

# QUEEN'S UNIVERSITY AT KINGSTON

Department of Economics

**ECONOMICS 840**

**Public Economics I**

**Fall, 2007**

**INSTRUCTOR:** Robin Boadway  
Dunning Hall 308  
boadwayr@econ.queensu.ca

**TA:** Lanny Zrill  
Dunning Hall 345  
zrill@econ.queensu.ca

## **COURSE OBJECTIVES**

This is a theoretical course on topics in public economics. It focuses largely on the expenditure side of the public sector budget, but some topics on taxation theory will be introduced since the complementary course on taxation (Economics 841) is not offered this academic year. Expenditure theory broadly explores some of the consequences of the free-rider problem for public sector economics. The course will include both normative and positive approaches to the analysis of the provision of public goods. Public goods and externalities as sources of market failure will be discussed. Then, methods of collective decision-making, or public choice, will be considered. Finally, principles of optimal taxation for raising revenue and redistribution will be presented.

## **GRADING**

Grades will be based on assigned work, a mid-term test, and a final exam. There will be two alternative forms of assigned work — two problem sets versus a term paper — of which students must choose one. The problem sets will consist of problems intended to illustrate the concepts discussed in class. The term paper will involve a critical survey of some recent area of literature relevant to public expenditures. The mid-term test will be 1-1/2 hours long, and will be held in week seven in one of the regular class times. The final exam will be 3 hours in length and will be held in the time slot scheduled by the Department. Final grades will be determined as follows:

|               |     |
|---------------|-----|
| Assigned Work | 30% |
| Mid-Term Test | 20% |
| Final Exam    | 50% |

## REFERENCE BOOKS

There is no textbook for the course. There are, however, several books that contain relevant material on the reading list. These will be placed on reserve, as will copies of the articles and papers referred to on the reading list:

Atkinson, A.B. and J.E. Stiglitz, *Lectures on Public Economics* (New York: McGraw-Hill, 1980) (**AS**)

Auerbach, A.J. and M.S. Feldstein (eds.), *Handbook of Public Economics*, Vols. 1, 2, 3 & 4 (Amsterdam: North-Holland, 1985, 1987, 2002, 2002) (**AF**) (Available online)

Boadway, R.W. and D.E. Wildasin, *Public Sector Economics*, 2nd Edition (Boston: Little Brown, 1984) (**BW**)

Boadway, R.W. and N. Bruce, *Welfare Economics* (Oxford: Basil Blackwell, 1984) (**BB**)

Cornes, R. and T. Sandler, *The Theory of Externalities, Public Goods, and Club Goods*, 2nd Edition (Cambridge: Cambridge University Press, 1996) (**CS**)

Mueller, D.C., *Public Choice III* (Cambridge: Cambridge University Press, 2003) (**M**)

## COURSE OUTLINE AND READING LIST

### PART I: PUBLIC GOODS AND EXTERNALITIES

#### 1. Public Goods

The Samuelson conditions for the optimal supply of public goods will be discussed along with some of its implications. Additional topics include the modified Samuelson condition when distortionary taxation is used, and its interpretation using the marginal cost of public funds; the Lindahl solution and other mechanism for revealing preferences, optimal provision of international public goods; the voluntary provision of public goods, and its extension to international public goods; and, different forms of public goods, including club goods.

**CS**, Ch 6-7; **BW**, Ch. 4; **M**, Ch. 2-3

Oakland, W.H., ‘Theory of Public Goods’, **AF**, Ch. 9

Scotchmer, S., ‘Local Public Goods and Clubs’, **AF**, Ch. 29

Sandmo, A., ‘Global Public Economics: Public Goods and Externalities’, Norwegian School of Economics and Business Administration, mimeo. <<http://nhh.no/sam/res-publ/2006/32.pdf>>

Bergstrom, T., L. Blume and H. Varian, ‘On the Private Provision of Public Goods’, *Journal of Public Economics* **29** (1986), 25–49

Boadway, R.W. and M. Hayashi, ‘Country Size and the Voluntary Provision of International Public Goods’, *European Journal of Political Economy* **15** (1999), 619–38

Guttman, J., ‘Understanding Collective Action: Matching Behavior’, *American Economic Review* **68** (1978), 251–55

Boadway, R., Z. Song and J-F. Tremblay, ‘Commitment and Matching Contributions to Public Goods’, *Journal of Public Economics*, forthcoming

## **2. Externalities and Common Property Resources**

The basic theory of externalities as an absence of property rights is presented. Various topics involving remedies are discussed, including the Coase theorem, Pigouvian Taxes and subsidies, regulation, the non-convexity problem and incentive mechanisms. The case where the government has imperfect information is emphasized. The specific example of common property resources is considered.

