

## **AGRICULTURAL ECONOMICS 809**

### **APPLIED WELFARE ECONOMICS AND POLICY ANALYSIS**

**Instructor: Professor Ian Sheldon**

**Location: Rm. 234. Agricultural Administration**

**Voice-Mail #: 292-2194**

**e-mail #: sheldon.1@osu.edu**

**Class Location: Agricultural Administration, Rm. 246**

**Time: Monday/Wednesday, 9.00 a.m.-11.00 a.m.**

AED 809 is an advanced, four-credit hour course that focuses on welfare economics and its application to public policy analysis.

#### ***Course Description:***

The course will cover the following topics:

General equilibrium, Pareto optimality and the Welfare Theorems

Social welfare functions

Theory of welfare change measurement

Commodity and income taxation

Market failures

Income measurement issues

### ***Course Organization:***

The course is organized into two 2-hour lectures per week. The course grade will be assigned on the basis of two journal article reviews, a mid-term examination (Wednesday, April 29) and a final examination (Monday, June 8, 7.30-9.30 am), with weights of 30%, 35% and 35% respectively. The journal article reviews, based on published journal articles of your choice, should be 5 double-spaced pages, the only constraint being that the journal articles should contain some welfare economics content. The two article reviews are due Friday, June 5. I will also give out 5/6 problem sets. These will not be formally graded, but some similar types of problems will be included in the mid-term and final examinations.

### ***Academic Misconduct:***

Plagiarism and other forms of cheating will not be tolerated. University rules provide severe penalties for academic misconduct, ranging from course failure to dismissal from the university. University rules are found in the handbook used in all survey courses: "University Survey-A Guidebook and Readings for New Students."

### ***Text:***

The basic text for the course is: G.D. Myles (1995). Public Economics, Cambridge University Press. In addition, the following are regarded as useful additional texts.

Jha, R. (1998). Modern Public Economics, Routledge.

Salanie, B. (2003). The Economics of Taxation, MIT Press.

Salanie, B. (2000). Microeconomics of Market Failures, MIT Press.

Boadway, R.W. and Bruce, N. (1984). Welfare Economics, Basil Blackwell.

Cornes, R. and Sandler, T. (1996). The Theory of Externalities, Public Goods and Club Goods, Cambridge University Press.

Just, R.E., Hueth, D.L., and Schmitz, A. (1982). Applied Welfare Economics and Public Policy, Prentice-Hall.

### ***Journal Articles:***

The majority of the listed journal articles can be downloaded from the Web through JSTOR: <http://www.jstor.org/jstor/>, or other electronic sites.

## AED 809 COURSE OUTLINE:

### I. Welfare Economics

#### (i) Definitions

### II. General equilibrium, Pareto optimality and the Welfare Theorems

#### (i) General Equilibrium:

- (a) General equilibrium and competitive markets
- (b) Walras' law, existence and stability of equilibrium

#### (ii) Pareto Optimality and the Welfare Theorems

- (a) Pareto optimality and the First Welfare theorem
- (b) The Second Welfare theorem and lump-sum taxes
- (c) Problems with the Welfare theorems

#### (iii) The Theorem of Second-Best

#### *Reading:*

Myles, G.D. (1995). Public Economics, Cambridge University Press, Ch. 2, pp. 18-48.

Jha, R. (1998). Modern Public Economics, Routledge, Ch.2.

Salanie, B. (2000). Microeconomics of Market Failures, MIT Press, Ch.1.

Boadway, R.W. and Bruce, N. (1984). Welfare Economics, Basil Blackwell, Ch. 3.

Just, R.E., Hueth, D.L., and Schmitz, A. (1982). Applied Welfare Economics and Public Policy, Prentice-Hall, Chs. 2.

(6) Davis, O.A. and Whinston, A.B. (1965). "Welfare Economics and the Theory of the Second Best," Review of Economic Studies, 32: 1-14.

(28) Gravelle, H. and Rees, R. Microeconomics, Longman, Ch. 16,17, pp. 424-501.

(29) Bohm, P. (1987). "Second Best", Palgrave's Dictionary of Political Economy, pp. 280-284.

(30) J.J. Laffont. (1994). Fundamentals of Public Economics, MIT Press, Ch. 7.

### **III. Social Welfare Functions**

#### **(i) Welfare Distribution**

#### **(ii) Choice over Welfare Distributions**

#### **(iii) The Compensation Criterion**

#### **(iv) Ethics and Social Welfare**

#### **(v) The Bergson-Samuelson Social Welfare Function**

#### **(vi) Other Social Welfare Functions**

#### **(vii) Arrow's Theorem**

#### *Reading:*

Myles, G.D. (1995). Public Economics, Cambridge University Press, Ch. 2, pp. 48-58.

Jha, R. (1998). Modern Public Economics, Routledge, Ch.3.

