Mingze Gao

Room 431, H69
University of Sydney
Sydney, NSW Australia

高铭泽
mingze.gao@sydney.edu.au
https://mingze-gao.com

Academic Appointment & Position

Postdoctoral Research Fellow, University of Sydney	2021 -

Education

Ph.D., Finance, University of Sydney, Australia	2017 - 2021
Grad.Cert., Computing, University of New South Wales, Australia	2022 - 2023
B.Com. (Hon), Finance, University of Sydney, Australia	2016
B.Com., Econometrics and Finance, University of Sydney, Australia	2013 - 2015

Selected Publications

1. Organization Capital and Executive Performance Incentives, ***Journal of Banking & Finance***, 2021, with Henry Leung and Buhui Qiu.

   A tweak to the classic principal-agent model shows that a firm with high organization capital (OC) may reduce executive performance pay given that OC reduces the marginal effect of managerial effort on firm outcome. But since OC adds noise to the signal of managerial effort, higher performance pay may also be required to elicit managerial effort. We empirically show that the former dominates, i.e., OC has a substitution effect on executive performance incentives.

   - The 2020 Financial Management Association (FMA) Annual Meeting (Virtual)
   - The 3rd Global PhD Colloquium – ***Outstanding PhD Student Paper Award***
   - The 32nd Annual PhD Conference in Economics and Business

2. Consumer Behaviour and Credit Supply: Evidence from an Australian FinTech Lender, ***Finance Research Letters***, forthcoming, with Henry Leung, Linhui Liu and Buhui Qiu.

   Using a proprietary dataset from an Australian leading FinTech lender, we provide insights into the effect of consumer behaviour on FinTech lending patterns. Out of seven consumption categories, gambling expenses significantly reduce lender's willingness to fulfill loan requests. Cash usage and repeated borrowing are similarly related to lower offer-to-requested loan ratio. For mature applicants, cash usage and gambling expenses increasingly reduce the likelihood of lender satisfying their loan requests.

Working Papers

1. Lone (Loan) Wolf Pack Risk, with Iftekhar Hasan, Buhui Qiu and Eliza Wu.

   This paper proposes an early-warning bank risk measure based on the syndicate size of loans that a bank recently participates in. At the bank level, it predicts greater bank risks and lower profitability at least three years ahead, especially for opaque and complex banks. Banks failing the Federal Reserve's stress tests subsequently exhibit a reduction in the syndicate concentration measure. At the aggregate level, it predicts both greater financial sector risks and economic slowdowns measured by private-sector investment, business activity, total factor productivity, industrial production, and gross domestic product.

   - The 2023 Western Finance Association (WFA) Annual Meeting
   - The 2022 Financial Research Network (FIRN) Banking and Financial Stability Meeting

- SUERF Policy Brief No. 586
- Bank of Finland Research Discussion Paper No. 4/2023

2. **Anomalous Lending and Bank Risks**, with Iftekhar Hasan, Buhui Qiu, Eliza Wu and Yan Yu.

Applying machine learning on over a hundred loan attributes, we develop an anomaly score measure for syndicated loans that strongly predicts future bank risks. Loan-level anomaly score predicts higher borrower idiosyncratic risk and default probability, a higher likelihood that loans will be sold off in the secondary market at a discount, a larger discount size and a wider bid-ask spread. At the bank level, the anomaly score positively predicts future loan loss provisions for over three years ahead, especially surrounding the average maturity of the bank loan portfolio.

- The 2023 Monash Winter Finance Conference (scheduled)
- The 2023 Machine Learning Methods for Business Workshop
- The 2022 Business Financing and Banking Research Group Annual Workshop

3. **Borrower Technology Similarity and Bank Loan Contracting**, with Yunying Huang, Steven Ongena and Eliza Wu.

Loans to a borrower sharing similar technologies with its bank's prior borrowers have lower loan spreads, likely due to reduced costs in loan screening and monitoring from bank's accumulated technology knowledge. We estimate a structural bank-borrower matching model to show that it maximizes economic surplus of bank and borrowers. We further address identification challenges via two difference-in-differences estimations exploiting the adoption of intellectual property protection laws and bank M&As.

- The 2023 European Finance Association (EFA) Annual Meeting (Poster, scheduled)[†]
- The 2023 Financial Management Association (FMA) Annual Meeting (scheduled)[†]
- The 35th Australasian Finance and Banking Conference[†]

4. **Corporate Real Estate Holdings and Mergers and Acquisitions**, with Thanh Son Luong and Buhui Qiu.

Increase in corporate real estate holdings leads to not only greater acquisitiveness but also better M&A performance. Manually examining a large sample of hand-collected loan contracts, we show that loans secured by real estate have more stringent covenants on its M&A deal-making, suggesting greater lender screening as the key mechanism. Moreover, acquirers are more likely to withdraw bids with negative price reactions if they use real estate as collateral.

- The 2022 Financial Management Association (FMA) Annual Meeting
- The 2022 Financial Research Network (FIRN) Annual Conference[†]

5. **Catering to Environmental Premium in Green Venture Financing**, with Henry Leung, Tse-Chun Lin and Tracy Thi Vu.

Pre-IPO investors cater to a higher environmental premium in the stock market via increasing investments in green ventures in later financing stages. In particular, pre-IPO investors speed up the exit process to capitalize on the high environmental premium. In contrast, green ventures in seed financing rounds receive less funding, possibly due to capital, time, and effort constraints of the pre-IPO investors. Finally, we document that more experienced pre-IPO investors and those that are in closer proximity to green ventures are more responsive to the environmental premium.

