

# Finance Down Under 2022



## Welcome to Finance Down Under (FDU) 2022

The Department of Finance and the Faculty of Business and Economics at the University of Melbourne welcomes everyone to the annual Finance Down Under Conference.

This year we have selected 21 high-quality papers from more than 230 submissions. The accepted papers cover a wide range of areas, including Asset Pricing, Banking, Behavioural Finance, Corporate Finance, Market Microstructure and Mutual Funds, and received high ratings from a 101-member program committee.

We are honoured to have Professor Sergio Rebelo, and Professor Xavier Gabaix contribute to our event as keynote speakers on the themes of Crises, Disasters, and Risk Management.

**FINANCE DOWN UNDER 2022**  
**Building on the Best from the Cellars of Finance**

**PROGRAM SUMMARY**

**Friday, March 4, 2022**

8:55am – 9:00am AEDT

*Opening Remarks:* Federico Nardari, The University of Melbourne

9:00am – 10:15am AEDT

*Parallel Sessions I:*

Asset Pricing I

Corporate Finance I

Behavioural Finance

10:30am – 11:30am AEDT

*Keynote Speech:* Sergio Rebelo, Northwestern University

11:45am – 1:00pm AEDT

*Parallel Sessions II:*

Asset Pricing II

Corporate Finance II

Microstructure

1:15pm – 2:30pm AEDT

*Parallel Sessions III:*

Banking

Corporate Finance III

Mutual Funds

**Saturday, March 5, 2022**

9:30am – 10:30am AEDT

*Keynote Speech:* Xavier Gabaix, Harvard University

10:45am – 12:30pm AEDT

*Plenary Session*

12:30pm – 12:45pm AEDT

*Concluding Remarks*

## CONFERENCE SESSIONS AT A GLANCE

Parallel Sessions I	Asset Pricing I	Corporate Finance I	Behavioural Finance
March 4, 9:00am – 10:15am AEDT	Factor Demand and Factor Returns  Exploring Risk Premia, Pricing Kernels, and No- Arbitrage Restrictions in Option Pricing Models	The Determinants of ESG Ratings: Rater Ownership Matters  Bargaining with Private Equity: Implications for Hospital Prices and Patient Welfare	Should Retail Investors Listen to Social Media Analysts? Evidence from Text-Implied Beliefs  Retail Derivatives and Sentiment: A Sentiment Measure Constructed from Issuances of Retail Structured Equity Products
March 4, 10:30am – 11:30am AEDT <b>Keynote Speech</b>			
Parallel Sessions II	Asset Pricing II	Corporate Finance II	Microstructure
March 4, 11:45am – 1:00 pm AEDT	The Bond, Equity, and Real Estate Term Structures  The Risks of Safe Assets	Depositing Corporate Payout  Political Attitudes, Partisanship, and Merger Activity	Increasing Corporate Bond Liquidity Premium and Post-Crisis Regulations  Coexisting Exchange Platforms: Limit Order Books and Automated Market Makers
Parallel Sessions III	Banking	Corporate Finance III	Mutual Funds
March 4, 1:15pm – 2:30pm AEDT	Rise of the Machines: The Impact of Automated Underwriting  Banking on Carbon: Corporate Lending and Cap-and-Trade Policy	CEO Pet Projects  Smokestacks and the Swamp	Activism, Stock Selection, and Indexing in Equilibrium  Capital Allocation and the Market for Mutual Funds: Inspecting the Mechanism
March 5, 9:30am – 10:30am AEDT <b>Keynote Speech</b>			
	<b>Plenary Session</b>		
March 5, 10:45am – 12:30pm AEDT	Disagreement and Control Rights: Implications for Debt Policy and Aggregate Dynamics  Nature as a Defense from Disasters: Natural Capital and Municipal Bond Yields  Tax Evasion and Managerial Incentives: Evidence from the FATCA and Offshore Mutual Funds		

## PROGRAM DETAILS

Friday, March 4, 2022, 9:00am – 10:15am AEDT

### Asset Pricing I

Session Chair: Patrick Kelly, *The University of Melbourne*

#### **Factor Demand and Factor Returns**

Cameron Peng, *London School of Economics and Political Science*

Chen Wang, *University of Notre Dame*

#### **Exploring Risk Premia, Pricing Kernels, and No-Arbitrage Restrictions in Option Pricing Models**

Steven Heston, *University of Maryland*

Kris Jacobs, *University of Houston*

Hyung Joo Kim, *University of Houston*

Discussants:

