but this depends on how well developed the financial system is. A developed banking system allows sovereigns in these countries to raise more public debt to ensure economic stability. An increased presence of foreign banks has a benign effect on sustainability, but public banks reduce it. We then test fiscal responses to public debt shocks with an interacted panel VAR. Sovereigns seem to delay consolidations under a high home bias. Developing further financial markets could help countries in the tradeoff between economic and debt stabilisation, and bringing in foreign banks might enforce stronger fiscal discipline.

Trade and External Balance: The Role of Trade Openness and Terms of Trade

Kosta Josifidis (University of Novi Sad, Serbia), Radmila Dragutinović Mitrović (University of Belgrade, Serbia), Sladjana Bodor (University of Novi Sad, Serbia), Novica Supić (University of Novi Sad, Serbia)

This paper analysis the effect of the trade openness and terms of trade on the current account dynamics in the OECD, EU and Western Balkans countries during the period 1995-2023. The purpose of this research is to examine whether there is a long-run correlation between trade openness and the current account, as well as to prove or disprove the long-run impact of the terms of trade on the current account, or the HLM effect. Heterogenous panel data models are used for this purpose. Based on the obtained results on the estimated heterogenous coefficients, it was found that there is a long-run relationship between the trade openness and the current account for OECD and EU countries, but not for the Western Balkans countries. It follows that we can say that higher levels of trade openness have a positive impact on the current account balance in these countries. On the other hand, empirical findings indicate that the HLM effect cannot be confirmed for any group of countries.

Parallel Session 8A: Monetary Theory and Policy V

Monetary-fiscal interactions during large-scale asset purchase programs

Marcin Kolasa (International Monetary Fund, USA and Warsaw School of Economics, Poland), Małgorzata Walerych (Institute of Economics, Polish Academy of Sciences, Poland), Grzegorz Wesołowski (University of Warsaw, Poland)

This paper examines the effects of asset purchase programs (APPs) that were implemented in a number of countries during the COVID-19 pandemic in concert with large fiscal stimulus packages. We identify APP shocks for 14 advanced and emerging market economies using high-frequency identification techniques. We next estimate panel local projections, finding that APPs tend to stimulate output, but decrease prices. By using a Kitagawa-Blinder-Oaxaca decomposition, we demonstrate that these responses significantly depend on the magnitude of the simultaneously applied fiscal stimulus. Remarkably, higher government purchases during that period crowded in private consumption and had a large effect on inflation. We show that these empirical findings, some of which are inconsistent with a standard New Keynesian framework, can be rationalized in a simple general equilibrium model with segmented asset markets and fiscal dominance.

The Post-2015 German Lending Surge - What Role for QE?

Sebastian Eiblmeier (Leibniz University Hannover, Germany)

This paper uses German microdata to test whether the ECB's quantitative easing (QE) spurred bank lending to non-financial firms. Bank-firm loan data allow me to control for loan demand at firm level. The share of bonds in banks' total assets before QE serves as treatment proxy. While the effects are positive and statistically significant, they are small: Increasing the bond/asset share in a firm's lender bank by one standard deviation increases the de-trended outstanding bilateral loan volume by only 2\% of its within-sample mean. At firm level, no effect can be observed.

The Supply-Side Effects of Household Heterogeneity

Luzie Thiel (University of Kassel, Germany), Benjamin Schwanebeck (FernUniversität in Hagen, Germany)

Household heterogeneity has been shown to be an important driver of aggregate demand. In this research, we demonstrate that it also impacts the supply side. We build a model in which heterogeneous households vary in their extent to which they supply production factors (labor and capital). Our model offers novel results about the consequences of inequality for the supply side, showing that (i) inequality distorts the factor allocation leading to higher marginal costs, and (ii) inequality becomes part of the Phillips curve. This is the "misallocation channel of inequality". The cyclicality of inequality crucially depends on how important capital is for production. Our findings have important implications for building models with household heterogeneity and for optimal monetary policy.

