CORVINUS UNIVERSITY of BUDAPEST

15th Annual Financial Market Liquidity Conference

14th – 15th November 2024
Budapest

BOOK OF ABSTRACTS

15th Annual Financial Market Liquidity Conference
Hungary Budapest
14th – 15th November 2024

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Organizers: Institute of Finance
Corvinus University of Budapest

Game Theory Research Group
HUN-REN Centre for Economic and Regional Studies

Faculty of Economics
Eötvös Loránd University

CY Initiative of Excellence
ESSEC Business School

Publisher: Corvinus University of Budapest
(Budapesti Corvinus Egyetem)

November 2024

Welcome from the Organizing Committee

Dear Participants,

Welcome to the **15th Annual Financial Market Liquidity (AFML) Conference**, 2024, held at the Corvinus University of Budapest. This year, we are happy to gather in person once again to explore contemporary issues in financial markets and liquidity in a broader sense and sustainability. Since the first AFML Conference in 2010, the world has undergone many challenges, including the COVID-19 pandemic and ongoing geopolitical tensions. This year, we also have the opportunity to explore the beautiful Corvinus Gellért Campus, the most sustainable university building in the country.

The AFML Conference offers a unique opportunity to build, expand, and strengthen our network, welcoming over 100 participants, including many esteemed regular contributors. In addition to the regular presentations, this year we have introduced the new format of Flash Talks, motivating researchers to present their ideas in a concise and creative way. We will also have an invited session, with discussants, on Strategic Behaviour in OTC Markets, organized by ESSEC Business School. As a result of stricter selection criteria and fewer parallel sessions this year, the conference offers more opportunities for everyone to attend the same talks and continue discussing them during the breaks.

We are grateful to our distinguished keynote and invited speakers, presenters, participants, and session chairs for their invaluable contributions to the success of this event. We also extend our sincere appreciation to our sponsors for their continued support.

Special thanks are due to the members of the scientific committee and our colleagues at the Institute of Finance, including but not limited to those from the secretariat—Ildikó Beri, Margit Hajnal, and Veloso da Silva Admilson—at Corvinus University of Budapest; the Game Theory Research Group, HUN-REN Centre for Economic and Regional Studies; the Department of Finance, ESSEC Business School; and the Faculty of Economics, Eötvös Loránd University for their support, dedication in managing the many responsibilities that ensure the smooth running of this conference.

We encourage all participants to engage fully, contributing to a welcoming, productive, and interactive environment throughout the event.

Wishing you an enriching and enjoyable 15th AFML Conference.

We are also committed to organizing the 16th AFML Conference in 2025, with further details set to be unveiled shortly.

Péter Csóka, András Fülöp, Anita Lovas, Emilia Németh-Durkó, Ágnes Vaskövi, Admilson Veloso da Silva, and Kata Váradi

Organizing Committee, 15th AFML Conference

Contents

Abstracts are ordered by title.

WELCOME FROM THE ORGANIZING COMMITTEE 3

CONTENTS 4

KEYNOTE SPEAKERS 2

Corporate Portfolio Management under Exchange Rate Uncertainty 2

Jonathan A. Batten, Harald Kinateder, Armin Pourkhanali, Peter G. Szilagyi 2

How do US Firms Respond to Labor Market Regulation Shocks around the World? Evidence from the Global Supply Chain 2

Xiaoxue Hu, Dongxu Li, Rose Liao, Angie Low, Carrie Pan 2

How to Save the World 3

Renée B. Adams 3

On the Preparedness of Local Governments and Municipalities for Natural Disasters 3

Thomas Walker, David Ung, Moein Karami 3

Pioneering Responsible Finance Research: The PBFJ Pre-Registration Initiative 3

Robert Faff 3

Pricing Variance in a Model with Fire Sales 4

Albert J. Menkveld 4

INVITED SPEAKERS 5

Client-Sourced Liquidity in OTC Markets 5

Carole Comerton-Forde, Billy Ford, Simon Jurkatis, Thierry Foucault 5

HFTs and Dealer Banks: Liquidity and Price Discovery in FX Trading 5

Wenqian Huan, Peter O'Neill, Angelo Ranaldo, Shihao Yu 5

The Liquidity State-Dependence of Monetary Policy 6

Oliver Ashtari Tafti, Rodrigo Guimaraes, Gabor Pinter, Jean-Charles Wijnandts 6

Who Owns Relationships? 6

Tommy lee, Konrad Lucke, Chaojun Wang 6

SPEAKERS 7

(In)efficient Repo Markets 7

Tobias Dieler, Loriano Mancini, Norman Schuerhoff 7

A Present Value Explanation of Interest Rates through Inflation Tax Avoidance 7

Max Gillman, Tamas Csabafi, Michal Kejak, Ceri Davies *7*

Collateral Pledgeability and Asset Manager Portfolio Choices during Redemption Waves 7

Thiago Fauvrelle, Max Riedel, Mathias Skrutkowski *7*

Does ESG-Washing Reduce Information Asymmetry? 8

Meera Davi Chalissery, Aravind Sampath *8*

Financial literacy of Finance Students: Why are Women Lagging Behind? 8

Edina Berlinger, Barbara Dömötör, Krisztina Megyeri, György Walter *8*

Forecasting Agricultural Commodity Futures using ML Methods 8

Tilla Izsák, László Marák, Mihály Ormos *8*

Inflation Exposure and FOMC Monetary Policy Impact on Companies 9

Bogdan Stankovski, Florian Weinlich *9*

Market-Based Green Firms 9

Konrad Adler, Oliver Rehbein, Matthias Reiner, Jing Zeng *9*

Forecasting the WTI Crude Oil Volatility: a Pseudo Leverage Approach 9

László Kamocsai, Mihály Ormos *9*

More Data, More Credit? Information Sharing and Bank Credit to Households 10

Tamás Briglevics, Artashes Karapetyan, Steven Ongena, Ibolya Schindele *10*

Multiple Markets and Order-Splitting Strategies: Do Informed Traders Strategise Differently? 10

Anand Krishnan V K, Sony Thomas, SSS Kumar *10*

Optimal Trading with Regime Switching: Numerical and Analytic Techniques Applied to Valuing Storage in an Electricity Balancing Market 10

