

Xin Zhang

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EDUCATION

Doctoral Studies

<i>Ph.D. in Economics</i> , Toulouse School of Economics	2021–2026 (expected)
<i>Visiting Scholar</i> , Northwestern University, Department of Economics	Jan–Apr 2025

Prior Education

<i>M.Sc. in Economic Theory and Econometrics</i> , Toulouse School of Economics	2019–2021
<i>B.Sc. in Economics and Management</i> , Zhongnan University of Economics and Law	2015–2019

REFERENCES

Pierre Dubois

Toulouse School of Economics
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Isis Durrmeyer

Toulouse School of Economics
isis.durrmeyer@tse-fr.eu

Thierry Magnac

Toulouse School of Economics
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RESEARCH INTERESTS

Primary field: Industrial Organization

Secondary fields: Health Economics, Food Economics

TEACHING EXPERIENCE

Teaching Assistant

Toulouse School of Economics	
Game Theory, Master	2022, 2023, 2024
Intermediate Econometrics, Master	2024
Introductory Econometrics, Undergraduate	2024
Empirical Industrial Organization, Master	2023
Industrial Organization, Undergraduate	2023

OTHER POSITIONS

Research Assistant to Isis Durrmeyer, Toulouse School of Economics	2022
Research Assistant to Mathias Reynaert, Toulouse School of Economics	2021, 2020
Research Assistant to Jie Shuai, Zhongnan University of Economics and Law	2016–2018
Intern at Guotai Junan Securities, Wuhan	2017

AWARDS AND FELLOWSHIPS

Mobility grant, Toulouse School of Economics	2025
Doctoral fellowship, Toulouse School of Economics	2019–2026
Student research award, Zhongnan University of Economics and Law	2019

WORKING PAPER

Patent Challenge and Generic Entry - Job market paper
with Hanlin Zhao

Pharmaceutical innovation depends on strong primary patents that allow originators to recoup R&D costs. However, drug companies often engage in evergreening that prolongs patent protection by filing follow-on patents with little therapeutic gain. We study a policy lever that works with market forces to screen out weak follow-on patents: the Hatch-Waxman Act, which incentivizes challenges to evergreening patents by granting the first successful challenger a period of marketing exclusivity. Calibrating this temporary exclusivity can curb the extra monopoly protection created by evergreening while preserving incentives for genuine discovery and protecting consumer welfare through earlier generic entry. We quantify how the length of first-filer exclusivity shapes generic firms' incentives to initiate challenges. Using a two-stage structural model that endogenizes challenge and entry decisions, we estimate the fixed costs of generic entry with moment inequalities. We find that the current 180-day exclusivity raises challenge rates by about 4 percentage points. Extending exclusivity primarily activates challenges in markets that would otherwise go unchallenged: a two-year exclusivity increases the challenge rate to 15.38%. Effective exclusivity is highly heterogeneous across therapeutic classes: reaching a 20% challenge rate requires roughly two years for antimicrobials but less than one year for blood products or genitourinary drugs.

Tax Exemption for Feminine Sanitary Products: Evidence from the U.S Market

Feminine sanitary products are essential for women; however, unlike other necessities that are tax-exempt, they are often subject to taxation. This paper employs a Difference-in-Difference approach to examine the impact of repealing the tax on sanitary products in the U.S. market. The results suggest an incomplete pass-through of the tax exemption. Nevertheless, the repeal did not significantly improve affordability once consumers' substitution from smaller to larger pack sizes is taken into account. Furthermore, we evaluate policy options using a constant expenditure model to compare the tax repeal with four alternative interventions. We find that providing low-income consumers with a \$2 coupon offers the greatest improvement in product access, albeit at the cost of higher overall prices.

WORK IN PROGRESS

Consumer Demand with Unobserved Stockpiling and Intertemporal Price Discrimination
with Pierre Dubois and Thierry Magnac

Prescribing Behavior in Medical Deserts

with Philippe Choné, Pierre Dubois and Lionel Wilner

PRESENTATIONS

2025 TSE Empirical Micro Workshop, IO Lunch Seminar at Northwestern University, Brown Bag Seminar at Kellogg School of Management

2024 TSE IO Workshop, EEE Luchon workshop

2023 TSE IO Workshop

2017 CES Annual Conference, China

OTHER ACTIVITIES

Service: Mentor, Women in Economics Mentorship Program, TSE (2022–2023);

Co-organizer, TSE IO Workshop (2023–2024) and IO Reading Group (2024–2025)

OTHER INFORMATION

Software: Matlab, Stata, R, Python, SAS

Languages: English (fluent), French (intermediate, B1), Mandarin (native)

Citizenship: China