**CS**, Ch. Part II, Ch. 8; **BW**, Ch 5; **M**, Ch. 2

Baumol, W.J. and W.E. Oates, *The Theory of Environmental Policy*, second edition (Cambridge: Cambridge University Press, 1988), Part I

Weitzman, M. L., ‘Prices vs. Quantities’, *Review of Economic Studies* **41** (1974), 477–91

Roberts, M. J. and M. Spence, ‘Effluent Charges and Licenses under Uncertainty’, *Journal of Public Economics* **5** (1976), 193–208

Kwerel, E., ‘To Tell the Truth: Imperfect Information and Optimal Pollution Control’, *Review of Economic Studies* **44** (1977), 595–601

Duggan, J. and J. Roberts, ‘Implementing the Efficient Allocation of Pollution’, *American Economic Review* **92** (2002), 1070–78

## **PART II: PUBLIC CHOICE**

### **1. Arrow’s Impossibility Theorem**

The general problem of intransitivity of collective decision-making is outlined, and its consequences for vote cycling.

**BW**, Ch. 6; **M**, Ch. 20; **BB**, Ch. 5; **AS**, Ch. 10

Inman, R.P., ‘Markets, Governments, and the New Political Economy’, **AF**, Ch. 12

## 2. Direct Democracy Models of Majority Voting

The simple median voter model is considered. In the one-dimensional case, the single-peaked condition for a Condorcet winner is discussed. The Plott conditions for the multi-dimensional conditions are shown. The case of voting over redistribution is considered, including lump-sum redistribution, linear progressive tax systems and non-linear tax systems.

M, Ch. 5

Boadway, R. and M. Keen, ‘Redistribution’, A.B. Atkinson and F. Bourguignon (eds.), *Handbook of Income Distribution* (Amsterdam: North-Holland, 2000), 677–789

Romer, T., ‘Individual Welfare, Majority Voting and the Properties of a Linear Income Tax’, *Journal of Public Economics* 4 (1975), 163–85

Gans, J.S. and M. Smart, ‘Majority Voting with Single-Crossing Preferences’, *Journal of Public Economics* 59 (1996), 219–37

Persson, T. and G. Tabellini, ‘Political Economics and Public Finance’, **AF**, Ch. 24

## 3. Log-Rolling and Vote Trading

These involve mechanisms for registering the intensity of preference of voters for particular issues.

M, **BW**, Ch. 6

Persson, T. and G. Tabellini, ‘Political Economics and Public Finance’, **AF**, Ch. 24

## 4. Representative Democracy Models of Party Competition

Models of redistribution involving electoral competition which resolve the voting paradox are considered. This includes the probabilistic voting model, models of party affinity, and citizen candidate models.

M, Chs. 10–11

Lindbeck, A. and J.W. Weibull, ‘Balanced-Budget Redistribution as the Outcome of Political Competition,’ *Public Choice* 52 (1987), 273–97

Usher, D., ‘The Significance of the Probabilistic Voting Theorem’, *Canadian Journal of Economics* 27 (1994), 433–45

Dixit, A.K. and J. Londregan (1998), ‘Ideology, Tactics, and Efficiency in Redistributive Politics’, *Quarterly Journal of Economics* 113, 497–529

Besley, T. and S. Coate, ‘An Economic Model of Representative Democracy,’ *Quarterly Journal of Economics*, **112** (1997), 85–114

Persson, T. and G. Tabellini, ‘Political Economics and Public Finance’, **AF**, Ch. 24

## 5. Rent Seeking and Bureaucracy

Some issues involving the influence of public decision makers by rent seekers and bureaucrats are considered.

