

CREST - GENES

Cours doctoraux 2024 – 2025

MARKET POWER, RANDOMIZATION AND REGULATION

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SCHEDULE	Monday	9th September 2024 16th September 2024	From 9:00 to 12:15 From 13:30 to 16:45	ROOM 2003
	Thursday	12th September 2024	From 13:30 to 16:45	ROOM 2003

Background

Monopoly and monopsony pricing problems are of long-standing interest in economics. With the emergence of large online platforms in the digital age, they have received renewed salience and attention. This course provides an overview of recent theoretical advances based on incomplete information models. These shed new light on a broad array of issues, ranging from the optimality of rationing and involuntary unemployment to resale, opaque pricing by multi-product monopolies, market definition in antitrust and merger effects to optimal regulation in the tradition of Ramsey.

The incomplete information approach not only provides a coherent explanation for otherwise puzzling phenomena. For example, why does the seller of concert tickets underprice these, thereby inviting resale, rather than set a market-clearing price? Why do multi-product sellers offer opaque products, leaving buyers in the dark as to what they purchased until after the fact? It also implies that, because of incentive compatibility, perfect price discrimination is not possible, and it permits clear-cut predictions of the form price discrimination takes, with and without resale. By assuming that the firm always chooses the optimal mechanism, the approach is immune to the criticism that its predictions hinge on ad-hoc restrictions. A tradeoff between social surplus and profit derives from the primitives.

Outline

The course begins by studying the optimal pricing problem of a monopoly that faces a continuum of buyers with single-unit demand who are privately informed about their values, which is based on Loertscher and Muir (2022, 2024a). It shows that selling a fixed quantity at the market-clearing price is optimal if and only if the revenue function at the market-clearing price is concave. Otherwise, the firm optimally uses two prices, inducing excess demand and rationing at the low price. Introducing a tractable model of resale, it then analyzes the effects of resale that emerges when there is rationing. With vertically differentiated goods, the optimal selling mechanism with non-concave revenue involves conflating different goods into opaquely priced categories. Applied to a procurement setting in which a monopsony hires workers who are privately informed about their costs, this means that the procurement-cost minimizing scheme to hire a

given number of workers involves involuntary unemployment and an efficiency wage if the procurement-cost function at the market-clearing wage is not convex.

The second part then studies a multi-product monopoly pricing problem in which the firm has horizontally differentiated products on the Hotelling line for sale, assuming that consumers are uniformly distributed, have linear transportation costs, single-unit demand and private information about their locations. From a formal perspective, the analysis, based on Loertscher and Muir (2024c), performs mechanism design using the toolkit of undergraduate IO. If the placements of the firm's products are exogenously given, then market-clearing pricing is optimal if and only if the firm prices in the same way as two independent sellers. If the firm optimally places the products, focusing on market-clearing pricing is never without loss of generality. The optimal selling mechanism involves an opaque product that gives consumers a fifty-fifty chance of obtaining the left or the right good. (Applied to a labor market setting, this means that the procurement cost minimizing recruitment scheme for an employer with horizontally differentiated jobs involves deliberate inefficient mismatching of workers to jobs; see Loertscher and Muir (2024b).) Resale mitigates but typically does not eliminate the benefits of opaqueness. The analysis has implications for market definition in antitrust economics and shows that mergers that by traditional tools would be considered neutral can be profitable and increase social surplus while reducing consumer surplus. A Ramsey regulator who aims to maximize a convex combination of the firm's profit and social surplus can achieve its objective with appropriately chosen price ceilings, whether or not the firm is free to choose the placement of its products.

The last part of the course revisits the homogeneous good model of the first part and, based on Loertscher and Muir (2024d), analyzes Ramsey regulation for that setting. It introduces the notion of perfect regulation—a set of regulatory instruments is sufficient if, using these instruments, the Ramsey regulator does as well as it would if it operated the firm itself. It shows that, in general, price ceilings are not sufficient for perfect regulation because, on the margin, the firm may engage in excessive production. Price ceilings, price floors and average price ceilings are, in general, sufficient for perfect regulation. Comparative statics of the effects of price ceilings and minimum wages, based on Loertscher and Muir (2024b), are also discussed.

Format, pre-requisites and audience

This PhD-level course will cover 9 hours of lectures. These will be split over three sessions, each consisting of 3 hours. Pre-requisites are familiarity with standard monopoly and oligopoly models. Background knowledge of mechanism design is desirable without being indispensable.

References

Loertscher, S. and E. V. Muir (2022): "Monopoly pricing, optimal randomization and resale," *Journal of Political Economy*, 130, 566–635.

——— (2024a): "Market power, randomization and regulation," *International Journal of Industrial Organization*.

——— (2024b): "Optimal labor procurement under minimum wages and monopsony power," Working Paper.

—— (2024c): “Optimal opaqueness: Multi-product monopoly pricing without contractual restrictions,” Working paper.

—— (2024d): “Ramsey pricing revisited,” Working Paper.