SOLUTIONS TO TEXT PROBLEMS:

Quick Quizzes

1. The supply of loanable funds comes from national saving. The demand for loanable funds comes from domestic investment and net capital outflow. Supply in the market for foreign-currency exchange comes from net capital outflow. Demand in the market for foreign-currency exchange comes from net exports.

2. The two markets in the model of the open economy are the market for loanable funds and the market for foreign-currency exchange. These markets determine two relative prices: (1) the market for loanable funds determines the real interest rate; and (2) the market for foreign-currency exchange determines the real exchange rate.

3. If Americans decided to spend a smaller fraction of their incomes, the increase in saving would shift the supply curve for loanable funds to the right, as shown in Figure 1. The decline in the real interest rate increases net capital outflow and shifts the supply of dollars to the right in the market for foreign-currency exchange. The result is a decline in the real exchange rate. Since the real interest rate is lower, domestic investment increases. Since net capital outflow increases, the trade balance also increases. Overall, saving and domestic investment increase, the real interest rate and real exchange rate decrease, and the trade balance increases.

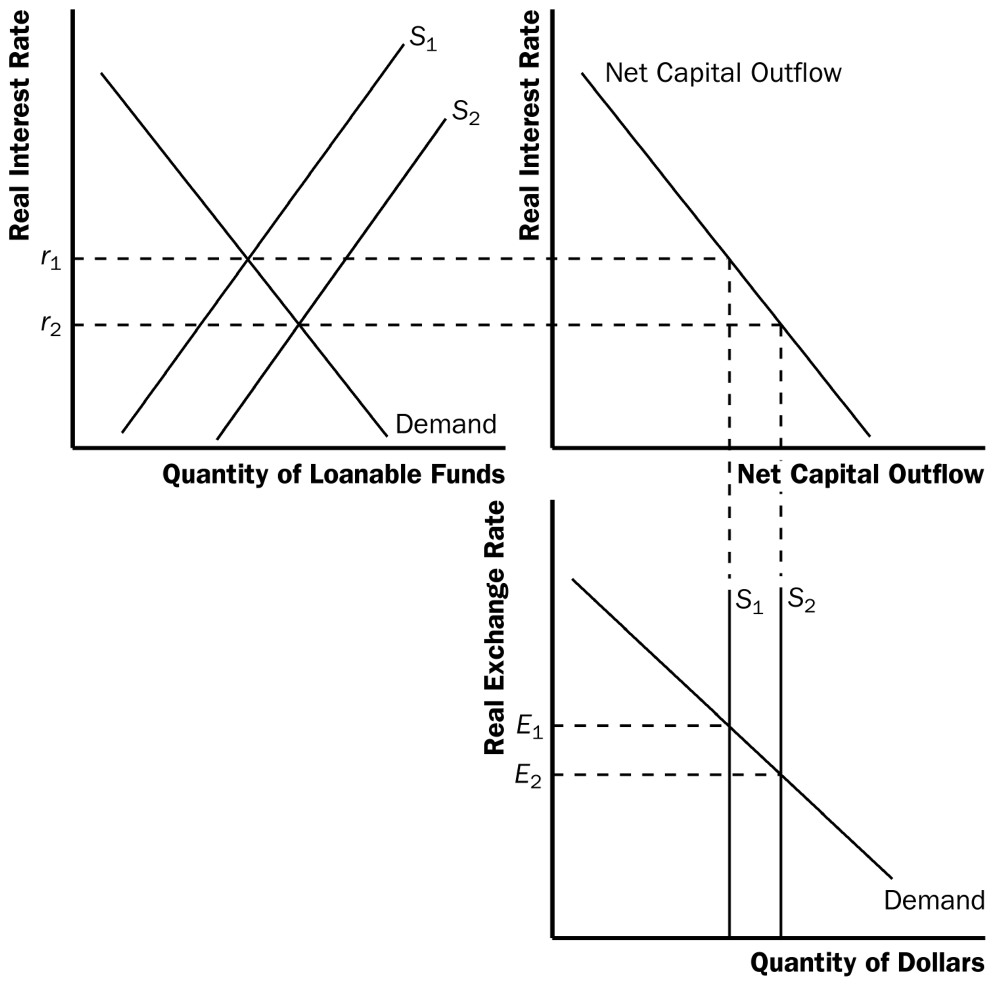

Figure 1

Questions for Review

