EC3400

UNIVERSITY OF WARWICK

Summer Examinations 2015/2016

Topics in Applied Economics (3a)

Time Allowed: 2 hours plus 15 minutes reading time, during which notes may be made (on the question paper) BUT NO ANSWERS MAY BE BEGUN.

Answer **FOUR** questions, including **(i) TWO** short-answer questions and **TWO** long-answer questions and (ii) at least **ONE** question from **EACH** section. The paper consists of 3 Sections, one for each Topic. Each Section contains one short-answer question (worth 15 marks) and one long-answer question (worth 35 marks). Answer Section A questions in one booklet, Section B questions in a separate booklet; and Section C questions in a separate booklet

Approved pocket calculators are allowed. Statistical tables are provided.

Read carefully the instructions on the answer book provided and make sure that the particulars required are entered on each answer book. If you answer more questions than are required and do not indicate which answers should be ignored, we will mark the requisite number of answers in the order in which they appear in the answer book(s): answers beyond that number will not be considered.

Section A: Answer AT LEAST ONE Question

1. **Short-Answer Question**

    Individuals around the world spend a large fraction of their income on consumption of "status goods" - goods that provide a signal of wealth. A study across many towns in a large country, documented a negative effect of the average income of a taxi driver in each town relative to the average income in the town, on the cost of a car purchased by taxi drivers, controlling for the driver's income.
    (I.e., the cost of a car of each driver in the sample is regressed on the average income of taxi drivers relative to average income of all workers in the town in which the driver works, and on the driver's income. The coefficient on the first regressor is found to be negative).

    Provide an explanation for this observation. **(15 marks)**

2. Long-Answer Question

Consider the following Principal-Agent problem:

Output produced by the agent can be either low or high: $Y \in \{L, H\}$; the agent's effort can also be either low or high. The state of nature can be either good or bad. Output is a function of the effort and the state of nature. In particular, output is high if and only if the state of nature is good and the agent exerts high effort.

The agent's cost of high effort is γ. The cost of low effort is zero. The probability of a good state of nature is p. The principal doesn't observe the state of nature and the effort of the agent. The economy exists for one period. The principal designs a contract to maximize her expected income. The contract includes a bonus payment b if output is high and could include physical punishment if output is low. Physical punishment generates a disutility of v to the agent and costs x to the principal. The contract must include a minimum wage equal to $\omega > 0$. (Note that the minimum wage isn't assumed equal to the cost of effort). The agent **doesn't** know the state of nature when deciding his effort level.

(a) Suppose punishment is not part of the contract (It is a "pure carrot" contract). Find the expected cost of incentivizing the agent in this case. Start with the ICC (Incentive Compatibility Constraint) of the agent. Then find the size of b. Calculate the OF (objective function) of the principal: the minimum expected cost of incentivizing the agent. **(7 marks)**

(b) Suppose punishment is included in the contract (It is a "stick and carrot" contract). Find the expected cost of incentivizing the agent in this case. Start with the ICC of the agent. Then find the size of b. Finally calculate the OF. **(7 marks)**

(c) Find a sufficiently small x such that punishment is included in the contract. (Hint: use the two OF from parts a and b)**. (7 marks)**

Suppose now that the principal can pay a cost m to monitor the agent. By paying the monitoring cost the principal can observe the effort level of the agent and could punish the agent at a cost x to the principal and disutility v to the agent if effort is low. As above, the bonus b is paid only if output is high, but if the monitoring cost is paid the principal punishes the agent when effort is low and only if effort is low, regardless of output.

(d) Find a threshold level of m below which the principal will choose to monitor. Assume the cost of punishment, x, is sufficiently low such that the principal will choose to include punishment in the contract if it is too costly to monitor. That is, you should find the threshold cost of monitoring such that the principal will choose monitoring over "stick and carrot" with no monitoring. Also here you should start with the ICC of the agent. Then find the size of b and calculate the OF. Finally use the OF from part b for comparison. **(7 marks)**

(e) Explain the sign of v in your result for part d. **(7 marks)**

Section B: Answer AT LEAST ONE Question

3. **Short-Answer Question**

   (a) Give an example of a bargaining situation and characterize it in terms of bargaining concepts you know. **(6 marks)**

   (b) Explain the difference between inside options and outside options in long-term relationships, both in terms of what they are and how they respectively impact on the bargaining outcome. **(9 marks)**

4. **Long-Answer Question**

   (a) Explain what is the Nash Bargaining Solution, and provide an example. **(7 marks)**

   (b) What is the Outside Option Principle? Explain why its takes the form that it does. **(8 marks)**

   (c) Using the theory of bargaining, discuss the policies that can help improve the welfare of women. **(20 marks)**

Section C: Answer AT LEAST ONE Question

5. **Short-Answer Question**

   It is typically difficult to enforce contracts in developing countries. In the 11th century Jewish merchants and traders faced a similar problem of contract enforcement. Briefly summarize how cultural factors affected the kind of mechanisms used for contract enforcement. **(15 marks)**

6. Long-answer Question

An important deeply held belief that varies widely across societies: the appropriate or natural role of women in society. In some societies, the dominant belief is that women should be allowed to participate freely, and equally to men, in employment outside the home. In others, there is the very different view that the appropriate place for women is within the home, and they are discouraged from participating in activities outside the domestic sphere.

(a) Esther Boserup (1970) came up with an argument that attempts to account for the differences in attitudes towards women's labour force participation across the world. Summarize the argument and describe its strengths and weaknesses. **(10 marks)**

(b) Describe and critically evaluate the empirical strategy used by Alesina, Giuliano and Nunn (2012) to account for gender differences in attitudes towards women across the world. **(20 marks)**

(c) How do Alesina et al (2012) empirically assess whether observed differences in labour force participation arise from cross-country differences in the nature of institutions or due to to cross-country differences in internal attitudes and norms? What do they find? **(5 marks)**

(End)