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Economics 349
Industrial Economics
Fall 2022

This is an advanced undergraduate course in industrial organization. We will study the behavior of firms and the structure of markets. The first goal is to apply microeconomic theory to understand when and how firms exercise market power, and the impact of market power on market efficiency and consumer welfare. The second goal is to apply these insights to analyze antitrust cases.

The text for this course is by Luis Cabral, *Introduction to Industrial Organization*, 2nd edition, MIT Press, 2017 (ISBN: 978-0-262-03594-1). This book provides a description of the basic theory and it contains many illustrative examples. The level of the exposition is similar to that of the class lectures. Readings on several of the antitrust cases discussed in class can be found in *The Antitrust Revolution*, edited by John Kwoka and Lawrence White, 7th edition, Oxford, 2019 (ISBN: 978-0-190-66885-3), as well as some earlier editions of Kwoka & White. Many Kwoka & White cases and some additional readings will be posted on Canvas.

There will be weekly problem sets. Problem sets must be submitted by 11 am on their due dates, via Crowdmark. Late problem sets will not be accepted. You may work in groups on problem sets, and turn in your answers as a group, as long as the group has no more than three people. Discussing problem sets with other groups is allowed and encouraged, but problem sets are meant to be reflective of each group's work. Copying another group's assignment, permitting another group to copy from your assignment, or jointly writing up answers across groups will result in no credit for the entire assignment for all involved students. Furthermore, dividing up problem set questions across students is discouraged. Problem sets are intended to help you study the material and to learn important skills, and skipping a problem entirely will be detrimental to your learning.

There will be one midterm exam and a final exam. The midterm will be during class time on Monday, October 24. The final is scheduled for Thursday, December 8 at 3pm. The final will be cumulative and cover material from the entire quarter, but it will emphasize material covered after the midterm. Both exams will be in person, and open notes. The approximate weighting scheme for the final grade will be:

Problem Sets	25%
Midterm Exam	30%
Final Exam	45%

Any student who misses the midterm or final without a good reason will receive no credit for the exam. Medical reasons require written confirmation from the Student Health service or your doctor. Non-medical reasons require a written excuse from the WCAS Office of Studies. A makeup for the midterms will be permitted only if there is a good reason for missing the exam. Suspicion of academic dishonesty will be immediately referred to the Dean's office.

Any student requesting accommodations related to a disability or other condition is required to register with AccessibleNU (accessiblenu@northwestern.edu; 847-467-5530) and provide professors with an accommodation notice from AccessibleNU, preferably within the first two weeks of class. All information will remain confidential.

The Teaching Assistant for the course is Ting Wang, tingwang@u.northwestern.edu. Ting will hold a discussion section each week, on Fridays at 9:30, in which she will discuss the problem sets, review class material and cover some supplemental material.

The plans for how the course will be run are described below. However, we may modify various aspects, depending on campus restrictions, as well as feedback we receive from you and our own evaluations. We always welcome feedback on how to improve the course.

All lectures and discussion sections will be conducted in person, and attendance is strongly recommended. Current university guidelines recommend that students wear masks in class. Instructors may remain unmasked while teaching if they do not have close contact with others. Office hours will be conducted as open Zoom sessions where all students attending office hours are admitted to the ongoing session. Office hours will not be recorded. If you would like a private meeting, either in person or via Zoom, this can be arranged by appointment with either myself or Ting. Links to office hours will be posted on Canvas.

I will post copies of the lecture slides before the topics are covered in class. You may find it useful to download the slides before attending lectures in order to review the material in advance and/or to take notes during the lecture. I will distribute paper copies of the slides to those who request them. The slides contain material that will be covered in class, as well as supplemental material, some of which may be covered in class. I plan on annotating the slides while I lecture, and the annotated slides will also be posted on Canvas after the lecture. As far as exams are concerned, you are only responsible for the material covered in class.

Course Outline

Class discussion will cover the following topics. The chapters and cases referred to are those in Cabral and Kwoka & White (KW).

1. Introduction

Cabral, Chapter 1

“Benefits of Competition and Indicators of Market Power,” Council of Economic Advisors Issue Brief, 2016.

S. Berry, M. Gaynor and F. Scott Morton, “Do Increasing Markups Matter? Lessons from Empirical Industrial Organization,” *Journal of Economic Perspectives*, 2019.

H. Boushey and H. Knudson, “The Importance of Competition for the American Economy,” Council of Economic Advisors, 2021.

- N. Lamoreaux, “The Problem of Bigness: From Standard Oil to Google,” *Journal of Economic Perspectives*, 2019.
- C. Shapiro, “Protecting Competition in the American Economy: Merger Control, Tech Titans, Labor Markets,” *Journal of Economic Perspectives*, 2019.
- “Anti-Trust in Me: Can the Federal Bureaucracy Resuscitate Market Dynamism in America?” *Economist*, July 15, 2021.

2. Cost Functions and Perfect Competition

Cabral, Chapters 3 and 4

3. Monopoly

Cabral, Chapter 5

4. Market Definition and Durable Goods

- “Horizontal Merger Guidelines,” US Department of Justice and Federal Trade Commission, 2010, Sections 3 and 4.
- L. Benkart, A. Yurukoglu and A. Zhang, “Concentration in Product Markets,” mimeo, Stanford, 2021.

