



Stockholm  
University

Department of Economics

**Course name:** Labour Market Economics  
**Course code:** EC2102  
**Type of exam:** Main  
**Examiner:** Ines Helm and David Seim  
**Number of credits:** 7,5 credits  
**Date of exam:** Thursday, 11<sup>th</sup> of January, 2018  
**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.**

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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.

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Your results will be made available on your Ladok account (<https://www.student.ladok.se/>) on February 1<sup>st</sup> at the latest.

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**Good luck!**

Q.1) (20 points) A government is considering to introduce a “take-it-or-leave-it” cash grant of 1000\$ for mothers from low income households if they are *not* working.

- a) Assume the mother would decide to work without the cash grant in place. Show both graphically and explain in your own words why the mother would decide not to work anymore after the introduction of the cash grant. Also refer to what happens to the mother’s reservation wage after the introduction of the cash grant and show this in your graph.
- b) Would it be better if the government introduced a cash grant that the mother can keep even if she decides to work, but instead the government taxes her labour income at 30%? You don’t have to show that graphically, just give a short answer in 1-2 sentences.
- c) Suggest an alternative type of programme for low income mothers that would incentivize labour force participation. 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) (20 points) Assume that there are two regions, region A and B and firms are mobile across regions, but workers are not. Assume also that workers’ labour supply is fully inelastic within region.

- a) Can there be wage differences across the two labour markets if the labour markets are competitive? Explain in your own words why or why not and illustrate your considerations graphically.
- b) Are the gains from trade larger if wages are equalized? Show your reply graphically and shortly explain why.

Q.3) (10 points) This question still uses the set up from Q.2)

- a) Shortly describe a real world example in which firms may be mobile, but workers are not and in which wage convergence can (at least partially) be observed.
- b) How could you test whether wages converge over time across regions within a country? Is there empirical evidence for wage convergence within countries?

Q.4) (15p) Suppose you want to estimate the compensating wage differential from working in a smoky environment.

- a) Explain why you could run into an omitted variable bias. Based on your explanation, show whether the bias will lead to an under- or overestimation of the true coefficient.
- b) Suppose that one industry introduces regulation that bans smoky environments. How can you use such a change in the law to estimate the causal effect of smoky environments on the wage?

Q.5) (20p) Consider the schooling model where individuals decide when to stop studying, or, alternatively, enter the labor market. Assume that more years in school have a positive effect on wages, which is declining with the number of years spent studying.

- a) Draw the wage-schooling locus based on the assumptions. Translate this into another graph depicting the marginal rate of return to an additional year in school. With an outside investment interest rate of  $r$ , characterize the equilibrium.
- b) Suppose that the government wants to increase years in schooling and wonders what the effects this will have on earned wages. Show and explain why the government will draw very different conclusions depending on whether the difference in schooling choices is due differences in outside interest rates,  $r$ , or due to different wage-schooling locuses.

Q.6) (15p)

- a) Explain how the Gini-coefficient is constructed. What value of the Gini-coefficient corresponds to perfect equality?
- b) Why is it important to separate wage or income inequality that is due to a temporary and a permanent component?