Johan Orrenius

Stockholm School of Economics

Department of Economics

Sveavägen 65

Stockholm, Sweden

📞 +46(0) 73 398 92 58

✉ johan.orrenius@hhs.se

🌐 orrenius.github.io

Research Interests

Primary Field: Applied Microeconomics
Secondary Fields: Industrial Organization, Economics of Education, Health Economics

Education

Stockholm School of Economics, Stockholm, Sweden	Aug 2020 – June 2025
PhD Program in Economics	
Royal Institute of Technology (KTH), Stockholm , Sweden	Aug 2013 – June 2018
MSc Eng in Engineering Physics	
MSc Applied and Computational Mathematics	
Technical University of Munich, Munich, Germany	Oct 2016 – Aug 2017
Exchange in Mathematics	

References

Richard Friberg (Primary supervisor)	richard.friberg@hhs.se
Department of Economics, Stockholm School of Economics	
Robert Östling (Committee Member)	robert.ostling@hhs.se
Department of Economics, Stockholm School of Economics	
Marieke Bos (Committee Member)	marieke.bos@hhs.se
Swedish House of Finance, Stockholm School of Economics	

Working Papers

What is the value of attention? Supply and demand estimation of attention in a mobile app setting

Job Market Paper (Link)

Abstract: I study the digital market for attention in a freemium mobile game where users choose between paying with money or by watching 30-second video ads. Using unique event-level data, I estimate consumer's supply elasticity of attention. In the aggregate, a one percent higher price increases the share of payments by users watching videos by 2.2 percent. A substantial part is due to individual heterogeneity in tastes. When accounting for individual heterogeneity, the elasticity reduces to 0.5. The individual elasticities vary throughout the day, peaking in the evening. Complementing the unique data on each play made by users, I use data on the revenue to the gaming company from showing ads. The data is on an individual and daily level allowing me to match the individual supply elasticity with the revenue from showing ads to the same individual. I find advertisers pay more to show ads to individuals who are less likely to use ads as their payment method. The effect is stronger among Android users than iOS users. Finally, I estimate the willingness to pay to avoid a 30-second ad to 0.15 euros. By considering the time component of the ad, we get a value of time of 18 euros per hour. This is of similar magnitude to previous estimates of consumers' valuation of time.

Market Definitions in the Real-estate Agents Market, A Data-driven Approach Using Statistical Learning

(with Adam Lindhe)

Available upon request

Abstract: We define geographic markets using a machine learning clustering algorithm. The algorithm is an unsupervised learning algorithm that uses data on customers' location and seller identity to define markets. The novelty of our method is that we leverage the seller identity of each observation to improve on pure distance-based measures of markets. We impose the intuition that a seller will focus on a few geographic markets and incorporate it into a Bayesian method. We empirically implement the method using a Gibbs sampler and estimate the geographic markets for real estate agents in Sweden. We find that our algorithm does significantly better than the standard geographic clustering algorithm, K-means. We get a Dice score of 0.78 compared to 0.67. We also find a distribution of the number of markets each agent works in closer to that of the validation set. The baseline K-means market definition indicates a lower market concentration than our market definition, where ours is closer to that of the validation set. Finally, we investigate the correct number of clusters and find that it in our example corresponds to the general knowledge of how the market is geographically structured.

Work in Progress

School openings and teacher mental health	(with Helena Svaleryd and Jonas Vlachos)
Loneliness, Alzheimer and Financial Distress	(with Marieke Bos and Andrew Herzberg)
Social sevrices	(with Ulrika Ahlsjö and Eva Forslund)
The impact of remedial education on educational achievements	(with Shubhaa Bhattacharyya)

Presentations

- **2024:**

  - Stockholm-Uppsala Doctoral Student Workshop in Economics (SUDSWEC)

  - 7th Doctoral Workshop on the Economics of Digitization

  - The 13th Nordic workshop on Industrial Organization

  - Stockholm School of Economics Brownbag

  - University of Mannheim

  - Jönköping International Business School (JIBS)

  - Umeå University

  - The Mannheim Centre for Competition and Innovation Annual Conference (MaCCi)

  - Research Institute of Industrial Economics (IFN)

- **2023:**

  - Stockholm-Uppsala Doctoral Student Workshop in Economics (SUDSWEC)

  - Stockholm School of Economics Brownbag

  - Microwave Stockholm University

- **2022:**
  - PhD conference SSE
  - ENTER Jamboree (discussant)
  - Microwave Stockholm University

Teaching Experience

The Psychology and Economics of Consumer Finance   Spring 2019
Teaching Assistant for
Empirical Economics   Fall 2021
Teaching Assistant
Using Data to Solve Economic and Social Problems   Fall 2021
Teaching Assistant
Mathematics bootcamp for MSc Program   Fall 2022,2023,2024

Relevant Work Experience

Swedish House of Finance , Stockholm   June 2018 - June 2020
Research assistant
- Description: Econometric research in health and household finance for Marieke Bos.

ABB Corporate Research, Västerås   June 2015-Aug 2015
Research internship
- Description: Multi-physics simulation using FEM software

Professional service

SSE Disciplinary and Dismissal Board Graduate student representative   2022 – present

Referee
Journal of Political Economy Microeconomics

Skills & Hobbies

Languages:
- English (Fluent)
- Swedish (Native)
- German (Intermediate)

Technical Skills:
- LaTeX
- Stata
- R
- Python
- Java (Rusty)
- Matlab (Rusty)

Interests:
- Sailing
- Hiking
- Theater
- Running

Updataed: October 8, 2024