Homework 8

1. In the 1990s and the first decade of the 2000s, investors from the Asian economies of Japan and China made significant direct and portfolio investments in the United States. At the time, many Americans were unhappy that this investment was occurring.
   a. In what way was it better for the United States to receive this foreign investment than not to receive it?
   b. In what way would it have been better still for Americans to have made this investment?

2. In many developing nations, young women have lower enrollment rates in secondary school than do young men. Describe several ways in which greater educational opportunities for young women could lead to faster economic growth in these countries.

3. International data show a positive correlation between income per person and the health of the population.
   a. Explain how higher income might cause better health outcomes.
   b. Explain how better health outcomes might cause higher income.
   c. How might the relative importance of your two hypotheses be relevant for public policy?

4. From 1950 to 2000, manufacturing employment as a percentage of total employment in the U.S. economy fell from 28 percent to 13 percent. At the same time, manufacturing output experienced slightly more rapid growth than the overall economy.
   a. What do these facts say about growth in labor productivity (defined as output per worker) in manufacturing?
   b. In your opinion, should policymakers be concerned about the decline in the share of manufacturing employment? Explain.

5. For each of the following pairs, which bond would you expect to pay a higher interest rate? Explain.
   a. a bond of the U.S. government or a bond of an East European government
   b. a bond that repays the principal in year 2015 or a bond that repays the principal in year 2040
   c. a bond from Coca-Cola or a bond from a software company you run in your garage
   d. a bond issued by the federal government or a bond issued by New York State

6. Explain the difference between saving and investment as defined by a macroeconomist. Which of the following situations represent investment? Saving? Explain.
   a. Your family takes out a mortgage and buys a new house.
b. You use your $200 paycheck to buy stock in AT&T.
c. Your roommate earns $100 and deposits it in her account at a bank.
d. You borrow $1,000 from a bank to buy a car to use in your pizza delivery business.

7. Suppose GDP is $8 trillion, taxes are $1.5 trillion, private saving is $0.5 trillion, and public saving is $0.2 trillion. Assuming this economy is closed, calculate consumption, government purchases, national saving, and investment.

8. Three students have each saved $1,000. Each has an investment opportunity in which he or she can invest up to $2,000. Here are the rates of return on the students’ investment projects:

<table>
<thead>
<tr>
<th>Student</th>
<th>Rate of Return</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harry</td>
<td>5%</td>
</tr>
<tr>
<td>Ron</td>
<td>8%</td>
</tr>
<tr>
<td>Hermione</td>
<td>20%</td>
</tr>
</tbody>
</table>

a. If borrowing and lending is prohibited, so each student uses only his or her saving to finance his or her own investment project, how much will each student have a year later when the project pays its return?
b. Now suppose their school opens up a market for loanable funds in which students can borrow and lend among themselves at an interest rate \( r \). What would determine whether a student would choose to be a borrower or lender in this market?
c. Among these three students, what would be the quantity of loanable funds supplied and quantity demanded at an interest rate of 7 percent? At 10 percent?
d. At what interest rate would the loanable funds market among these three students be in equilibrium? At this interest rate, which student(s) would borrow, and which student(s) would lend?
e. At the equilibrium interest rate, how much does each student have a year later after the investment projects pay their return and loans have been repaid? Compare your answers to those you gave in part (a). Who benefits from the existence of the loanable funds market—the borrowers or the lenders? Is anyone worse off?