Name: Danfeng YUE

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School: Toulouse School of Economics

Address: 1, Esplanade de l'Universitlé, 31000 Toulouse, France

Interest: Innovation, Intelligent Property Rights, Empirical Corporate Finance

Year of Entry into the PhD Program: 2022-2023

Expected Year of Completion: 2026-2027

RL Writer: Ulrich Hege at TSE (ulrich.hege@tse-fr.eu)

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EDUCATION

Toulouse School of Economics, Toulouse, France
Ph.D. in Economics *2022 - Present*
Master in Economics (with distinction) *2021 - 2022*
Central University of Finance and Economics, Beijing, China
Master in Economics *2018 - 2021*
Bachelor in Economics *2014 - 2018*

RESEARCH INTEREST

Innovation, Intelligent Property Rights, Empirical Corporate Finance

RESEARCH ASSISTANT

RA for Dr. Celine Yue Fei at University of Mannheim *2020 - 2021*
Data scraping and NLP for identifying Chinese VCs in Python

TEACHING

TA for *Program Evaluation* (graduate) *Spring 2024, 2025*
TA for *R Programming* (graduate) *Fall 2023, 2024*
TA for *Advanced Econometrics* (graduate) *Fall 2019*

AWARDS

Fondation Jean-Jacques Laffont PhD scholarship *2022 - 2023*
Chinese National Scholarship (about 0.2% nationwide) *2019 - 2020*

SKILLS

Software: Stata, LaTeX, Python, R
Languages: Chinese (native), English (fluent)
Others: cooking, Chinese calligraphy

My current research explores how patent enforceability affects firms' decision-making on infringement and related settlements. Leveraging the landmark eBay ruling by the U.S. Supreme Court in 2006, I find that removing the presumption of injunctive relief triggers heterogeneous reactions based on firm size. These differences are better explained by variations in self-selection into litigation rather than deliberate infringement decisions. Specifically, I observe an increase in patent infringement lawsuits following the litigation reform, primarily involving large defendants. This outcome can be attributed to two possible factors: increased infringement by large firms due to lower anticipated legal costs, and a greater tendency to pursue litigation rather than settlements. However, a comparison of litigated patent texts and firms' business descriptions reveals no evidence that large firms engage in more infringement than smaller ones. Therefore, I conclude that large firms are more likely to become defendants because they are less inclined to settle disputes.

My next project will focus on firms' external innovation strategies, such as spin-offs, CVC investments, and M&A. For instance, significant gaps remain in CVC research, particularly regarding why firms invest in ventures and how they benefit from their targets. While existing literature emphasizes the role of CVCs in enhancing parent companies' innovation, many phenomena remain unexplored. One unanswered question is why companies rarely acquire their targets. Another intriguing issue is why professional firms often participate in ventures only at later stages. I aim to explore how firms can derive benefits from CVC investments beyond increased patent applications and business diversification.

In this entrepreneurship research boot camp, I hope to receive valuable feedback from speakers and fellow participants to refine my research further. Additionally, I aim to build a strong network within the community, gain inspiration for new research ideas, and identify potential co-authors for future projects.

Toulouse School of Economics

Ulrich Hege
Professor

February 15, 2025

Recommendation Letter for Danfeng Yue

It is a pleasure to recommend Danfeng Yue for her application for the NBER Summer Boot Camp in Entrepreneurship 2025. I know Danfeng for more than 4 years; I am her main supervisor at at Toulouse School of Economics, and I have continuously and closely worked with her since she arrived at TSE. To sum up my recommendation, I am very optimistic about Danfeng and her potential. It is a delight to work with her. I have no hesitation to give her my strong support for her application for the NBER Summer Boot Camp.

