

Draft Syllabus
PUBP 720
Microeconomics for Policy Analysis

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Objectives: 1) To learn the concepts and modes of analysis necessary to understand the economic effects of public policy. 2) To enable you to understand and communicate with economists who write about public policy.

Texts: Walter Nicholson's *Microeconomic Theory*, 8th edition (2002). This text is widely used for doctoral courses in economics departments. Students give it high marks for clarity and comprehensiveness. In years past, we have also used Edwin Mansfield's *Managerial Economics*, which is oriented towards business students and is therefore more concrete than Nicholson's text. I have assigned readings from Mansfield's text, which you may find helpful, but the text is not required. We will also read articles published in the economics journals and we will read sections from other books. The material will be available through the internet or at the reserve desk of Fenwick Library. (I will probably need some of you to help me in assembling this material.)

In addition to the two textbooks, I recommend that you search for other books that will help you understand the material. Below are some books that I found useful for learning economics during my early years as a graduate student. Don't limit yourself to this list; for one thing, it is old. Find what appeals to you and read.

Carl Menger, *Principles of Economics* (NYU Press 1976 [1871]). Classic exposition of marginal value theory. Still in print, I believe.

Frank Fetter *Principles of Economics* (1915). Great introduction to economics by one of the early American masters of the subject. No longer in print, but many used copies exist.

Henderson and Quandt *Microeconomics* (New York: McGraw Hill, 1958). Succinct and clear mathematical treatment of modern theory. Later editions available.

Armen Alchian and William Allen, *University Economics* (Wadsworth Publishing, 1983). An excellent undergraduate text with many subtle insights.

Charles E. Ferguson, *Neoclassical Theory of Production and Distribution* (Cambridge University Press, 1969). Graduate level treatment of production and cost theory. Mathematical and clearly written.

Adam Smith, *Wealth of Nations* (University of Chicago Press, 1976 [1776]). An original and path-breaking treatise that established political economy as a discipline. Books IV and V are primarily concerned with policy issues. Still great reading.

Pedagogy: Learning will take place through reading, lectures, problem-solving, and discussion. Each week, I will assign readings and will assign some of you questions and problems. You will post your answers to these questions and problems on a database created for this course. Everyone should read the posted answers and contribute to the discussion. I will also lecture on the general topics each week. Although we will not emphasize mathematics in this course, we will use a modest amount of algebra and calculus. You should brush up on algebra and calculus if you are rusty.

Grading: You will be graded according to your performance on a midterm examination (30%), your contributions to the discussion database (30%), and a final examination (50%).

Schedule:*

Date	Subject	Readings
8/27/03	Scope and Method	Robbins, Friedman, Kirzner, Nicholson
9/3/03	Utility Theory	Menger, Hicks, Nicholson
9/10/03	Demand Theory	Nicholson
9/17/03	Demand Theory	Nicholson
9/24/03	Production Theory	Nicholson, Friedman
10/1/03	Cost and Supply	Nicholson, Buchanan
10/8/03	Cost and Supply	Nicholson, Buchanan
10/15/03	Mid-term	
10/22/03	Factor Pricing	Nicholson, Rothbard
10/29/03	Competition &	Nicholson, Schumpeter, Hayek, High
11/5/03	Monopoly	
11/12/03	Capital & Interest	Nicholson, Fisher, Alchian
11/19/03	Growth Theory	Nicholson, Solow, Schumpeter
11/26/03	Thanksgiving	
12/5/03	Review	
12/11/03	Final Examination	

*Schedule is subject to minor revisions.

