Saving, Investment, and Consumption

1. The Bush administration has cut taxes. In the context of the simple classical model of saving and investment, analyze the effects of this policy on the equilibrium quantities of national saving, investment, private saving, and consumption, and on the equilibrium level of the interest rate.

2. In the first presidential debate of 1984, Walter Mondale made the statement that “everybody, every economist, every businessman” agrees that deficits affect interest rates. In point of fact, that statement, particularly as it concerns economists, is very far from true. Consider a fiscal policy that increases the budget deficit, such as the Bush tax cut.
   a. In the context of Fisher’s two-period intertemporal choice framework, construct an example which demonstrates that the budget deficit may not affect interest rates. Explain intuitively why the deficit is not related to the interest rate in your example.

3. Answer the following questions in the context of Fisher’s two-period intertemporal choice framework.
   a. Suppose that \( U(c_1, c_2) = \frac{c_1^{\gamma}}{\gamma} + \frac{c_2^{\gamma}}{\gamma} \). Specify the household’s problem and the FONC that describes the solution to this problem.
   b. Suppose that the government increases spending in period one and assume a balanced budget. What effect will this policy have on the interest rate? Explain.

4. The Bush administration imposed tariffs on imports of steel this week. In the context of a small open classical economy analyze the impact of this policy on the equilibrium levels of net foreign investment, net exports, and the exchange rate. Explain your results intuitively.

Growth

5. The Bush administration has cut taxes. As a result, public saving has decreased, leading to a decline in national saving. Consider the Solow growth model. For simplicity, assume that there is no technological progress.
   a. What effect will the Bush tax cut have on the steady state values of capital per worker and output per worker. Include a graph to support your answer.
   b. Sketch the transitional dynamics of capital per worker and output per worker as the economy moves to its new steady state.
   c. Suppose that \( Y_t = K_t^\alpha L_t^{1-\alpha} \). Find the steady state capital stock. Find the golden rule value of the steady state capital stock. For full credit, please show your work.
   d. The national saving rate in the US is on the order of 20%. Due to the increase in fiscal deficits caused by the Bush tax cut the national saving rate will likely fall. Based on this fact, what is the likely affect of the Bush tax cut on the steady state level of consumption per worker. Explain. (Hint: Consider your solutions to part (c) above.)
   e. Describe the time path of the interest rate during the transition to the new steady state and the growth rate of the interest rate in steady state.

6. Consider a simple AK model of growth. Suppose that the demand for goods comes from consumption and investment, so that \( Y_t = C_t + I_t \), and that households save a constant fraction of their income, so that \( I_t = sY_t \). The capital stock evolves according to \( \dot{K}_t = sY_t - \delta K_t \).
   a. Derive the equation that describes the growth rate of the capital stock per worker in steady state. For full credit, show your work.
   b. In what sense does policy “matter” in the context of this model? Does policy “matter” in the context of the Solow growth model?