

Place your name on the back of this sheet of paper and nowhere else. Staple your answers face up on the front of this sheet of paper. Failure to follow these directions will cost you 10 points. Your assignment will be typed, except graphs can be drawn by hand and mathematical equations can be done by hand. Failure to type it will cost you 10 points. If you use double-sided printing or print on the back of scrap paper, I will give you one additional point.

1) (10 points) Explain the demand for a financial asset given by:

$$Q_D = f(i, \pi^e, \text{return on other assets, risk, liquidity})$$

2) (5 points) Suppose the real GDP grew 4%, the capital grew 3%, and labor grew 2%. How much did the total factor productivity grow? Show all work.

3) (20 points) Draw the Solow Growth Model diagram. Illustrate the effects of a decrease in the population growth rate. Explain why the curve(s) moved as drawn. What happens to the capital-labor ratio and GDP per capita?

4) (20 points) Draw the Solow Growth Model diagram. Illustrate the effects of a President Trump's decreasing the tax rates. (Assume no Ricardian Equivalence.) Explain why the curve(s) moved as drawn. What happens to the capital-labor ratio and GDP per capita?

5) (15 points) Draw the Solow Growth Model diagram. Assume the country starts to the left of  $k^*$ . Prove the economy will move to the right?

6) (10 points) Solow used his model to conclude the countries of the world would converge towards the same point. What key assumptions did he make which has prevented this from occurring? Explain your logic.

7) (10 points each) For each of the following events, explain how it will affect the endogenous growth model. Is that good or bad for the economy? Explain your logic. FYI, one of the two people who won The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel this year, Paul Romer, developed this theory.

A) President Trump's proposal to replace NAFTA (USMCA) will increase the length of the amount of time a patent on pharmaceuticals lasts and allows for other technology patents.

<http://international.gc.ca/trade-commerce/trade-agreements-accords-commerciaux/agr-acc/usmca-aeumc/ip-pi.aspx?lang=eng>

B) President George W. Bush decreased the income tax on dividends.