Yifan (Freda) Fang

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Education

Rotman School of Management, University of Toronto 2021 - present
Ph.D. in Finance *Toronto, Canada*

Department of Economics, University of Toronto 2020 - 2021
M.A. in Economics, cGPA 3.84/4 *Toronto, Canada*

Faculty of Arts and Sciences, University of Toronto 2016 - 2020
BCom., Specialist in Finance, Major in Economics, Minor in Statistics, cGPA 3.95/4 *Toronto, Canada*

Course Completed and Research Interest

PhD Courses Completed

Mathematics and Statistics for PhD Students, PhD Microeconomics Theory, PhD Econometrics, Financial Theory, Capital Markets Workshop, Corporate Finance, Empirical Methods in Finance, PhD Labor Economics

Research Interest

My primary research interest lies in empirical corporate finance. More specifically, I am interested in stakeholder preferences and environment outcomes, venture capital and entrepreneurship, and labor economics.

Research Projects

Using Consumer Demand to Limit Climate Risk: Evidence from the U.S. Electric Utility Sector

I find that firms divest pollutive assets and such assets produce worse environmental outcomes post divestitures, but only in non-competitive states where electricity provision is dominated by vertically integrated utility firms. Plants located in the competitive market where consumers can choose electricity providers have seen no worsening and sometimes even improved, environmental performance. The result suggests that consumer demand for cleaner energy may serve as a discipline mechanism for treating polluting assets in an environmentally friendly manner.

An Investigation of How Zero-levered Firms Respond to State Tax Increase

I study whether zero-levered firms remain unlevered due to strategic reasons. An accounting change in 2018 revealed the existence of "fake" zero-levered firms that do not disclose off-balance sheet debt. I use an accounting-based measure of Euclidean distance to filter firms that are truly unlevered before 2018, using zero-levered samples post the accounting change as the reference group. My result shows that the leverage decisions by zero-levered firms are not affected by tax change. Further analysis shows that the percentage of zero-levered firms with negative net income was continuously increasing after 2009, and peaked in 2020 at more than 80%. The results suggest that zero-levered firms are too financially constrained to access the debt market and are less likely to remain unlevered due to strategic reasons.

Term Papers

Nowcasting Canadian GDP with Google Trends *with Wajih Bleik and Andrew Hill, April 2021*

We extend the GDP nowcasting literature by introducing a novel dataset by using Google Trends and exploring the usefulness of data from Google Trends as a viable alternative for econometricians who lack large-scale infrastructure. Regularized Regressions, Random Forests, Pooling, and PCA are all applied to the data, with Random Forests performing the best. Overall, our results reflect favorably on the predictive power of Google Trend data.

A Contemporary Analysis on the Empirical Performance of Equity Premium Prediction
with Jason Ho, April 2020
Award: *2nd place, Arthur Hosios Scholarship in Economics 2020, Reward $544*

Equity investors hold the belief that certain fundamental ratios and economic factors can predict equity premiums. Through re-examining the factors proposed by Welch & Goyal (2008), Rapach et al. (2009), and Baetije & Menkhoff (2016) using data up to December 2018, we confirm the results from previous studies and found structural instabilities in well-documented economic and technical variables. Extending the literature by employing machine-learning techniques (Regularized Regressions, Random Forests, and Artificial Neural Networks), we show that machine-learning methods yield more stable models and better out-of-sample performances than traditional econometrics models over the same period.

Research and Teaching Experience

Research Assistant, Professors Camille and Ting Nov 2022 – present
University of Toronto *Toronto, Canada*

- Collected firm, founder, and financing information from various data sources and managed the database.
- Perform data cleaning and produce descriptive results in Stata.
- Assist in designing and implementing empirical setting to test the research hypothesis.

Research Assistant, Professors Akey and Robertson May 2019 – Aug 2020
University of Toronto *Toronto, Canada*

- Searched fund prospectus on EDGAR and organized general prospectus information into Excel spreadsheets.
- Extracted required ETF information from the fund summary and the statement of additional information to support further analysis of the potential risks behind the passive ETF investment strategy.
- Reconciled inconsistent information during the data collection process.

TAship at University of Toronto 2020 – present
University of Toronto *Toronto, Canada*

- Business Finance (MGT232H5), Corporate Finance (RSM333), MBA Mergers and Acquisition (RSM5304, RSM2309), Capital Market Theory (RSM332)

Research Presentations

MFA 2024 Regular Session (Accepted)

Specialized Skills

Programming Languages: Python and STATA (Proficient), R and MatLab(Beginner)
Languages: Mandarin (Native), English (Fluent)
Interests: Piano (level 10), Chinese Calligraphy (level 9), Hiking, Travel Planning

Reference

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Short Essay, Freda (Yifan) Fang, Application for the NBER Boot Camp 2024

My research primarily focuses on empirical corporate finance, encompassing topics related to the influence of ownership and stakeholder preferences on firm's environmental outcomes. One of my current projects studies change of asset ownership and their environmental consequences, focusing on power plants in the US utility sector. I have documented a notable shift in market dynamics, with small power generation firms, particularly backed by private equity (PE), gaining significant market share from traditional vertically integrated utility firms – a three-fold rise in market share from 2004 to 2020. PE firms expand by acquiring existing plants from the incumbent firm. While plants transferred to PE owners experience increased carbon intensity following the transactions, the effect is offset by plants located in competitive markets. Exploring the mechanism this, I find that PE owners are more inclined to purchase renewable assets than other type of assets in the competitive market. Given the rising demand for renewable energy, PE owners may find it more profitable to cater pro-environment customers and thus have no incentive to sacrifice environmental footprint for profit.