Readings, & Problems

I. Scope and Method.

- *Walter Nicholson, *Microeconomic Theory*, Ch. 1.
- *Lionel Robbins, *The Nature and Significance of Economic Science*, Chs 1, 2, 5.
- *Milton Friedman, "The Methodology of Positive Economics," in *Essays in Positive Economics*.
- *Israel Kirzner, *The Economic Point of View*, Chs. 6, 7.
- *Donald McCloskey, "The Rhetoric of Economics," *Journal of Economic Literature*, vol. 21, June 1983, pp. 481-517
- Axel Leijonhufvud, "Life Among the Econ," *Western Economics Journal*

II. Utility Theory

Readings:

- *Walter Nicholson, *Microeconomics*, Chs. 3, 4.
- *John Hicks, *Value and Capital*, Ch. 1
- *Menger, Carl, *Principles of Economics*, pp. 114-141
- Jack High and Howard Bloch, "On the History of Ordinal Utility Theory," *History of Political Economy*, vol. 21: 351-366, Summer 1989
- James Buchanan, *Cost and Choice* (Chicago, Markham, 1969) pp. 38-50.
- George J. Stigler, "The Development of Utility Theory," in *Essays in the History of Economics* (Chicago: University of Chicago Press), pp. 66-155).
- Paul Samuelson, *Foundations of Economic Analysis*, pp. 90-100
- Edwin Mansfield, *Managerial Economics*, 4th ed. (New York, W.W. Norton, 1999, Chs. 2, 4 (pp. 33-70, 112-130.)

Problem #1. Milton decides that he will spend \$100 of his grocery budget each month on rice and beans, two of his favorite foods. Rice costs \$2.00 per pound and beans cost \$1.50 per pound. Milton's utility function for rice and beans is $U = \ln R + \ln B$, where R stands for rice and B for beans.

- a. Are Milton's indifference curves between rice and beans convex? Explain.
- b. How much each of rice and beans will Milton consume each month? Show how you arrive at your answer.

Problem #2. Milton suddenly finds himself in a very different situation. He is a victim of a regional war and flees to a refugee camp. An uncle from France learns of Milton's situation, and sends Milton a 15 pound bag of beans each month. While in the camp,

Milton meets Stefan, who shares Milton's fondness for rice and beans; in fact, Stefan has the same utility function (given in problem #1) for rice and beans as Milton. Each month, Stefan receives a 10 pound bag of rice from a church group.

- a. Can Milton and Stefan increase their respective utilities through exchange? If so, identify an exchange that will make each better off. Does the exchange that you identified put Milton and Stefan on their "contract curve?"
- b. An economic history text says that "Trade between the Mediterranean and the Baltic developed when each area produced a surplus of some good." Explain what the author means. Offer an alternative explanation for the rise of trade between regions.

Problem #3. For each of the following expressions, state the formal assumption that is being made about a utility function:

- a. Margarine is just as good as butter
- b. Love and marriage go together like a horse and carriage
- c. Things go better with Coke
- d. Popcorn is addictive: the more you eat the more you want
- e. Popcorn: Just say no!

III. Demand Theory

*Walter Nicholson, *Microeconomic Theory*, Chs. 5, 6,7.

*John Hicks, *Value and Capital*, Chapter 2.

Milton Friedman, "The Marshallian Demand Curve," *Journal of Political Economy*,

Leland Yeager, "Methodenstreit over Demand Curves," *Journal of Political Economy*, 1960.

Edwin Mansfield, *Managerial Economics*, Chs. 3, 4.

Michael Boskin, "Toward a More Accurate Measure of the Cost of Living," *Interim Report to the Senate Finance Committee from the Advisory Commission to Study the Consumer Price Index*.

1. The demand curve for tomatoes at a local farmers' market is estimated to be:

$$Q = 4000 - 12P$$

where Q measures the quantity of tomatoes in bushels per month and P is the price in dollars.

- a. What price would maximize the revenue of the farmers who supply this market? What is the elasticity of demand at this price? Is this price likely to prevail in a farmer's market? Why or why not?

2. An increase in the budget of the Immigration and Naturalization Service led to a 25% decrease in the number of immigrant workers in California's agricultural sector and a corresponding decrease in agricultural output. The Governor of California assured voters

that restricting immigrants did no harm, because the cash value of California' agricultural crop actually increased. Evaluate the governor's statement.

3. The price elasticity of demand for cigarettes is estimated to be -0.35. What will happen to expenditures on cigarettes if the government increases taxes and the tobacco industry increases prices by 25%?
4. A luxury good is defined as a good for which the income elasticity of demand is greater than 1. Why can't all goods be luxury goods? (Hint: consider a two good world and a 10% increase in income.)
5. Which of the following goods do you think would be luxury goods? Why?
 - a. Electricity in the U.S. In India.
 - b. Automobiles in the U.S. In India.
 - c. Transatlantic air travel in the U.S. In Europe.

