

Prof. Dr. Heinz D. Kurz

2. Klausur zu KV "Wachstum und Verteilung", 27/01/2012

Name:

Matrikel-Nr.:

In each part you must get a minimum of 30% of the possible points and altogether a minimum of 50%!

1. The Solow Model

1. Discuss the main building blocks of the Solow model and their interaction.

2. What is meant by "dynamic equilibrium", what by "dynamic steady-state equilibrium"? When does the former gravitate towards the latter? What does the model explain when the system is in a steady state?

3. (a) Let

$$Y(t) = F[K(t), L(t)] \quad (\S)$$

Derive (!!!) the rate of growth of Y .

(b) Assume that the function is specified in the following way:

$$Y = 4K^{0,3}L^{0,7}$$

Assume further that the rate of growth of employment per year is -1% and the rate of growth of hours worked per year per person employed is $+2\%$. The savings rate is $+20\%$

Calculate the steady-state-values for k , y , v , r and w .

(c) Define and illustrate in a diagram Hick-neutral technical progress.

(d) Assume that the rate of Hicks-neutral technical progress is 0.03. Calculate now, and illustrate in a diagram, using the function in (b) and assuming $n = 0.01$ and $s = 0.2$, the steady-state rate of growth g and the steady-state values of k , v , r and w .

2. Growth Accounting

1. Explain what is meant by growth accounting

2. What are the problems of growth accounting and how do growth accounting people deal with them?

3. “New” Growth Theory

1. So-called “new” growth theory started from an account of the misses/failures of the Solow model in explaining economic growth worldwide. What are the main objections to the Solow model?

2. According to Barro and Sala-i-Martin “the key property of endogenous-growth models is the absence of diminishing returns to capital“. By means of which assumptions is this property brought about in the contributions to new growth theory you are familiar with?

3. How do some new growth theorists introduce positive externalities in their models? What if one assumes, that the externality is “very big”?

4. (a) Discuss the main ideas and their translation into elements of the model in Romer (1986).

(b) What drives economic growth in the model?