Yang Song, *University of Washington*

Mikhail Chernov, *University of California, Los Angeles*

### Corporate Finance I

Session Chair: Ekaterina Volkova, *The University of Melbourne*

#### **The Determinants of ESG Ratings: Rater Ownership Matters**

Dragon Yongjun Tang, *The University of Hong Kong*

Jiali Yan, *University of Liverpool*

Chelsea Yaqiong Yao, *Lancaster University*

#### **Bargaining with Private Equity: Implications for Hospital Prices and Patient Welfare**

Tong Liu, *University of Pennsylvania*

Discussants:

Laura Starks, *The University of Texas at Austin*

Mitch Towner, *The University of Arizona*

### Behavioural Finance

Session Chair: Andrea Lu, *The University of Melbourne*

#### **Should Retail Investors Listen to Social Media Analysts? Evidence from Text-Implied Beliefs**

Chukwuma Dim, *Frankfurt School of Finance and Management*

#### **Retail Derivatives and Sentiment: A Sentiment Measure Constructed from Issuances of Retail Structured Equity Products**

Brian Henderson, *George Washington University*

Neil Pearson, *University of Illinois Urbana-Champaign and Canadian Derivatives Institute*

Li Wang, *Case Western Reserve University*

Discussants:

Tony Cookson, *University of Colorado Boulder*

Chen Xue, *University of Cincinnati*

**Friday, March 4, 2022, 11:45am – 1:00pm AEDT**

## **Asset Pricing II**

Session Chair: Joachim Inkmann, *The University of Melbourne*

### **The Bond, Equity, and Real Estate Term Structures**

Spencer Andrews, *The University of North Carolina*

Andrei Gonçalves, *The University of North Carolina*

### **The Risks of Safe Assets**

Yang Liu, *The University of Hong Kong*

Lukas Schmid, *University of Southern California*

Amir Yaron, *University of Pennsylvania*

Discussants:

Shane Miller, *University of Michigan*

François Gourio, *Federal Reserve Bank of Chicago*

## **Corporate Finance II**

Session Chair: Henny Jung, *The University of Melbourne*

### **Depositing Corporate Payout**

Leming Lin, *University of Pittsburgh*

### **Political Attitudes, Partisanship, and Merger Activity**

Ran Duchin, *Boston College*

Abed El Karim Farroukh, *University of Washington*

Jarrad Harford, *University of Washington*

Tarun Patel, *Southern Methodist University*

Discussants:

Ron Masulis, *University of New South Wales*

Jason Zein, *University of New South Wales*

## **Microstructure**

Session Chair: Carole Comerton-Forde, *The University of Melbourne*

### **Increasing Corporate Bond Liquidity Premium and Post-Crisis Regulations**

Botao Wu, *New York University*

### **Coexisting Exchange Platforms: Limit Order Books and Automated Market Makers**

Jun Aoyagi, *The Hong Kong University of Science and Technology*

Yuki Ito, *University of California, Berkeley*

Discussants:

Hank Bessembinder, *Arizona State University*

Alfred Lehar, *University of Calgary*

**Friday, March 4, 2022, 1:15pm – 2:30pm AEDT**

## **Banking**

Session Chair: Bryan Lim, *The University of Melbourne*

### **Rise of the Machines: The Impact of Automated Underwriting**

Mark Jansen, *The University of Utah*

Hieu Nguyen, *The University of Utah*

[Amin Shams](#), *The Ohio State University*

### **Banking on Carbon: Corporate Lending and Cap-and-Trade Policy**

Ivan Ivanov, *Federal Reserve Board*

[Mathias Kruttli](#), *Federal Reserve Board*

Sumudu Watugala, *Cornell University*

Discussants:

Kristle Cortés, *University of New South Wales*

Phong Ngo, *Australian National University*

## **Corporate Finance III**

Session Chair: André Gygax, *The University of Melbourne*

### **CEO Pet Projects**

Paul Décaire, *Arizona State University*

[Denis Sosyura](#), *Arizona State University*

### **Smokestacks and the Swamp**

Emilio Bisetti, *The Hong Kong University of Science and Technology*

Stefan Lewellen, *Pennsylvania State University*

[Arkodipta Sarkar](#), *The Hong Kong University of Science and Technology*

Xiao Zhao, *The Hong Kong University of Science and Technology*

Discussants:

Cesare Fracassi, *The University of Texas at Austin*

Ilona Babenko, *Arizona State University*

## **Mutual Funds**

Session Chair: Minsoo Kim, *The University of Melbourne*

### **Activism, Stock Selection, and Indexing in Equilibrium**

Steven Baker, *University of Virginia*

David Chapman, *University of Virginia*

[Michael Gallmeyer](#), *University of Virginia*

### **Capital Allocation and the Market for Mutual Funds: Inspecting the Mechanism**

Jules van Binsbergen, *University of Pennsylvania*

[Jeong Ho Kim](#), *Emory University*

Soohun Kim, *Korea Advanced Institute of Science and Technology*

Discussants:

Simon Gervais, *Duke University*

Lubos Pastor, *The University of Chicago*

**Saturday, March 5, 2022, 10:45am – 12:30pm AEDT**

Session Chair: Federico Nardari, *The University of Melbourne*

**Disagreement and Control Rights: Implications for Debt Policy and Aggregate Dynamics**

[Steven Baker](#), *University of Virginia*

Zhaohui Chen, *University of Virginia*

Timothy Johnson, *University of Illinois Urbana-Champaign*

**Nature as a Defense from Disasters: Natural Capital and Municipal Bond Yields**

[Claudio Rizzi](#), *University of Miami*

**Tax Evasion and Managerial Incentives: Evidence from the FATCA and Offshore Mutual Funds**

[Si Cheng](#), *The Chinese University of Hong Kong*

Massimo Massa, *INSEAD*

Hong Zhang, *Tsinghua University*

Discussants:

Paul Ehling, *BI Norwegian Business School*

Jaewon Choi, *University of Illinois Urbana-Champaign*

Veronika Krepely Pool, *Vanderbilt University*



## KEYNOTE SPEAKERS

### Sergio Rebelo

*MUFG Bank Distinguished Professor of International Finance*

*Professor of Finance*



Sergio Rebelo is the MUFG Bank Distinguished Professor of International Finance at the Kellogg School of Management, Northwestern University, where he has served as Chair of the Finance Department. Professor Rebelo does research on macroeconomics and international finance. He has studied the causes of business cycles, the impact of economic policy on economic growth, and the sources of exchange rate fluctuations. His research has been funded by the National Science Foundation, the World Bank, the Sloan Foundation, and the Olin Foundation. He is a fellow of the Econometric Society, the National Bureau of Economic Research, and the Center for Economic Policy Research. He has been a member of the editorial board of various academic journals, including the *American Economic Review*, the *European Economic Review*, the *Journal of Monetary Economics*, and the *Journal of Economic*

*Growth*. He has won numerous teaching awards at the Kellogg School of Management, including the Executive Masters Program Outstanding Professor Award and the Professor of the Year Award. Professor Rebelo has served as a consultant to the World Bank, the International Monetary Fund, the Board of Governors of the Federal Reserve System, the European Central Bank, the McKinsey Global Institute, the Global Markets Institute at Goldman Sachs, and other organizations. He received his Ph.D. in Economics from the University of Rochester.

[https://www.kellogg.northwestern.edu/faculty/directory/rebelo\\_sergio.aspx](https://www.kellogg.northwestern.edu/faculty/directory/rebelo_sergio.aspx)

### Xavier Gabaix

*Pershing Square Professor of Economics and Finance*



Xavier Gabaix is Pershing Square Professor of Economics and Finance at Harvard's economics department. He received his undergraduate degree in mathematics from the Ecole Normale Supérieure (Paris) and obtained his PhD in economics from Harvard University. His research focuses on finance, macroeconomics, and behavioral economics. He received the Fischer Black prize given every two years to the best financial economist under 40, the Bernacer prize given to the best European economist under 40 working in macroeconomics and finance, and the Lagrange and Allais Prizes. His research has been published in the *American Economic Review*, *Econometrica*, the *Quarterly Journal of Economics*, the *Journal of Finance*, and *Nature*. He is a Research Associate of the National Bureau of Economic Research and of the Center for Economic Policy Research.

<https://scholar.harvard.edu/xgabaix/home>



## ABSTRACTS

### Asset Pricing

#### **Factor Demand and Factor Returns**

*Cameron Peng, and Chen Wang*

We show that mutual funds' factor demand drives cross-sectional stock return predictability; it explains why value and momentum prevail among certain stocks and fail among others. A fund's factor demand, measured by the loadings of fund returns on factor returns, is highly persistent over time. Persistence in factor demand combined with time-varying stock characteristics generates a strong rebalancing motive—a phenomenon we term “factor rebalancing”—that leads to predictable trading. The associated price pressure results in stronger value and momentum returns for stocks with characteristics well-matched with the underlying funds' factor demand. Mismatched stocks, in contrast, face more selling pressure in the short run and experience lower factor returns. By quantifying the scale of factor rebalancing and its price impact, we estimate an average factor demand elasticity of -0.23.