Paul Johnson, Dávid Zoltán Szabó, Peter Duck *10*

Quantifying Firm-Level Greenwashing: a Systematic Literature Review 11

Edina Berlinger, Judit Lilla Keresztúri, Ágnes Lublóy *11*

Return Trade-Offs between Environmental and Social Pillars of ESG Scores 11

Gergely Czupy, Igor Loncarski, Helena Naffa, Leyla Yusifzada *11*

Revisiting Financial Performance Attribution: The Role of Coalitions and Harsanyi Dividends 11

Carlo Acerbi, Péter Csóka, P. Jean-Jacques Herings *11*

Scope and Limits of Bank Liquidity Provision 12

Diemo Dietrich, Thomas Gehrig *12*

Short-Term Return Reversals and Underreaction to Industry Information 12

Miklos Farkas, Gabor Neszveda *12*

The Impact of Export Promotion on the Value of Exports 12

Szilárd Benk, Álmos Telegdy, Gábor Tóth *12*

The Long-Run Stock Market Performance of Mergers and Acquisitions 13

Sudheer Chava, Agoston Reguly *13*

TruPS, I Did it Again: The Impact of Fair Value Circuit Breakers on Banks' Impairment and Trading Decisions 13

Ferdinand Elfers, Igor Goncharov, Zoltán Novotny-Farkas *13*

Volatility Surfaces and Expected Option Returns 13

Philipp Höfler *13*

When Faced with Reality: How Extreme Weather Events Influence Banks' Lending 14

Matej Marinc, Domen Pavlic, Matjaz Volk *14*

FLASH TALKS 15

A Comprehensive Look on the Global Spillovers of US Monetary Policy: The Role of the "Fed Information effect" and Uncertainty 15

László Marcell Kiss, Milán Csaba Badics, Zoltán Madari *15*

Biodiversity Dependency and Pressure Assessment on Global Equities 15

Xinglin Li, Naffa Helena *15*

Can Investors Profit from Measuring Stock Liquidity with Ordered Fuzzy Numbers? 16

Adam Marszałek, Szymon Stereńczak *16*

Cheers to Enhanced Portfolio Performance: Wine as a Unique Asset Class 16

Mesias Alfeus, Anton Blignaut, Jean-Pierre Viljoen *16*

Consensus and Disagreement among ESG Ratings Agencies in China: The Role of Financial News before and after the Covid-19 Pandemic 16

Zsuzsa Réka Huszár, Judit Lilla Keresztúri, Jinlong Li *16*

Cryptocurrency Momentum: Is it There? Persistence and Predictability 17

Milán Csaba Badics, Sámuel Patyi *17*

GDP Influence on the ESG Risk Framework Disclosure of The Visegrad Four Banks 17

Gabriella Lamanda, Zsuzsanna T. Vőneki *17*

Green Firms are Less Risky: Results from a Preferential Capital Requirement Program in Emerging Europe 17

Bálint Várgedő *17*

How Do Family Tax Allowances in Central and Eastern European Countries Serve the UN's Poverty Reduction Sustainability Goals? 18

Erzsebet T. Varga *18*

Liquidity Measures for Cryptocurrency Markets: Traditional Estimators and Machine Learning Approaches 18

Barbara Będowska-Sójka, Aleksander Mercik *18*

Measuring Time-Varying Connectedness: A Bayesian Approach 18

Milán Csaba Badics, Sebestyén Kártyás *18*

Provisioning Activity of Corporations in the Different Regions of Hungary 19

Nikolett Sereg *19*

Systemic Risk Indicator based on Implied and Realized Volatility 19

Paweł Sakowski, Rafał Sieradzki, Robert Ślepaczuk *19*

The Behavior of Crude Oil Spot and Future Prices around Federal Open Market Committee Actions 20

Hunor Kelemen, László Kökény *20*

Volatility Managed Momentum Portfolios in Commodity Markets 20

Milán Csaba Badics, Zsombor Nagy *20*

Voting Power in the IMF's Board of Governors 20

Dóra Gréta Petróczy *20*

Keynote Speakers

Corporate Portfolio Management under Exchange Rate Uncertainty

Jonathan A. Batten, Harald Kinateder, Armin Pourkhanali, Peter G. Szilagyi

This paper examines the complexities of currency choice in international markets faced by value-maximising corporations with international asset portfolios, by evaluating the effects of market structure, transaction costs, and economic fundamentals on exchange rate dependencies. We focus on a dynamic portfolio approach to explain how these corporations' select currencies for international transactions amidst the instability of the currency covariance matrix and varying access to financial products. We consider anomalies in currency usage, such as the prominence of currencies from small economies (e.g., SWF and AUD). We introduce a novel Dynamic Vine Copula MIDAS model that dynamically updates portfolios based on four distinct financial sentiment indicators, including monetary policy and USD sentiment news, over the period 2000-2021. We analyse six key currencies (GBP, EUR, CHF, JPY, CAD, AUD) against the USD, adjusting portfolio weights in response to shocks indicated by sentiment data. Our results highlight the persistent dominance of the USD in the global currency market and clarify the strategic roles of smaller currencies often used in international trade. We find that improved covariance matrix forecasting enhances portfolio management strategies, aligning with current financial market structures. We also explore firms' hedging behaviours against currency risk and propose extending the Smith and Stulz (1985 JFQA) model to test managerial incentives in this context. This research provides significant insights into USD hegemony and the currency strategies of small economies, contributing to key policy discussions in international finance.

How do US Firms Respond to Labor Market Regulation Shocks around the World? Evidence from the Global Supply Chain

Xiaoxue Hu, Dongxu Li, Rose Liao, Angie Low, Carrie Pan

Exploiting 18 million freight shipment records, we show that U.S. firms increase import 6% more from countries that strengthen labor laws through mandatory workforce policy (MWP) regulations, especially from new suppliers. While firms importing from MWP countries experienced increasing operating costs, they also receive favorable employment-condition evaluations and have fewer negative social issues reported. Our results are consistent with firms responding to employee preferences: the import increase from MWP countries is more pronounced when firms are headquartered in Democratic states, and in industries with high employee bargaining power. Our results are robust to alternative channels and have important policy implications.

How to Save the World

Renée B. Adams

"Presumably tackling grand challenges requires informed policymaking. In this talk I draw on some of my recent research to critically examine key assumptions in the current policy debate around the importance of stakeholders. I propose that educating critical thinkers will be key to a better future."

