Queen Mary
University of London

Main examination period 2024

ECN 375 Political Economy Duration: 2 hours

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Answer ALL questions.
Explain clearly your answers.

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.

Non-programmable calculators are permitted in this examination. Please state on your answer book the name and type of machine used. Complete all rough workings in the answer book and cross through any work that is not to be assessed.

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EXAM PAPERS MUST NOT BE REMOVED FROM THE EXAM ROOM

Examiner: Aniol Llorente-Saguer

SECTION A

This section consists of 4 questions. Explain your answers, and make use of the appropriate equations and graphs where needed. **The answers should be brief (half page max).**

Question 1 [10 marks]

Consider a proposed policy requiring mandatory organ donation upon death to address the shortage of transplantable organs. Evaluate this policy from the perspective of Kantianism and discuss the ethical implications of imposing such a policy on personal autonomy and human dignity.

Question 2 [10 marks]

Consider a scenario where a community relies on fishing in a shared lake. As more fish are caught each season, the breeding population diminishes, impacting future yields. There are no regulations and each individual catches as many fish as desired. Assess how implementing first and second best policies would influence fishing activity and overall well-being in this context.

Question 3 [10 marks]

In his study of the long-run consequences of slave trade, Nunn (2008) uses the distance from each country to the 4 main slave trading locations as an instrument for their slave exports. Explain what is the exclusion restriction in his setup and what are the potential concerns with it.

Question 4 [10 marks]

A group of eleven voters need to decide among three alternatives. Consider the following 821 voting rule: each voter assigns 8 points to the top alternative, 2 to the second one and 1 to the last one. Explain whether this rule satisfies the axiom of transitivity.

SECTION B

Question 5 [30 marks]

Consider the Wittman model discussed in class. In particular, we consider a one-dimensional policy space, $\mathbb{R}$, and two parties, denoted as L and R, which have distinct policy preferences. Party L is positioned at 0 and obtains a payoff of $-|x|$ if policy x is adopted, whereas party R is positioned at 1 and incurs a payoff of $-|x-1|$. The objective of party L is:

$$\max_{x_L} \pi\left(x_L, x_R\right)\left(-|x_L|\right) + \left(1 - \pi\left(x_L, x_R\right)\right)\left(-|x_R|\right),$$

where $\pi\left(x_L, x_R\right)$ is the probability that party L wins when parties choose platforms x_L and x_R. The objective of party R:

$$\max_{x_R} \pi\left(x_L, x_R\right)\left(-|x_L - 1|\right) + \left(1 - \pi\left(x_L, x_R\right)\right)\left(-|x_R - 1|\right)$$

There is a continuum of voters who have Euclidean preferences with ideal point $x_i \in \mathbb{R}$ (i.e., $u_i\left(x\right) = -|x - x_i|$ if policy x is implemented). The unique median voter's ideal point is x_m. Voters vote for the party whose policy they most preferred, and abstain if indifferent.

(a) Assume that $x_m = \frac{1}{2}$. Which policies (x_L, x_R) are proposed in equilibrium? Is the equilibrium unique? **[8 marks]**

For the next subparts, assume that $x_m > 1$. This assumption is different that the model we saw in class because the parties' ideal points lie on the same side of the median ideal point.

(b) Show that $x_R = 1$ is a best response for party R if $x_L = 1$. **[7 marks]**

(c) Show that $x_L = 1$ is a best response for party L if $x_R = 1$. **[7 marks]**

(d) The previous two parts imply that $(x_L, x_R) = (1, 1)$ is an equilibrium. Show whether this equilibrium is unique or not. **[8 marks]**

Question 6 [30 marks]

Consider a two-period political agency model where politicians choose actions $a \in \{0, 1\}$ while in office, with $a = 1$ representing the preferred action by the voters (e.g. not being corrupt). The politician population comprises γ good types, β bad types and $(1 - \gamma - \beta)$ opportunistic types. Good types always choose $a = 1$, bad types always choose $a = 0$, while opportunistic types select the action a that maximizes their utility: they obtain 10 if they get reelected and the cost of taking the $a = 1$ is 2 (and there is no cost to implement $a = 0$).

In the first period, a politician is randomly chosen from the population of politicians and she selects action a. Subsequently, the voters observe signal σ. If the politician chooses $a = 1$, then voters get signal $\sigma = 1$ with probability 1 (and signal $\sigma = 0$ with probability 0). If the politician chooses $a = 0$, then voters get $\sigma = 1$ with probability $\frac{1}{2}$ and $\sigma = 0$ with probability $\frac{1}{2}$.

Following the signal, the voter casts his vote for the incumbent politician or for the challenger, which is a random politician from the pool of candidates. The election winner determines the second period action.

a) Determine which actions will the politicians take in period 2, depending on their type. What is the probability that a random politician will implement the high action? **[6 marks]**

b) Suppose that the voter observes $\sigma = 1$ at the end of the first period. What is the probability that the politician has a good type and whether the voter will decide to reelect the politician of not after this signal. **[9 marks]**

c) Suppose that the voter observes $\sigma = 0$ at the end of the first period. What is the probability that the politician has a good type and whether the voter will decide to reelect the politician of not after this signal. **[9 marks]**

d) Determine what the optimal action of the opportunistic politician in period 1. **[6 marks]**

End of Paper