

Name:

QUIZ 3: Econ 4, Section 2

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Please answer the following 10 questions for 50 points. Be as BRIEF as you can. You have 30 minutes.

1. (4 points) Define a balanced growth path and compare this definition with that of a steady state.
2. (8 points) Indicate whether and how could a Solow growth model with technological progress at a constant rate satisfy the Kaldor growth facts.
3. (4 points) Imagine, in the context of the Solow growth model without technological change, that two countries start quite poor but one country is even poorer than the other. Please describe their performance over time.

4. (4 points) Consider two countries. In both of them there is investment of 20% of output, in both of them depreciation is 7%. In country A population grows at 1% and in country B it grows at 2%. What does the Solow model predict about their long run output differences in the absence of technical change? What about the long run difference in capital.
5. (8 points) Given the law of motion for per capita capital associated with the Solow model with both population growth at rate n and exogenous growth of labor productivity at rate g_A): $\dot{K} = s K^\alpha (AL)^{1-\alpha} - \delta K$, derive an expression for how capital per capita per level of technology evolves over time. Find an expression for this variable such that if the economy is ever in this position it will stay there.
6. (6 points) Taxonia, a small country, has elections next week. Martin Brolas, the leading presidential candidate proposes a policy of tax breaks to increase the saving rate. His argument is that higher saving will lead to a golden age of higher level of growth in the economy. You are an educated Taxonian voter, what do you think of Brolas's proposal? Use a graph if you think it helps to make your case.

7. (4 points) Describe what happens in the growth model without population growth if an epidemic of yellow fever instantaneously wiped out one half of the population.

8. (4 points) In the Solow growth model augmented with technical change, is it possible to have growth miracles? If so how would it happen? If not, why not?

9. (4 points) Can changes in the relative position of output per capita across countries be traced to changes of behavior in the country? How could it happen?

10. (4 points) If all countries had the same total factor productivity and all workers had the same productivity, what does economic theory predict that would happen between those that have high output per capita and those that have low output per capita? Why?