Course name:	Labour Market Economics
Course code:	EC2102
Type of exam:	Retake
Examiner:	Ines Helm and Evelina Björkegren
Number of credits:	7.5 hp
Date of exam:	February 22nd 2020
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!

Q.1) (22 points) How changes in the wage rate affect the amount of capital and labor in production depends on the degree of substitutability between capital and labor.

    a) Assume that capital and labor are perfect substitutes. Will the profit-maximizing firm produce using both capital and labor in production? Why or why not? To answer this, give a graphical example and explain your reasoning. The graph should include the isoquant, the isocost line and should clearly state the optimal combination of labor and capital used in production (i.e. mark the optimal point in the graph assuming an optimal level of output).

    b) How does the firm's isoquant look like when capital and labor are perfect complements? Draw an example of such an isoquant.

    c) Give a real world example, where capital and labor are substitutes and one where capital and labor are complements.

Q.2) (16 points)

    a) What does the cross-elasticity of factor demand measure and how is it defined?

    b) When is the cross-elasticity of factor demand positive and when negative? Explain why.

    c) Show graphically how the demand curve for input i changes, when the price of input j is increasing and input j is a substitute. Explain in one sentence why this is the case.

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

    a) In the basic model of individual labor supply, an increase in the wage rate will increase an individual's hours worked

    b) In the basic model of individual labor supply, the introduction of a proportional tax rate on labor income will decrease hours worked.

    c) The life cycle model of labor supply predicts that wage increases along the expected wage-age pro-file can lead to decreases in an individual's hours worked.

Q.3) continued
   d) In a monopsony with a non-discriminating monopsonist the labor supply curve equals the marginal cost of labor.

Q.4) (15 points) Assume initially a labor market where a worker's productivity depends only on educational attainment.
   a) Provide a graphical illustration of the wage-schooling locus, explain its properties and what determines the wage-schooling locus.
   b) Workers now have different *rates of discount* and different *marginal rate of return to schooling*. Explain how these two factors impact the schooling choice.

Q.5) (20 points) This question is about measures of inequality and trends in inequality.
   a) The Gini-coefficient can be used to measure wage inequality. How is this measure formally defined? Also provide a graphical illustration and carefully explain this.
   b) Discuss three potential causes behind the increase in wage inequality that has taken place since the 1970's in the U.S.
   c) Hammar and Waldenström (2019) estimate trends in global earnings inequality. What is their main finding, i.e. has the world become more equal or unequal since year 2000? What is the main driver of their results?

Q.6 (15 points) Suppose that you are deciding whether to move to the United States or to stay in Sweden. Assume that (i) your decision is based only on wage differences; (ii) there are some fixed costs of moving and (iii) you live forever. The interest rate is given by r and wages in the US and Sweden are constant over time.
   a) Derive the condition under which you will move.
   b) Suppose now that you are making this decision together with your partner and you act as one unit. Explain the concept of tied stayer and tied mover.