Presentations marked with [†] are delivered by coauthor(s).

Work in Progress

1. **Liquidity and Price Impact at the 52 Week High**, with Joshua Della Vedova, Andrew Grant and Joakim Westerholm.

2. **Differentiated Lending and Bank Risks: Evidence from Global Syndicated Loans**, with Hanyun Ding, Buhui Qiu and Eliza Wu.

3. **Climate Exposure from Lending Portflio and Bank Risk**, with Meitong He, Buhui Qiu and Eliza Wu.

Other Publication

1. Closer Than Ever: Growing Business-level Connections Between Australia and Europe, ***European Management Journal***, 2023, with Boris Choy, Teresa Davis, Hanyun Ding, Massimo Garbuio, Catherine Hardy, Henry Leung, Thanh Son Luong, Greg Patmore, Sandra Peter, Buhui Qiu, Kai Riemer, John Shields, Catherine Sutton-Brady, Carlos Vazquez-Hernandez, and Eliza Wu.

Research Interest

Machine learning application in banking and corporate finance; FinTech and technology innovation; Large-scale textual analysis; M&A, and Climate risk.

Honors, Grants & Awards

Publication Award, University of Sydney	2022
Business School Research Travel Scheme, University of Sydney	2022
The Paulette Isabel Jones PhD Completion Scholarship, University of Sydney	2020
American Finance Association (AFA) PhD Student Travel Grant Award	2020
Outstanding PhD Student Paper Award, 3rd Global PhD Colloquium	2019
Nomination for Business School Tutoring Excellence Award, University of Sydney	2019
University of Sydney Honours Scholarship, University of Sydney	2016
1st Prize - National Olympiad in Informatics in Provinces (NOIP), Jiangsu, China	2010

Teaching Experience

University of Sydney

Undergraduate level, tutorial
    FINC2011: Corporate Finance I (2018S2, 2019S1, 2021S1). Rating: 4.3/5
    FINC2012: Corporate Finance II (2016S2, 2017, 2018, 2019, 2020S1, 2021S2, 2023S1). Rating: 4.28/5
    FINC3011: International Financial Management (2017S1). Rating: 4.29/5
    FINC3013: Mergers and Acquisitions (2017S2, 2022S2). Rating: N/A

Undergraduate level, lecture
    BUSS4990: Scandals, Scams and Ethics in Finance (2023S1, Week 10). Rating: N/A

Postgraduate level, tutorial
    FINC5090: Finance in the Global Economy (2022S1). Rating: 4.2/5
    FINC6001: Intermediate Corporate Finance (2020S2). Rating: N/A
    FINC6010: Derivative Securities (2019S2, 2020S2). Rating: N/A
    FINC6013: International Business Finance (2021S1). Rating: N/A
    FINC6021: Corporate Valuation (2022S1). Rating: 4.63/5

Doctoral level, TA and consultation
    BUSS7902: Quantitative Business Research Methods (2023S1). Rating: N/A

Rating based on most recent survey result, if available.

Academic Service & Experience

Grant Writing

Australian Research Council (ARC) Discovery Project (DP210102611)   2020

- A successful $500,000 grant financing my postdoctoral fellowship based on the fourth chapter of my PhD thesis, in collaboration with Chief Investigators.
- Machine learning on high-dimensional bank loan data to devise an early-warning bank risk measure.

Discussant

2022 Financial Management Association (FMA) Annual Meeting   2022
2020 Financial Management Association (FMA) Annual Meeting (Virtual)   2020

Ad Hoc Referee

Abacus   2023

Visiting Scholar

Invited to visit Prof. Tse-Chun Lin at HKU Business School, University of Hong Kong   2019

Student Supervision

Meitong He, Honours student (co-supervised by Buhui Qiu).   2023

Professional Experience

Quantitative Consultant (2017-2021) at Infinitas Asset Management (ABN 78129953724 / AFSL 326087), a boutique financial adviser and investment manager with a wide client base, including high and ultra-high net worth individuals, family offices, SMSFs, foundations and not-for-profit groups.

- Developed several automated market monitoring systems and a portfolio back-testing suite on the Bloomberg BQuant platform.

Miscellaneous

Languages

English and Chinese Mandarin: native or bilingual

Programming

- C/C++, Python, SAS, Stata, Haskell, SQL, JavaScript, etc.
- Algorithms, database, cryptocurrency and distributed ledge technology, etc.

Research applications

- specurve - a Stata command to perform specification curve analysis, listed in Harvard Business School Research Computing Services Blog.
- frds - a Python framework to compute a collection of academic measures used in the finance literature.
- edgar-analyzer - a Python command-line tool to download SEC filings and perform textual analyses.
- mktstructure - a Python command-line tool to download Refinitiv Tick History data and compute some market microstructure measures.
- Option Pricing Explained - a web application to provide an interactive pricing process for European options.

References

Iftekhar Hasan

University Professor and E. Gerald Corrigan Chair in International Business and Finance

Gabelli School of Business

Fordham University

ihasan@fordham.edu

Eliza Wu

Professor of Finance and Banking and Head of Discipline

University of Sydney Business School

University of Sydney

eliza.wu@sydney.edu.au

Buhui Qiu

Associate Professor of Finance and Director of Doctoral Studies

University of Sydney Business School

University of Sydney

buhui.qiu@sydney.edu.au

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