On the Preparedness of Local Governments and Municipalities for Natural Disasters

Thomas Walker, David Ung, Moein Karami

Prior studies have examined the preparedness of corporations and financial institutions for natural disasters (NDs), but how well prepared are local governments and municipalities? Our study aims to address this question by performing a series of quantitative and qualitative analyses and devising a list of actionable recommendations to assess a region's ND exposure and its relative preparedness. We focus on Canada given its frequent exposure to a wide range of disasters including wildfires, floods, earthquakes, blizzards, and hurricanes. In a first step, we assess each province's average exposure to each disaster type over a period spanning 20+ years. Next, we hand-collect data on the natural disaster preparedness spending, emergency management plans, citizen awareness programs, and recovery reserves from the annual reports, budgets, and ESG reports of Canada's provinces and municipalities. We use the data to create an ND preparedness index that ranks each government based on its budget allocation, timeline, action plan, and educational initiatives. We then compare the ND preparedness index to the historical ND risk exposure of each location to identify preparedness gaps and to provide actionable recommendations on how to overcome them. Finally, using data on provincial and municipal bond yield spreads, we examine whether poorly prepared entities experience a larger yield spread increase than their prepared counterparts. Our results suggest considerable differences in the ND preparedness of Canadian provinces and municipalities which helps to explain differing yield spreads for their bonds around a disaster. Data gaps and inconsistent reporting complicated our analysis. Thus, we provide a detailed set of recommendations for how to improve and standardize governmental budget plans and disaster reporting. This will allow investors to better assess an entity's ND risks and preparedness going forward.

Pioneering Responsible Finance Research: The PBFJ Pre-Registration Initiative

Robert Faff

This plenary talk will highlight the groundbreaking pre-registration initiative launched by the Pacific-Basin Finance Journal (PBFJ), aimed at revolutionizing the research landscape in finance. The session will explore how this initiative fosters responsible science through three key pillars: credibility, relevance, and independence. Pre-registration shifts the traditional publication model by evaluating research proposals before data collection, ensuring that innovative ideas and strong methodologies are

prioritized over outcomes. This approach mitigates biases and aligns research with real-world financial challenges, making findings more impactful for both academia and industry. By attending, you will learn about the benefits of this bold, risk-taking initiative, including how it promotes rigorous, transparent, and actionable financial research. The session will also provide insights into PBFJ's four-phase pre-registration process, designed to support teams in producing high-quality research that addresses pressing issues in global finance.

Pricing Variance in a Model with Fire Sales

Albert J. Menkveld

A model with nontraded risk is proposed to solve two variance premium/VIX puzzles: Why do investors pay to hold variance risk, instead of earning a premium? And, why is this negative premium slow to decay after market crashes? Agents are identical in the first period, become heterogenous in the second period due to nontraded risk shocks, trade, and consume payoffs in the third. The model provides a novel perspective on the time series of VIX, S&P500 returns, and SPY trading. The long time series, 1993 through 2024, includes several crises. The model can generate the crisis patterns endogenously where elevated nontraded risk makes markets more inelastic.

Invited Speakers

Client-Sourced Liquidity in OTC Markets

Carole Comerton-Forde, Billy Ford, Simon Jurkatis, Thierry Foucault

In this paper we study the supply of liquidity by clients to dealers in over-the-counter markets. Building on Saar et al. (2022) where a dealer chooses to trade with a client on either a riskless agency basis (matching an incoming client with another client) or on a risky principal basis (utilizing its balance sheet), we introduce a third possibility where the dealer avoids balance sheet costs by rapidly turning around her inventory to trade with a liquidity supplying client. We show that the availability of liquidity supplying clients decreases average transaction costs as well as the markup charged to clients demanding immediacy. Clients supplying liquidity, on the other hand, are given discounts on their trades.

We confirm these implications empirically using granular corporate bond transaction data and highlight the overall importance of liquidity supplying clients. We find that bonds whose usual liquidity supplying clients were unable to provide liquidity during the March 2020 stress episode were sold at a 20 basis points surcharge compared to bonds whose client liquidity supply was readily available. Utilizing the client identities in our data we find that hedge funds play an important role in liquidity supply both in normal and stress times. We find that hedge funds have a higher tendency to act as liquidity suppliers and the typical price impact of fallen angels is completely reversed when their liquidity provision depended entirely on hedge funds prior to the downgrade. This compares to an increased price impact of 20 basis points for fallen angels whose previous liquidity supply relied on insurance companies.

Adding to the relationship literature in OTC markets we find that clients (particularly hedge funds) are rewarded with transaction cost discounts if they account for a larger share in liquidity provision to their dealers. This discount is uncorrelated and comparable in size to the overall relationship discount.

HFTs and Dealer Banks: Liquidity and Price Discovery in FX Trading

Wenqian Huan, Peter O'Neill, Angelo Ranaldo, Shihao Yu

By investigating dealer banks and high-frequency traders (HFTs) in foreign exchange markets, this study sheds light on the distinct yet complementary roles of "traditional" and "new" market makers in over-the-counter markets. Using message-level data, our findings reveal that these two types coexist by carrying out complementary roles. HFTs excel in processing public information, while dealers are skilled in managing private information. Specifically, HFTs provide resilient liquidity during market-wide volatility spikes, whereas dealer liquidity is robust in informational events such as scheduled macroeconomic announcements or policy regime changes. HFTs contribute to the majority of the information share through frequent quote updates, which incorporate public information. In contrast, dealers contribute to price discovery through trades that impound private information.

The Liquidity State-Dependence of Monetary Policy

Oliver Ashtari Tafti, Rodrigo Guimaraes, Gabor Pinter, Jean-Charles Wijnandts

We estimate a novel state-dependence in the transmission of monetary policy to long-term yields. The large reactions of long-term government bond yields to monetary policy shocks occur during periods of higher market liquidity, when arbitrageurs are better capitalized, with no significant transmission to long-term yields in periods of lower liquidity. The liquidity state-dependence persistently affects real yields, term premia and mortgage rates, deepening the puzzling non-neutrality of monetary policy previously documented. We show this is consistent with recent models with limits to arbitrage emphasising arbitrageur's capital as a state variable. In addition to publicly available data, we also exploit a unique, granular dataset which contains detailed information on secondary market transactions. Consistent with our baseline results using macro data, we find that arbitrage activity is significantly higher around FOMC meetings that occur during periods of higher market liquidity. Overall, our results underscore the importance of the financial health of key financial intermediaries that support market functioning for the effectiveness of monetary policy.

Who Owns Relationships?