Salanie, B. (2000). Microeconomics of Market Failures, MIT Press, Ch.2.

Boadway, R.W. and Bruce, N. (1984). Welfare Economics, Basil Blackwell, Chs. 5 and 6.

Just, R.E., Hueth, D.L., and Schmitz, A. (1982). Applied Welfare Economics and Public Policy, Prentice-Hall, Ch. 3.

Sen, A. (1986). "Social Choice Theory," in Arrow, K.J. and Intrilligator, M.D. (eds.), Handbook of Mathematical Economics, Vol. III, North-Holland.

Moulin, H.J. (2003). Fair Division and Collective Welfare, MIT Press, Chs. 1-4.

(41) Thompson, P.B., Matthews, R.J., and Ravenswaay, E.O. (1994). Ethics, Public Policy, and Agriculture, Macmillan Publishing, Ch. 3.

(43) Mueller, D.C. (1989). Public Choice, Cambridge University Press, Chs. 19 and 20.

(45) National Research Council. "Different Ways of Thinking About Value", in Perspectives on Biodiversity: Valuing Its Role in an Everchanging World.

(48) Mueller, D.C. (1989). Public Choice, Cambridge University Press, Ch. 21.

#### IV. Measurement of Welfare Change

##### Measurement of Surplus and the Deadweight Loss of Taxation

###### *Reading:*

- Just, R.E., Hueth, D.L., and Schmitz, A. (1982). Applied Welfare Economics and Public Policy, Prentice-Hall, Chs. 4-7, Appendices A,B.
- Jha, R. (1998). Modern Public Economics, Routledge, Chs.1 and 19.
- Salanie, B. (2003). The Economics of Taxation, MIT Press, Chs. 1 and 2.
- Salanie, B. (2000). Microeconomics of Market Failures, MIT Press, Ch. 3.
- Auerbach, A.J. (1985). "The Theory of Excess Burden and Optimal Taxation" in Auerbach, A.J. and Feldstein, M. (eds.), Handbook of Public Economics, Vol. I, North-Holland.
- (34) and (35) Boadway, R.W. and Bruce, N. (1984). Welfare Economics, Basil Blackwell, Chs. 7-9.
- (33) J.J. Laffont. (1994). Fundamentals of Public Economics, MIT Press, Ch. 6.
- (12) Chipman, J.S. and Moore, J.C. (1980). "Compensating Variation, Consumer's Surplus, and Welfare," American Economic Review, 70:933-949.
- (13) Morey, E.R. (1984). "Consumer Surplus," American Economic Review, 74:163-173, 1984.
- (14) Willig, R.D. (1976). "Consumer's Surplus Without Apology," American Economic Review, 66:589-597.
- (15) Randall, A. and Stoll, J.R. (1980). "Consumer's Surplus in Commodity Space," American Economic Review, 70:449-455.
- (16) Hausman, (1981). "Exact Consumer's Surplus and Deadweight Loss," American Economic Review, 71:662-676.
- (17) Vartia, Y.O. (1983). "Efficient Methods of Measuring Welfare Change and Compensated Income in Terms of Ordinary Demand Functions," Econometrica, 51:79-98.
- (42) Lavergne, P., Requillart, V., and Simioni, M. (2001). "Welfare Losses Due to Market Power: Hicksian versus Marshallian Measurement," American Journal of Agricultural Economics, 83:157-165.
- (53) Fullerton, D and Metcalf, G.E. (2002). "Tax Incidence," NBER Working Paper, 8829.

## V. Commodity and Income taxation

### (i) Commodity Taxation

- (a) The Ramsey rule
- (b) Inverse elasticities rule
- (c) Diamond-Mirlees rule

### (ii) Income Taxation

- (a) The Mirlees economy
- (b) Optimal taxes

#### *Reading:*

Myles, G.D. (1995). Public Economics, Cambridge University Press, Chs. 4 and 5.

Jha, R. (1998). Modern Public Economics, Routledge, Chs. 13 and 14.

Salanie, B. (2003). The Economics of Taxation, MIT Press, Chs. 3, 4 and 5.

- (1) Diamond, P.A. and Mirlees, J.A. (1971). "Optimal Taxation and Public Production 1: Production Efficiency and 2: Tax Rules," American Economic Review, 61: 8-27, and 261-278.
- (2) Mirlees, J.A. (1971). "An Exploration in the Theory of Optimum Income Taxation," Review of Economic Studies, 38: 175-208.
- (36) Sheshinski, E. (1972). "The Optimal Linear Income Tax," Review of Economic Studies, 39: 297-302.
- (37) Murty, M.N. and Ray. R. (1987). "Sensitivity of Optimal Commodity Taxes to Relaxing Leisure/Goods Separability and to the Wage Rate," Economics Letters, 24: 273-277.
- (44) Mirlees, J.A. (1997). "Information and Incentives: The Economics of Carrots and Sticks," The Economic Journal, 107: 1311-1329.
- (46) Tuomala, M. (1990). Optimal Income Tax and Redistribution, Chs. 5 and 6.
- (47) Phelps, E.S. (1973). "Taxation of Wage Income for Economic Justice," Quarterly Journal of Economics, 87: 331-354.

