# UNIVERSITY COLLEGE LONDON

## EXAMINATION FOR INTERNAL STUDENTS

MODULE CODE : **ECON3019**

ASSESSMENT : **ECON3019A**
PATTERN

MODULE NAME : **Issues in Economic Development**

DATE : **17 May 2016**

TIME : **2:30 pm**

TIME ALLOWED : **2 hours**

This paper is suitable for candidates who attended classes for this module in the following academic year(s):

## 2015/16

**TURN OVER**

## ECON3019:  Issues in Economic Development
## SUMMER TERM 2016

**TIME ALLOWANCE: 2 hours**

Answer three of the four following questions. Each question carries equal weight.

*In cases where a student answers more questions than requested by the examination rubric, the policy of the Economics Department is that the student's first set of answers up to the required number will be the ones that count (not the best answers). All remaining answers will be ignored.*

## Question 1

The table below describes the data used to evaluate a programme that aims at improving school attendance in a developing country:

| Mother's education | (A) | (B) | (C) | (D) | (E) |
|---|---|---|---|---|---|
| None or low | 40 | 10 | 30 | 15 | 60 |
| Medium-low | 50 | 30 | 30 | 25 | 30 |
| Medium-high | 70 | 60 | 50 | 25 | 10 |
| Highest | 90 | na | 70 | 35 | 0 |

NOTE: *na* = not available

The meaning of the columns is given by the following:

-Column A: Among those children <u>participating</u> in the programme and whose mother's education is as specified in the row, the cell shows the percentage of children who are attending school.

-Column B: Among those children <u>not participating</u> in the programme and whose mother's education is as specified in the row, the cell shows the percentage of children who are attending school.

-Column C: Among those children <u>participating</u> in the programme and whose mother's education is as specified in the row, the cell shows the percentage of children that <u>would</u> attend school in the <u>absence</u> of the programme. This column of data is unobserved by the econometrician.

-Column D: Among those children <u>participating</u> in the programme, the cell shows the percentage of children whose mother belongs to the education group specified in the row. Notice that the list of education groups is exhaustive, and consequently the sum of the cells of the column is 100.

-Column E: Among those children <u>not participating</u> in the programme, the cell shows the percentage of children whose mother belongs to the education group specified in the row. Notice that the list of education groups is exhaustive, and consequently the sum of the cells of the column is 100.

The questions below refer to the effect of the programme on school attendance:

(a) Compute the Average Treatment Effect on the treated (ATT).

(b) Compute and interpret a matching estimator for the ATT.

(c) Is the matching estimator of the ATT biased? Why or why not?

(d) Explain the main assumptions in which the validity of matching estimators rests.

(e) Explain what you would do to explore the validity of these assumptions.

## Question 2

Some scholars argue that increasing public sector wages will decrease the average intrinsic motivation of public sector workers.

(a) Explain what intrinsic motivation is.

(b) Explain also why intrinsic motivation might be important for the performance of public sector workers in developing countries.

(c) Explain the intuition behind the statement provided at the beginning of this question.

(d) Provide a simple economic model that predicts the statement provided at the beginning of this question, and use the model to explain the statement more formally than you did in (c).

(e) Describe how you would design an experiment to test the statement.

(f) Please describe succinctly the existing empirical evidence on whether or not increasing public sector wages will decrease the average intrinsic motivation of public sector workers.

## Question 3

In an economy with total output Y there are two consumption goods: a privately funded one, denoted by C, and a publicly funded one, denoted by G. Income is taxed at a linear tax rate of $r$, and hence $G=rY$, $C=(1-r)Y$. The government maximizes a welfare function given by $W=U(C)+V(G)$, where both $U(C)$ and $V(G)$ are increasing and concave.

(a) Obtain the equation that determines the optimal tax rate and interpret it.

(b) Assume that $U(C)=C$. What would the optimal tax rate be?

(c) Assume that the maximum tax rate that the government can set is $r^m$. Under what condition will the constrained optimal tax rate be equal to $r^m$? As in (b), assume that $U(C)=C$.

(d) Low-income countries typically collect taxes of between 10% and 20% of GDP, while the average for high-income countries is around 40%. What are the reasons that have been put forward to explain why low income countries tax so little?

## Question 4

Households in developing countries are greatly exposed to risk, including those emanating from weather, crop losses, and disease.

(a) Discuss whether the following statement is correct or not and why "insurance products are not widely available in most developing countries, hence households are insufficiently insured."

(b) What are the problems associated with lack of fair insurance?

(c) How do economists usually test whether households in developing countries are fully insured or not? Discuss the data requirements, and the regression used including the variables used and the interpretation of the coefficients.

(d) Give at least one example of a type of shock that might affect the marginal utility of consumption. Discuss whether the usual approach to test for full insurance is valid when the shock affects the marginal utility of consumption.

END OF PAPER