Economics 304 Fall 2009

Mid-Term Exam #1 Wednesday, September 30

Instructions

1. This exam is to be taken in class. It is closed-book; no outside materials may be consulted. You may write your answers wherever you wish, but if any errors or ambiguities are discovered, they will be announced only in Vollum 116.

2. Answer the questions on the exam itself. If you need more space, use the back of the page.

3. Answer each question concisely. None requires a long answer. Add a graph or equation if it clarifies your answer, but be sure to label axes and curves and to define variables that might be ambiguous.

4. You have until 9:50 to finish the exam. If time seems scarce, use it where its marginal product is highest. Be sure that you get at least a sentence or two written for every question before you elaborate at length on any single answer.

5. You are responsible for making sure that you understand each question clearly. In case of any ambiguity, be sure to consult the instructor.

6. Please leave your exam on the table at the front of the room if you finish before I return.

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1. Suppose that Reedia and Portlandia are in steady-state equilibrium, operating according to the Solow growth model, the quantity theory of money, and relative purchasing-power parity. The Reedian population is growing at 1% per year while the population of Portlandia is growing at 2%. Technological progress in both countries occurs at 1% per year. The Reedian money supply (the simeon) is expanding at 5% per year and the supply of Portlandian rosemarks is growing at 8%. Reedians save 22% of their income whereas Portlandians save only 12%.

a. How fast is each country's GDP growing in the steady state and why?

Reedia: _____ Portlandia: _____

b. What is the steady-state inflation rate in each country and why?

Reedia: _____ Portlandia: _____

c. What is the steady-state rate of appreciation (or depreciation) of the simeon against the rosemark and why?

d. Assuming that the production functions and levels of technology are the same in the two countries, can we tell which country has the higher per-capita *level* of GDP on the steady-state growth paths? If so, which is higher and why? If not, why not?

2. Suppose that per-capita GDP in Oregon and Normandy is identical, but that other aspects of their economies differ. What, if any, effect would each of the following differences have on aggregate well-being in each region, given the equality in GDP? (Consider each one individually.)

a. Oregonians work more hours per week than Normans.

b. More Oregonians perform their own child care than Normans.

c. Oregonians pay for their health care through insurance whereas Normans pay for government-provided health care through taxes.

3. Given that the money supply is measured in dollars, real GDP is measured in goods per year, and the aggregate price level is measured in dollars per good, what are the units of measure of k in the quantity-theory equation $M = kPY$?

Based on the units of measure, what exactly does k measure and how is it relates to the demand for money.

4. Suppose that a "convergence regression" with no additional variables reveals a negligible estimated coefficient on initial per-capita income, but that the coefficient is estimated to be significantly negative when variables measuring other characteristics of the economy (such as the saving rate) are added.

a. How could we reconcile these results in terms of the Solow model?

b. Based on this Solow model interpretation, will all economies eventually end up with identical levels of per-capita GDP? Explain.

5. Evaluate the validity of the following statement: "The Consumer Price Index in the United States has risen by approximately a factor of 10 in the last 100 years. If this is a valid measure then I should be indifferent between a $1000 gift certificate to order from today's Sears catalog and a $100 gift certificate to order from the 1909 catalog."

6. The unemployment rate in the United States rose considerably in the 1970s. Explain whether and how each of the following could help explain the increase in unemployment:

a. There was an increase in the number of two-worker families.

b. The baby-boom generation entered the work force.

c. Union membership began declining as a percentage of the work force.

d. Traditional industrial sectors (such as autos and steel) declined while information technology and oil boomed.