#### **Exploring Risk Premia, Pricing Kernels, and No-Arbitrage Restrictions in Option Pricing Models**

*Steven Heston, Kris Jacobs, and Hyung Joo Kim*

The literature on dynamic option valuation typically does not explicitly specify a pricing kernel. Instead it characterizes the kernel indirectly by specifying prices of risk, or defines it implicitly as the ratio of the risk-neutral and physical probabilities. We propose explicit pricing kernels for stochastic volatility option pricing models that satisfy absence of arbitrage. Different affine price-of-risk specifications correspond to pricing kernels with radically different, and sometimes implausible, economic implications. It can be difficult to statistically distinguish between pricing kernels with widely different economic implications and risk premia. We attribute this to the inherent statistical problem with the estimation of the equity and variance risk premia. This finding extends Merton's (1980) observations on the estimation of the market equity premium to joint estimation of the equity and variance risk premia using the cross-section of options and the underlying returns.

#### **The Bond, Equity, and Real Estate Term Structures**

*Spencer Andrews, and Andrei Gonçalves*

We construct a Stochastic Discount Factor (SDF) that prices bond, equity, and real estate portfolios sorted on cash flow duration. Using this SDF and the dynamics of cash flow yields in these three asset classes, we estimate the bond, equity, and real estate term structures monthly from 1974 to 2019. We find that while (nominally) safe and risky cash flows have risk premia term structures that are upward sloping on average and move together over time, the term structure dynamics are fundamentally different after we remove the safe component of the risky cash flows. Specifically, equity and real estate maturity-matched risk premia, on average, increase over short maturities but decline over long maturities. Moreover, their term structures comove positively with each other but negatively with the bond term structure.

#### **The Risks of Safe Assets**

*Yang Liu, Lukas Schmid, and Amir Yaron*

How much safety and liquidity can the US government provide? Should it accommodate demand for these attributes because high convenience yields in Treasuries lower its borrowing cost? We evaluate a novel fiscal risk channel limiting the government's capacity to issue debt through the lens of a general equilibrium asset pricing model with a rich fiscal sector. Expanding safe asset supply lowers safety premia and improves liquidity in financial markets, but creates tax and consumption volatility, raising risk premia, credit spreads, and firms' cost of capital. Our model predicts that this risk channel leads to depressed growth prospects, rising Treasury yields, and elevated consumption risk, for which we find strong empirical evidence. We use our model to quantitatively evaluate current proposals on stimulus and stabilization packages and find that

the risk channel is exacerbated in times of fiscal stress. Increasing safe asset supply can thus be risky, and have a significant fiscal cost.

## Banking

### **Rise of the Machines: The Impact of Automated Underwriting**

*Mark Jansen, Hieu Nguyen, and Amin Shams*

Using a randomized experiment in auto lending, we show that algorithmic underwriting outperforms the human underwriting process, resulting in 10.2% higher loan profits and 6.8% lower default rates. The machine performance is more stable across various risk dimensions and loan characteristics, whereas the performance of human underwritten loans largely declines for riskier and more complex loans. Moreover, the performance difference is more pronounced at underwriting thresholds with a high potential for agency conflict. These results are consistent with algorithmic underwriting mitigating agency conflicts and humans' limited capacity for analyzing complex problems.

### **Banking on Carbon: Corporate Lending and Cap-and-Trade Policy**

*Ivan Ivanov, Mathias Kruttli, and Sumudu Watugala*

We estimate the effect of carbon pricing policy on bank credit to firms with greenhouse gas emissions. Our analyses exploit the geographic restrictions inherent in the California cap-and-trade bill and a discontinuity in the embedded free-permit threshold of the federal Waxman-Markey cap-and-trade bill. Affected high-emission firms face shorter loan maturities, lower access to permanent forms of bank financing, higher interest rates, and higher participation of shadow banks in their lending syndicates. These effects are concentrated among private firms, suggesting banks are less concerned about the policies' impact on public firms. Overall, banks quickly mitigate their exposure to climate transition risks.

