Economics 102: Problem Set 4

Due date: March 8 (Tuesday), 2004.

Note: you can either give your homework to the TA right after class or put it in the box outside my office (Heady 469) before 5:00pm. Note that old assignments can be picked up from my office.

**Problem 1**

Suppose an economy is described by \( Y = 5,000, \ G = 1,000, \ T = 1,000. \ C = 250 + 0.75(Y - T), \ I(r) = 1,000 - 50r. \)

2. Find the equilibrium interest rate and the equilibrium investment.
3. Suppose now \( G \) rises to 1,250. Compute private saving, public saving, and national saving.
4. Find the new equilibrium interest rate and the equilibrium investment.
5. Suppose now the government also increases \( T \) to 1,250 to balance its budget. What happens to the equilibrium interest rate and the equilibrium investment?

**Problem 2**

Suppose an economy is described by \( Y = 5,000, \ G = 1,000, \ T = 1,000. \ C = 250 + 0.75(Y - T) - 10r, \ I(r) = 1,000 - 50r. \)

1. Find the equilibrium interest rate and the equilibrium investment.
2. Suppose now the economy has a new investment function: \( I(r) = I_0 - 50r, \) where \( I_0 > 0 \) is an unknown constant. Find the new equilibrium interest rate and the equilibrium investment. How do the equilibrium interest rate and investment change with \( I_0? \)