Tommy lee, Konrad Lucke, Chaojun Wang

Employees mediate firm-to-firm linkages. These links could solely be a product of optimal decision making by firms or reflect idiosyncratic personal relationships of their employees. We quantify the value of interfirm links that are contingent on personal relationships. We document three facts using regulatory trade data on German government bonds. (1) The most valuable firm-to-firm links are the most concentrated at the trader level. Remarkably few traders mediate all transactions within each pair of firms with the largest dollar volumes. (2) When a trader exits, her employer loses 26% of dollar volume previously mediated by the exiter. Some 38% of employer-counterparty volume is lost if the exiter was the main mediator between the employer and the counterparty. (3) An affected counterparty reduces its total trade volume and shifts trades to other firms. On net, personal relationships crucially shape the networks of firms.

Speakers

(In)efficient Repo Markets

Tobias Dieler, Loriano Mancini, Norman Schuerhoff

Repo markets suffer from funding misallocations and funding runs. We develop a rollover risk model with collateral to show how repo trading and clearing mechanisms can resolve these inefficiencies. In over-the-counter markets, non-anonymous trading prevents asset liquidations but causes runs on low-quality borrowers. In central-counterparty markets, anonymous trading provides insurance against small funding shocks but causes inefficient asset liquidations for large funding shocks. The privately optimal market structure requires central clearing with a two-tiered guarantee fund to insure against both illiquidity and insolvency. Our findings inform the policy debate on funding crises and explain empirical patterns of collateral premia.

A Present Value Explanation of Interest Rates through Inflation Tax Avoidance

Max Gillman, Tamas Csabafi, Michal Kejak, Ceri Davies

This paper presents an explanation for real US interest rates from a monetary real business cycle model. Fluctuations from marginal utility fundamentals arise from optimal use of exchange credit as an alternative to money. This creates an effective inflation tax within the pricing kernel that requires expectations on how it might change. Solving forward the pricing kernel gives the present value of the real interest rate, estimated with a vector error-correction model. Robust results find a single cointegrating vector that includes leisure and a stable discount factor. Policy affects the magnitude of the discount factor and dynamic shocks around fundamentals.

Collateral Pledgeability and Asset Manager Portfolio Choices during Redemption Waves

Thiago Fauvrelle, Max Riedel, Mathias Skrutkowski

This paper studies whether Eurosystem collateral eligibility played a role in the portfolio choices of euro area asset managers during the “dash-for-cash” episode of 2020. We find These findings add nuance to previous studies of liquidity strains and price dislocations in the corporate bond market during the onset of the Covid-19 pandemic, indicating a greater willingness of dealers to increase their inventories of corporate bonds pledgeable with the ECB. Analysing the price impact of these portfolio choices, we also find evidence pointing to price pressure for both ECB-eligible and ineligible corporate bonds. Bonds that were held to a larger extent by investment funds in our sample experienced higher price pressure, although the impact was lower for ECB-eligible bonds. We also discuss broader implications for the related policy debate about how central banks could mitigate similar types of liquidity shocks.

Does ESG-Washing Reduce Information Asymmetry?

Meera Davi Chalissery, Aravind Sampath

Is ESG a "X" factor to generate returns? We look at the information asymmetry associated with the ESG ratings and the possible idiosyncratic returns for informed traders. We use a sample of 1248 NYSE-listed firms and document important findings. Using the dynamic probability of informed trading as a measure, we use a long panel and perform the Fama-Macbeth framework to study whether ESG and informed trading results in returns. We observe that ESG, although claimed as a shield in distress periods, also helps informed traders attain higher returns than uninformed traders. We also note that in times of market thinness and in times of high volatility, this information asymmetry results in firm-specific return variation.

Financial literacy of Finance Students: Why are Women Lagging Behind?

Edina Berlinger, Barbara Dömötör, Krisztina Megyeri, György Walter

We investigate the relation between gender and financial literacy, hypothesizing that the gender gap disappears due to a higher level of financial education. We analyze the survey data from 229 Hungarian undergraduate university students specializing in Finance. Although we could not detect any gender gap in financial attitudes and knowledge at a high level of financial education, women lag significantly behind men when it comes to taking action. This difference in behavior cannot be explained by a gender difference in aspiration or participation in a special talent management program. The three dimensions of financial literacy (knowledge, attitudes and behavior) are analyzed separately, controlling for personal background and choices. We propose that financial education should place particular emphasis on addressing the behavioral aspects of financial literacy through gender-sensitive personal finance education.

Forecasting Agricultural Commodity Futures using ML Methods

Tilla Izsák, László Marák, Mihály Ormos

Stock price prediction is a challenging field, and this complexity is further increased when forecasting commodity futures. Many studies are employing machine learning techniques and using various datasets. However, there is a gap in the integration of market, weather, and remote sensing data utilized in future forecasting. In response to these challenges, we introduce a methodology for constructing predictive models for agricultural commodity futures such as corn, wheat, soybeans, soybeans, and soybean oil. Our models are trained on diverse features, such as historical price data, historical weather data, and remote sensing data related to crop conditions and soil quality. The Seasonal Autoregressive Integrated Moving Average (SARIMA) model was used as a benchmark model, and the features mentioned above were trained using the Long Short-Term Memory Neural Networks model and the Least Squares Boosting Ensemble method for predicting the prices of essential agricultural commodities over medium and long periods. The research includes comparing the multivariate models using integrated datasets with the benchmark model and the simplified ML models. The findings indicate that the

combination of interdisciplinary variables can significantly enhance the accuracy of agricultural commodity futures price forecasting.

Inflation Exposure and FOMC Monetary Policy Impact on Companies

Bogdan Stankovski, Florian Weinlich

We investigate whether a stock price reaction to monetary policy announcements depends on the firm's inflation exposure. We establish a connection between a firm's response to inflation shocks and its subsequent reaction to unexpected changes in interest rates by the Federal Open Market Committee (FOMC). We discover that the reaction to FOMC surprises, based on a firm's inflation exposure, is state-dependent and plays an important role in crisis periods. Our results highlight the importance of the inflation exposure channel for the stock price reaction to monetary policy announcements at the firm level.

Market-Based Green Firms

Konrad Adler, Oliver Rehbein, Matthias Reiner, Jing Zeng

This paper proposes a simple but effective tool to evaluate the climate risk of firms: the market. We first develop a model showing that, under mild assumptions, abnormal stock returns around significant climate news events measure a firm's exposure to climate risk. We then calculate equity market reactions of around 36,000 international firms around the announcement of the Paris Climate Agreement and score firms' greenness according to their abnormal returns. The resulting measure makes intuitive predictions about sectors and countries exposed to higher climate risks, is correlated with present and future carbon emissions and provides additional information to other existing measures (Sautner et al., 2023; Li et al., 2024).