Motivated by this project, I thrive to understand the trajectory of small firms and PE investments, and how they shape the future of technology and society. This interest led me to the literature on entrepreneurship. Currently, I am working with Professors Camille Hebert and Ting Xu on a project investigating how incubators facilitate and improve the match between startups and investors. This endeavor has deepened my understanding of early-stage firm screening, venture capital monitoring, and the dynamics behind the matching of investors and startups.

Building upon my current study, I want to explore whether PE investors are responsive to customers' prosocial preferences and how they tradeoff if preferences contradict. Looking ahead, I aim to explore the hidden costs associated with entrepreneurship, particularly from social and environmental aspects. Questions surrounding the negative externalities of entrepreneurship and factors influencing such outcomes intrigue me. For example, the establishment of new restaurants can pose health risks to the local community, as profit-driven entrepreneurs may overlook proper hygiene practices. The social costs incurred from low quality entrepreneurs is unclear, and more attention should be paid to failed businesses and the reasons behind failure. I believe that by learning and understanding the implicit costs of entrepreneurship, we can better evaluate the societal value of creation of new business. Moreover, I'm also interested in understanding the relationship between motivation for entrepreneurship and labor choices. For instance, recent studies have shed light on how the rise of gig economy[1] and extended job-protected leave policies[2] encourage entrepreneurial activities. Motivated by anecdotes that founders of many startups used to be employees in major high-tech firms like Google and Meta, I am interested in uncovering the drivers of talented employees transitioning into entrepreneurs.

Meanwhile, I'm eager to delve into the broader literature of entrepreneurship given my limited exposure, to learn cutting-edge literature in entrepreneurship, understand the boundaries, stimulate and refine research ideas, and engage in stimulating discussions with peers and researchers across various facets of entrepreneurship. These motivations underscore my interest in attending the NBER Entrepreneurship Research Boot Camp. The boot camp, with its well-structured and highly focused program, provides a valuable opportunity to immerse myself in a dedicated research environment on entrepreneurship. Moreover, by encountering with researchers covering a broad spectrum of entrepreneurship research, I anticipate gaining in-depth understanding in these topics and receiving valuable feedback to shape my future research agenda in the area.

[1] Barrios, Hochberg, and Yi (2022)
[2] Gottlieb, Townsend, and Xu (2022)

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Dear Review Committee:

I'm writing with great enthusiasm to recommend Freda Fang for participation in the 2024 NBER Entrepreneurship Bootcamp.

Freda is a third year PhD student in the Finance Department at Toronto Rotman. I have known her since I joined Rotman in January 2023. Although I do not teach in the PhD program, I have been advising her research and exploring research projects with her.

Freda has a strong interest in entrepreneurial finance, private equity, and alternative assets. Her second-year paper, titled "Asset Divestiture of Regulated Utility Firms and Its Environmental Implications", examines the environmental impact of power plant ownership transfers. She finds that divested plants are more carbon-intensive than the seller's average plant, and they are sold to buyers that are more pollutive than the original owner. Interestingly, within-plant changes in environmental performance depends on market structure. In non-competitive markets, transferred plants experienced worse environmental outcomes, while those in competitive markets do not. These effects are strongest when ownership is transferred from regulated owners to private owners, such as private equity firms. This paper got into the regular program of the 2024 Midwest Finance Association (MFA) Annual Meetings, which is a great achievement for a third year PhD student.

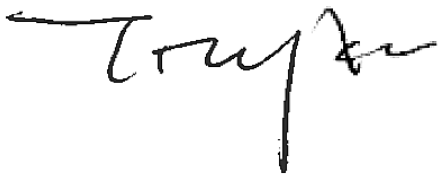
Together with my colleague Camille Hebert, Freda and I also started exploring a project on accelerators using data from the Creative Destruction Lab (CDL), a multi-location accelerator program that originates from the University of Toronto. We obtained detailed data on all meeting sessions, including meeting transcript, milestone setting and check-ins, and judges' indications of mentoring and investing interests. These granular data allow

us to examine how founders respond to feedback from mentors, and how such response differs by both the founder's and the mentor's gender. Another direction we take is understanding Type I and Type II errors in judges' predictions of startup potential. In particular, how such errors vary by judges' background, and what opinion aggregation mechanism best mitigates these errors. Although this project is still preliminary, Freda has been an indispensable driving force. She is extremely hardworking and proactive. She accurately executed all tests and provided frequent updates. Importantly, she exhibited great understanding of the economics underlying various empirical choices, and provided many helpful suggestions. Both Camille and I find her to be above her peers in research maturity.

Freda has some ongoing interest in understanding the externalities of entrepreneurship, particularly from the social and environmental perspective. Unfortunately, Rotman does not offer such a PhD-level course. Given where she is in her PhD program, I believe she would benefit tremendously from systematic exposures to entrepreneurship research offered by the Entrepreneurship Bootcamp. I also think she will be a great contributor to the bootcamp, bringing creative research ideas. Finally, Freda is an extremely pleasant person with an outgoing personality. I could see her building many connections from the bootcamp and leverage them going forward.

Overall, Freda is the ideal candidate the Bootcamp is looking for. I believe she will enjoy this experience as much as I did ten years ago.

Sincerely yours,



Ting Xu