IV. Production

*Milton Friedman, *Price Theory*

*Walter Nicholson, Ch. 11

Edwin Mansfield, *Managerial Economics*, Ch. 7, 8 (pp. 215-54, 264-68),

Fritz Machlup, "On the Meaning of Marginal Product" reprinted the American Economics Association's *Readings in the Theory of Income Distribution*, pp. 158-74

Don Lavoie, "Hermeneutics, Subjectivity, and the Lester/Machlup Debate: Toward a More Anthropological Approach to Empirical Economics," in Warren Samuels, ed., *Economics as Discourse* (Boston: Kluwer Academic Publishers, 1990), pp. 167-184.

1. The production of barstools is given by the function $Q=K^{.5}L^{.5}$, where Q equals the number of barstools produced, K equals the units of capital, and L the units of labor required to produce Q.
 - a. What is the equation for the average productivity of labor? Of capital?
 - b. What is the equation for the marginal productivity of labor? Of capital?
 - c. For an output of 10 barstools, what is the marginal rate of technical substitution for K=L=10; for K=25, L=4; K=4, L=25? Is the production isoquant convex? Explain.
2. "All production functions are linearly homogeneous. If this were not true, scientists could not replicate experiments. The scientific method requires that experiments conducted under identical circumstances will yield identical results. This means that

there are no increasing or decreasing returns to scale.” Do you agree or disagree with this statement? Why?

V. Costs and Supply

Edwin Mansfield, Ch. 9 (pp. 295-312, 328-335)

*Walter Nicholson, Chs. 12-13 (pp. 322-87)

*James Buchanan, *Cost and Choice* (pp. 38-50)

Jacob Viner, “Cost Curves,”

1. The production of barstools is given by $Q=K^{.5}L^{.5}$.
 - a. If it costs a firm \$4.00 to hire a unit of capital and \$6.00 to hire a unit of labor, and both factors are variable, in what proportion will the firm use capital and labor? Why?
 - b. Show that cost minimization requires that $\frac{MP_L}{P_L} = \frac{MP_K}{P_K}$.
 - c. What is the firm’s total cost function? Its average cost function? Its marginal cost function?

VI. Pricing of Productive Resources

*Walter Nicholson, Chs. 21, 22 (pp. 635-659, 666-687)

*Murray Rothbard, *Man, Economy, and State* (Princeton: Van Nostrand, 1962), Ch. 7, pp. 387-428)

1. In rural Ireland, land can be used to grow either wheat or barley. Wheat sells for \$4.00 per bushel. Barley sells for \$6.00 per bushel. (My apologies to St. Patrick; there is no symbol for the Irish Pound on my computer.) Consider the situation of two farmers, one of whom produces wheat and the other of whom produces barley, whose output schedules are given below:

# Workers*	Bushels of Wheat/Season	Bushels of Barley/Season
1	5000	4000
2	10000	8000
3	14000	11500
4	17500	14500
5	20500	17000
6	23000	19500
7	25000	21500
8	26500	23000
9	27500	24000
10	28400	24900
11	29200	25700

*The table should be read as follows: If a wheat farmer hires one worker, the farm will produce 5000 bushels of wheat; if the barley farmer hires one worker, the farm will produce 4000 bushels of barley; if a wheat farmer hires two workers, the farm will produce 10,000 of wheat; if the barley farmer hires two workers, the farm will produce 8000 bushels of barley, etc.

- a. If there are ten workers for hire and there is competitive bidding between the farmers to hire labor, how will the workers be distributed between the farms? Explain.
- b. How much will the workers be paid?
- c. If the government taxes both wheat and barley at the rate of \$1.00 per bushel, will the distribution of workers be affected? How about wage rates?

3. The Ajax Coal Company is the only employer in its area. It hires both male and female workers. The supply curve for female workers is

$$L_f = 100W_f$$

The supply curve for male workers is

$$L_m = 9W_m^2$$

where W_f and W_m are the wage rates paid to female and male workers, respectively. Assume that Ajax sells its coal in competitive markets for \$5.00 per ton. Both men and women can mine 2 tons per hour.