Parallel Session 8B: Exchange Rate Economics

Price jumps in the FX markets using the quantile frequency VAR connectedness framework

George Apostolakis (University of Crete, Greece), Christos Floros (Hellenic Mediterranean University, Greece), Konstantinos Gkillas (University of Patras, Greece)

This study examines price jumps in foreign exchange (FX) markets using daily data spanning over 20 years, focusing on four major currency pairs (EUR/USD, GBP/USD, USD/CAD, and USD/JPY). By employing a quantile vector autoregressive (QVAR) model and the frequency connectedness approach, we analyze the transmission of price jumps across different quantiles and time horizons. Our findings reveal a significant increase in price jump interconnectedness during periods of heightened uncertainty, especially in the short term and at the extreme ends of the distribution. We also observe heterogeneity in total connectedness indices, with more pronounced spillover effects in the upper quantiles. These results suggest that market stress amplifies price jumps' transmission across currencies, posing risks to both market participants and policymakers. This research offers valuable insights into the dynamics of FX price jumps, providing a comprehensive tool for risk management, portfolio optimization, and monetary policy formulation in times of economic volatility.

Accounting for currency crises: What matters are external deficits, not loose money or speculative pressures

Nikolas A. Müller-Plantenberg (Universidad Autónoma de Madrid, Spain)

This paper examines to what extent the sharp exchange rate depreciations observed during currency crises are accounted for by exchange rate overvaluation and currency market pressure, respectively. It finds little contribution from exchange rate overvaluation, challenging the view that crises stem from loose monetary policy or high inflation. Instead, most nominal depreciation results from a steep drop in currency market pressure, driven primarily by large and persistent current account deficits stemming from booms in domestic spending; yet surprisingly, capital flight plays next to no role. Using balance of payments data, the study constructs a proxy for currency market pressure, which closely tracks the real exchange rate during crisis episodes. Real exchange rates stay significantly lower for years after crisis outbreaks, implying that currency crises are provoked by a persistent fall in currency market pressure, rather than by transient speculative pressures.

Global Portfolio Network and Currency Risk Premia

Jantke de Boer (Ruhr University Bochum, Germany)

The position of countries in a network of external portfolio investments serves as a novel macroeconomic characteristic to explain violations of uncovered interest rate parity. I derive a measure of network centrality, where central countries are those highly integrated with key suppliers of tradable financial assets. Currency risk premia decrease as network centrality increases. Asset pricing tests confirm that the centrality risk factor is priced in the cross-section. Furthermore, negative global shocks appreciate the currencies of central countries and depreciate those of peripheral ones. In a consumption-based capital asset pricing model, central countries experience lower consumption growth in high marginal utility states, leading to currency appreciation.

Global Trade Invoicing Currency Patterns in a Fragmenting World Economy

Emine Boz (International Monetary Fund, USA), Camila Casas (International Monetary Fund, USA), Georgios Georgiadis (European Central Bank, Germany), Arnaud Mehl (European Central Bank, Germany)

This paper presents the most comprehensive and up-to-date panel data set of invoicing currencies in global trade. It provides data on the shares of exports and imports invoiced in US dollars, euros, renminbi, and other currencies for more than 100 countries since 1990. The evidence from these data confirms findings from earlier research regarding the strong persistence in invoicing currency patterns and the globally dominant role of the US dollar, the increase in the use of the dollar and the euro for invoicing, and the use of the euro as a vehicle currency in parts of Africa. It also points to several novel facts, such as the overall stability in global invoicing currency patterns after the rise of geo-economic tensions, an increase in renminbi invoicing concentrated in Asia, and remarkable increases in the use of other currencies in countries particularly exposed to geo-economic lines.

Unveiling the drivers of portfolio equity and bond investment in the European Union: The interplay of tax havens and gravity factors

Cecilio Tamarit (University of Valencia, Spain), Mariam Camarero (University Jaume I, Spain), Alejandro Muñoz Sáez (University of Valencia, Spain)

This paper examines the determinants of portfolio equity and bond investment in the European Union. We estimate the impact of different drivers typical of the gravity model developed by Okawa and van Wincoop (2012). A notable aspect of our study is that it accounts for the effects of tax havens through the recent database of Coppola et al. (2021). Another distinctive trait of our paper is that we model bilateral and multilateral resistance measured as financial restrictions between the country pair (bilateral) and relative to the rest of the world (multilateral). Our findings suggest that gravity variables (distance, economic size, and resistance), as well as historical links and global risk, explain portfolio holdings allocation. Our extended gravity model also captures the positive effect of government quality and financial development on portfolio equity and bonds. Given the differences in nature and risk between assets, we also compare the results for portfolio equity and bonds; we find that while portfolio equity is more mobile, portfolio debt tends to be invested in neighboring countries; more specifically, EU debt tends to remain in the EU. Our results also suggest that portfolio equity is more affected by global risk and multilateral financial restrictions. Finally, our comparative analysis using the IMF CPIS database (constructed under the residence principle) shows that not accounting for tax havens underestimates the gravity and fundamental factors explaining portfolio equity and bonds holdings investment.