Forecasting the WTI Crude Oil Volatility: a Pseudo Leverage Approach

László Kamocsai, Mihály Ormos

We propose a new class of heterogeneous autoregressive model, the pseudo leverage HAR model, which exploits the well-known asymmetry in return-volatility relationship to improve the forecasting performance. By presuming the interconnectedness among the commodity markets and individual commodities, the return that affects the level of the expected volatility can be decomposed into common and individual components, derived by principal component regression. Applying the new model for the WTI crude oil, we report minor improvement for in-sample estimates, but significant in the case of out-of-sample forecasts compared to the other models in our set. We also highlight the forecasting accuracy of both leverage models converges to the genuine HAR model performance as the forecasting horizon increases. The robustness tests corroborate the goodness of the proposed pseudo leverage model, moreover, we show that the change of the leverage structure or the volatility proxy does not affect the ranking of the best-performing models.

More Data, More Credit? Information Sharing and Bank Credit to Households

Tamás Briglevics, Artashes Karapetyan, Steven Ongena, Ibolya Schindele

We exploit a nationwide introduction of mandatory disclosure of borrowers' total credit exposures and show that sharing such information increases credit access independent of borrowers' history. Differentiating between borrowers applying to competitor banks and those reapplying to their current banks, as well as between borrowers with and without default history, we find an overall increase in credit access measured by both loan application acceptance and credit amount. While credit access increases, default rates decrease, generating an increase in aggregate welfare.

Multiple Markets and Order-Splitting Strategies: Do Informed Traders Strategise Differently?

Anand Krishnan V K, Sony Thomas, SSS Kumar

Using high-frequency microstructural data from four of the major Asian markets, we study whether informed traders use order-splitting strategies to camouflage their private information while trading in index futures listed in multiple exchanges. While studying India, Japan, Taiwan, China and Singapore Exchanges, we find that informed traders employ different trading strategies to exploit their informational advantage in domestic and international exchanges. Our results show that given the short-lived nature of informational advantage in an index future, informed traders will split their order only in those exchanges where they face higher competition from other informed traders and use medium and large trades in the other exchange to maximise their profits. In India, Taiwan and China, informed traders use smaller trades in SGX and medium and large trades in domestic exchange, while the opposite is true in the Japanese market.

Optimal Trading with Regime Switching: Numerical and Analytic Techniques Applied to Valuing Storage in an Electricity Balancing Market

Paul Johnson, Dávid Zoltán Szabó, Peter Duck

Accurately valuing storage in the electricity market recognizes its role in enhancing grid flexibility, integrating renewable energy, managing peak loads, providing ancillary services and improving market efficiency. In this paper we outline an optimal trading problem for an Energy Storage Device trading on the electricity balancing (or regulating) market. To capture the features of the balancing (or regulating) market price we combine stochastic differential equations with Markov regime switching to create a novel model, and outline how this can be calibrated to real market data available from NordPool. By modelling a battery that can be filled or emptied instantaneously, this simplifying assumption allows us to generate numerical and quasi analytic solutions. We implement a case study to investigate the behaviour of the optimal strategy, how it is affected by price and underlying model parameters. Using numerical (finite-difference) techniques to solve the dynamic programming problem, we can estimate the value of operating an Energy Storage Device in the market given fixed costs to charge or discharge. Finally we use properties of the numerical solution

Quantifying Firm-Level Greenwashing: a Systematic Literature Review

Edina Berlinger, Judit Lilla Keresztúri, Ágnes Lublóy

In this systematic methodological literature review, we provide an overview, a typology, and a critical analysis of firm-level greenwashing measures used in the empirical literature. 106 eligible studies were incorporated in this review. The high number of recently published studies in the field signal that in addition to conceptualizing greenwashing, lately there has been significant advancement in its operationalization. In the majority of cases, researchers adopt a broader perspective, with the greenwashing measure covering environmental, social, and corporate governance dimensions as well. Greenwashing measures tend to focus on two aspects of the multifaceted phenomenon: selective disclosure and decoupling. At present, measures of decoupling are more widely used than the measures of selective disclosure. Decoupling measures capture symbolic and substantive corporate actions using diverse data. Typically, the ESG disclosure score, selected ESG data points, or the content of corporate releases are used for evaluating corporate communication, while ESG ratings and selected environmental actions or performance measures are used for assessing corporate actions. Most greenwashing measures are hypothetical; researchers develop a measure which suggests possible greenwashing incidents. Although greenwashing measures based on actual incidents are scant, it might be a promising new research direction, especially when supported by artificial intelligence.

Return Trade-Offs between Environmental and Social Pillars of ESG Scores

Gergely Czupy, Igor Loncarski, Helena Naffa, Leyla Yusifzada

We explore the trade-off between environmental and social factors and find that public markets signal the same level of importance of the environmental and social pillars. We demonstrate zero realised excess returns of the environmental pillar leader stocks over the social pillar laggards. We also have a novel finding of zero excess return of the social pillar leaders over social pillar laggards. Furthermore, the market does not differentiate the companies trading off one pillar of sustainability to the other.

Revisiting Financial Performance Attribution: The Role of Coalitions and Harsanyi Dividends

Carlo Acerbi, Péter Csóka, P. Jean-Jacques Herings

Financial performance attribution is a method used to analyze and explain the sources of a portfolio's returns, particularly by comparing its performance to a benchmark. The aim is to break down the difference between the portfolio's return and the benchmark's return (referred to as the active return) and attribute that difference to specific factors, such as asset allocation, security selection, and their interaction. Standard frameworks for performance attribution include the Brinson-Fachler and Brinson-Hood-Beebower models. In this paper, we review and generalize these frameworks using a cooperative game theory perspective. Unlike the traditional game theory approach, where total value is allocated to individuals, capturing interaction effects requires allocating total value to

coalitions. Specifically, we argue that the axiomatic approach, along with widely accepted industry standards point towards using Harsanyi dividends for performance attribution.

Scope and Limits of Bank Liquidity Provision

Diemo Dietrich, Thomas Gehrig

In standard banking models a preference for liquidity arises because investors want to take precautions against sudden expenditure needs. It has long been taken for granted that banks' maturity transformation is because they insure against such expenditure needs, exposing them to crises and justifying bank regulation. We show that if a preference for liquidity arises additionally for another important reason, their co-existence substantially alters equilibrium outcomes. Specifically, we introduce investors who want to preserve flexibility in case better investment opportunities arrive later. We show that 1) maturity transformation does not emerge without further frictions, 2) equilibria in models that consider only a single reason for liquidity preferences are not necessarily robust, 3) an equilibrium in pure strategies in the depositing game may not exist at all.