## **VI. Market Failure**

### **(i) Public Goods**

- (a) Optimal provision
- (b) Lindahl equilibrium
- (c) Finance by taxation

### **(ii) Externalities**

- (a) Inefficiency
- (b) The Coase Theorem
- (c) Bargaining
- (d) Corrective taxation

### **(iii) Imperfect Competition**

- (a) Imperfect competition and general equilibrium
- (b) Imperfect competition and welfare
- (c) Optimal taxes

#### *Reading:*

Myles, G.D. (1995). Public Economics, Cambridge University Press, Chs. 9, 10 and 11.

Jha, R. (1998). Modern Public Economics, Routledge, Chs. 4, 5, 6, and 17.

Salanie, B. (2000). Microeconomics of Market Failures, MIT Press, Chs. 5, 6, and 7.

Boadway, R.W. and Bruce, N. (1984). Welfare Economics, Basil Blackwell, Ch. 4.

Cornes, R. and Todd Sandler (1996). The Theory of Externalities, Public Goods and Club Goods, Cambridge University Press, Chs. 3, 4, 5, 6, 7 and 8.

Salanie, B. (2003). The Economics of Taxation, MIT Press, Ch. 10.

(3) Randall, A. (1988). "Market Failure and the Efficiency of Irrigated Agriculture," in G.T. O'Mara (ed.), Efficiency in Irrigation, The World Bank.

(4) Davis, O.A. and Winston, A.B. (1967). "On the Distinction between Public and Private Goods," American Economic Review, 57: 360-373.

(5) Farrell, J. (1987). "Information and the Coase Theorem," Journal of Economic Perspectives, 1:113-130.

(7) Myles, G.D. (1987). "Tax Design in the Presence of Imperfect Competition: An Example," Journal of Public Economics, 34: 367-78.

- (8) Stern, N.H. (1987). "The Effects of Taxation, Price Control and Government Contracts in Oligopoly and Monopolistic Competition," Journal of Public Economics, 32: 133-158.
- (30) J.J. Laffont. (1994). Fundamentals of Public Economics, MIT Press, Ch. 7.
- (38) Starrett, D.A. (1972). "Fundamental Nonconvexities in the Theory of Externalities," Journal of Economic Theory, 4: 180-199.
- (39) Weitzman, M. (1974). "Prices vs. Quantities," Review of Economic Studies, 41: 477-491.
- (40) Myles, G.D. (1989). "Ramsey Tax Rules for Economies with Imperfect Competition," Journal of Public Economics, 38: 95-115.
- (55) Parry, I.W.H. and Small, K.A. (2005). "Does Britain or the United States Have the Right Gasoline Tax," American Economic Review, 95: 1276-1289,
- (56) Parry, I.W.H., Walls, M., and Harrington, W. (2007). "Automobile Externalities and Policies," Journal of Economic Literature, 45: 373-399.

## **VII. Income Measurement Issues**

### **(i) Income Measurement**

- (a) Equivalence scales

### **(ii) Measurement of Inequality**

- (a) Lorenz curves  
(b) Gini coefficient

### **(iii) Measurement of Poverty**

- (a) Measures  
(b) Axiomatic approach

#### *Reading:*

Myles, G.D. (1995). Public Economics, Cambridge University Press, Ch. 3.

- (9) Atkinson, A.B. (1970). "On the Measurement of Inequality," Journal of Economic Theory, 2:244-263.

- (10) Newberry, D.M. (1970). "A Theorem on the Measurement of Inequality," Journal of Economic Theory, 2:264-266.

- (11) Chipman, J.S. (1974). "The Welfare Ranking of Pareto Distributions," Journal of Economic Theory, 9:275-282.

- (31) Sen, A. (1976). "Poverty: An Ordinal Approach to Measurement," Econometrica, 44: 219-231.
- (32) Sen, A. (1973). On Economic Inequality, Clarendon Press, Oxford, pp. 24-76.
- (49) Atkinson, A.B. (1987). "On the Measurement of Poverty," Econometrica, 55: 749-764.
- (50) Lewis, G.W. and Ulph, D.T. (1988). "Poverty, Inequality and Welfare," The Economic Journal, 98:117-131.
- (51) Sen, A. (1983). "Poor, Relatively Speaking," Oxford Economic Papers, 35: 153-169.
- (52) Zheng, B. (1994). "Can a Poverty Index be Both Relative and Absolute?" Econometrica, 62: 1453-1458.
- (54) Deaton, A. (2004). "Measuring Poverty in a Growing World (or Measuring Growth in a Poor World)," Princeton Working Paper.