

## **Proposal for a short course PhD in Economics – Second Year**

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### **Industrial Organization of Two-sided Markets**

The cutting-edge research on platforms appears as a form of intermediation that has gained importance in recent years. This short course provides a brief introduction to the economics of two-sided markets. In a two-sided market, two groups interact through an intermediary, or platform, that accounts for the externalities between the groups. Two-sided platforms, or networks, can be found in many industries, including search engines or communication networks such as the media and the internet. The course will focus on these cases and will familiarize students with the relevant methods required to analyze several important issues currently discussed in the recent economic literature.

### **COURSE OUTLINE**

#### **Topic 1. Overview of basic concepts**

This part aims at introducing the basic features of two-sided markets:

- (i) Several examples of two-sided platforms will be given to illustrate what groups of agents mean and how these groups take value from the interaction they can achieve via the platform's services.
- (ii) Cross-side effects. These effects refer to the fact that the value of the agents in one group depends on decisions taken by agents of the other group.
- (iii) Platforms are often actively managed, and inducing agents' participation is problematic as participants on each side are likely to wait for the other side to make a move. The focus will be on the basic pricing principles for a monopoly platform.
- (iv) Few platforms are active in a single market because cross-side effects pose critical challenges. They may create self-reinforcing mechanisms that often lead to market dominance by a single platform or at least a few platforms. To understand this, we will correctly define the market itself and market power in two-sided markets.

#### **References:**

- Armstrong, M. 2006. Competition in Two-Sided Markets. *RAND Journal of Economics* 37, 668–91.
- Belleflamme, P. and Peitz, M. 2010. *Industrial Organization: Markets and Strategies* (Chapter 22). Cambridge: Cambridge University Press.
- Evans, D. 2003. Some Empirical Aspects of Multi-Sided Platform Industries, *Review of Network Economics* 2, 191-209.
- Rochet, J.-Ch., and Tirole, J. 2003. Platform Competition in Two-Sided Markets. *Journal of the European Economic Association* 1, 990–1029.

Rochet, J.-Ch., and Tirole, J. 2006. Two-Sided Markets: A Progress Report. *RAND Journal of Economics* 37, 645–67.

## **Topic 2. Platform competition**

This part aims at extending the study of platform competition in several directions, which will later inform the analysis of competition policy in two-sided markets. The focus is deliberately put here on recent contributions. The focus will be on the effects of competition in two-sided markets since it needs to be clarified whether an increase in competition when the market is two-sided always leads to a more efficient or balanced price structure; competition may sometimes lead to higher prices. The plausibility of such a situation will be examined. We will then discuss the competition in two-part tariffs and examine the implications of two-part tariffs regarding profits and welfare.

### **References:**

Belleflamme, P. and Peitz, M. 2010. Platform Competition and Seller Investment Incentives. *European Economic Review* 50, 1059-1076.

Belleflamme, P. and Toulemonde, E. 2009. Negative Intra-Group Externalities in Two-Sided Markets. *International Economic Review* 50, 245-272.

Bernard C. and Jullien, B. 2003, Chicken & Egg: Competition among Intermediation Service Providers. *RAND Journal of Economics*, 34(2), 309-28.

Böhme, E. and Müller, C. 2010. Price-Increasing Competition on Two-Sided Markets with Homogeneous Platforms. Mimeo.

## **Topic 3. Platforms and the Use of Big Data**

This part will address platforms' primary asset – data following the recent development in the literature. In this part, we will tackle topics such as the differences between ratings and reviews, social learning, consumer reviews (real and fake), and ratings and incentives.

### **References:**

Bergemann, D., Bonatti, A. and Gan, T. , 2022. The economics of social data. *The RAND Journal of Economics*, 53: 263-296.

Bergemann, D., & Bonatti, A. (2022). Data, Competition, and Digital Platforms. Available at SSRN 4236337.

He, S., B. Hollenbeck, and D. Proserpio (2021). The market for fake reviews. MPRA Paper 105507.

Belleflamme P, Peitz M. The Economics of Platforms. Cambridge University Press; 2021.

Tadelis, S., 2016. Reputation and feedback systems in online platform markets. *Annual Review of Economics* 8, 321–340.

Vellodi, N. (2019). Rating design and barriers to entry. Mimeo

#### **Topic 4. Platform Design**

In the final part of this short course, we will examine how the strategies of a profit-maximizing two-sided platform affect user participation and usage in a buyer-seller context. Since buyers and sellers can gain by interacting on the platform, crucially depending on the platform's price and nonprice strategies, such strategies can be seen as design decisions. By managing such a design problem, platforms can shape their popularity, how they operate, and their capacity to monetize their role of bringing two distinct groups of agents together.

#### **References:**

Baye, M. R., Morgan J. 2001. Information gatekeepers on the internet and the competitiveness of homogeneous product markets. *American Economic Review* 91(3), 454–474.

Belleflamme P, Peitz M. The Economics of Platforms. Cambridge University Press; 2021.

Choi, J. , D.-S. Jeon. 2020. Two-sided platforms and biases in technology adoption. CESifo Working Paper No. 8559.

Teh, Tat-How. "Platform governance." *American Economic Journal: Microeconomics* 14.3 (2022): 213-54.

### **ASSESSMENT**

At the end of the short course, students will be asked to prepare a critical assessment essay on one of the following papers:

- Bergemann D, Bonatti A. (2015) Selling cookies. *American Economic Journal: Microeconomics*, 7(3):259-94.
- Etro, F. (2021). Device-funded vs ad-funded platforms. *International Journal of Industrial Organization*, 75, 102711.

- Katz, M. L. (2021). Big Tech mergers: Innovation, competition for the market, and the acquisition of emerging competitors. *Information Economics and Policy*, 54, 100883.
- Padilla, J., Piccolo, S., & Vasconcelos, H. (2022). Business models, consumer data and privacy in platform markets. *Journal of Industrial and Business Economics*, 49(3), 599-634.
- Padilla, J., Piccolo, S., & Vasconcelos, H. (2021). Should vertically integrated platforms be mandated to share information with their rivals?. *Economics Letters*, 203, 109849.
- Padilla, J., & Piccolo, S. (2020). Does direct connect benefit travellers?. *Economics Letters*, 188, 108952.
- Padilla, J., Perkins, J., & Piccolo, S. (2022). Self-Preferencing in Markets with Vertically Integrated Gatekeeper Platforms. *The Journal of Industrial Economics*, 70(2), 371-395.
- Etro, F. (2021). Product selection in online marketplaces. *Journal of Economics & Management Strategy*, 30(3), 614-637.
- Jullien, B., Reisinger, M., & Rey, P. (2018). Vertical foreclosure and multi-segment competition. *Economics Letters*, 169, 31-34.
- Rey, P., & Nocke, V. (2022). Consumer Search and Choice Overload. (Unpublished Working Paper), mimeo
- Etro, F. (2022). Platform competition with free entry of sellers. *International Journal of Industrial Organization*, 102903.
- Bergemann, D., & Bonatti, A. (2022). Data, Competition, and Digital Platforms. Available at SSRN 4236337.

Further instructions will be given to the students to prepare the critical assesment essay.

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