Problem Set #3

Due Tuesday, September 26, 2006

Problem Sets MUST be word-processed except for graphs and equations.

QUESTIONS

1. In 2004, Germany’s rate of capital accumulation was much slower than its labor force growth. In addition, the government had a large budget deficit. Based only on this information, use a Solow Growth Model diagram to clearly show the economy’s steady state as well as its actual (i.e., 2004) situation. Be sure to discuss what is happening to the level of income-per-worker and to the rate of economic growth in 2004. As a result of this situation, the German government initiated a series of labor market reforms in 2005, including a longer workweek and increased flexibility in hiring and firing decisions. Additionally, in order to provide more incentives for the unemployed to return to work, and to deal with the burgeoning deficit, the government cut government spending on unemployment benefits. On your Solow Growth Model diagram, clearly show the effects of these actions on income-per-worker. Be sure to clearly identify the final steady state. In addition, provide a brief economic explanation of the changes you showed in your diagram as well as the adjustment process that occurs during the transition period. Be sure to discuss what happens to the level of income-per-worker and to the rate of economic growth during both the transition period and once the final steady state is reached.

2. Use the growth accounting formula to calculate the growth rate of technology given a growth rate for labor of 2%, a growth rate of capital of 9%, and a growth rate of output of 3%. Be sure to show your work.

3. Suppose that technological progress increases by 2% but as a result, business firms need to increase their capital stock by 12%. Then, according to the growth accounting formula, calculate by how much the better technology ultimately increases economic growth. Be sure to show your work.