## Behavioural Finance

### **Should Retail Investors Listen to Social Media Analysts? Evidence from Text-Implied Beliefs**

*Chukwuma Dim*

This paper uses machine learning to infer nonprofessional social media investment analysts' (SMAs) beliefs from opinions expressed about individual stocks. On average, SMA beliefs predict future abnormal returns and earnings surprise. However, there exists substantial heterogeneity in SMAs' ability to form beliefs that yield investment value. Some 13% high-skilled SMAs form beliefs that yield a sizeable one-week three-factor alpha of 61 bps, while the rest of the SMAs generate only 6 bps. Firm and industry specializations are the most distinctive characteristics of high-skill SMAs. When forming beliefs, SMAs extrapolate from past returns and herd on the consensus. Herding is, however, less pronounced in bad times and when the consensus is optimistic, but it is more pronounced when the consensus is correct ex-post. SMAs' behavioural bias does not result in systematically wrong beliefs.

### **Retail Derivatives and Sentiment: A Sentiment Measure Constructed from Issuances of Retail Structured Equity Products**

*Brian Henderson, Neil Pearson, and Li Wang*

We use retail Structured Equity Product (SEP) issuances to construct a new sentiment measure for individual stocks. The SEP sentiment measure predicts negative abnormal returns on the SEPs' reference stocks based on a variety of benchmarks including behavioral factor models and factors based on idiosyncratic volatility, short interest, and the 52-week high effect. Consistent with our interpretation that SEP issuances reflect investor sentiment, aggregate SEP issuances are highly correlated with the Baker-Wurgler sentiment index. Tobit regressions reveal that proxies for attention and sentiment predict demand for SEPs, providing additional evidence consistent with the hypothesis that SEP issuances reflect sentiment.

## Corporate Finance

### **The Determinants of ESG Ratings: Rater Ownership Matters**

*Dragon Yongjun Tang, Jiali Yan, and Chelsea Yaqiong Yao*

Environmental, social, and governance (ESG) ratings become increasingly common in financial markets and for policy making. We show that firms held by the same investors who own the rater (“sister firms”) receive higher ESG ratings. Exogenously created sister firms through acquisitions provide causal inference for the ownership effect. Sister firms receive higher ratings when the common owners have larger stakes in the ESG rater. Notwithstanding their initial higher ratings, sister firms have poorer future ESG outcomes. These findings suggest that the quality of ESG ratings can be undermined by conflicts of interest and have important implications for practitioners and regulators.

### **Bargaining with Private Equity: Implications for Hospital Prices and Patient Welfare**

*Tong Liu*

I use proprietary insurance claims data covering over 60% of individuals with private health insurance in the United States to study the impact of private equity (PE) hospital buyouts on hospital price negotiations, health spending, and patient welfare. I structurally estimate a model featuring PE buyouts, hospital–insurer bargaining, and patient choices. I find that PE buyouts lead to an 11% increase in total spending of the privately insured, mostly driven by an increase in bargained prices at PE-backed hospitals and price spillovers to local rivals. Specifically, PE investors’ superior bargaining skills account for 43% of the price and spending increases, while financial engineering and bankruptcy threats contribute 40%, changes in patient demand contribute 10%, and decreases in social responsibility contribute 8%. Operational efficiency gains reduce spending, but only by 1%. A counterfactual ban on PE hospital buyouts would increase patient surplus by an equivalent of 10.7% of health expenses in affected regions. If regulators who conduct merger review ignore PE-backed acquirers’ unique features, they risk greatly underestimating the impact of hospital M&As.

### **Depositing Corporate Payout**

*Leming Lin*

The past two decades have witnessed a sharp surge in corporate equity payout. The annual net equity payout of non-financial public companies in the U.S. averaged \$525 billion (in 2010 dollars) per year from 2004 to 2019, compared to only \$141 billion during the prior 17-year period. Using aggregate as well as county-level data, this paper shows that a significant amount of the net corporate payout flows into the banking sector in the form of deposits. The estimates suggest that the higher payouts since 2004 have contributed trillions of dollars of deposits to the banking sector. Estimation using bank level data shows that the inflow of deposits leads to a significant increase in bank loans, while having no significant effect on bank holdings of securities. The findings highlight the importance of considering the linkage of financial sectors and the flow of capital in the financial system, and suggest that policies aimed at restricting payouts may distort capital allocation by limiting capital flows from large and profitable corporations to small bank-dependent firms and households.