- a. If the firm wishes to maximize profits, how many of each worker should the firm hire? What will the wage rates for men and women be? How much profit goes to capital?

VI. Competition and Monopoly

*Joseph Schumpeter, *Capitalism, Socialism, and Democracy* 3rd ed. (New York: Harper and Row, 1947 [1942], pp. 81-106 (Chs. 7-8).

*Friedrich Hayek, "The Meaning of Competition," in *Individualism and Economic Order* (Chicago: University of Chicago Press, 1948), pp. 92-106.

*Jack High, "Split Personality," in *Competition* (Cheltenham: Edward Elgar, 2001)
Friedrich Hayek, "Competition as a Discovery Procedure," in *New Essays in Philosophy, Politics, and Economics* (Chicago: University of Chicago Press).

Jack High, "A Tale of Two Disciplines," in Jack High, ed., *Regulation: Economic Theory and History* (Ann Arbor: University of Michigan Press, 1991).

*Walter Nicholson, *Microeconomic Theory*, Chs. 14, 15, 18.

Robert Bork, *The Antitrust Paradox* (New York: Basic Books, 1978), Ch. 3

Edwin Chamberlin, *The Theory of Monopolistic Competition* (Cambridge: Harvard University Press, 1962 [1933]), Chapter 5, "Product Differentiation and the Theory of Value, pp. 71-100, reprinted in Jack High, ed., *Competition*.

Joan Robinson, *The Economics of Imperfect Competition*, 2d. ed. (London: Macmillan, 1969 [1933])

Joseph Stiglitz, *Economics of the Public Sector*, 2nd ed. (New York: W.W. Norton, Ch. 3)

Edwin Mansfield, *Managerial Economics* Ch. 11 (pp. 385-424).

Edwin Mansfield, *Managerial Economics*, Ch. 17 (pp. 593-625).

1. The industry demand curve for a particular kind of fluorescent bulb is given by $Q=70,000 - P$, where Q is the quantity demanded and P is the market price. Industry demand is supplied by a single firm, Monolight, who holds a patent on the design. Monolight's average and marginal cost functions are given by $AC = MC = \$6$.

a. How many light bulbs will be supplied to this market? Explain.

When Monolight's patent expires eight years hence, several other firms with similar cost functions will enter the market, or at least threaten to.

b. What will happen to industry price and quantity? Why?

c. Calculate the deadweight loss from Monolight's monopoly of the market.

d. Would society be better off if the Justice Department split Monolight into several competing firms now, eight years prior to the expiration of its patent?

2. "A system—any system, economic or other—that at *every* given point of time fully utilizes its possibilities to the best advantage may yet in the long run be inferior to a system that does so at *no* given point of time, because the latter's failure to do so may be a condition of the level or speed of long-run performance." Explain the relevance of this quotation from Schumpeter for the standard theory of competition. Does Schumpeter's insight imply anything about antitrust law? Why or why not?

3. "The peculiar nature of the assumptions from which the theory of competitive equilibrium starts stands out very clearly if we ask which of the activities that are commonly designated by the verb 'to compete' would still be possible if those conditions were all satisfied....I believe that the answer is exactly none."

a. What business activities are commonly designated by the verb "to compete?"

b. Is Hayek correct in saying that these activities are incompatible with perfect competition? Why or why not?

VIII. Capital, Interest, and Investment

Edwin Mansfield, *Managerial Economics*, Ch. 17

Irving Fisher, *Capital and Interest*, Chs. 1, 5.

*Armen Alchian and William Allen, *University Economics*, pp. 455-484.

*Nicholson, Ch. 23 (skip continuous variables sections)
Frank Fetter, *Economic Principles*

1a. Interest rates and bond prices move in opposite directions. Why? (How much is a zero coupon government security that matures in twenty years, and pays \$10,000 on maturity, worth today if the interest rate is 5%? If the interest rate is 7%?)

b. Real estate values and interest rates usually move in opposite directions. Why? (If an office building will bring in \$20,000 a year in net rental income for a period of twenty years, what is the building worth today if the interest rate is 7%? 9%?)

c. What would you expect to be the relationship between prices of common stocks and interest rates? Why?

