

## Research Methods 2: Mock exam paper

**Duration 2 hours**

**Answer two questions.**

### Question 1.

What is meant by the term “postmodernism” in economics (25%).  
Critically evaluate the postmodernist approach to economics, particularly in the light of its practical implications (75%).

### Question 2

Evaluate the argument that the “rhetoric” approach is a highly conservative exercise in hiding the flaws of economics masquerading as a radical critique.

### Question 3.

In order to overcome gaps in its main data sources, the Bank of England uses survey data from firms alongside its range of large- and small-scale econometric models. Evaluate the view that the Bank (and organisations like it) should not use questionnaire and survey data because it is inherently inferior to econometric models.

### Question 4

Explain the following and consider their implications for statistical analysis of survey data:

- i. Simple random sampling
- ii. clustering
- iii. stratification
- iv. unequal selection probabilities

### Question 5

The *Law of Proportionate Effects* states that the probability distribution of the growth rates of firms is the same for all sizes of firms.

- (a) Show how you could test this law using data on the asset size of a group of firms in two years  $t$  and  $t-1$ . How could you tell if smaller firms grew faster? (30%)
- (b) Discuss the econometric problems that can arise when trying to test the law using Ordinary Least Squares. (30%)

- (c) Outline the sample selection model available in the LIMDEP package and illustrate how this can be used to improve upon the simple OLS estimates. Consider both the two stage and maximum likelihood procedures. (40%)

### Question 6

- a) Explain what fixed effects and random effects panel data models are and why they are an improvement on a simply pooling data. (50%)
- b) The following model is to estimated on a balanced panel of five firms over 20 years:

$$I_{it} = \beta_1 F_{it} + \beta_2 C_{it} + \varepsilon_{it}$$

where the regressors are market value ( $F$ ) and capital ( $C$ ) and the dependent variable is investment ( $I$ ). Suppose that the true error structure of the model is:

$$\varepsilon_{it} = \alpha_i + \eta_{it}$$

where  $\alpha$  is uncorrelated with the regressors.

- (i) If the model is estimated as a fixed effects model, what will be the statistical properties, in terms of efficiency and consistency, of the estimates? (25%)

- (ii) The estimates for pooled OLS, fixed effects (using dummies) and random effects models are given in the table below. Use the statistics shown to decide whether the data support a fixed effects or random effects specification. Carefully explain your reasoning. (25%)

Dependent Variable is Investment

Estimation	Constant	Market Value	Capital
(a) OLS	-48.030 (-2.236)	0.10509 (9.236)	0.30537 (7.019)
(b) Fixed Effects (using Dummies)		0.10598 (6.669)	0.34666 (14.348)
(c) Random Effects	-61.575 (-0.775)	0.10549 (6.859)	0.34641 (14.350)

(t-ratios are shown in brackets)

Breush-Pagan LM test for random effects (1df): 453.82

Hausman test of fixed vs random effects (2 df): 1.27