1. The supply of loanable funds comes from national saving; the demand for loanable funds comes from domestic investment and net capital outflow. The supply of dollars in the market for foreign exchange comes from net capital outflow; the demand for dollars in the market for foreign exchange comes from net exports. The link between the two markets is net capital outflow.

2. Government budget deficits and trade deficits are sometimes called the twin deficits because a government budget deficit often leads to a trade deficit. The government budget deficit leads to reduced national saving, causing the interest rate to increase, thus reducing net capital outflow, which in turn reduces net exports.

3. If a union of textile workers encourages people to buy only American-made clothes, imports would be reduced, so net exports would increase for any given real exchange rate. This would cause the demand curve in the market for foreign exchange to

shift to the right, as shown in Figure 2. The result is a rise in the real exchange rate, but no effect on the trade balance. The textile industry would import less, but other industries, such as the auto industry, would import more because of the higher real exchange rate.

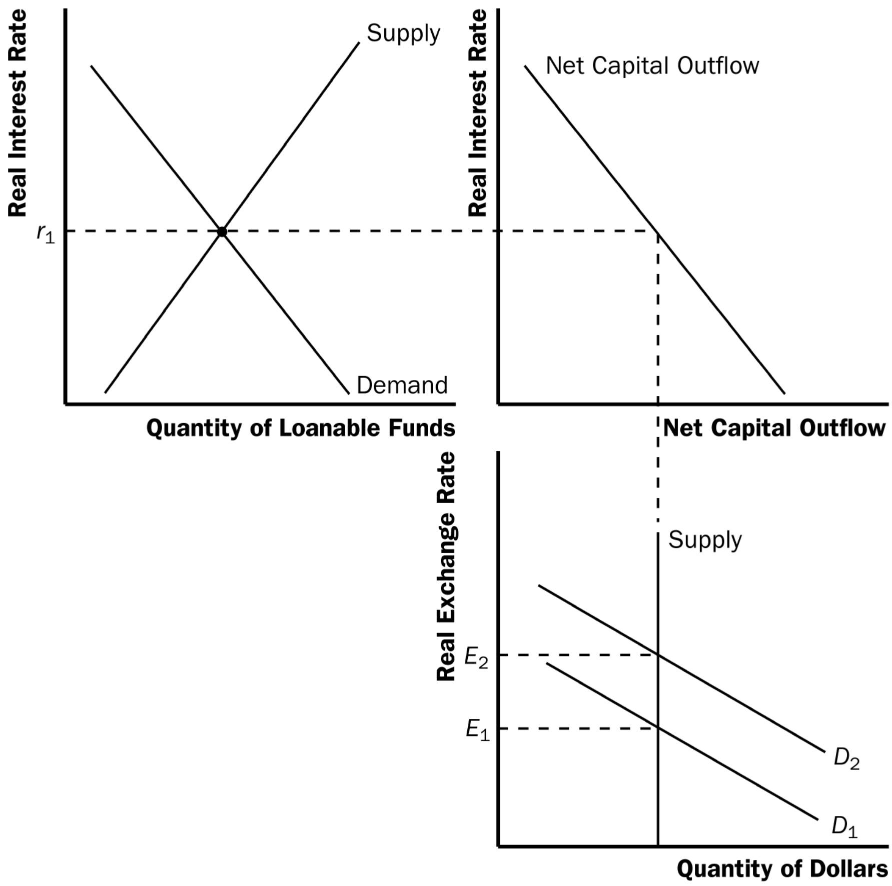

Figure 2

4. Capital flight is a large and sudden movement of funds out of a country. Capital flight causes the interest rate to increase and the exchange rate to depreciate.

