

Industrial Organization

MPhil Microeconomics

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Required Text

- Tirole, J. 1988. *The Theory of Industrial Organization*. MIT Press.

Required Readings

(a). Cournot and Bertrand

- Tirole (1988), pages 209-224.

(b). Cooperation in repeated games

- Tirole (1988), pages 239-264, 268-269.

(c). Product differentiation

- Tirole (1988), pages 277-285, 296-300.

(d). Price competition vs quantity competition

- Shapiro, C. 1989. "Theories of Oligopoly Behavior." In *Handbook of Industrial Organization*. Schmalensee and Willig, eds. North Holland. (Especially pages 348-352.)

(e). Entry and welfare, wars of attrition, entry barriers, contestability

- Tirole (1988), pages 305-313
- Armstrong, M., S. Cowan, and J. Vickers. 1994. *Regulatory Reform: Economic Analysis and the British Experience*. MIT Press, Cambridge and London. (Pages 106-111.)
- Baumol, W. 1982. "Contestable Markets: 'An Uprising in the Theory of Industry Structure'." *American Economic Review* 1-15.

(f). Strategic investment and entry deterrence and accommodation

- Tirole (1988), pages 207-208, 314-337
- Bulow, J. I., J. D. Geanakoplos, and P. D. Klemperer. 1985. "Multimarket oligopoly: Strategic substitutes and complements." *Journal of Political Economy* 93(3): 488-511.
- Dixit, A. K. 1980. "The role of investment in entry-deterrence." *Economic Journal* 90: 95-106.
- Shapiro, C. 1989. "Theories of Oligopoly Behavior." In *Handbook of Industrial Organization*. Schmalensee and Willig, eds. North Holland. (Especially pages 381-397.)

(g). Limit pricing, predatory pricing

- Tirole (1988), pages 361-380.
- Milgrom, P., and J. Roberts. 1982. "Limit pricing and entry under incomplete information: An equilibrium analysis." *Econometrica* 50(2): 443-459.

(h). Extra topic: IO and Auctions

- Klemperer, P. 2004. *Auctions: Theory and Practice*. Princeton University Press. (Chapter 3.)

Optional Additional Readings

(a). Cournot and Bertrand

- Shapiro, C. 1989. "Theories of Oligopoly Behavior." In *Handbook of Industrial Organization*. Schmalensee and Willig, eds. North Holland. (Especially 330-348.)

(b). Cooperation in repeated games

- Farrell, J. and P. D. Klemperer. "Coordination and Lock-In: Competition with Switching Costs and Network Effects." In *Handbook of Industrial Organisation, Vol. 3*. M. Armstrong and R. Porter (eds.). North Holland, forthcoming (draft available at www.paulklemperer.org).
- Green, E. J., and R. H. Porter. 1984. "Noncooperative collusion under imperfect price information." *Econometrica* 52(1): 87-100.
- Klemperer, P. D. 1995. "Competition when Consumers have Switching Costs: An Overview with Applications to Industrial Organization, Macroeconomics, and International Trade." *Review of Economic Studies* 62(4): 515-539.

- Kreps, D. M., P. Milgrom, J. Roberts, and R. Wilson. "Rational Cooperation in the Finitely Repeated Prisoners' Dilemma." *Journal of Economic Theory*. 27(2): 245-252.
- Rotemberg, J. J., and G. A. Saloner. 1986. "Supergame-theoretic model of price wars during booms." *American Economic Review* 76(3): 390-407.
- Shapiro, C. 1989. "Theories of Oligopoly Behavior." In *Handbook of Industrial Organization*. Schmalensee and Willig, eds. North Holland. (Especially pages 356-381.)
- Stigler, G. J. 1964. "A theory of oligopoly." *Journal of Political Economy* 72: 44-61.

(c). Product differentiation

- Dixit, A. K., and J. E. Stiglitz. 1977. "Monopolistic competition and optimum product diversity." *American Economic Review* 67(3): 297-308.
- Salop, S. C. 1979. "Monopolistic competition with outside goods." *Bell Journal of Economics* 10(1): 141-156.
- Schmalensee, R. 1978. "Entry deterrence in the ready-to-eat breakfast cereal industry." *Bell Journal of Economics* 9(2): 305-327.
- Shaked, A., and Sutton, J. 1982. "Relaxing price competition through product differentiation." *Review of Economic Studies* 49(1): 3-13.

(d). Price competition vs quantity competition

- Klemperer, P. D., and M. A. Meyer. 1986. "Price Competition vs. Quantity Competition: The Role of Uncertainty." *Rand Journal of Economics* 17(4): 618-638. (Reprinted in *Cournot Oligopoly: Characterization and Applications*, A. Daughety Ed. Cambridge University Press, (1988), 229-261.)
- Klemperer, P. D., and M. A. Meyer. 1989. "Supply Function Equilibria in Oligopoly under Uncertainty." *Econometrica* 57(6): 1243-1277.
- Kreps, D. M., and J. A. Scheinkman. 1983. "Quantity precommitment and bertrand competition yield cournot outcomes." *Bell Journal of Economics* 14(2): 326-337.
- Shapiro, C. 1989. "Theories of Oligopoly Behavior." In *Handbook of Industrial Organization*. Schmalensee and Willig, eds. North Holland. (Especially 348-356.)

(e). Entry and welfare, wars of attrition, entry barriers, contestability

- Bulow, J. I., and P. D. Klemperer. 1999. "The Generalized War of Attrition." *American Economic Review* 89(1): 175-189.
- Gilbert, R. 1989. "Mobility Barriers and the Value of Incumbency." In *Handbook of Industrial Organization*. Schmalensee and Willig, eds. North Holland. (Especially pages 476-485.)
- Mankiw, G., and M. Whinston. 1986. "Free Entry and Social Inefficiency." *Rand Journal of Economics* 45-58.

