

January Examination Period 2024

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 40 marks and Section B carries 60 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.

You are permitted to bring 20 x A4 pages of notes into your examination (i.e. 10 double sided pieces of paper). These can be typed or handwritten and can include graphs and images. They can include material from any source.

Your notes must be stapled together and include your student ID number and the module code on the first page. You must submit your notes at the end of the examination with your answer booklet.

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.

Possession of unauthorised material at any time when under examination conditions is an assessment offence and can lead to expulsion from QMUL. Check now to ensure you do not have more than 20 pages of notes. You should also not have mobile phones, smartwatches or unauthorised electronic devices on your person. If you do, raise your hand and give them to an invigilator immediately.

It is also an offence to have any writing of any kind on your person, including on your body. If you are found to have hidden unauthorised material elsewhere, including toilets and cloakrooms, it will be treated as being found in your possession. Unauthorised material found on your mobile phone or other electronic device will be considered an assessment offence. A mobile phone that causes a disruption in the exam is also an assessment offence.

EXAM PAPERS MUST NOT BE REMOVED FROM THE EXAM ROOM

Examiner: Dr. Anna Raute

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

Among married men aged 30 – 40, average hours worked per week is 40 and the average wage is £30 per hour. If the average wage increases to £36 per hour, average weekly hours worked increase to 41 hours. What is the elasticity of labour supply for this group of workers? Interpret your findings.

[10 marks]

Question A.2

Josh comes from a wealthy family, which has set up a trust fund for him. Each year he is given an allowance from the fund under the following conditions:

- i. If John earns less than £20,000 a year, he gets no money from the fund.
- ii. If he earns between £20,000 and £40,000, he collects £1 for each £1 that he earns above £20,000. (For example if he earns £21,000 the trust fund pays him £1,000; if he earns £40,000 the trust fund pays £20,000).
- iii. For every £1 that he earns above £40,000, the £20,000 award from her trust fund is reduced by 50 pence until he is back to receiving nothing from the trust fund.

- a) Draw Josh's budget constraint if he had not trust fund and with the trust fund as described above (Hint: This is similar to our discussion of the Earned Income Tax Credit). Label all relevant kink points.

[10 marks]

- b) How does the trust fund affect Josh's labour supply? Provide a brief explanation.

[12 marks]

- c) Consider a different worker, Emily, who receives an unexpected inheritance by a distant aunt. Explain how the inheritance may affect her labour supply choices.

[8 marks]

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

Many governments aim to provide free widely accessible child care or preschool. Researchers study the long-run effects of a large-scale expansion of subsidized child care for 3-6 year olds in 1975 in Norway (note: Children start primary school only at age 6 in Norway). The reform lead to large and sudden increase in childcare availability in some municipalities starting in 1976, whilst other municipalities saw little or no increase in childcare coverage.

The researchers collect data on adult outcomes measured in 2006 (such as an indicator for university attendance and an indicator for welfare dependency) for children who were between 3 to 6 year old before (i.e. born 1966-1969) and after the reform (born 1973-1976), both in municipalities where childcare expanded a lot ("Treated") and municipalities with little or no increase in childcare ("Comparison"). They also collect data on children's background variable, such as parents' age, their education when the child is two years old, the number of older siblings, immigrant status.

Table 1: Average University attendance

	Before childcare expansion	Before childcare expansion
Treated municipalities	0.39	0.47
Control municipalities	0.34	0.36

Table 2: Average Welfare Dependency (i.e. share receiving welfare benefits)

	Before childcare expansion	Before childcare expansion
Treated municipalities	0.16	0.11
Control municipalities	0.20	0.19

Continues on next page....

- a) Use the data in Table 1 and Table 2 to answer the following questions:
- What is the difference-in-difference estimate of the childcare expansion on university attendance and welfare dependency?
 - What does this suggest about the returns to early childhood education? Can you think of a mechanism behind the estimated reform effect?
- [15 marks]**
- b) Set up and explain the appropriate regression equation. Why would you consider controlling for children's background characteristics?
- [10 marks]**
- c) What is the key assumption one needs to make so that the difference-in-difference estimator identifies the causal impact of the childcare reform? Can this assumption be "tested" in this case? What kind of data would you need to do so?
- [10 marks]**
- d) The researchers find out that municipalities that expanded were reducing other public funding for child wellbeing in order to fund the expansion. 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

Researchers at a university want to test for gender bias in university teaching evaluations. They draw on large data from student evaluations in a context where students are randomly allocated to female or male tutorial instructors. The authors find that female instructors receive systematically lower evaluations, despite the fact that neither students' grades nor their study hours are affected by the gender of the instructor.

- a) Why do the researchers test whether having female instructors affects students' course grades and study-hours for the course?
- [8 marks]**
- b) The lower evaluations for female teachers appears to be substantially larger for courses with math-related content (note: female instructors do not affect students' grades or study-hours for any course). What could explain this result?
- [5 marks]**
- c) Can you think of a policy or initiative that the university can implement to reduce gender bias in teaching evaluations?
- [5 marks]**
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End of Paper