**M**, Chs. 13–14

Persson, T. and G. Tabellini, ‘Political Economics and Public Finance’, **AF**, Ch. 24

## PART III: OPTIMAL TAXATION

### 1. Optimal Commodity Taxes

The Ramsey problem of raising a given amount of revenue in the least distorting way is analyzed. Some applications of optimal commodity taxation are discussed.

**AS**, Lecture 12

Auerbach, A.J. and J.R. Hines Jr., ‘Taxation and Economic Efficiency’, **AF**, Ch. 21

Atkinson, A.B. and Stern, N., ‘Pigou, Taxation and Public Goods’, *Review of Economic Studies* **41**, 1974, 119–28

Browning, E., ‘The Marginal Cost of Public Funds’, *Journal of Political Economy* **84**, April 1976, 283–98

Bernheim, B.D., ‘Taxation and Saving’, **AF**, Ch. 18

Erosa, A. and M. Gervais (2001), ‘Optimal Taxation in Infinitely-Lived Agent and Overlapping Generations Models: A Review’, *Federal Reserve Bank of Richmond Economic Quarterly* **87**, 23–44

Fischer, S., ‘Dynamic Inconsistency, Cooperation and the Benevolent Dissembling Government’, *Journal of Economic Dynamics and Control* **2**, 1980, 93–107

O’Donoghue and M. Rabin, ‘Optimal Sin Taxes,’ *Journal of Public Economics* **90**, November 2006, 1825–1849

Boadway, R. and F. Gahvari, ‘Optimal Taxation with Consumption Time as a Leisure or Labor Substitute’, *Journal of Public Economics* **90**, November, 2006, 1851–78

## 2. Optimal Non-Linear Income Taxation

The analysis of optimal redistributive taxes when the government can not observe individual characteristics is studied, and the analysis is extended to take account of commodity taxes and public goods.

**AS**, Lectures 13 and 14

Stiglitz, J., ‘The Theory of Pareto-Efficient and Optimal Redistributive Taxation’, **AF**, Ch. 15

Boadway, R. and M. Keen, ‘Redistribution’, in A. B. Atkinson and F. Bourguignon (eds.), *Handbook of Income Distribution Vol.1* (Amsterdam: North-Holland, 2000), 677–789

Boadway, R. and P. Pestieau, ‘Indirect Taxation and Redistribution: The Scope of the Atkinson-Stiglitz Theorem’, in R. Arnott, B. Greenwald, R. Kanbur and B. Nalebuff (Eds.), *Economics for an Imperfect World: Essays in Honor of Joseph Stiglitz* (Cambridge MA: The MIT Press, 2003), 387–403

Atkinson, A.B. and J.E. Stiglitz, ‘The Design of Tax Structure: Direct vs. Indirect Taxation’, *Journal of Public Economics* **6**, July-August 1976, 55–75

Edwards, Jeremy, Michael Keen and Matti Tuomala, ‘Income Tax, Commodity Taxes and Public Good Provision: A Brief Guide’, *Finanzarchiv* **51**, 1994, 472–97

Boadway, R.W. and M. Keen, ‘Public Goods, Self-Selection and Optimal Income Taxation’, *International Economic Review* **34**, August 1993, 463–78

## 3. Extensions

Some extensions to the optimal policy choice by government under asymmetric information are considered, including tagging, monitoring, and in-kind transfers.

Parsons, D. O., ‘Imperfect ‘Tagging’ in Social Insurance Programs”, *Journal of Public Economics* **62**, 1996, 183–207

Boadway, R. and K. Cuff, ‘Monitoring Job Search as an Instrument for Targeting Transfers’, *International Tax and Public Finance* **6**, August 1999, 317–37

Blackorby, C. and D. Donaldson, ‘Cash versus Kind, Self Selection and Efficient Transfers’, *American Economic Review* **78**, June 1988, 691–700

Cuff, K., ‘Optimality of Workfare with Heterogeneous Preferences’, *Canadian Journal of Economics* **33**, 2000, 149–174

Boadway, R. and M. Marchand, ‘The Use of Public Expenditures for Redistributive Purposes’, *Oxford Economic Papers* **47**, 1995, 45–59