Application: NBER Economics of Digitization Tutorial

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Education

PhD in Economics, Toulouse School of Economics **2018-**

- Advisors: Alexandre de Cornière, Daniel Ershov, and Bruno Jullien.
- Research interests:
  - Empirical Industrial Organization
  - Economics of Digitization, Competition Policy
- Teaching experiences (as teaching assistant):
  - Fall 2019 and 2020: Intermediate Econometrics (M.Sc.)
  - Spring 2019: Applied Econometrics (M.Sc.)
- Co-ordinator for Competition Policy Workshop (responsible faculty: Bruno Jullien, Patrick Rey and Estelle Malavolti)

DEEQA (European Diploma for Quantitative Economics), TSE **2017-18**

During advanced PhD-level courses, I became acquainted with cutting-edge research in the fields of Microeconomic Theory, Econometrics, and especially Industrial Organization.
Courses taken and instructors:

- Advanced Topics in Economic **Theory** (Jean Tirole, Johannes Hörner)
- Advanced **Econometrics** (Cristina Gualdani, Shruti Sinha); Econometrics of Program Evaluation (Sylvain Chabé-Ferret)
- Several classes in **Advanced Theoretical and Empirical Industrial Organization**; covering recent empirical and theoretical research on **multi-sided markets, network effects, tying, IP, consumer search, switching costs, vertical relations, buyer power**, and more (Pierre Dubois, Bruno Jullien, Patrick Rey, Ana Gazmuri, Andrew Rhodes, Doh Shin Jeon, Stéphane Caprice)

M2 Economic Theory and Econometrics (M.Sc.), TSE **2016-17**

PhD-level introductory courses.

- Thesis: *Search Advertising and Online Intermediation in the Travel Industry*,
  advisor: Paul Seabright.
- Microeconomics, Macroeconomics and Econometrics; elective classes: Game Theory and Public Economics.

M1 Economics (M.Sc.), TSE **2015-16**

- Elective classes: Advanced Calculus, Game Theory, Empirical Industrial Organization, Environmental Economics.

B.Sc. Economics, University of Mannheim **2012-15**

- Elective classes: Advanced Analysis; Game Theory; Environmental Economics; Development Economics
- 5-month exchange at the Hong Kong University of Science and Technology

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Research Interests

My research interests focus on the Economics of Digitization and Empirical Industrial Organization. I am interested in applying empirical techniques - in particular, structural econometric models - and to markets in which digital goods and services are sold. I am moreover interested in competition policy and in the question of whether these markets should be regulated in any way, and if so, how.

How do Online Product Rankings Influence Sellers' Pricing Behavior?

Working Paper

In this paper, I study the implications of platform design for the functioning of a two-sided market. I focus on the platform's choice of how to rank (i.e., in which order to display) the different products that the platform offers. It is well established that products that are displayed more prominently on e-commerce platforms are more likely to be found and purchased by consumers. The algorithms ranking these products, however, may condition a product's position on its price, and can thus intensify, or weaken price competition between sellers. I set up a theoretical framework in which hotels offering rooms on a booking platform take into account not only the usual, direct effect of their prices on demand, but also the effect of their price on their position in the ranking. Using data scraped from Expedia, I find that for a given hotel, a lower price leads to a more prominent position on the results page. For the demand side, I estimate utility parameters of a sequential search model (following Ursu (2018)), using individual-level consumer search data obtained from the Wharton Consumer Analytics Initiative. The parameters on the ranking side as well as the consumer side allow me to simulate how variations to the ranking algorithm affect hotel prices and markups.

Advisors: Daniel Ershov; Alexandre de Cornière; Bruno Jullien.

Startup Entry and Innovation in Digital Markets

Work in progress

This research seeks to shed light on the question: How does the presence of large product-market incumbents affect the financial constraints and entry decisions of startups? The question is motivated by the observation that large digital platforms increasingly invest into and especially acquire young startups. It is an open question to what extent the acquisitions encourage startup entry and innovation (e.g. Cabral (2020)), and under which conditions the presence of large, dominant incumbents create so-called kill zones: Areas in the technology space in which venture capital investors may not have incentives provide funding, and startups do not succeed to enter (e.g. Kamepalli, Rajan and Zingales (2020)). In the long run, I intend to study this question using a structural model of venture capital financing and startup entry decisions. This would allow for counterfactual simulations how startup entry is affected by limiting investments or takeovers by large incumbents into small startups.

Advisors: Daniel Ershov; Ulrich Hege; Bruno Jullien.

Strategic Product Positioning and Imitation in the Indian Handset Market

Work in progress; joint with Vatsala Shreeti

In this project, we study how phone manufacturers position their product lines within the characteristics space. We focus on the handset market in India, one of the fastest growing emerging market for digital goods and services. We are especially interested in questions relating to the first introduction of a certain characteristic in a company's product line, and the subsequent diffusion of this characteristics across different companies. We hope to learn more about the importance of patent protection, which would hinder phone companies from imitating each others' characteristics.

Advisors: Isis Durrmeyer; Daniel Ershov.