Problems and Applications

1. Japan generally runs a trade surplus because the Japanese saving rate is high relative to Japanese domestic investment. The result is high net capital outflow, which is matched by high net exports, resulting in a trade surplus. The other possibilities (high foreign demand for Japanese goods, low Japanese demand for foreign goods, and structural barriers against imports into Japan) would affect the real exchange rate, but not the trade surplus.

2. A reduction in the U.S. government budget deficit would increase national saving, shifting the supply curve of loanable funds to the right in Figure 3. This would reduce the real interest rate in the United States, thus increasing net capital outflow, and reducing the real exchange rate. Thus the real value of the dollar would decline, not increase as the president suggested.

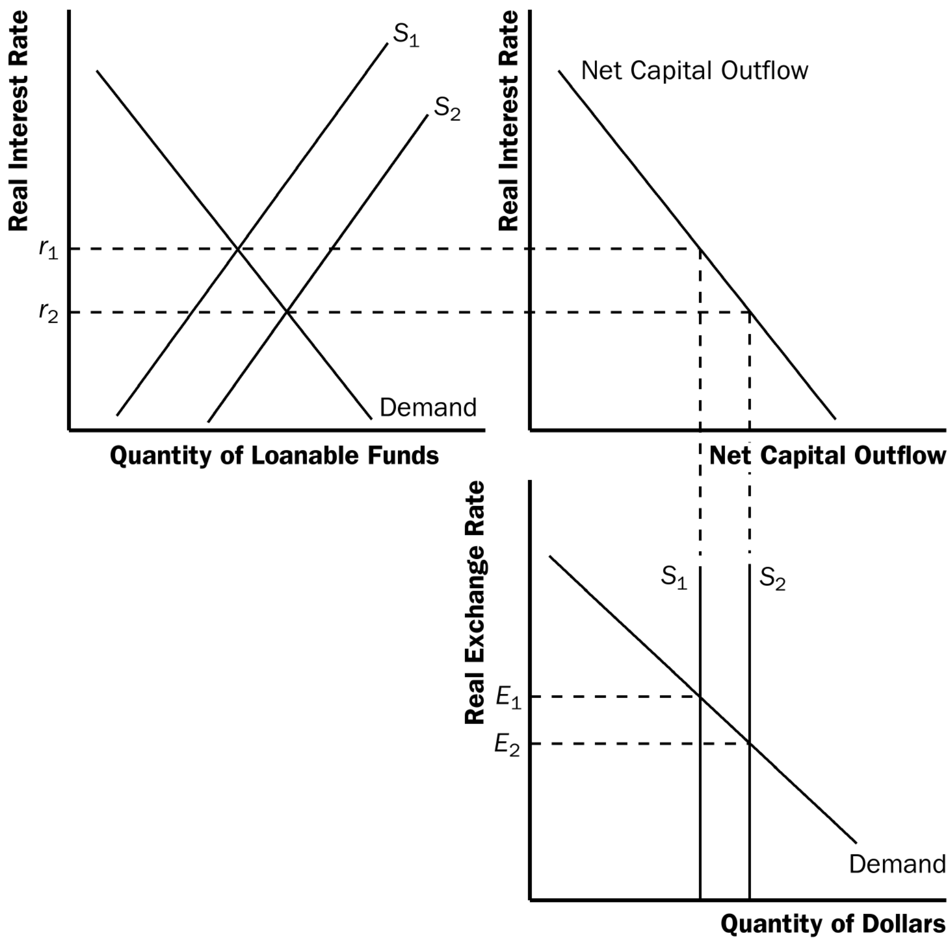

Figure 3

3. If Congress passes an investment tax credit, it subsidizes domestic investment. The desire to increase domestic investment leads firms to borrow more, increasing the demand for loanable funds, as shown in Figure 4. This raises the real interest rate, thus reducing net capital outflow. The decline in net capital outflow reduces the supply of dollars in the market for foreign exchange, raising the real exchange rate. The trade balance also declines, since net capital outflow, hence net exports, are lower. The higher real interest rate also increases the quantity of national saving. In summary, saving increases, domestic investment increases, net capital outflow declines, the real interest rate increases, the real exchange rate increases, and the trade balance decreases.

