

Write your name on the cover of the test booklet and nowhere else. Enclose this sheet with the booklet. Failure to follow these directions will cost you 1 point. The test has 100 points (to be scaled up to 160 points) and is scheduled to take 50 minutes. Therefore, expect to spend 1 minute for every 2 points. For example, a 12-point question should take 6 minutes. I can give some extra time.

1) (12 points) Explain EITHER the equation in Part A OR the equation in Part B.

A) $\Delta Y/Y = sA - d$

B) $M^d/P = L(Y, r, \pi^e)$

2) (12 points) For EITHER open market operations OR the required reserve ratio, explain how the central bank can use that to increase the money supply.

3) (16 points) Answer EITHER Part A OR Part B.

A) Write the equation for the Endogenous Growth Model. Explain how George W. Bush's cut of the capital gains tax would affect the long-term growth of the economy.

B) The Endogenous Growth Model explicitly assumes the capital-labor ratio is constant. How do they justify that assumption?

4) (18 points) Draw the Solow Growth Model diagram. Illustrate the effects of EITHER the event in Part A OR the event in Part B. Explain why the curve(s) moved as drawn. What happens to the GDP per capita and the capital-labor ratio?

A) An increase in the depreciation rate.

B) An improvement in technology.

5) (18 points) Answer EITHER Part A OR Part B.

A) According to the OECD, in 2019, the saving rate in the USA was 2.6% of GDP in the USA. It was 15.0% of GDP in South Korea. According to the OECD, in 2018, the population growth rate was .4% in South Korea and .6% in the USA. Given this information, assuming similar technology in the two countries and similar depreciation rates in the two countries, which country do you expect will be better off in the long run? Explain your logic. <https://data.oecd.org/natincome/saving-rate.html>
<https://data.oecd.org/pop/population.html> Of interest, the same source claims the Chinese national saving rate in 2015 was 46.9% of GDP. I find that hard to believe.

B) Draw the Solow Growth Model graph. Find k^* , k_G , and k_{MAX} . Briefly state how you found them.

6) (24 points) Answer EITHER Part A OR Part B.

A) Draw the S/I diagram for a large open economy with a capital-financial account deficit. Explain how you know it is a capital-financial account deficit. Illustrate the effects of a decrease in the future marginal productivity in the rest of the world. Explain why the curve(s) moved as drawn. What happens to the levels of S in the two countries, levels of I in the two countries, interest rates, and the deficit?

B) Draw the S/I diagram for a large open economy with a current account deficit. Explain how you know it is a current account deficit. Illustrate the effects of a decrease in government spending in the rest of the world. Explain why the curve(s) moved as drawn. What happens to the levels of S in the two countries, levels of I in the two countries, interest rates, and the deficit?