Short-Term Return Reversals and Underreaction to Industry Information

Miklos Farkas, Gabor Neszveda

We present a model featuring industry lead-lag effects in which some stocks underreact to industry information. This single friction generates both industry momentum and short-term reversals. Industry momentum is a direct implication of some stocks being slower than others when pricing industry information. However, short-term reversals emerge as underreacting stocks systematically cluster in the return distribution, i.e., they cluster in the left tail after good industry news and in the right tail after bad news. We use the model to motivate a novel return-based proxy for identifying stocks that underreact to industry information (who we label Laggards) and those that do not (who we label Leaders). Our empirical results confirm the model's predictions: long-short strategies trading Laggards doubles the profitability of industry momentum and short-term reversal strategies, while implementing these strategies on Leader stocks is typically not profitable.

The Impact of Export Promotion on the Value of Exports

Szilárd Benk, Álmos Telegdy, Gábor Tóth

We study the exporting loans provided by Eximbank Hungary between 1996-2019. Using the universe of working capital loans provided at subsidized interest rates and with guarantees for firms having an exporting contract, we analyze their impact on exports and domestic sales. We combine panel data methods with matching to decrease the bias arising from self-selection problems. In addition, we compare firms that received multiple loans with those that received only one. We find that export promotion increases the value of exports by 36% and export share by 5 percentage points. Sales of subsidized firms increased by 23%. Multiple subsidies work better compared to a single credit, and

larger credit intensity also results in a larger effect. The effects are stronger for firms operating in industrial sectors.

The Long-Run Stock Market Performance of Mergers and Acquisitions

Sudheer Chava, Agoston Reguly

We investigate the long-run stock market performance of acquirer firms using a modified staggered synthetic control approach. Our methodology matches on multiple acquirer characteristics before mergers and acquisitions (M&As), with weights optimized to balance differences during pre-M&A time periods. Based on post-merger excess returns over three years, we find that, on average, M&As are neither value adding nor value destroying. Our heterogeneity analysis based on merger characteristics finds that larger acquirers tend to have higher three-year returns. Our methodology has applications for other long-run corporate event studies.

TruPS, I Did it Again: The Impact of Fair Value Circuit Breakers on Banks' Impairment and Trading Decisions

Ferdinand Elfers, Igor Goncharov, Zoltán Novotny-Farkas

Fair value circuit breakers designed to suspend the application of fair value accounting during adverse market conditions can distort banks' impairment and trading decisions. Collateralized debt obligations backed by financial institutions' trust preferred securities (TruPS CDOs) provide a laboratory to explore this link. We observe that following the Global Financial Crisis, fair value circuit breakers allowed banks to avoid impairments and incentivized them to delay disposals of these distressed assets. An unexpected amendment to the Volcker Rule that, in expectation, required write-downs to fair values triggered immediate divestments of TruPS CDOs. However, the propensity to divest was significantly lower in banks that had delayed impairments prior to the Volcker Rule amendment. Our results suggest that a suspension of fair value accounting can delay corrective action and protract the effects of financial crises by creating distorted incentives to hold on to distressed assets.

Volatility Surfaces and Expected Option Returns

Philipp Höfler

This paper applies deep learning techniques to uncover novel return predictability in the cross-section of delta-hedged equity options. I demonstrate sizable profits in long-short option portfolios using a Convolutional Neural Network (CNN) which automatically extracts relevant patterns from the implied volatility surface. Portfolio returns remain statistically and economically significant even after accounting for transaction costs. The CNN subsumes some commonly used predictors and cannot be fully explained by option-based characteristics. I further show that the CNN generates abnormal returns compared to a latent factor model that is based on a broad range of option and stock characteristics. Finally, I provide evidence that the model can also be used to predict returns of alternative option positions such as straddles.

When Faced with Reality: How Extreme Weather Events Influence Banks' Lending

Matej Marinc, Domen Pavlic, Matjaz Volk

We utilise the precise geographical location of firms to investigate how extreme-weather-related natural disasters influence the borrowing terms of companies, which are directly exposed to climate change risks. Focusing on the devastating floods that occurred in Slovenia in August 2023, we examine the changes in borrowing terms of companies that are located in exposed areas but were not directly affected by the natural disaster. Our findings indicate that, following a large-scale natural disaster, banks start considering the varying risk levels of firm locations. This is reflected in higher interest rate spreads and restricted loan supply for firms in high-risk areas. Additionally, our results demonstrate that the adverse impact on lending terms can be mitigated by a well-established relationship with a bank.

Flash Talks

A Comprehensive Look on the Global Spillovers of US Monetary Policy: The Role of the "Fed Information effect" and Uncertainty

László Marcell Kiss, Milán Csaba Badics, Zoltán Madari

Recent advancements in the literature of international monetary policy spillovers emphasized the role of central bank information effects and monetary policy uncertainty in driving global asset prices around FOMC announcements. This study conducts a comprehensive analysis of global spillover effects using a wide and long panel of FOMC announcements and asset prices responses. We find that the level of monetary policy uncertainty determines how policy shocks spill over on a global scale, especially in advanced countries and through term premia. We show that the Fed information effect is a prominent factor in global spillovers. An interest rate hike associated with the Fed being optimistic about economic fundamentals has expansionary effects on global risk-taking and equity prices, and an information-type hike does not translate into higher long-term bond yields in emerging economies. We find that countries with more financial depth are associated with larger information spillovers to long-term yields, and larger spillovers are present in countries with fixed exchange rate regimes. Our study calls attention to the importance of controlling for information effects and uncertainty in event-study regressions to achieve a better understanding on why international spillovers occur.

