

May/June Examination Period 2022-23

ECN352 Public Economics

Duration: 2 hours

**YOU ARE NOT PERMITTED TO READ THE CONTENTS OF THIS QUESTION PAPER UNTIL
INSTRUCTED TO DO SO BY AN INVIGILATOR**

Answer ALL questions.

Provide an explanation for all your answers. Credit is given for the quality and clarity of your explanations and not just for having the correct answer (including for TRUE or FALSE questions). But be concise: there is no need for lengthy explanations.

You are permitted to bring 20 x A4 pages of notes into your examination (i.e. 10 double sided pieces of paper). These can be typed or handwritten and can include graphs and images. They can include material from any source.

Your notes must be stapled together and include your student ID number and the module code on the first page. You must submit your notes at the end of the examination with your answer booklet.

Calculators are not permitted in this examination. Complete all rough workings in the answer book and cross through any work that is not to be assessed.

Possession of unauthorised material at any time when under examination conditions is an assessment offence and can lead to expulsion from QMUL. Check now to ensure you do not have more than 20 pages of notes. You should also not have mobile phones, smartwatches or unauthorised electronic devices on your person. If you do, raise your hand and give them to an invigilator immediately.

It is also an offence to have any writing of any kind on your person, including on your body. If you are found to have hidden unauthorised material elsewhere, including toilets and cloakrooms, it will be treated as being found in your possession. Unauthorised material found on your mobile phone or other electronic device will be considered an assessment offence. A mobile phone that causes a disruption in the exam is also an assessment offence.

EXAM PAPERS MUST NOT BE REMOVED FROM THE EXAM ROOM

Examiner: François Gerard

Question 1

Explain the difference between a Hicks-Kaldor improvement and a Pareto improvement in the context of government policies aimed at addressing market failures.

[5 marks]

Question 2

2a) Suppose that a first spending policy (Policy Y) generates a Marginal Value of Public Funds of $MVPF_Y = £0.75$. What does a Marginal Value of Public Funds of $MVPF_Y = £0.75$ mean for a spending policy? Does it imply that the policy generates a gain or a loss in social efficiency?

[5 marks]

2b) Suppose that the government decides to implement a reform that implies spending more on Policy Y by reducing spending on a second spending policy (Policy Z), which has a Marginal Value of Public Funds of $MVPF_Z = £0.5$. How high must the welfare weight for policy-Y beneficiaries be, compared to the welfare weight for policy-Z beneficiaries, for this reform to increase welfare?

[5 marks]

Question 3

Suppose that there is an excise tax in the perfectly competitive market for coffee.

Answer the following 2 questions:

- Would the incidence of the tax on consumers increase or decrease if the supply for coffee became more inelastic (keeping the market equilibrium without the tax unchanged)?
- Would the deadweight loss from the tax increase or decrease if the supply for coffee became more inelastic (keeping the market equilibrium without the tax unchanged)?

[5 marks]

Question 4

Let's assume that beef production creates a negative externality from the methane emitted by cows, with a constant external marginal damage MD_1 , and that the government decides to introduce a Pigouvian tax per unit of beef equal to that constant external marginal damage.

4a) In a standard Demand-Supply diagram for a perfectly competitive commodity market, display the impact of such a tax on the beef market. Your diagram should clearly identify:

- The change in the price actually paid by consumers;
- The change in the price actually received by producers;
- The change in the consumer surplus;
- The change in the producer surplus;
- The change in the government budget;
- The change in the total external damages (i.e., the total loss from the externality);
- The gain in social efficiency from addressing this externality.

You can draw more than one diagram in the interest of clarity if needed.

[20 marks]

4b) Suppose that beef producers buy soybeans to feed their cows, and that the production of soybeans for the purpose of feeding animals creates a negative production externality from deforestation, with a constant external marginal damage MD_2 .

[Is the following statement TRUE or FALSE?] The optimal policy to address this externality in the market for soybeans used as animal feed will imply increasing the optimal Pigouvian tax in the beef market above MD_1 .

[5 marks]

Question 5

In some cases, the private sector provides positive amounts of public goods, even in the absence of government intervention.

[Is the following statement TRUE or FALSE?] In those cases, the government should therefore not intervene in the provision of public goods; it will only crowd-out private contributions.

[10 marks]

Question 6

[Is the following statement TRUE or FALSE?] Risk averse individuals would only buy full insurance at an actuarially fair price.

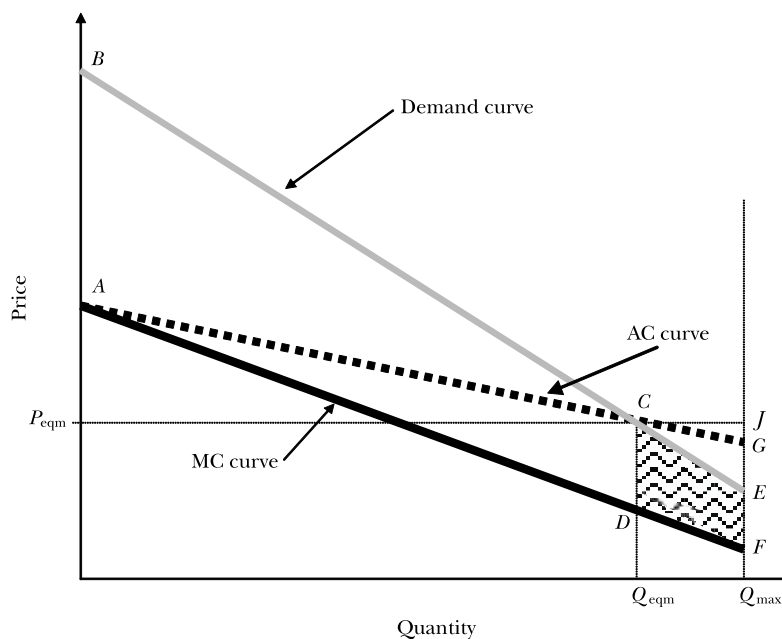
[5 marks]

Question 7

Figure 1 (on the next page) presents the market equilibrium in the “textbook setting” for the first model of adverse selection discussed in lectures (from Einav, Finkelstein, and Cullen, 2020). Remember that in this version of the model, we assume that there is only heterogeneity in risk types among buyers. Explain why the shaded area in the diagram corresponds to a deadweight loss from under-insurance in that market.

[15 marks]

Adverse Selection in the Textbook Setting

**Figure 1****Question 8**

A policymaker read the paper “Self-Targeting: Evidence from a Field Experiment in Indonesia” by Alatas, Banerjee, Hanna, Olken, Purnamasari, and Wai-Poi (2016) and concluded that the

paper provides clear evidence that adding an application cost to existing transfer programmes in the UK will improve targeting efficiency and therefore increase welfare.

Explain:

- The methodology adopted by that paper to study the causal effect of adding an application cost to a transfer programme;
- Why results in the paper indeed suggest that adding an application cost to a transfer programme can improve targeting efficiency;
- Whether an improvement in targeting efficiency always implies a welfare gain.

[20 marks]

Question 9

Income inequality has increased substantially in the UK since the 1980s.

[Is the following statement TRUE or FALSE?] Therefore, the optimal linear income tax rate must also have increased since the 1980s.

[5 marks]

End of Paper