

Platforms and digital markets

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Universidad de Chile

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Description of the course

The present course has two objectives: first, to provide basic concepts related to the digital economy, especially related to online marketplaces, networks, and two-sided markets. Second, to provide an overview of the current challenges for regulators and researchers related to these markets.

Among the several industries related to the digital economy, the present course focuses on e-commerce, including consumer search in online markets. Other topics such as data and privacy, media, software, streaming, and matching platforms are discussed briefly.

Sources

I recommend reading the following material during the first weeks of the course:

- "Noncooperative Game Theory: A User's Manual", chapter 11 from "The Theory of Industrial Organization", by Jean Tirole.
- Jhon Cochrane "Writing Tips for Ph.D. Students", available at http://schwert.ssb.rochester.edu/aec510/phd_paper_writing.pdf.
- Bagnoli and Bergstrom (2005): "Log-concave probability and its applications".

For the most interested in these topics, here there are some relevant sources:

- Andrei Hagiu and Julian Wright blog on platforms: <https://platformchronicles.substack.com/>.
- A Systematic and Interdisciplinary Review of the Literature on Platform Competition: <https://platformpapers.com/>.
- Paul Belleflamme lectures on digital markets and two sided markets, available at <https://paulbelleflamme.com/teaching/>.

Evaluation

- 1 exam (30%) with the material of classes 1 to 10.
- 1 problem set (30%) with the material of classes 11 to 15.
- 3-5 short tests or homeworks (40%).

Structure

Class 1: introduction

- Introduction to the basic concepts related to digitization.
- Discussion of some modern challenges and real regulatory concerns and antitrust cases.
- Overview of the course's topics: networks, two-sided markets and platforms, business models, data, artificial intelligence, consumer search.

References

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Class 2-6: networks and two-sided markets

- Class 2: networks.
 - Definition of networks.
 - Direct and indirect network effects.
 - Demand and supply of network goods.
 - Incumbency advantage.
- Class 3-6: platforms and two-sided markets.
 - Definitions of platforms and two-sided markets.
 - Seminal models of two-sided markets. Caillaud and Jullien (2003), Rochet and Tirole (2003, 2006), Armstrong (2006), Armstrong and Wright (2007).
 - Platform competition, chicken and egg problem, single-homing and multi-homing.

References

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- [12] E. G. Weyl, “A price theory of multi-sided platforms,” *American Economic Review*, vol. 100, no. 4, pp. 1642–72, 2010.

Class 7-9: topics on digital economics

- Class 7-8: Business models.
 - The agency model and price parity clauses.
 - The hybrid or dual business model.
 - Device-funded vs ad-funded platforms.
 - Creating platforms by hosting rivals.
- Class 9: data and competition.
 - What role does data play in competition?
 - Competition in data-driven markets.
 - Data-enabled learning.

References

- [1] A. De Corniere and G. Taylor, “Data and competition: a general framework with applications to mergers, market structure, and privacy policy,” 2020.
- [2] B. De los Santos and M. R. Wildenbeest, “E-book pricing and vertical restraints,” *Quantitative Marketing and Economics*, vol. 15, no. 2, pp. 85–122, 2017.
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Class 10: Invited session on artificial intelligence

Invited session by professor Xavier Lambin, to be confirmed.

Class 11-15: Consumer search

- Introduction to search frictions. Price dispersion. Diamond Paradox.
- Seminal search models: Varian (1980), Stahl (1989), Wolinsky (1986).
- Ordered and simultaneous search.
- Obfuscation models and recommendation bias by intermediaries.
- Some empirical applications and modern questions on consumer search.

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