Biodiversity Dependency and Pressure Assessment on Global Equities

Xinglin Li, Naffa Helena

Biodiversity loss is accelerated at an alarming rate due to humane activities; this deterioration has implication not only on environment but also the economies. While investors are slow to respond to the potential biodiversity risk for companies in investment portfolio. In light of this context and recent development of biodiversity assessment database, there are two questions being asked to frame this research: First, what is biodiversity dependency and pressure level for global equities; Second, how much investors' investment is exposed to the potential risks caused by business dependency and pressure on nature. To answer these two questions, biodiversity dependency and pressure assessment is conducted on sub industry level for constituents in MSCI All Country World Index (MSCI ACWI). The assessment methodology follows latest version of Encore knowledge base. The results show that 19.41 cents of 1 dollar investment in MSCI ACWI are exposed to risk from companies which are high dependent on ecosystem services; 35 cents of 1 dollar investment leads to risks posed by business with high pressure on nature. It is also found that sub industry level's biodiversity dependency and pressure are positively correlated. This is the first study of Encore dependency and pressure assessment on global equities and its related monetary value. Policy makers, portfolio manager and investors can use this analysis result to initially screen firms which are in relation to biodiversity issues and reassess firms' risk by incorporating biodiversity factors.

Can Investors Profit from Measuring Stock Liquidity with Ordered Fuzzy Numbers?

Adam Marszałek, Szymon Stereńczak

In this paper, we aim to analyse whether measuring stock liquidity based on ordered fuzzy numbers representation of a limit order book allows investors to create a profitable investment strategy. To this end, we investigate the data from 259 companies listed in the Warsaw Stock Exchange in the period from January 2014 to December 2021. We apply several methods commonly used in asset pricing studies to retrieve our baseline results and supplement them with a battery of robustness checks. Our strategy that utilises a liquidity measure based on ordered fuzzy numbers generates a weekly return of 0.184% (0.199%) for equal- (value-) weighted portfolios, which accounts for an annual return of 9.568% (10.348%), significant at 0.1 level. This return remains positive after adjusting for risk and taking trading costs and short-sales constraints into account. The strategy outperforms and generates several times higher Sharpe ratio than the market buy-and-hold strategy. These findings are extremely useful for portfolio managers as they may improve their investment strategies.

Cheers to Enhanced Portfolio Performance: Wine as a Unique Asset Class

Mesias Alfeus, Anton Blignaut, Jean-Pierre Viljoen

This study has two main goals: first, to construct a new South African Fine Wine (SAFW10) index using a repeat-sales regression methodology (Bailey et al., 1963) based on top 10 wines that confirm high-quality, liquidity and highly desirable asset. Second, it examines the effects of adding this new wine index to a broader investment portfolio. Our analysis reveals that including South African wine assets can improve portfolio growth rates and diversification in line with the literature of wine investment (Masset and Henderson, 2010; Sanning et al., 2008). This study is the first attempt to develop a wine index in the South African market, adding a valuable option to the financial instruments available to investors in developing markets

Consensus and Disagreement among ESG Ratings Agencies in China: The Role of Financial News before and after the Covid-19 Pandemic

Zsuzsa Réka Huszár, Judit Lilla Keresztúri, Jinlong Li

This study examines the environmental, social, and governance (ESG) ratings dispersion in China from 2009 to 2022, including the Covid-19 pandemic period. We adopt Berg, Kolbel, and Rigobon (2022) ESG disagreement work from developed market setting, to emerging market setting where information access and quality may be limited. Specifically, we analyze ESG rating disagreement across global and Chinese rating companies in connection with financial news coverage. We show that the key determinant of the disagreement is the number of rating firms, and surprisingly Big4 auditor firms' presence has no mitigating effect. Focusing on public financial news data, we do find that news coverage, especially headline news and neutral news, is associated with lower rating disagreement. The clear information asymmetry reduction benefit of the news is

stronger after the onset of the Covid-19 pandemic where information dissemination and in person access to information have been hindered by the pandemic restrictions.

Cryptocurrency Momentum: Is it There? Persistence and Predictability

Milán Csaba Badics, Sámuel Patyi

This study seeks to examine the enduring nature of cryptocurrency momentum and the capacity to forecast its profitability. In light of the distinguishing findings in the existing literature, this study thoroughly investigates the momentum anomaly. The findings of this paper demonstrate that the cryptocurrency momentum effect exists and is persistent, as indicated by the momentum portfolio's average weekly return of 2.60%. Enhancing this strategy conditional on the momentum gap—the difference between the returns of past winners and past losers in the formation period—as proposed by Huang (2022), increases the Sharpe ratio of the momentum strategy by nearly 9%, to 1.41. This strategy's superior performance remains robust across different time periods and for alternative portfolio constructions.

GDP Influence on the ESG Risk Framework Disclosure of The Visegrad Four Banks

Gabriella Lamanda, Zsuzsanna T. Vőneki

The purpose of this paper is to investigate the relationship between the ESG risk management framework disclosure and GDP. We examined annual risk and sustainability reports published by 26 banks in the Visegrád Four countries (Czech Republic, Hungary, Poland, and Slovakia) during the period of 2017-2021. We applied content analysis and developed the ESG Framework Disclosure index (FD) to provide a comprehensive overview on how banks are committed to the integration of ESG aspects into their risk management system. Panel regression was performed to improve and ensure the robustness of our study. We found that our index is positively and significantly influenced by GDP per capita, as well as by bank size. Despite the central risk management guidelines of large banking groups, the development of risk management systems and risk awareness of banks operating in different countries can significantly vary. This highlights the importance of the role played by local regulatory authorities.

Green Firms are Less Risky: Results from a Preferential Capital Requirement Program in Emerging Europe

Bálint Várgedő

This paper assesses the credit risk of sustainable loans in a preferential capital requirement program. We exploit loan-level data from a unique implemented program from Hungary using logistic regressions and survival analysis techniques. We find significantly lower risk for firms with renewable energy and electromo-bility loans, even after controlling for all relevant factors. These results are economically significant and robust for modelling choices, different identification of green firms and default definition

too. We show that green loans' lower probability of default can imply a discount of several percentage points in capital re-quirements.

How Do Family Tax Allowances in Central and Eastern European Countries Serve the UN's Poverty Reduction Sustainability Goals?

Erzsebet T. Varga

The 2030 Agenda, adopted by the United Nations in 2015, sets out 17 Sustainable Development Goals (SDGs), the first is 'End poverty in all its forms everywhere' and the 10th is 'Reduce inequality within and among countries'. Family tax credits can be one means of reducing income inequality. The study attempts to establish whether and how family tax credits have been effective in reducing poverty in the Visegrad countries. The similar historical and cultural background of the Visegrad countries makes them well suited for comparing government policies. I examine single-parent and two-earner households separately. Country-specific models show that tax allowances have an impact on the poverty rate, but not always in the right direction. When the models are augmented with a trend variable, only Czech two-earner families show a poverty-reducing effect of family tax credits. In the fixed-effect regression model, however, we see a significant effect for two-earner and two-child families in all four countries, while no effect is observed for single-parent families.