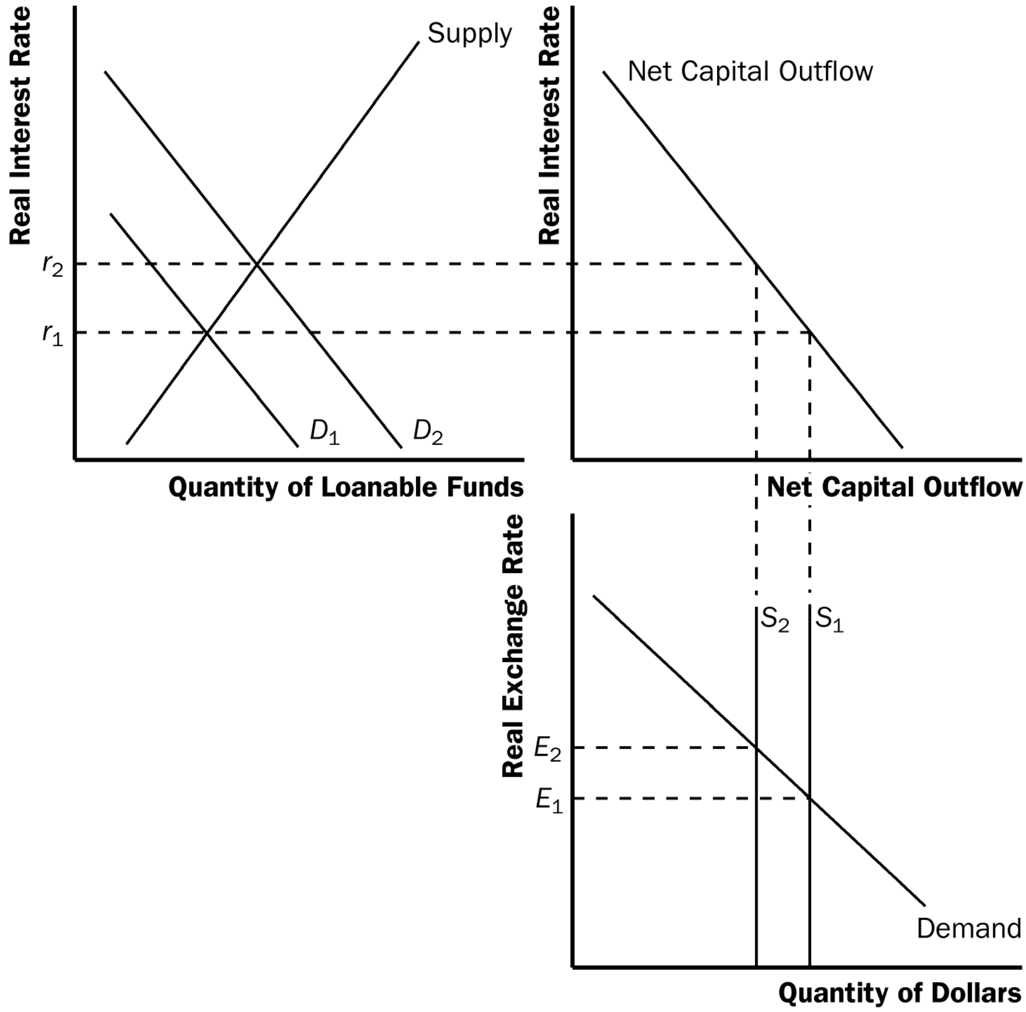

Figure 4

4. a. A decline in the quality of U.S. goods at a given real exchange rate would reduce net exports, reducing the demand for dollars, thus shifting the demand curve for dollars to the left in the market for foreign exchange, as shown in Figure 5.

b. The shift to the left of the demand curve for dollars leads to a decline in the real exchange rate. Since net capital outflow is unchanged, and net exports equals net capital outflow, there is no change in equilibrium in net exports or the trade balance.

c. The claim in the popular press is incorrect. A change in the quality of U.S. goods cannot lead to a rise in the trade deficit. The decline in the real exchange rate means that we get fewer foreign goods in exchange for our goods, so our standard of living may decline.