Sovereign Wealth Funds as Stabilizers: Assessing Their Resilience and Role in Crisis Mitigation

Gnabo Jean-Yves (Cerefim and Naxys, Belgium), Louise Schraverus (Cerefim and Naxys, Belgium)

Initially established to stabilize government revenues in resource-rich economies, SWFs have evolved into key players in global financial markets, with diverse objectives ranging from saving for future generations to providing counter-cyclical support during economic crises. Their stabilizing role has been evident in times of global financial distress, such as the 2008 Global Financial Crisis and more recently during the COVID-19 pandemic. SWFs are often seen as lenders of last resort for their domestic economies Raymond (2010). An implicit liability (Bortolotti and Fotak (2020), Megginson et al. (2023), Subacchi (2012), that distinguishes them from other long-term investors.

However, this dual mandate—balancing long-term wealth preservation with short- term domestic stabilization—can create challenges during crises. Governments may call on SWFs to provide liquidity or support local industries, forcing them to sell assets at a loss or reallocate portfolios under suboptimal conditions. Such interventions can trans- form virtual losses into realized ones, undermining the long-term objectives of the funds. Furthermore, the signaling effect of poor performance during crises can raise concerns about mismanagement, with significant implications for domestic and international per- ceptions of SWF efficiency.

The study aims to examine the performance and behavior of SWFs during times of crisis. To achieve this, we address a set of research questions designed to enhance our understanding of critical, yet underexplored, aspects of SWF operations. These questions include: How do implicit liabilities influence SWF behavior during crises? To what ex- tent do SWFs deviate from their long-term investment strategies under such pressures? What are the financial performance implications of these actions? How do SWF portfo- lios perform prior to crisis-driven reallocations aimed at supporting local economies? By investigating these issues, this study seeks to provide new insights into the dual mandate of SWFs and their broader impact on economic stability.

Secondary Market Liquidity: The Role of Repo Market Specialness

Valentina Catapano (University of Padova & CRIEP, Italy), Luciano Greco (University of Padova & CRIEP, Italy), Filippo Mormando (CRIEP, Italy)

The repurchase agreements (repo) market plays an essential role to warrant the proper functioning and efficiency of government bond markets. In particular, it is pivotal to ensure the liquidity of the secondary market. Market participants can use the repo market either to borrow liquidity or to borrow a specific bond to accomplish their transactions in the secondary market, thus easing their own inventory costs. While the literature has already explored the impact of a larger bid-ask spread (on the secondary market) on the specialness (on the repo market), we carry out a novel exercise to study the inverse relation, i.e., whether the specialness of a bond is a driver of the bid-ask spread. To conduct the analysis, we rely on a dataset of cash and repo transactions obtained from MTS Italy – the regulated wholesale secondary market for Italian government bonds – which is the first electronic market in Europe. Taking into account the endogeneity that affects the relation between the two variables, we show that a higher level of specialness in the repo market negatively affects secondary market liquidity conditions (i.e., increases the bid-ask spread).

The Covid-19 effect on the volatility transmission of global financial markets

Sinem Derindere Koseoglu (Istanbul University, Turkey), Man Luo (Zhejiang University, China), Andreas Tsopanakis (Cardiff University, UK)

Aim of this paper is the study of the impact covid-19 pandemic has on the volatility transmission between some major stock markets. The unprecedented effect of the global pandemic is considered as one of the major disruptions in the economic activity and investment opportunities around the world. The major economies affected by the global health crisis are investigated (namely, US, UK, China, Japan, Italy, Germany, Turkey, Belgium), using a multivariate GARCH framework. The model is enhanced with the inclusion of dummy variables capturing the potential informational impact of the covid cases and covid-related deaths in these markets. Overall, there seems to be limited life of the aforementioned events on the degree of information flow from one market to the other.

