Tinghan Zhang

Contact Information

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Research Interests

Quantitative Marketing, Empirical Industrial Organization, Applied Microeconometrics, Decision Science

Education

Tilburg University — Tilburg, The Netherlands

Ph.D. Candidate, Econometrics, School of Economics and Management — *Sep. 2020 - 2025 (Expected)*

- Supervisors: Prof. dr. Tobias Klein, dr. Christoph Walsh

Research Master, Economics, School of Economics and Management (Cum Laude) — *Aug. 2018 - Aug. 2020*

Renmin University of China — Beijing, China

M.S., Quantitative Economics, Hanqing Advanced Institute of Finance and Economics — *Sep. 2015 - Jul. 2018*

B.A., Economics and Mathematics, School of Economics — *Sep. 2011 - Jul. 2015*

Academic Experience

Teaching Assistant, Tilburg University — 2020 - 2024

Econometrics 3, Research Master

- Panel Data, Time Series

Microeconometrics, Master

- Treatment Effects, Survival Analysis, Structural Econometrics, Non-/Semi-parametric Estimation

Research Assistant, Renmin University of China — Jan. 2016 - Feb. 2017

Working for Prof. Guangliang Ye

Visiting Researcher, Université de Genève — Sep. 2016 - Jan. 2017

Host: Prof. Harold Hau

Special Auditing Student, Kyoto University — Sep. 2014 - Feb. 2015

Host: Prof. Go Yano

Working Papers (click to view)

"**Estimating Sequential Search Models Based on a Partial Ranking Representation** (*Job Market Paper*)"

The rapid growth of online shopping has made consumer search data increasingly accessible, offering new opportunities for empirical research using sequential search models. However, conventional estimation approaches rely on Optimal Search Rules, which depend on unobservable information revealed during the search process. As a result, the likelihood function becomes challenging to evaluate, posing practical difficulties for model estimation and extension. This paper introduces a new representation of the optimal solution to a broad class of sequential search problems, showing that consumers' decisions can be equivalently formulated as a partial ranking over all feasible actions throughout the search process. This reformulation preserves the original choice probabilities while enabling an efficient decomposition of the likelihood function, significantly reducing the simulation burden. Building on this insight, we develop a new likelihood construction method, clarify identification arguments, and propose a modified GHK-style simulator that improves both estimation efficiency and ease of implementation. Our approach also extends to a range of model variants, including

settings with incomplete search data and general sequential information acquisition processes that involve additional actions, such as product discovery. Our study offers a new perspective on sequential search and provides a unified, tractable strategy for estimating these models across diverse empirical settings.

"**Do I Really Want to Buy This? Preference Discovery and Consumer Search**" with Tobias Klein and Christoph Walsh

One of the most invoked assumptions in economics is that consumers know their preferences when making choices. Although theories and experiments in psychology and behavioral economics suggest that this may be unrealistic, there is relatively little evidence from the field on this question. In this paper, we use detailed clickstream data from a large Central Asian online platform to study the extent to which consumers learn about their preferences while searching for a smartphone. To quantify the speed at which this takes place and account for other factors, most notably that consumers obtain additional product information when they inspect product pages, we estimate a rich search model in which consumers learn about their willingness to pay each time they visit the checkout page. Consumers initially underestimate their price sensitivity and update it along the way. Taking this into account shows that consumers are more price sensitive than a standard search model would predict, and an intervention that prompts consumers to end their search early can lead to potential welfare loss.

Selected Work in Progress

"**Out of Sight, Out of Cart: Modeling Forgetting in Consumer Search**" (*Draft Coming Soon*)

As online markets expand and information becomes increasingly dense, consumers are required to process a large volume of information in a short time, making it difficult to retain all the details acquired during search. Quantifying the impact of memory loss on consumer decision-making is crucial for firms to understand behaviors such as repeated search and to assess the effectiveness of tools like reminders and reference anchors. This paper develops a sequential search model with consumer forgetting, in which product uncertainty re-emerges over time as memory fades. Using clickstream data from a Central Asian e-commerce platform, we estimate the speed of forgetting and the cost of revisits. The main results show that allowing consumers to directly compare products with a fixed reference item effectively reduces unnecessary revisits and improves consumer welfare without reducing seller profits.

"Better Price, Better Quality? Resolve the Endogeneity in Search Decisions"

"The Causal Impact of Recommender Clicks", with Shrabastee Banerjee and George Knox

"Search Cost, Risk, and Financial Institutions Merger," with Chenxi Wang

Conferences and Seminars

2025: EMAC Doctoral Colloquium (Madrid); INFORMS Marketing Science Conference (Washington DC); 14th Consumer Search and Switching Costs Workshop (Hong Kong); EEA 2025 (Bordeaux, scheduled); AMA 2025 poster (Chicago, Scheduled)

2021-24: Tilburg Structural Econometric Lunch, Tilburg Graduate Students Society seminar; Workshop on Digital Markets 2024.

2015-16: China National Academic Graduates Forum for Industrial Economics

Honors and Awards

Tilburg University: Koopmans Scholarships, 2018 - 2020
Renmin University of China: Excellent Student Scholarships, 2015-2017
Renmin University of China: Excellent Graduate, 2018, 2015
Kyoto University: JASSO Scholarships, 2014

Other Activities

China Banking Regulatory Commission Beijing, China
Intern in Bureau of Policy Research *Jun 2015 - Aug 2015*

Tilburg Structural Econometrics Group Tilburg, Netherlands
Co-organizer of the SEG Seminar Series *Sep 2022 - Jun 2024*

Technical Skills

Languages: Chinese (native), English (fluent), Japanese (advanced)
Research Software: Matlab (extensive use), Stata (extensive use), R (intermediate), Python (beginner)
Application Software: LaTeX, Jupiter Notebook, Git

Personal Information

Date of Birth (dd/mm/yyyy): 08/05/1992
Sex: Male
Citizenship: China

Contact Information of References

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