Exam in the Course:

Labor Economics

23 July 2007

You have to provide answers to <u>three</u> of the following four problems. If you answer all problems only the answers to the first three problems 1, 2, and 3 will count.

Your answers have to be in English. If you are a Diploma student, your answers can be in English or in German. In case, please mark at the beginning of the exam, that you are a 'DIPLOMA' student.

The maxium number of credits is 90. To pass the exam you have to obtain 45 credits.

The exam lasts 90 minutes.

You may use a non–programmable calculator.

Please write your name and your immatriculation number ("Matrikelnummer") on top of all answer sheets.

Use a new answer sheet for each problem.

The exam consists of **3** pages including the cover page. Please check the completeness.

This is a closed–book exam.

Good Luck!

Please provide answers to <u>three</u> of the following four problems. On the answer sheets, mark clearly which problems you solve.

1.) Consider the neoclassical static labor supply model.

    a) Describe and illustrate graphically the static labor supply model. Distinguish between participation and hours worked. What is the reservation wage?

                                                 [15 credits]

    b) Merzonia is a country with a proportional income tax with a tax rate of 30% and welfare payments providing a nonlabor income of € 800 per month for each household. The government of Merzonia wants to strengthen work incentives by the combination of two policy reforms. First, the government lowers the nonlabor income to € 500 per month for those nonemployed who are capable of working. Second, the government introduces a tax deduction of € 1500 per month. The government expects that together these policy changes have no impact on the government budget. Based on the static labor supply model, what are the likely consequences of the reform on the labor force participation rate and the hours worked in Merzonia?
Hint: To solve this problem make appropriate further assumptions if necessary.

                                                 [15 credits]

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                                                [30 credits]

2.) Describe and illustrate graphically the basic model for schooling choice according to human capital theory. What is the wage–schooling locus? What is the return to education? How can the schooling choice be modelled as an optimal stopping problem? How does a Mincer earnings equation estimate the return to education? Discuss under which circumstances a linear regression provides an unbiased estimate of the return to education.

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                                                [30 credits]

3.) Assume a firm that uses the two inputs labor in persons E and physical capital K to produce one output good $q = f(E, K)$. Assume further that the firm maximizes profits

(1) $$\Pi = pq - wE - rK$$

for wage w and cost of capital r given. Let p denote the output price.

a) Write down and interpret economically the first order conditions of the profit–maximization problem of the firm. Show that the first order conditions imply cost minimization of the firm. [10 credits]

b) Describe graphically and explain economically the substitution effect and the scale effect for labor demand in response to a reduction in the cost of capital. [12 credits]

c) The German government plans to lower taxes on capital income in order to foster investment and job growth. Based on your answer to part b), discuss whether this policy reform is likely to achieve the goal of increasing employment.
Hint: To solve this problem make appropriate further assumptions if necessary.

[8 credits]
_____
[30 credits]

4.) The existence of long term employment relationships has two prominent alternative explanations,

(1) specific human capital and

(2) delayed compensation contracts.

Describe both explanations and explain how they lead to long term employment relationships. Discuss which of the two theories is a better explanation for long term employment relationships. Provide at least one argument in favor of each of the two theories. _____

[30 credits]

END OF EXAM