Liquidity Measures for Cryptocurrency Markets: Traditional Estimators and Machine Learning Approaches

Barbara Będowska-Sójka, Aleksander Mercik

This study aims to provide an analysis of liquidity across a wide range of cryptocurrencies, going beyond well-known assets like Bitcoin and Ethereum to include smaller capitalization and less liquid cryptocurrencies. We examine and compare different methods for estimating liquidity and spread. Traditional liquidity measures, such as those proposed by Corwin & Schultz (2012) and Abdi & Ranaldo (2017), are evaluated alongside machine learning techniques. We use high-frequency data to compute benchmark liquidity measures, which serve as the basis for assessing the accuracy of both traditional and machine-learning estimators. In addition, we examine the robustness of these measures during periods of higher market volatility.

Measuring Time-Varying Connectedness: A Bayesian Approach

Milán Csaba Badics, Sebestyén Kártyás

Interconnectedness and structural changes. Among the many lessons that the Global Financial Crisis has taught us, these two might be the most crucial concepts for financial modelling. We propose a framework to simultaneously incorporate the two concepts to estimate the change of connectedness due to structural breaks in a network. We introduce a time varying parameter vector autoregression with stochastic volatility (TVP-VAR-SV) estimation method, to capture the dynamic nature of financial relationships, into the Diebold-Yilmaz spillover framework, that is widely used to measure connectedness

within and across different levels of markets. We also examine the estimating efficiency of two different prior specifications (horseshoe and inverse gamma priors) across three Monte Carlo simulations. First, to analyze the properties of the priors, a univariate model is simulated with breaks in the parameters and the stochastic volatility process too. Then we analyze the model fitting properties of the two prior specifications on a bivariate VAR model. Finally, we apply the Diebold-Yilmaz framework on the bivariate time series, which would allow us to assess the accuracy of the estimation of networks. We find that the accuracy-patterns in the network estimation are similar to the case where we estimate the underlying TVP-VAR-SV model.

Provisioning Activity of Corporations in the Different Regions of Hungary

Nikolett Sereg

The study aims primarily to explore knowledge that might be needed to develop preconditions and practical tools for making corporate sustainability more straightforward. This research focuses on the provisioning activity of Hungarian companies at the regional level. According to Hungary's current accounting legislation, companies are required to set aside provisions for environmental liabilities and have the opportunity to set aside provisions for future environmental costs. Corporations must present such information in their open-access report annually, which gives us a genuinely optimistic but viable way to explore a part of the corporations' environmental-related activities. We are examining Hungarian corporations' willingness to set provisions and whether some corporate-related characteristics influence this will. We can conclude that nearly 60% of all provisioning companies operate in the region of Central Hungary. Companies that prepare annual accounts have far more provisions in volume than companies that prepare simplified annual reports or micro-enterprise simplified annual reports. Furthermore, the probability of provisioning increases with the company size. Thus, to further sustainability on the level of corporations, it would be expedient to encourage and control groups of companies that are less at the forefront in provisioning.

Systemic Risk Indicator based on Implied and Realized Volatility

Paweł Sakowski, Rafał Sieradzki, Robert Ślepaczuk

We propose a new measure of systemic risk to analyze the impact of the major financial market turmoils in the stock markets from 2000 to 2023 in the USA, Europe, Brazil, and Japan. Our Implied Volatility Realized Volatility Systemic Risk Indicator (IVRVSRI) shows that the reaction of stock markets varies across different geographical locations and the persistence of the shocks depends on the historical volatility and long-term average volatility level in a given market. The methodology applied is based on the logic that the simpler is always better than the more complex if it leads to the same results. Such an approach significantly limits model risk and substantially decreases computational burden. Robustness checks show that IVRVSRI is a precise and valid measure of the current systemic risk in the stock markets. Moreover, it can be used for other types of assets and high-frequency data. The forecasting ability of various SRIs (including CATFIN, CISS, Cleveland FED, IVRVSRI, and SRISK) with regard to weekly returns of S&P500 index is evaluated based on the simple linear, quasi-quantile,

and quantile regressions. We show that IVRVSRI has the strongest predicting power among them.

The Behavior of Crude Oil Spot and Future Prices around Federal Open Market Committee Actions

Hunor Kelemen, László Kökény

The paper examines the impact of the interest rate decision meetings of the Federal Reserve (FED), which acts as the central bank of the United States, on crude oil prices using an event study methodological approach. Changes in the FED's interest rate policy have significant implications for global financial markets, including the oil market. The paper analyzes the abnormal returns in WTI and Brent crude oils spot and futures markets around FED interest rate decision meetings between 1990 and 2023. The results indicate that, on average, interest rate hikes and cuts do not result in significant effects, though the magnitude of these effects varied depending on the circumstances and the type of oil. Interest rate cuts, however, had a larger impact on both the futures and spot markets. Overall, the informational content of the interest rate decisions was priced in by the market in advance, resulting in no significant abnormal returns in either the spot or futures markets

Volatility Managed Momentum Portfolios in Commodity Markets

Milán Csaba Badics, Zsombor Nagy

The momentum strategies perform well across asset classes however, the stellar performance of momentum trading comes with periodic crashes that wipe out the accumulated returns. Based on previous works on the topic, I compare three volatility-scaled strategies in the US commodity futures market, namely the constant volatility scaled, the dynamic volatility scaled, and my enhanced dynamic volatility scaled momentum strategies. The implementation of the scalings enhances the returns of the portfolios and also reduces the skewness of the return distribution. A deeper examination reveals that the characteristics of the crashes are different from the ones usually experienced in equity markets. In commodity markets, the crashes tend to happen more frequently but they are smaller in absolute terms hence implementing risk management into portfolios achieves better results on a longer time horizon.

Voting Power in the IMF's Board of Governors

Dóra Gréta Petróczy

The Internal Monetary Fund (IMF) is one of the most important international organisations that use a weighted voting system. The voting weights in its Board of Governors depend on the quotas of the member countries, which reflect their economic strengths to some extent. We analyse the connection between the decision threshold and the a priori voting power of the countries by calculating the Banzhaf indices for each threshold between 50% and 87%. The difference between the quotas and the voting powers is minimised if the decision threshold is 59%.

15th Annual Financial Market Liquidity Conference

14th – 15th November 2023

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See you in 2025 at the 16th AFML Conference!