

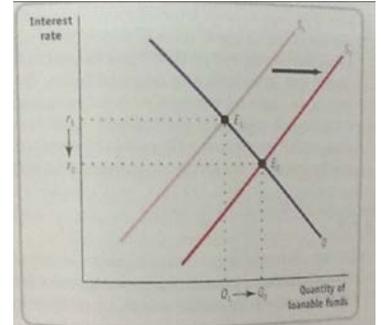
# Loanable Funds Markets

## Problem Set

1. Use the diagram of the loanable funds market to illustrate the effect of the following events on the equilibrium interest rate and investment spending.

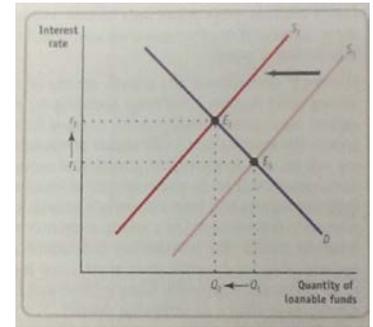
- a. An economy is opened to international movements of capital, and a capital inflow occurs.

**As capital flows into the economy, the supply of loanable funds increases. This is illustrated by the shift of the supply curve from  $S_1$  to  $S_2$  in the accompanying diagram. As the equilibrium moves from  $E_1$  to  $E_2$ , the equilibrium interest rate falls from  $r_1$  to  $r_2$ , and the equilibrium quantity of loanable funds increases from  $Q_1$  to  $Q_2$ .**



- b. Retired people generally save less than working people at any interest rate. The proportion of retired people in the population goes up.

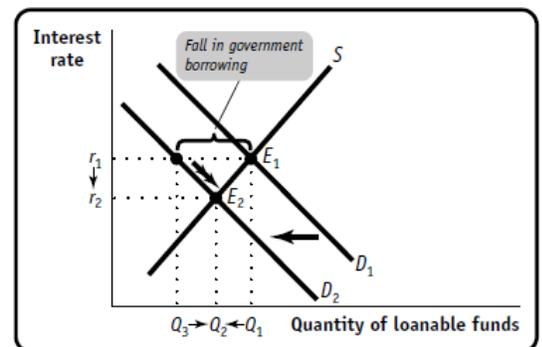
**Savings fall due to the higher proportion of retired people, and the supply of loanable funds decreases. This is illustrated by the leftward shift of the supply curve from  $S_1$  to  $S_2$  in the accompanying diagram. The equilibrium moves from  $E_1$  to  $E_2$ , the equilibrium interest rate rises from  $r_1$  to  $r_2$ , and the equilibrium quantity of loanable funds falls from  $Q_1$  to  $Q_2$ .**



2. Use the market for loanable funds shown in the Accompanying diagram to explain what happens to private savings, private investment spending, and the rate of interest if the following events occur. Assume that there are no capital inflows or outflows. Illustrate with a diagram.

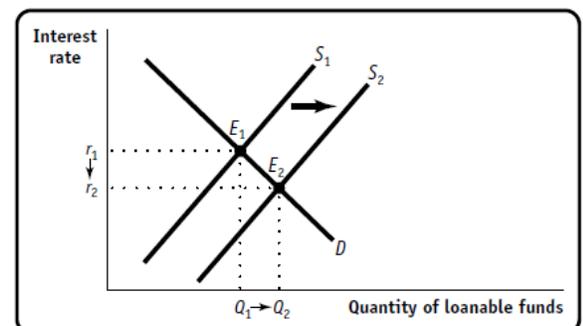
- a. The government reduces the size of its deficit to zero.

**If the government reduces its deficit to zero, there will be a decrease in the demand for loanable funds, from  $D_1$  to  $D_2$ , equal to the reduction in the size of the deficit. In the accompanying figure, the amount  $Q_1 - Q_3$  represents the amount by which the government decreases its deficit. In response to the decrease in demand, the interest rate falls from  $r_1$  to  $r_2$ . This fall in interest rates will increase private investment spending from  $Q_3$  to  $Q_2$  and decrease private savings from  $Q_1$  to  $Q_2$ .**



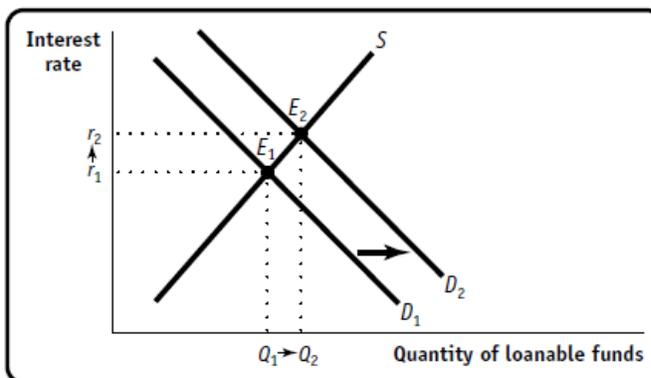
- b. At any given interest rate, consumers decide to save more.  
Assume the budget balance is zero.

**If consumers decide to save more, there will be an increase in the supply of loanable funds. In the accompanying figure, this is represented by the rightward shift of the supply curve from  $S_1$  to  $S_2$ . The increase in the supply of loanable funds reduces the equilibrium interest rate from  $r_1$  to  $r_2$ . In response to the lower interest rate, private investment spending will rise from  $Q_1$  to  $Q_2$ .**



- c. At any given interest rate, businesses become very optimistic about the future profitability of investment spending. Assume the budget balance is zero.

Higher investment spending at any given interest rate leads to an increase in the demand for loanable funds. In the accompanying figure, the increase in the demand for loanable funds shifts the demand curve from  $D_1$  to  $D_2$  and raises the equilibrium interest rate from  $r_1$  to  $r_2$ . In response to the higher interest rate, private savings will rise from  $Q_1$  to  $Q_2$ .



3. The government is running a budget balance of zero when it decides to increase education spending by \$200 billion and finance the spending by selling bonds. The accompanying diagram shows the market for loanable funds before the government sells the bonds. Assume that there are no capital inflows or outflows. Illustrate how the equilibrium interest rate and the equilibrium quantity of loanable funds will change. Is there any crowding out in the market?

The \$200 billion in government borrowing will increase the demand for loanable funds from  $D_1$  to  $D_2$  as shown in the accompanying diagram. The equilibrium interest rate rises from 10% to 12%, and the equilibrium quantity of loanable funds increases from \$500 billion to \$600 billion. The rise in the interest rate will lead to an increase in private savings of \$100 billion, and private investment spending will fall by \$100 billion. Through the rise in the interest rate, the increase in government borrowing crowded out \$100 billion in private investment spending.