(f). Strategic investment and entry deterrence and accommodation

- Bulow, J. I., J. D. Geanakoplos, and P. D. Klemperer. 1985. "Holding idle capacity to deter entry." *Economic Journal* 95: 178-182.
- Fudenberg, D., and J. Tirole. 1984. "The fat-cat effect, the puppy-dog ploy and the lean and hungry look." *American Economic Review* 74(2): 361-366.

(g). Limit pricing, predatory pricing

- Tirole (1988), pages 123-126, and Ex 11.12 (pages 440 and 456).

(h). Extra topic: IO and Auctions

- Klemperer, P. 2004. *Auctions: Theory and Practice*. Princeton University Press. (Chapters 2 and 5.)

Other References

(a). Cournot and Bertrand

- Amir, R. 1996. "Cournot Oligopoly and the Theory of Supermodular Games." *Games and Economic Behavior* 15(2): 132-48.
- Spulber, D. F. 1995. "Bertrand Competition When Rivals' Costs are Unknown." *Journal of Industrial Economics* 43(1): 1-12.

(b). Cooperation in repeated games

- Abreu, D., D. Pearce, and E. Stacchetti. 1986. "Optimal cartel monitoring with imperfect information." *Journal of Economic Theory* 39(1): 251-269.
- Athey, S., and K. Bagwell. 2001. "Optimal Collusion with Private Information." *Rand Journal of Economics* 32(3): 428-465.

- Bernheim, D. B., and M. D. Whinston. 1990. "Multimarket contact and collusive behavior." *Rand Journal of Economics* 21(1): 1-26.
- Edgeworth, F. Y. The pure theory of monopoly. In Papers Relating to Political Economy, F. Y. Edgeworth, Ed. Macmillan, 1925, London, 1897.
- Ellison, G. 1994. "Theories of cartel stability and the joint executive committee." *Rand Journal of Economics* 25(1): 37-57.
- Farrell, J. 2000. "Renegotiation in repeated oligopoly interaction." In Incentives, Organisation and Public Economics: Essays in Honour of Sir James Mirrlees, G. Myles and P. Hammond, eds. Oxford University Press.
- Fudenberg, D., and J. Tirole. 1991. *Game Theory*. MIT Press, Cambridge, MA. (Pages 145-160.)

(c). Product differentiation

- D'Aspremont, C., J. J. Gabszewicz, and J.-F. Thisse. 1979. "On Hotelling's "stability in competition"." *Econometrica* 47(5): 1145-1150.
- Farrell, J., and P. D. Klemperer. "Co-ordination and Lock-in: Competition with Switching Costs and Network Effects." In *Handbook of Industrial Organization*, vol. 3. Forthcoming, North Holland.
- Hotelling, H. 1929. "Stability in competition." *Economic Journal* 39:41-57.
- Klemperer, P.D. 1990. "How Broad should the Scope of Patent Protection Be?" *Rand Journal of Economics* 21(1): 113-130.
- Lancaster, K. (1990) "The Economics of Product Variety: A Survey", *Marketing Science*, 9(3): 189-206.

(d). Price competition vs quantity competition

- Amir, R. and J. Y. Jin. (2001) "Cournot and Bertrand Equilibria Compared: Substitutability, Complementarity and Concavity", *International Journal of Industrial Organization*, 19:303-317.
- Cheng, L. 1985. "Comparing Bertrand and Cournot Equilibria: A Geometric Approach." *Rand Journal of Economics* 16(1): 146-152.
- Klemperer, P., and M. Meyer. 1988. "Consistent Conjectures Equilibria: A Reformulation Showing Non-Uniqueness." *Economics Letters* 27(2): 111-115.
- Singh, N. and X. Vives. 1984. "Price and Quantity Competition in a Differentiated Duopoly". *Rand Journal of Economics* 15(4): 546-554.
- Weitzman, M. L. 1974. "Prices vs. Quantities." *Review of Economic Studies* 41(4): 477-91.

(e). Entry and welfare, wars of attrition, entry barriers, contestability

- Aghion, P., and P. Bolton. 1987. "Contracts as a Barrier to Entry." *American Economic Review* 77(3): 388-401.
- Amir, R., and V. E. Lambson. 2000. "On the Effects of Entry in Cournot Markets." *Review of Economic Studies* 67(2): 235-54.
- Cabral, L. 2004. "Simultaneous Entry and Welfare." *European Economic Review* 48(5): 943-57.

(f). Strategic investment and entry deterrence and accommodation

- Waldman, M. 1991. "The role of multiple potential entrants / sequential entry in noncooperative entry deterrence." *Rand Journal of Economics* 22(3): 446-453.
- Dixit, A. 1996. "Comparative Statics for Oligopoly." *International Economic Review* 27(1): 107-122.

(g). Limit pricing, predatory pricing

- Benoit, J. 1984. "Financially constrained entry in a game with incomplete information." *Rand Journal of Economics* 15(4): 490-499.
- Bolton, P., and D. Scharfstein. 1990. "A Theory of Predation Based on Agency Problems in Financial Contracting." *American Economic Review* 80(1): 93-106.
- Kreps, D. M., and R. Wilson. 1982. "Reputation and imperfect information." *Journal of Economic Theory* 27(2): 253-279. (And also Milgrom, P., and J. Roberts in the same issue.)

(h). Extra topic: IO and Auctions

- Klemperer, P. 2004. *Auctions: Theory and Practice*. Princeton University Press. (Chapters 1, 4, 6-8.)

(All the Klemperer papers can be found at www.paulklempere.org.)