### **Political Attitudes, Partisanship, and Merger Activity**

*Ran Duchin, Abed El Karim Farroukh, Jarrad Harford, and Tarun Patel*

We demonstrate that similarity in employees’ political attitudes plays an important role in mergers and acquisitions. Using detailed data on employees’ campaign contributions to Democrats and Republicans, we find that firms are considerably more likely to announce and complete a merger when their political attitudes are closer. Furthermore, acquisition announcement returns and post-merger performance are higher when employees have more similar political attitudes. The effects are stronger when political polarization is greater, and when the target and acquirer plan to integrate operations. Overall, we provide new estimates that political attitudes and polarization affect the allocation of real assets.

## **CEO Pet Projects**

*Paul Décaire, and Denis Sosyura*

Using hand-collected data on CEOs' personal assets, we find that CEOs prioritize corporate investment projects that increase the value of CEOs' private assets. Such pet projects are implemented sooner, receive more capital, and are less likely to be dropped. This investment strategy delivers large personal gains to the CEO, but selects lower NPV projects for the firm and erodes its investment efficiency. Using information from CEOs' relatives as an instrument for the location of their private assets, we argue that these effects are causal. Overall, we uncover CEOs' private monetary motives in capital budgeting decisions.

## **Smokestacks and the Swamp**

*Emilio Bisetti, Stefan Lewellen, Arkodipta Sarkar, and Xiao Zhao*

We examine the causal effect of politicians' partisan ideologies on the industrial pollution decisions of constituent firms. Using a regression discontinuity design involving close U.S. congressional elections, we show that plants increase pollution and invest less in emissions abatement following close Republican wins. We also find evidence of reallocation: firms shift pollution away from areas newly represented by Democrats. However, costs rise and M/B ratios decline for firms whose representation becomes more Democratic, suggesting that support for politicians' ideological demands can be privately costly. Pollution-related illnesses spike around plants in areas represented by Republicans, suggesting that firms' pass-through of politicians' ideological differences can have real consequences for local communities.

## **Microstructure**

### **Increasing Corporate Bond Liquidity Premium and Post-Crisis Regulations**

*Botao Wu*

I employ the liquidity premium measure to understand the important changes in corporate bond market liquidity from 2004 to 2019. I show that while commonly-used transaction cost measures such as the bid-ask spread have been declining, the corporate bond liquidity premium has actually increased since the financial crisis. For speculative bonds, about 30% of their yield spread now compensates for illiquidity compared to 15% before the crisis. I demonstrate that this increasing liquidity premium is due to investors facing longer trading delays as dealers have become less willing to provide immediacy, and develop a structural over-the-counter model to estimate the latent trading delays implied by the size of the liquidity premium. The estimation results suggest that bonds that took less than one day to sell before the financial crisis now take weeks to trade. Finally, I establish a causal relationship between the major post-crisis regulations and the variations in the corporate bond liquidity premium to uncover the potential cause of dealers' unwillingness to provide liquidity. I show that Basel II.5, by introducing the stressed value-at-risk and incremental risk charges for credit products, contributed the most to increasing the liquidity premium out of all regulatory changes examined. The longer trading delays and the impact of regulations are consistent with practitioners' descriptions of the post-crisis market and corroborate the relevance of using the liquidity premium to understand corporate bond market liquidity.

### **Coexisting Exchange Platforms: Limit Order Books and Automated Market Makers**

*Jun Aoyagi, and Yuki Ito*

Blockchain-based decentralized exchanges have adopted automated market makers—algorithms that pool liquidity and make it available to liquidity takers by automatically determining prices. We develop a theoretical framework to analyze coexisting market-making structures: a traditional centralized limit-order market and a decentralized automated market. Traders face asymmetric information and endogenously choose trading venues. We show that liquidity on the automated market complements that on the limit-order market. A unique and stable general equilibrium exists with endogenous liquidity on both platforms, and we investigate the impact of adopting automated market makers on asset prices and traders' behavior.

## Mutual Funds

### **Activism, Stock Selection, and Indexing in Equilibrium**

*Steven Baker, David Chapman, and Michael Gallmeyer*

We study a dynamic general equilibrium production economy intermediated by actively and passively managed funds. Two actively managed types arise endogenously through a search mechanism. Activists are socially valuable because they improve productive efficiency that spills over to a low-cost index fund. Stock selectors, through security selection, also improve productive efficiency, with no spillover to other funds. A representative household allocates its wealth to activist, stock selector, and index funds. We characterize the equilibrium impact of changes in search costs, productive efficiency, and index fees. While a decrease in the passive index fee is beneficial to households through cheaper diversification, it also impacts the composition of the managed fund industry where activist funds increase relative to stock selector funds. This effect increases the productive efficiency of the index fund beyond just lower fees.