Danfeng is a young scholar with broad interests in innovation and entrepreneurial finance. Over the last 18 months, she has worked on a first project on patent litigation that she is about to finish. Throughout, she has worked on this project quite autonomously, from defining the ideas and research strategy, executing to finalizing it. The idea of the paper is to use the U.S. Supreme Court decision on eBay Inc. v. MercExchange LLC as an exogenous shock that allows to study the process of IP rights infringement, patent litigation, the behavior of patent trolls. The USC eBay decision eliminated the presumption of injunctive relief in patent cases and drastically expanded the possibilities for defendants to stand their ground when attacked for patent infringement. It is one of the most important events in a series of court rulings and legal changes over the past 25 years that pushed back against what was perceived as excesses of protection for patent holder that could stiffly innovation. While much of the existing literature on the USC eBay decision focuses on its effect on promoting innovation and improving social welfare, Danfeng starts from the puzzling – and understudied – observation that patent litigation skyrocketed in the years following the ruling, in particular litigation from patent trolls. Danfeng observes that litigation increases in particular for larger firms. These findings are at first sight paradoxical since the eBay ruling has made life for patent trolls more difficult, and larger firms are presumably in a better position to defend themselves. Danfeng's paper explains the paradox through the lens of self-selection into litigation: with a lower likelihood of injunction relief, firms face reduced risks of losing sales, which in turn increases the incentives for them to deny a private settlement and instead be exposed to litigation risk. In other words, the observed increase in litigation is not the consequence of an increase in patent trolling activity (which indeed would be a puzzle), but of an increased tendency of defendants to object to cease-and-desist letters which in turn lead to more lawsuits, the tip of the iceberg in the infringement process that researchers observe. Danfeng first develops a theoretical model that explains the endogenous decisions in this multi-layered decision tree, from the trolls' decision to explore and pursue claims, the defendants' decision to settle, to the lawsuit decision. The subtleties of this sequential decision tree have not been fully appreciated in a literature that generally considers an increase in observed lawsuits as a proxy for increased trolling activity. The focus of Danfeng's paper is on the empirical exploration of this process. Using a difference-in-differences (DiD) approach, she shows that firms with larger sales were more likely to be sued by patent trolls after the policy change, highlighting how the reduction in injunctive relief influenced firms' litigation choices. Her systematic approach to the multiple stage of the dispute process and the findings on the role of firm size and other firm characteristics are novel. She also looks at the real effect of the USC eBay ruling on firms infringement strategies. She finds consistent evidence that, with the position of potential defendants becoming stronger, firms' product characteristics also move closer to the protected pace of other firm's patents, i.e. they are taking more risks leading to

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infringement claims. The paper is very well crafted and a first draft should be ready in a couple of months or so. I expect it do you well in the publication process.

Danfeng Yue is now starting with refining ideas for her second research paper. She will continue to work on innovation and entrepreneurship. Ideas we are currently evaluating include the role of CVC in the change ofr firm boundaries, and entrepreneurship based on corporate spinouts related to AI.

Danfeng is very productive, hard-working and enduring. Over the course of refining the research questions and exploring the topic for her first paper, she has developed advanced knowledge with many concepts in the patent literature. She has explored and become highly familiar with most measures in the economics of innovation. She has become a true expert in the literature and legal detail of patent litigation ad IP protection. She has honed her empirical and data skills. She is amazingly good in identifying data sources, working with litigation data and patent data. She has also become very good with machine learning tools, including for example matching patent data to product descriptions based on advanced language-based tools.

Danfeng has a very friendly and pleasant personality. She is sociable, outgoing, and eager to contribute to the common good of any group. It is easy to like her. She easily bleads into an international group of ambitious high-level PhD students at a PhD Workshop, as she demonstrated last year when attending the finance and industrial organization PhD Workshop in Lugano, run by Gordon Phillips and Laurent Fresard. This year, she has been accepted to the financial entrepreneurship workshop in Paris, run by Michael Ewens and Gilles Chemla.

To summarize, I think highly of Danfeng Yue. While she still needs to improve her communication skills and accelerate her ability to identify and operationalize research ideas, she is on a promising trajectory. She listens to advice, explores questions profoundly, never leaves a stone unturned, and keeps her own work to very high standards. She looks for deep questions, and executes her research expertly and autonomously. I believe that she has a storng potential to produce papers of high quality and to become a very good researcher.

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

Sincerely yours,



Ulrich Hege

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