Application

NBER Entrepreneurship Research Boot Camp 2026

- Name: Lin Fang
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- School: Toulouse School of Economics
- Address: 1 Esp. de l'Université, 31000 Toulouse, France

- Research interest: Corporate finance
- Year of entry into the PhD program: 2021
- Expected year of completion: 2027
- Faculty member supplying a letter of recommendation: Ulrich Hege (Supervisor)

- E-mail: ulrich.hege@tse-fr.eu

LIN FANG

CURRICULUM VITAE | *lin.fang@tse − fr.eu*

Toulouse School of Economics 1 Esplanade de l'Université, 31080 Toulouse, France
Date of Birth: June 6th, 1995 (Jilin, China)
Research Fields: Corporate finance (primary), Macroeconomics (secondary)

EDUCATION

Ph.D. in Economics, *Toulouse School of Economics* *2021 -*

M.Sc. in Economic Theory and Econometrics, *Toulouse School of Economics* *2019 - 2021*
with Merit

Bachelor's Degree, *Tsinghua University, China* *2013 - 2017*
Double Major: Economics & English Literature

TEACHING & WORKING EXPERIENCE

Teaching assitant, TSE
Topics in Macro (3rd year BA), *Prof. Philippe Alby* *2022 – 2024*
Macroéconomie (2rd year BA), *Prof. Patrick Fève* *2024*

Internship
UN ESCAP, Bangkok Office *2017*
Macroeconomic Policy and Development Division

RESEARCH

Biopharma firms with negative enterprise value

Abstract: "Enterprise Value" of a public company is the difference between its market capitalization and the net cash held by the firm. When a biopharma firm announces negative trial results, its market capitalization can fall well below its net cash, entering the region of negative enterprise value. This paper is motivated by the recent increase in the share of negative enterprise value firms among US public biopharma firms. By collecting corporate announcements and governance data from 114 biopharma firms with negative enterprise value, this paper first documents that the impact of scientific failure on firms' market capitalization was less evident during the COVID boom in the stock market, whereas it has been more detrimental since the COVID boom burst. This paper further argues that agency conflicts are the main driving force behind the negative enterprise value problem and develops a model showing how the agency problem interacts with the aggregate market condition to generate variations in firm value following scientific failures. Finally, I test the models' predictions using the collected data to confirm the link between negative enterprise value and agency conflicts.

Increased Corporate Cash Holdings and the Role of the Capital Supply

Abstract: This paper emphasizes the role of capital supply in driving higher cash holdings of R&D-intensive firms. By constructing a general equilibrium model, I distinguish the impact of an increase in households' supply of capital from firms' precautionary demand for capital. Preliminary results show that firms' precautionary demand for capital cannot always lead to higher average cash holdings, contrary to findings in the literature.

The role of the healthcare sector in the US corporate cash holdings puzzle
Abstract: This paper studies how the healthcare sector contributes to the US corporate cash holdings puzzle and approaches the problem from both intensive and extensive margins. By looking at the intensive margin, I explore the changes in the fundamentals of the healthcare sector that make healthcare firms hold more cash on average than firms in other sectors. As for the extensive margin, I first document the increased entry (going public) of healthcare firms and further examine if various performance metrics can rationalize the increased entry. Finally, I consider a simple counterfactual scenario assuming no changes in the healthcare sector (in terms of both margins) and show that roughly 50 percent of the observed positive trend in the average cash holdings of US non-financial public firms can be explained by the healthcare sector.

PRESENTATIONS

European Financial Management Association 2026 Doctoral Student Seminar (scheduled), TSE-TSM PhD finance workshop, TSE PhD workshop.

PUBLICATION

Branchoux, Candice; Fang, Lin; Tateno, Yusuke. 2018. "Estimating Infrastructure Financing Needs in the Asia-Pacific Least Developed Countries, Landlocked Developing Countries, and Small Island Developing States." *Economies* 6, no. 3: 43.

SOFTWARE SKILLS

Strong	R, Julia, Matlab, Stata
Intermediate	Python, Latex

LANGUAGES

Native	Korean
Fluent	Chinese, English
Intermediate	French

My name is Lin Fang. I am a sixth-year PhD student at the Toulouse School of Economics, supervised by Ulrich Hege. I wish to participate in the NBER Entrepreneurship Research Boot Camp this summer because, most importantly, my research interest is closely related to entrepreneurship. In particular, I am interested in identifying and quantifying the role of various frictions in financing entrepreneurship in R&D-intensive sectors from both investors' and entrepreneurs' perspectives.

As part of this research agenda, my current research studies the risks to shareholders of biopharma firms that experience scientific failures and thus have negative firm value. The research originated from the rather fundamental question of why seemingly unprofitable drug development projects can be financed and why the market allows biopharma firms to go public at the earlier stages of drug development. While my current research concerns a specific sector, my research interests extend to the broader field of entrepreneurial finance.

As I explore this field, I have studied many influential papers by Professors Ufuk Akcigit, Josh Lerner, and Song Ma, and thus I am very excited to find their names on the list of previous speakers. I would benefit enormously from attending their lectures in person, hopefully interacting with them and receiving feedback on my current research.

Furthermore, I believe this research boot camp will be a very good opportunity to meet talented fellow PhD students from renowned institutions around the world who share very similar research interests as mine. I hope to explore new research topics as I discuss ideas with other participants, understand which research topics are trending, and learn from their research experience as well.

As I will soon be on the job market, this will be my last opportunity to attend training targeted to the PhD level. Therefore, I will very much appreciate this valuable opportunity and will try to benefit the most from this training program if I can get accepted.