### **Capital Allocation and the Market for Mutual Funds: Inspecting the Mechanism**

*Jules van Binsbergen, Jeong Ho (John) Kim, and Soohun Kim*

We exploit heterogeneity in decreasing returns to scale parameters across funds to analyze their effects on capital allocation decisions in the mutual fund market. We find strong evidence that steeper decreasing returns to scale attenuate flow sensitivity to performance, which has a large effect on equilibrium fund sizes. Our results are consistent with a rational model for active management. We argue that an important fraction of cross-sectional variation in fund sizes is due to investors rationally anticipating the effects of scale on return performance.

## Plenary Session

### **Disagreement and Control Rights: Implications for Debt Policy and Aggregate Dynamics**

*Steven Baker, Zhaohui Chen, and Timothy Johnson*

We examine firm capital structure when heterogeneous agents optimally hold different claims, and control of the firm may change hands. When agents cannot commit to firm value maximization, controlling agents have the incentive to alter firm policy to maximize their preferred portfolio at the expense of other claim-holders. We consider settings that can include partial control rights to minority share-holders and/or debt-holders. In general equilibrium, the distortions relative to complete contracting are large even with small disagreement. However, it need not be the case that the distortions amplify the business cycle nor that stronger protection of debt holders mitigates the problem.

### **Nature as a Defense from Disasters: Natural Capital and Municipal Bond Yields**

*Claudio Rizzi*

This paper shows that climate risk mitigation strategies are priced in financial markets. Using extreme weather and natural capital loss shocks, I demonstrate that the municipal bond market starts to price natural capital following an extreme weather event. The yield spread between counties that lose natural capital and those that do not, i.e., the mitigation premium, increases from zero to 17 basis points. This effect is more prominent for revenue bonds, bonds financing infrastructure projects, and bonds issued by counties dependent on farming. Natural capital protection could decrease the county's cost of debt by \$2.1 million over the bonds' life.

## **Tax Evasion and Managerial Incentives: Evidence from the FATCA and Offshore Mutual Funds**

*Si Cheng, Massimo Massa, and Hong Zhang*

Using the Foreign Account Tax Compliance Act (FATCA) as an exogenous shock that reduces the tax advantages of offshore funds sold to U.S. investors, we document that affected funds significantly enhance their performance as a response. Enhanced performance comes from more active management and better processing of information and is more substantial for tax-sensitive funds. Our results reveal a novel substitution effect between tax evasion and performance in the offshore market, which has important normative implications, showing that curbing offshore tax evasion can help improve efficiency in the global asset management industry and related markets.



