

PhD Programme
Exam in Labor Economics
Date: 20 January 2017
Time: 10.00—15.00

Instructions

Answer the following questions on separate sheets of paper. If you think that a question is vaguely formulated, specify the conditions used for answering it. Each question is worth 20 points.

Question 1

- a. Explain the identification strategy and the grouping estimator used by Blundell, R., Duncan, A., & Meghir, C. (1998). "Estimating labor supply responses using tax reforms". What problem in conventional labor supply studies does it solve?
- b. Explain the identification strategy used by Camerer, B., L. Babcock, and G. Loewenstein (1997). "Labor Supply of NYC CabDrivers". Describe also briefly their results and how they explain them.
- c. Describe weaknesses in Camerer et al. (1997) study and explain how Fehr, E. and Goette (2007) "Do Workers Work More if Wages are High? Evidence from a Randomized Field Experiment" extend the analysis to consider this criticism.

Question 2

- a) Outline a basic model that describes the problems in having firms (in competitive labor markets) provide general skills. Also show how these problems can be solved if complete contracts can be written.
- b) Show why the provision of general training can be difficult in an incomplete contract setting. Derive the necessary condition/s for general training to occur in such an incomplete contract setting.

Question 3

Assume that production uses only low (L) and high (H) skilled labor and that the production function is CES as below, where Y is output, σ is the elasticity of substitution between L and H , and A_i is the degree of technological factor augmentation for each respective skill. Also assume that labor markets are competitive.

$$Y = \left[(A_L L)^{\frac{\sigma-1}{\sigma}} + (A_H H)^{\frac{\sigma-1}{\sigma}} \right]^{\frac{\sigma}{\sigma-1}}$$

- Derive wages and relative wages (between high and low skilled labor) and show how these respond to changes in the ratio between H and L , A_i , and the skill bias of technology (A_H/A_L).
- Show how you can move from this framework to the data, deriving a relationship between relative wages (the skill premium), skill supply and technological change.
- Discuss to what extent this simple framework can account for changes in the US skill premium from approximately 1960 and onwards.
- Explain briefly to what extent a "task assignment" model can account for the empirically observed changes.

Question 4

- In the standard partial equilibrium framework, the asset value of employment is given by

$$rW(w) = w + \lambda(U - W(w))$$

where w denotes the (exogenous) wage and λ the (exogenous) separation rate. The asset value of unemployment is given by

$$rU = b + \alpha_u \int_{\underline{w}}^{\bar{w}} \max(W(w) - U, 0) dF(w)$$

where b denotes unemployment income, α_u the offer arrival rate, and $F(w)$ the exogenous wage offer distribution. Derive the reservation wage in this model.

- Extend the model to allow for on-the-job search. Derive the reservation wage in the extended model. Is the reservation wage higher or lower than the one derived in a)? Explain the result.
- An important question is whether there will be equilibrium wage dispersion among identical individuals and identical firms. Will the model in a) generate equilibrium wage dispersion? Will the model in b) generate equilibrium wage dispersion? Explain why, and point to the fundamental mechanisms. (no derivations are required)