

May/June Examination Period 2025

ECN356 Labour Economics

Duration: 2 hours

**YOU ARE NOT PERMITTED TO READ THE CONTENTS OF THIS QUESTION PAPER UNTIL
INSTRUCTED TO DO SO BY AN INVIGILATOR**

Answer ALL questions

Section A carries 30 marks and Section B carries 70 marks.

Provide an explanation for all your answers. Credit is given for the quality and clarity of your explanations and not just for having the correct answer. But be as concise as possible: there is no gain from lengthy explanations.

Calculators, including 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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Examiner: Dr. Anna Raute

SECTION A: Answer ALL questions**Question A.1**

Among married women aged 30 – 40, average hours worked per week is 30 and the average wage is £20 per hour. If the average wage increases to £23 per hour, average weekly hours worked increase to 32 hours. What is the elasticity of labour supply for this group of workers? Interpret your findings.

[10 marks]**Question A.2**

Consider two groups of people – group A and group B. The tuition costs of attending university is the same for each group. On average, group A members complete a BSc degree in Economics and their average annual salary is £80,000, while group B members enter the labour market after A-levels and their salary is £45,000. What can we say from that information about the returns of obtaining an undergraduate degree in Economics?

[10 marks]**Question A.3**

A group of researchers draw on data from a multinational firm in the same sector across various countries and compute gender pay gaps (i.e. the difference between men's and women's salaries expressed as a % of mens salary) within the same firm across the different countries. They find that the gender pay gap is higher in countries with higher female labour force participation.

In light of what we discussed in class, briefly explain this finding.

[10 marks]

SECTION B: Answer ALL questions**Question B.1**

Many governments aim to provide subsidised widely accessible child care or preschool, to both improve school readiness as well as increase the labour supply of mothers with young children, below the age of 5. To this aim, the UK government introduces a child care subsidy to working families. The subsidy is a lump sum that is paid to working mothers only, but does not depend on the number of hours the mother works.

Before the government introduces the childcare subsidy programme on a large scale, it runs a pilot project, and introduces the subsidy programme only in a particular small area (Region A). You are asked to evaluate the pilot project. You have collected data on children's test scores (where test scores range between 0 and 100) at age 11 for a sample of children in Region A (where the childcare subsidy was introduced) and Region B (where no childcare was introduced). You also collect information on mothers' education levels (mothers have "high education" if they have a university degree and "low education" otherwise), aggregate information on socio-economic characteristics of children (e.g. language spoken at home, parents' age, number of siblings) as well as key economic markers across regions (e.g. unemployment rates, population size).

Table 1: Average Test scores at age 11 of children of mothers with low education

	Before childcare expansion	After childcare expansion
Region A (treatment group)	54	64
Region B (control group)	50	52

Table 2: Test scores at age 11 of children of mothers with high education

	Before childcare expansion	After childcare expansion
Region A (treatment group)	75	76
Region B (control group)	70	71

Continues on next page....

a) Use the data in Table 1 and Table 2 to answer the following questions:

- i. What is the difference-in-difference estimate of the childcare expansion on children's test scores for each parental group?
- ii. What does this suggest about the returns to early childhood childcare education across socio-economic groups? Can you think of mechanisms behind the estimated reform effect?

[18 marks]

b) Set up and explain the appropriate regression equation for one of the groups. Why would you consider controlling for region characteristics?

[10 marks]

c) Using the economics we learned in class, how do you think the policy affected labour supply of high and low-educated mothers with preschool children?

[10 marks]

d) The researchers find out that region A cut public funding for child wellbeing in order to fund the childcare subsidy. Is that a problem for identification of the causal effect of the policy? And if so, how will this affect the estimate of the returns to the policy?

[7 marks]

Question B.2

Many governments introduce hiring subsidies (i.e. temporary payroll tax cuts) when they hire workers with a criminal record in an attempt to increase their employment prospects.

a) What might be the effect of such hiring subsidies on wages, labour costs and employment of workers with a criminal record in competitive labour markets? Explain your reasoning in words. You may want to illustrate your reasoning graphically.

[10 marks]

b) The government now decides to scrap their long-running hiring subsidy programme. Researchers find that especially firms that have used the hiring subsidy in the past, continue to hire workers with a criminal record even after the subsidy programme is terminated. Can you think of economic explanations for their hiring behaviour?

[8 marks]

c) Can you think of other policy levers to improve the employment prospects of workers with a criminal record?

[7 marks]

End of Paper