## PROGRAM COMMITTEE

<b>Heitor Almeida</b>	University of Illinois Urbana-Champaign	<b>George Aragon</b>	Arizona State University
<b>Iлона Babenko</b>	Arizona State University	<b>Pedro Barroso</b>	Universidade Católica Portuguesa
<b>Sohnke Bartram</b>	University of Warwick and CEPR	<b>Thomas Bates</b>	Arizona State University
<b>Robert Battalio</b>	University of Notre Dame	<b>Henk Berkman</b>	The University of Auckland
<b>Gennaro Bernile</b>	University of Miami	<b>Oliver Boguth</b>	Arizona State University
<b>Audra Boone</b>	Texas Christian University	<b>Jonathan Brogaard</b>	The University of Utah
<b>Stephen Brown</b>	Monash University	<b>Max Bruche</b>	Humboldt-Universität zu Berlin
<b>Sabrina Buti</b>	Université Paris-Dauphine	<b>Jie Cao</b>	The Chinese University of Hong Kong
<b>Indraneel Chakraborty</b>	University of Miami	<b>Gilles Chemla</b>	Imperial College London, CNRS, and CEPR
<b>Mikhail Chernov</b>	University of California, Los Angeles	<b>Tarun Chordia</b>	Emory University
<b>Oleg Chuprinin</b>	University of New South Wales	<b>Jonathan Cohn</b>	The University of Texas at Austin
<b>Riccardo Colacito</b>	The University of North Carolina at Chapel Hill	<b>Carole Comerton- Forde</b>	The University of Melbourne
<b>Jennifer Conrad</b>	The University of North Carolina at Chapel Hill	<b>Kristle Cortés</b>	University of New South Wales
<b>Zhi Da</b>	University of Notre Dame	<b>Sudipto Dasgupta</b>	The Chinese University of Hong Kong
<b>Abe De Jong</b>	Monash University	<b>Stephen Dimmock</b>	National University of Singapore
<b>Hitesh Doshi</b>	University of Houston	<b>Ran Duchin</b>	Boston College
<b>Joseph Fan</b>	The Chinese University of Hong Kong	<b>Eliezer Fich</b>	Drexel University
<b>Cesare Fracassi</b>	The University of Texas at Austin	<b>Fangjian Fu</b>	Singapore Management University
<b>Michael Gallmeyer</b>	University of Virginia	<b>Neal Galpin</b>	Monash University
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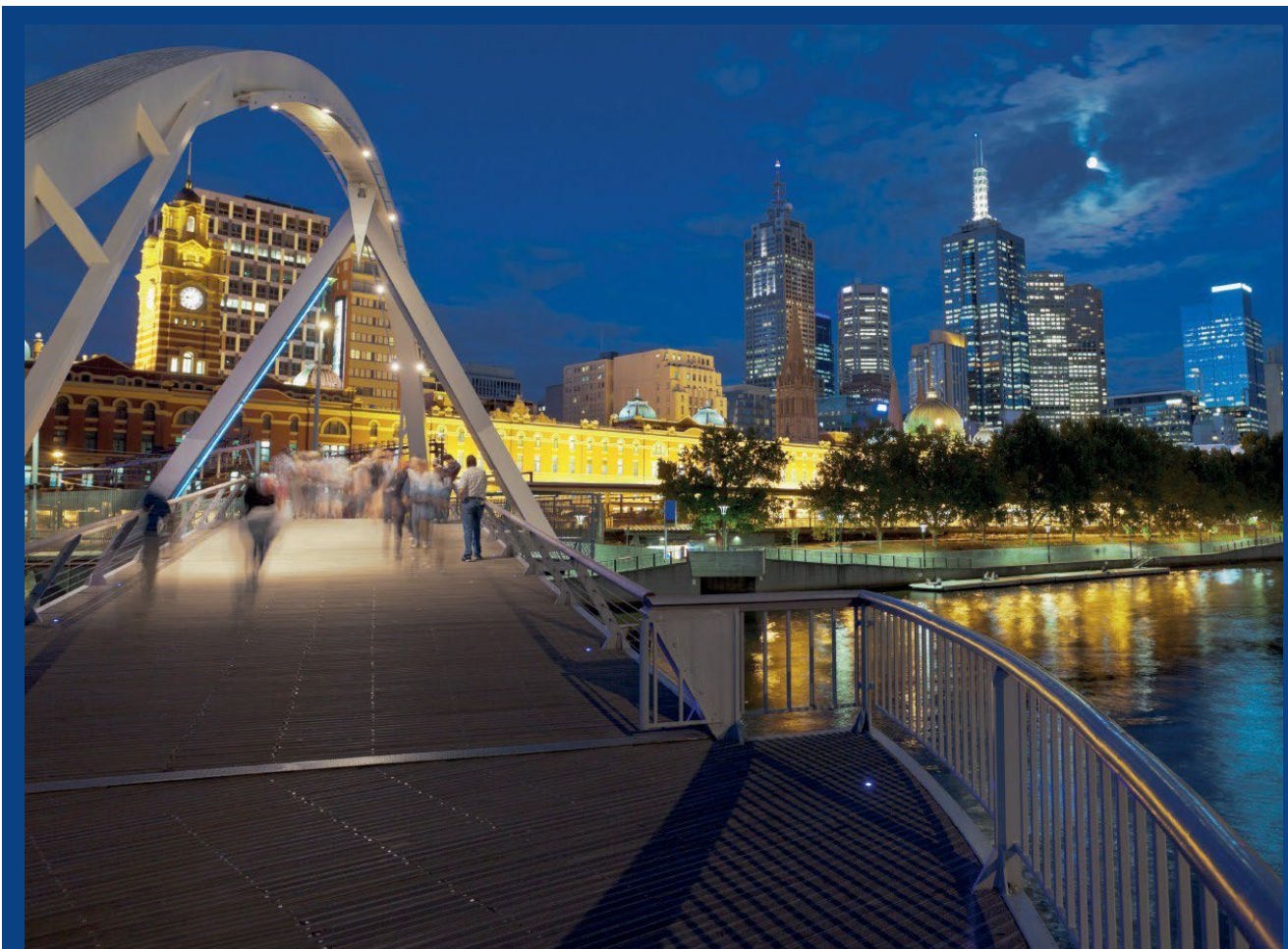
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