Stockholm University
Department of Economics

Course name:	Labour Market Economics
Course code:	EC2102
Type of exam:	Retake
Examiner:	Ines Helm and David Seim
Number of credits:	7,5 credits (hp)
Date of exam:	August 28th, 2019.
Examination time:	09:00-12:00 (3 hours)
Aids:	No aids are allowed.

Write your identification number on each answer sheet (the number stated in the upper right hand corner on your exam cover).

Start each new question on a new answer sheet.

Explain notions/concepts and symbols. If you think that a question is vaguely formulated, specify the conditions used for solving it. Only legible exams will be marked.

The exam consists of 6 questions. 100 points in total. For the grade E 40 points are required, for D 50 points, C 60 points, B 75 points and A 90 points.

Your results will be made available on your Ladok account (www.student.ladok.se) within 15 working days from the date of the examination.

Good luck!

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Q.1) (25 points) A government is considering to introduce a benefit receipt system that gives a cash grant of 1000$ to individuals if they are not working.

a) Assume the individual would decide to work without the benefit receipt system in place. Show both graphically and explain in your own words why the individual decides not to work anymore after the introduction of the cash grant.
b) What happens to the individual's reservation wage after the introduction of the cash grant? Clearly mark the budget line that corresponds to the reservation wage both before and after the introduction of the cash grant in your graph.
c) Suggest an alternative type of programme that would incentivize labour force participation. What are the advantages of this programme? Are there any disadvantages of such a programme? (In this question you don't have to explicitly show that these advantages and disadvantages exist, just shortly describe them).

Q.2) (13 points) What measure can we use to empirically test the responsiveness of hours worked to changes in the wage rate? What can we conclude if this measure is positive, what if it is negative? What do we know empirically about individual's responses to changes in the wage rate?

Q.3) (12 points) State whether the following statements are true or false. Shortly explain your answer in 1-2 sentences.

a) The life cycle model of labor supply predicts that wage increases along the expected wage-age profile can lead to decreases in an individual's hours worked.
b) In a model with a perfectly competitive firm, the two profit maximizing-conditions VMP_E = w and MC=p are equivalent in the short run.
c) Labor Demand is more elastic in the long run than in the short run.

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d) In a monopsony with a non-discriminating monopsonist the labor supply curve equals the marginal cost of labor.

Q4. (20 points) Suppose you are choosing between two jobs: a risky and a safe. You value consumption and safety according to:

$$U = \sqrt{w} - 2x$$

where w is the wage and x denotes the riskiness. x can take two values: x=1 for the risky job and x=0 for the safe job. Suppose the wage at the safe job, w_0, is 9.

(i) Derive the wage at the risky job, w_1, that makes you indifferent between the two jobs. What is the compensating differential? (5)

(ii) Suppose a firm hires E^* workers. It can choose to offer a safe or risky work environment. Each worker produces a_0 units in the safe environment and $a_1 > a_0$ units in the risky. There is no other input than labor in production. Under what condition will the firm provide a risky environment? (7.5)

(iii) Suppose $a_0 = 10$. Under what values of a_1 will the firm provide a risky environment? (7.5)

Q5. (15 points)
This question is about the class size paper of Peter Fredriksson, Hessel Oosterbeek and Bjorn Ockert, published in 2014 in the *Quarterly Journal of Economics*: The Long-Term Effects of Class Size.

a) The researchers plot three graphs on the relationship between (normalized) school enrolment in 4th grade and cognitive ability, hourly wages (measured in logarithms) and parental education (measured in years). Indicate which graph (left, middle or right) that corresponds to cognitive ability, hourly wages and parental education. Explain why? [7.5]

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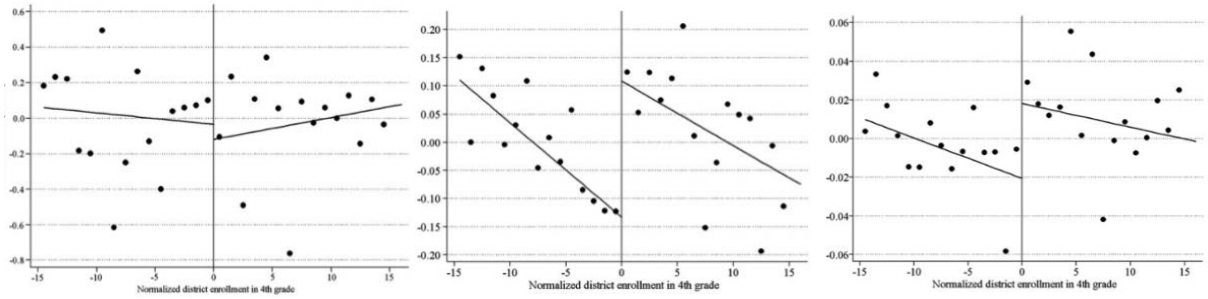

b) Suppose that schools are more inclined to add extra teachers to larger classes. Plot a graph between (normalized) school enrolment in 4th grade and the likelihood that the class has an extra teacher. Would such responses amplify or reduce the class size estimates on wages and ability? [7.5]

Q6. (15 points) Consider a researcher interested in the causal effect of class size in primary school on educational attainments. The research strategies he is contemplating are (i) regression-control; (ii) randomization and (iii) difference-in-differences. Explain the workings of each method along with the identification assumptions that enable causal inference. Discuss advantages and problems with each method.