2. Zippy auto sales offers to knock \$1,000 off the sale price of a \$20,000 automobile. Steady, a cross-town rival, offers the identical vehicle for \$20,000, but defers payment for one year. Which is the better offer?

3. Brown's Toy Company is considering two possible locations, one in Texas and one in Louisiana, to construct a new manufacturing plant for its plastic toys. The estimated price and cost data for each location is given in the spreadsheet below:

	Texas	Louisiana
Investment in Plant	\$ 4,500,000	\$ 5,000,000
Price per toy	\$ 3.00	\$ 3.20
Production cost per toy	\$ 0.60	\$ 0.70
Marketing cost per toy	\$ 0.40	\$ 0.40
Annual sales volume (# toys)	500,000	500,000

The marginal tax rate on operating profit in each state is 30%. (Operating profit is revenue minus variable costs.)

a. What is the after-tax cash flow each year from the investment at each location?

b. If the cost of capital is 10 percent, what is the net present value of the project in Texas?

c. If the cost of capital is 10 percent, what is the net present value of the project in Louisiana?

d. Louisiana offers to reduce Brown's marginal tax rates by one-third (i.e., offers to cut marginal rates from 30% to 20%.) What is the net present value of the project in Louisiana with the reduced tax rate?

e. What should Louisiana consider in deciding whether to give Brown's Toys a tax break? (This is an open-ended question. At a minimum, I want you to consider the

economic implications to the state and local budgets, and to other taxpayers, of such an offer.)

IX. Growth Theory

*Mansfield, Ch 8, esp. pp. 264-283.

*Schumpeter, Joseph, *The Theory of Economic Development*, Ch. 2, pp. 57-94

*Solow, Robert, "Technical Change and the Aggregate Production Function," *Review of Economics and Statistics* (August 1957): 312-320.

*Reinhart, Forest, Accounting for Productivity Growth, pp. 1-12.

Maddison, Angus, *Dynamic Forces in Capitalist Development* (New York: Oxford University Press, 1990), pp. 5-26. A classic on long-run growth; a book well worth reading if you are interested in public policy.

Harberger, Arnold, "A Vision of the Growth Process," *American Economic Review* (March 1998): 1-32. Develops an innovative method of measuring entrepreneurship.

Baumol, William, "Entrepreneurship: Productive, Unproductive, and Destructive," *Journal of Political Economy* (October 1990): 893-921. An extension of entrepreneurship beyond its usual market functions.

Romer, Paul, "The Origins of Endogenous Growth," *Journal of Economic Perspectives* (Winter 1994): 3-22.

X. International Trade

*Edwin Mansfield, *Managerial Economics*, Ch. 18,

Michael Rukstad, *Macroeconomic Decision Making in the World Economy* (New York: Dryden Press, 1992) "Note on Exchange Rate Determination," pp. 529-35; "An Introduction to the Balance of Payments," pp. 483-92.

Ludwig von Mises, *Human Action* (New Haven: Yale University Press, 1949), Ch. VIII.

Robert Kennedy, "Strategic Theories of Trade," Harvard Business School Press, 1999.

XI. Game Theory

*Edwin Mansfield, *Managerial Economics*, Ch. 13.

*Walter Nicholson, *Microeconomic Theory*, Chs. 10, 20.

David M. Kreps, *Game Theory and Economic Modeling* (Oxford: Clarendon Press, 1990). Excellent non-technical presentation of game theory.

Ian Ayers and John Braithwaite, *Responsive Regulation* (Oxford: Oxford University Press, 1992), pp. 54-81. Uses game theory to justify a regulatory scheme.

John von Neumann and Oskar Morgenstern, *Theory of Games and Economic Behavior* (Princeton: Princeton University Press, 1944). The pioneering work in the economic theory of games.

Robert Axelrod, *The Evolution of Cooperation* (New York: Basic Books, 1984). A game theoretic approach to the emergence of institutions.

