# HSE and University of London Double Degree Programme in Data Science and Business Analytics

## Elements of Econometrics, 2023-2024

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## Class 23: Panel data

### Problem 1

- i) What are panel data? What are the advantages?
- ii) What is balanced panel?

#### Problem 2

- i) Explain what is unobserved heterogeneity in panel data model. What is pooled regression?
  - ii) How to choose between pooled regression and individual regressions?

#### Problem 3

- i) What is fixed effect model?
- ii) Explain how LSDV method can be used for estimating FE models
- iii) How to choose between pooled regression and fixed effect panel model?
- iv) How other techniques to estimate FE model FD model and between-regression work?

#### Problem 4

- i) What is random effect model? How is it estimated?
- ii) How to choose between FE and RE model?
- iii) What are comparative advantages and disadvantages of using different method for panel data under different assumptions on the unobserved heterogeneity.