Parallel Session 8D: Prices and Inflation III

Visible prices and their influence on inflation expectations of Russian households

Vadim Grishchenko (Bank of Russia, and Higher School of Economics, Russia), Diana Gasanova (Higher School of Economics, Russia), Egor Fomin (Higher School of Economics, Russia), Grigory Korenyak (Moscow State University, Russia)

A multitude of recent research shows that the inflation expectations of households are far from rational. In making inflation forecasts, people tend to focus on the prices of particular goods and services, which they can observe every day – 'visible prices'. In this paper, we propose a new method for the identification of such items. Our novel 'brute force' algorithm automatically sorts through the full array of prices of goods and services given by Rosstat and constructs consumer baskets. It then selects the best baskets based on their ability to forecast the inflation expectations of Russian households from the FOM Survey. In the end, we get a decomposition of various met-rics of inflation expectations for visible prices which also demonstrates good forecasting perfor-mance (as compared to the AR(1) process as a benchmark). To ensure robustness, we use an alter-native method (optimisation with regularisation) and a variety of metrics of inflation expectations. As a result, we get lists of 'robust visible items' which include not only foodstuffs but mainly durable goods and services. Surprisingly enough, oil and petrol, which are typically labelled 'vis-ible goods' in research, do not fall into this category for Russia.

From VAT Cuts to Price Tags: Evidence from Scanner Data

Pavel Gertler (National Bank of Slovakia), Peter Toth (National Bank of Slovakia and University of Economics in Bratislava, Slovakia), Brian Fabo (National Bank of Slovakia, Institute for Forecasting, Slovak Academy of Sciences, Slovakia)

This paper investigates the price and demand responses to a VAT reduction from 20% to 10% on selected grocery items in Slovakia in 2020 using highly granular scanner data and a difference-in-differences methodology. The findings reveal that VAT pass-through to prices is both incomplete and heterogeneous across product categories. On average, just over half of the tax cut was reflected in lower consumer prices, with private-label products achieving full or excessive pass-through, while standard brands and discounted goods exhibited less consistent adjustments. Essential items, such as bakery products, displayed near-complete and persistent pass-through, whereas vegetables and other goods saw partial or temporary reductions. These results highlight the complexity of using VAT reductions as policy tools, suggesting they could be shaped by num- ber of factors like competition, consumer behavior and consequent demand elasticity. The study offers insights into the discussion about the effectiveness of VAT reductions as a tool for economic stimulus and support for lower-income households.

What information is important for households' inflation expectations in Russia: a randomized controlled trial

Vadim Grishchenko (Bank of Russia and Higher School of Economics, Russia), Maria Lymar (Bank of Russia), Andrei Sinyakov (Bank of Russia)

In theory, the anchoring of household inflation expectations contributes a lot to the success of inflation targeting since they could significantly influence consumer and financial decisions.

In this paper we estimate the causal relationship between information and inflation expectations of Russian households using a randomised controlled trial (RCT) approach applied to the data of the 6th wave of the Survey of Consumer Finance (2024). To the best of our knowledge, this is the first study of this kind based on Russian data.

According to our estimates, direct, quantitative estimates of future inflation are more sensitive to incoming information. Respondents react most strongly to the impact of information about money supply growth in the previous year, adjusting their inflation expectations upwards. At the same time, as opposed to research based on other countries' data, we find no relationship between information about inflation in the past year, the central bank's target and its success in inflation targeting, on the one hand, and households' inflation expectations, on the other. This means that monetary policy should react stronger on pro-inflationary shocks to achieve the target. Actions, not words matter the most.

The Fisher Channel According to HANK: Unexpected Inflation and the Missing Recession

Filippo Pallotti (University College London, UK and Lombard Odier, Switzerland)

I show that the wealth redistribution from savers to borrowers, triggered by the recent inflationary episode, has been one of the reasons for the remarkable strength of the U.S. economy after the pandemic. Unexpected inflation reduced the real value of households' debts. Using a Heterogeneous Agent New Keynesian (HANK) model calibrated to match to match the empirical distribution of nominal exposures and their covariance with marginal propensities to consume (MPCs), I find that this wealth transfer increased aggregate consumption and contributed to inflation persistence. I support these findings with empirical evidence from billions of household-level transactions obtained from a U.S. fintech company, as well as county-level data on consumption and nominal debt. Finally, I demonstrate that the Fisher channel significantly amplifies the effectiveness of monetary policy in HANK and revisit the "paradox of flexibility," highlighting how wealth redistribution from unexpected inflation influences the interaction between nominal rigidity and monetary policy transmission.