5. Price Discrimination

Cabral, Chapter 6

- “For the First Time, Cubs are Offering a Cheap-Seat Lottery at Wrigley. It’s a Smokescreen,” *Chicago Tribune*, April 8, 2018.
- “Luxury’s Gray Market is Emerging from the Shadows,” *NY Times*, August 24, 2021.

6. Oligopoly Competition with Homogeneous Products

Cabral, Chapter 8

7. Oligopoly Competition with Differentiated Products

Cabral, Chapter 14, Sections 1 and 2

8. Collusion and Pricing in Repeated Games

Cabral, Chapter 9

- KW (5th edition) Case 12: “Bidding, Bid Rigging, and School Milk Prices: Ohio v. Trauth (1994)”
- KW (3rd edition) Case 13: “Rapid Communication and Price Fixing: The Airline Tariff Publishing Company Case”
- W. Christie and P. Schultz, “Did Nasdaq Market Makers Implicitly Collude?” *Journal of Economic Perspectives*, 1995.

- E. Cuddy, R. Porter, A. Starc and T. Wollmann, “The U.S. Generic Prescription Drug Cartel,” mimeo, Northwestern, 2022.
- M. Kim, R. Mansley, N. Miller, M. Remer and M. Weinberg, “Price-Fixing Allegations in the Canned Tuna Industry: A Look at the Data,” mimeo, GWU, 2022.
- C. Sullivan, “Split Apart: Differentiation, Diversion, and Coordination in the Market for Superpremium Ice Cream,” AEA Papers and Proceedings, 2020.
- “Your Steak is More Expensive, but Cattle Ranchers are Missing Out,” NY Times, June 23, 2021.
- “Colleges Sued Over How Aid is Calculated,” Wall Street Journal, January 10, 2022.

9. Product Differentiation

Cabral, Chapter 14, Section 2

10. Entry and Market Structure

Cabral, Chapters 10 and 12

- KW Case 16: “Predatory Pricing in the Airline Industry: Spirit vs. Northwest (2005)”
- “Slack Accuses Microsoft of Illegally Crushing Competition,” NY Times, July 2020.

11. Horizontal Mergers

Cabral, Chapter 11

- “Horizontal Merger Guidelines,” US Department of Justice and Federal Trade Commission, 2010.
- KW Case 6: “The Proposed Merger of AT&T and T-Mobile: Rethinking Possible (2011)”
- KW Case 9: “Prices, Market Definition and the Effects of Merger: Staples, Office Depot and Office Max”
- KW Case 19: “End of an Era: The American Airlines-US Airways Merger (2014)”
- V. Bhattacharya, G. Illanes and D. Silverman, “Have Mergers Raised Prices? Evidence from U.S. Retail,” mimeo, Northwestern, 2022.
- N. Miller and M. Weinberg, “How the MillerCoors Joint Venture Changed Competition in U.S. Brewing,” Microeconomic Insights, 2017.
- R. Pittman, “Merger Law and Enforcement in the United States”
- E. Prager and M. Schmitt, “Competitive Labor Markets Boost Wage Growth,” Microeconomic Insights, 2021.
- “Will the Biggest Publisher in the United States Get Even Bigger?” NY Times, July 31, 2022.

12. Vertical Price Restraints and Vertical Mergers

Cabral, Chapter 13

- “Vertical Merger Guidelines,” US Department of Justice and Federal Trade Commission, 2020.

- KW Case 8: “Rockonomics: The Ticketmaster-Live Nation Merger and the Rock Concert Business (2010)”
- G. Crawford, R. Lee, M. Whinston and A. Yurukoglu, “Effects of Vertical Mergers in Multichannel TV Markets: Evidence from Regional Sports Programming,” *Microeconomic Insights*, 2019.
- F. Luco and G. Marshall, “Effects of Vertical Mergers on Competition: Evidence from the Carbonated Drinks Industry,” *Microeconomic Insights*, 2021.
- C. Shapiro, “Vertical Mergers and Input Foreclosure: Lessons from the AT&T/Time Warner Case,” *Review of Industrial Organization*, 2021.
- “How Apple’s 30% App Store Cut Became a Boon and a Headache,” *NY Times*, August 14, 2020.
- “Judge Orders Apple to Loosen App Store Restrictions in Mixed Verdict,” *Wall Street Journal*, September 10, 2021.

13. Research and Development and Innovation

Cabral, Chapter 15

- KW Case 15: “Pharmaceutical Patents and Pay-for-Delay: Actavis (2013)”
- L. Cabral, “Merger Policy in Digital Industries,” *Information Economics and Policy*, 2021.
- C. Cunningham, F. Ederer and S. Ma, “Killer Acquisitions,” *Microeconomic Insights*, 2022.
- F. Scott Morton and D. Dinielli, “Roadmap for a Digital Advertising Monopolization Case Against Google,” May 2020.
- F. Scott Morton and D. Dinielli, “Roadmap for a Monopolization Case Against Google Regarding the Search Market,” June 2020.
- F. Scott Morton and D. Dinielli, “Roadmap for an Antitrust Case Against Facebook,” June 2020.
- “Collusion and Collisions: The New Rules of Competition in the Technology Industry,” *Economist*, February 27, 2021.