Toulouse School of Economics

Ulrich Hege
Professor

February 19, 2026

Recommendation letter for Lin Fang

To Whom it May Concern:

I am delighted to write a letter in support of Lin Fang's application for the NBER Summer Boot Camp in Entrepreneurship 2026. I know Lin for about 4 years; I am her main supervisor at Toulouse School of Economics, and I have continuously and closely worked with her over the last years. Lin will be on the finance job market in 2026/2027. To sum up my recommendation, I am very confident about Lin's prospect and optimistic about her potential. I do not hesitate to give her my very strong support for her application for the NBER Summer Boot Camp.

Lin is a young scholar with deep interests in innovation and entrepreneurial finance. Over the last 18 months, she is working on a project on the going public decision of biopharma start-ups in the U.S. The more I learn about this sector from Lin, the more I am convinced that this is a fascinating but neglected topic, given the importance of biopharma IPOs in the U.S. market in the last decades. While many tech start-ups have postponed their going public decision, with the help of supportive private markets, the same is not true for biopharma start-ups. Many of them tend to go public early, without having a marketable product available (FDA-approved drug). In fact, for many of them, the clinical trials for their flagship development fail. Thus, their IPO decision is made at an early stage with considerable higher delivery risks compared with other sectors. They are also single-product firm, building their IPO story around a single promising drug development. While biopharma IPOs tend to be cyclical, similar to hot/cold IPO markets elsewhere, with a spectacular recent peak during the 2021 hot IPO market, their trend has been strong overall for more than 20 year, and a substantial fraction of IPO activity is driven by biopharma. At the IPO stage, these biopharma start-ups are typically far away from profitability and they tend to raise a lot of cash during the IPO, enough to carry them through to the eventual, but highly uncertain, success via an FDA approval. In fact, as Lin shows in her research, the phenomenon of the rising cash holdings of young firms (Begenau and Palazzo, 2021) is largely due to biopharma start-ups, and much less pronounced in other sectors,.

Lin's first analysis is a thorough investigation of the decisions and efficiency of listed biopharma firms when their flagship drugs fail and they no longer have viable operations. At that point, many failed start-ups exhibit "negative enterprise value", that is the value of their net cash holdings exceeds the value of equity. Normally, the textbook view of corporate finance would tell us that when cash is worth less inside the firm than outside and when no obvious going concern value is left, the market sends a strong signal that the company should distribute its remaining cash to shareholders and probably liquidate operations. But this is not what happens, according to Lin's analysis: most of the firms continue operating, burn cash, while some become acquisition targets after much delay, and invariably at great cost to shareholders. Lin estimates the value lost due to the continued operations of these zombie start-ups, She shows that from an ex ante perspective, the expected loss is considerable, given the high anticipated failure risk. She is now working on the next step of the analysis, going backwards in time: she incorporates the findings about the inefficient operation post failure in a dynamic structural model of the firm that includes the costs and benefits of the early going public decision of start-ups. She is aiming to use her structural model for policy counterfactuals allowing us to understand to effect of governance rules that would give shareholders more say when publicly listed start-ups fail, and listing rules that provide better incentives for optimal listing timing. I expect this to become a really fascinating and thought-provoking job market paper, of interest not only for financial economists but also the economics of

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Toulouse School of Economics

Ulrich Hege
Professor

innovation in the health sector where the discrepancy between social and private returns to innovation is arguably a particularly pressing policy issue.

More generally, Lin has an interest at the interface between entrepreneurial corporate finance and the use of structural methods in economic modelling. Her current project has taken shape from her curiosity from the puzzling finding that the cash holdings of young companies have seen a secular increase over the last 30 years, and are singularly responsible for the increase in cash of the entire corporate sector. She has also set out to do theoretical work adding a new twist to existing explanations that emphasize demand side effects: because of their disproportional use of intangible assets, high risk and low cash flow, young companies hold more cash. She has developed an (unfinished) model that explores a novel explanation, focusing on the role of capital supply in determining larger cash holdings. This effect comes only about in a general equilibrium model, which is highly unusual in corporate finance but very promising for this question. Lin distinguishes the impact of an increase in households' supply of capital from firms' precautionary demand. Her preliminary results indicate that firms' precautionary demand for capital cannot always lead to higher average cash holdings. I can confirm that she also a gifted theoretical modeler.

Lin is productive, hard-working, creative and has impressive skills to persevere and adjust when difficulties arise. Over the course of refining the research questions and exploring the topic for her first paper, she has developed advanced knowledge of the bio-pharmaceutical start-ups and start-up financing in general. She is familiar with most concepts in the literature on entrepreneurship and innovation. She has honed her empirical and data skills. She is amazingly good at assembling data.

Lin has a very friendly and pleasant personality. She is outgoing, communicates very well (her English is perfect), listens carefully and is very thoughtful. It is a delight to work with her. She is well liked by everyone, and it is easy to like her. I am sure she will blend easily into the group of ambitious high-level PhD students at the NBDER Boot Camp.

To summarize, I think highly of Lin Fang. She listens to advice, explores questions carefully, and applies very high standards to her own work. She looks for deep questions, and executes her research expertly and autonomously. I believe that she is on a promising trajectory and that the project for her job market paper has true potential and will deliver new insights. Beyond that paper, I am convinced of her strong potential to produce papers of high quality and to become a very good researcher. She has strong potential to be an excellent candidate on the job market next year.

Please do not hesitate to contact me should you wish to obtain more information.

Best wishes,



Ulrich Hege

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