Banks' skin-in-the-game and hold-up by illiquid firms: strategic bargaining, dynamic inconsistency and credit constraints

Louis-Marie Harpedanne de Belleville (Paris School of Economics, Université Paris 1 Panthéon-Sorbonne, and Banque de France, France)

The bank-firm relationship features a bilateral monopoly. The bank acquires monopolistic information on the firm, which is known to induce hold-up by banks at loan renewal. Conversely, if assets are firm-specific, only the firm can fully repay the bank. Both features together give rise to strategic bargaining at loan renewal. Bargaining powers are determined only by discount rates and interest flows. Outside options (which are unrelated to bargaining powers due to the outside option principle) are affected by financial frictions such as asset specificity. Credit constraints affect the first-period loan, that is, the bank declines to lend initially, if (1) the perfect equilibrium partition determined by bargaining powers does not allow the bank to break even on the second-period loan and (2) when the initial bank declines to roll over, the firm benefits more by defaulting than by borrowing from another bank. Condition (2) means that the bank cannot break even by declining to roll over. Such hold-up by illiquid firms provides a new foundation for long-term lending to finance long-term projects.

Systemic Risk Exposure of European Banks to Climate Change and Biodiversity

Iiro Alikärri (University of Jyväskylä, Finland), Kari Heimonen (University of Jyväskylä, Finland)

This paper investigates the impact of climate change and biodiversity loss on the systemic risk of the European banking sector. Employing a text-based methodology, we develop innovative climate and biodiversity risk indices derived from an extensive corpus of news articles sourced from prominent European publications. These indices encapsulate the degree of attention to climate change and biodiversity loss within contexts pertinent to the banking and finance industry. Our empirical analysis reveals that both climate and biodiversity risks significantly contribute to the systemic risk of European banks, as quantified by ΔCoVaR. To ensure the robustness of our findings, we complement our analysis with existing measures of climate change and biodiversity risks. The study underscores the escalating importance of integrating environmental risks into financial risk assessments, demonstrating that biodiversity-related risks and climate change are pivotal in driving systemic vulnerabilities within the financial sector. Our findings carry important implications for financial institutions, regulators and policymakers. They highlight the necessity of integrating environmental considerations into risk management frameworks to safeguard financial stability. The evidence presented in this study advocates for the inclusion of environmental factors in systemic risk assessments and stresses the urgency of addressing the broader economic and financial implications of environmental degradation.

Why Gradual and Predictable? Bank Lending During the Sharpest Quantitative Tightening Ever

Stephen Kho (De Nederlandsche Bank and University of Amsterdam, The Netherlands), Lorenzo Burlon (European Central Bank, Germany), Alessandro Ferrari (European Central Bank, Germany), Nikoleta Tushteva (European Central Bank and Goethe University, Germany)

Most central banks in advanced economies typically follow a gradual and predictable pace in reducing their balance sheets. Exploiting the unexpected recalibration of ECB's outstanding central bank funding in 2022, we show that a sharp reabsorption of bank liquidity amplifies the tightening impact on credit supply stemming from a central bank's balance sheet reduction. The amplification originates from the sudden need for banks accustomed to large liquidity holdings to more rapidly adapt to the new environment. Moreover, we show that the associated reduction in credit supply has real effects in terms of employment and investment, while not being accompanied by the reduction in credit risk taking that would normally follow a monetary policy tightening.

Does Supranational Banking Supervision Reduce the Cost of Equity?

Michael Sigmund (Oesterreichische Nationalbank, Austria), Mario Huebler (Oesterreichische Nationalbank, Austria), Burkhard Raunig (Oesterreichische Nationalbank, Austria)

Under the Single Supervisory Mechanism, the European Central Bank (ECB) directly supervises significant euro area banks. We investigate theoretically and empirically how supranational supervision by the ECB affects the cost of equity for listed significant banks. We adapt two auditing games and show that ECB supervision reduces misreporting and improves the quality of earnings reports, thereby lowering equity costs in the new Nash equilibrium. Our empirical analysis supports this theoretical prediction. We find that ECB supervision under the SSM reduces the cost of equity for ECB-supervised banks, reversing an upward trend in the cost of equity that resulted from the sovereign debt crisis.