Summer 2015 examination

EC426
Public Economics

2014/2015 Syllabus

Instructions to candidates

Time allowed: 3 hours

This paper contains **Twelve** questions and is divided into **two** sections.

ALL candidates should answer **two** short questions and **one** long question from **each** section.

Each short question has a weight of 10% (of the overall mark) and each long question a weight of 30% (of the overall mark). In multipart questions, answer all parts.

Calculators are **not** allowed in this examination.

Section A

Short questions: Answer TWO questions (each question carries 10 marks)

1 Are provision-point mechanisms more effective at providing public goods than voluntary-contribution schemes?

2 Should luxury goods be taxed more heavily than other types of goods?

3 Consider the following statement: “The market for health insurance is adversely selected if individuals who would like to buy insurance are denied insurance due to their bad health.” Why is it wrong? Discuss the role of the observability of health characteristics in this context.

4 Discuss the following statement: “The fiscal imbalance of the Social Security in developed countries is due to its pay-as-you-go, defined-benefit design and justifies transitioning to a fully-funded, defined-contribution system.”

Section A

Long questions: Answer ONE question (each question carries 30 marks)

5

(a) Does greater income mobility imply greater inequality? Does it imply greater equality of opportunity? *[9 marks]*

(b) Can the social objective of greater mobility be reconciled with individual risk aversion? *[5 marks]*

(c) Can the objective of greater mobility be reconciled with standard social-welfare functions? *[7 marks]*

(d) To what extent can mobility be considered a substitute for income-redistribution programmes? *[9 marks]*

6 Consider an unemployed agent in a 2-period model. In the first period, the agent exerts effort e_1 to find employment with probability $\pi(e_1)$. If the agent is successful, she earns a wage w and remains employed in the second period as well. If the agent is unsuccessful, she exerts effort e_2 to find employment with probability $\pi(e_2)$ in the second period. The utility cost of exerting effort equals c(e)=e in both periods. The unemployment policy specifies a tax τ paid when employed and benefit levels b_1 and b_2 paid when unemployed in the first and second period respectively. There is no discounting and the agent has no savings in this model.

(a) What is the government's budget constraint? What are the incentive compatibility constraints that characterize the effort exerted by an unemployed agent in the first and second period? [8 marks]

(b) Use your answer in part (a) to show that the budgetary impact of a change in the benefit level in the second period b_2 depends on the benefit level in the first period b_1. Does this additional effect increase or decrease the cost of providing a higher benefit level b_2? [8 marks]

(c) This additional effect in a 2-period model depends on the agent being forward-looking. How would you design a test to evaluate the importance of this force? Discuss. [7 marks]

(d) Now assume that the agent starts the unemployment spell with some savings. Do you think she would value benefits more when unemployed in the second period or when unemployed in the first period? Can you think of a test to evaluate this? Discuss. [7 marks]

Section B

Short questions: Answer TWO questions (each question carries 10 marks)

7 Consider the policy choice between school vouchers and free public education. Discuss how your recommendation depends on whether the goal is to increase total educational attainment or to target the children with low educational attainment.

8 Consider a regression of hours worked on the net-of-tax wage rate (and other observable controls) using cross-sectional data. Describe the key sources of bias in the estimated coefficient on the net-of-tax wage rate. Is the estimate likely to be upward or downward biased? Explain.

9 Many transfer programs are targeted to single parents. Describe the key conditions under which such targeting is socially optimal. How might you empirically evaluate the desirability of such targeting? Discuss.

10 The standard economic model of tax evasion predicts that agents evade some tax whenever $p \bullet (1+\theta) < 1$, where p is the audit probability and θ is the penalty rate. Describe the intuition behind this prediction. Is the prediction consistent with the data? Why or why not? Discuss.

Section B

Long questions: Answer ONE question (each question carries 30 marks)

11 Each individual in society experiences utility $u(x)$ when smoking x cigarettes. For each cigarette an individual smokes, she imposes a health cost d on society due to the air pollution. The price per cigarette equals p, which is set equal to its constant production cost c.

a) Describe the individual's behaviour and show that it is socially inefficient. [6 marks]

b) Describe three different policy interventions which can lead to the efficient amount of smoking? [6 marks]

c) The electronic cigarette is argued to eliminate the air pollution and thus the costs to society. However, a survey suggests that individuals underestimate the costs of smoking for their own health. Assume that their decision utility equals $u(x) - d^*x$, but their true utility equals $u(x)$. Would you still recommend the policy interventions you discussed in part b? [6 marks]

d) Some policy makers dispute the results in the survey and argue that smokers are well aware of the health consequences (i.e., $d=0$). Show formally why introducing a small tax on smoking increases welfare even if most of the smokers are indeed well aware. [6 marks]

e) Discuss the equivalence between a price policy and quantity regulation when for some individuals $d=0$ and for other individuals $d>0$. [6 marks]

12 Consider workers with a utility function $u(z-T(z),z/n)$, where z is before-tax earnings, $T(.)$ is a tax function, and n is ability which is smoothly distributed in the population. To begin with, there is a linear earnings tax, i.e. $T(z) = t \cdot z$, and individuals can adjust their earnings in response to taxes without any friction.

a) Assume that the marginal tax rate is increased from t to $t+\Delta t$ at the income threshold z^*. Characterize behavioural responses to this kink, and describe an empirical strategy that exploits the kink to estimate an elasticity of earnings with respect to the marginal net-of-tax rate. What earnings elasticity is being estimated? Explain. [10 marks]

b) Instead of the kink analysed above, assume that tax liability is increased from $T(z^*)$ to $T(z^*)+\Delta T$ at the income threshold z^*, with no change in the marginal tax rate. Characterize behavioural responses to this notch, and describe an empirical strategy that exploits the notch to estimate an elasticity of earnings with respect to the marginal net-of-tax rate. What earnings elasticity is now being estimated? Explain. [10 marks]

c) Assume now that a fraction of individuals a^* (at any earnings level) are affected by some form of optimization friction that make them unresponsive to kinks or notches. If this issue is ignored, what elasticity is being estimated in the empirical strategies described above? Explain. Describe

how one might estimate a^* and account for such friction in the strategies based on kinks and notches, respectively. [10 marks]