

STOCKHOLM UNIVERSITY
Department of Economics

Course name: Labour Market Economics
Course code: EC2102
Examiners: Ines Helm and David Seim
Number of credits: 7,5 credits
Date of exam: 20th of August 2017
Examination time: 3 hours

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

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. No aids are allowed.

The exam consists of 6 questions. One can get 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.

If you think that a question is vaguely formulated, specify the conditions used for solving it.

Results will be posted on your "My Studies" account (www.mitt.su.se) on September 8 at the latest.

Good luck!

Q.1) (20 points) Wages in the US have been steadily increasing since the 1980s. This question is about relating this increase in wages to changes in female labour supply over time.

- a) Using the basic static model of individual labour supply, discuss both graphically and explain in your own words how this increase in wages can have contributed to the increase in female labour force participation in the US over time.
- b) What impact will the increase in the wage rate have on hours worked (of females already working in the 1980s)? Discuss all relevant effects. Which effect dominates if hours worked increase following an increase in the wage rate? Illustrate this case graphically clearly marking the relevant effects in your graph.

Q.2) (10 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 women's responses to changes in the wage rate both in terms of hours worked and in terms of the participation decision?

Q.3) (20 points) Many countries impose payroll taxes on employers and employees to fund the social security system.

- a) Assume that a country wants to impose a payroll tax of 1\$ on employers for every employee-hour hired. What is the effect on both wages and employment in competitive labour markets? Both explain in your own words and illustrate your reasoning graphically. Clearly mark all the important points in your graph.
- b) Show graphically and explain why an equilibrium with payroll taxes is inefficient. Again, clearly mark all important sections in your graph(s).

Q.4) (20 points) Consider a government that contemplates extending the mandatory school system from nine years to ten years in primary school. You are now asked to give recommendation about the implementation and are thinking about estimating the model:

$$Y_i = b_0 + b_1 sch_i + e_i$$

Where Y_i is the outcome (e.g. wage) of individual i , and sch_i is the years in school of the same individual. e_i is an error term.

- a) Illustrate mathematically and in words why estimating this model can give rise to *Omitted variable bias*.
- b) If you had no financial or ethical restrictions, explain what research design you would use to uncover b_1 ?

- c) Explain the research design that Meghir and Palme (2005) use in their paper to estimate b_I ?

Q.5) (10 points) During the last 30 years, developed countries have seen both an increase in the supply of skilled workers and an increase in the wage of skilled workers relative to the wage of unskilled. In the course, we discussed three potential reasons for this development. Explain these briefly. (It is sufficient to explain two correctly to get full credit.)

Q.6) (20 points) Suppose you are deciding between moving to the US or staying in Sweden. You only live for two periods. If you move you incur an upfront costs of \$110,000. The wages in the US in the first and second period are constant at $w^1_{US} = w^2_{US} = \$100,000$ while the wage in Sweden is increasing over time: $w^1_{SWE} = \$10,000$ and $w^2_{SWE} = \$70,000$.

- (i) Let the interest rate between the two periods be r . State the condition under which you will move.
- (ii) Derive the value of r that makes you monetarily indifferent between moving and staying.
- (iii) Use this model to give examples of policies that the government could use to attract foreign labor.
- (iv) Illustrate graphically how the decision to move gets more complicated in a situation where a family of two jointly determines whether to move or not.