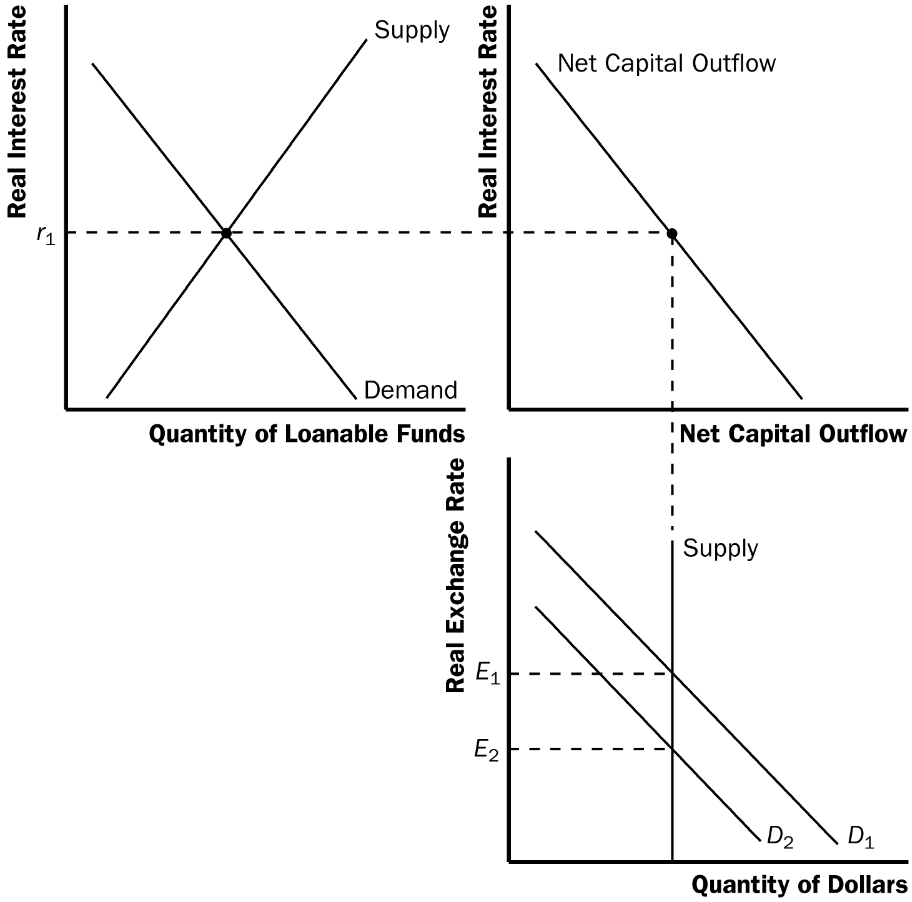

Figure 5

5. A reduction in restrictions of imports would reduce net exports at any given real exchange rate, thus shifting the demand curve for dollars to the left. The shift of the demand curve for dollars leads to a decline in the real exchange rate, which increases net exports. Since net capital outflow is unchanged, and net exports equals net capital outflow, there is no change in equilibrium in net exports or the trade balance. But both imports and exports rise, so export industries benefit.

6. a. When the French develop a strong taste for California wines, the demand for dollars in the foreign-currency market increases at any given real exchange rate, as shown in Figure 6.

   b. The result of the increased demand for dollars is a rise in the real exchange rate.

   c. The quantity of net exports is unchanged.

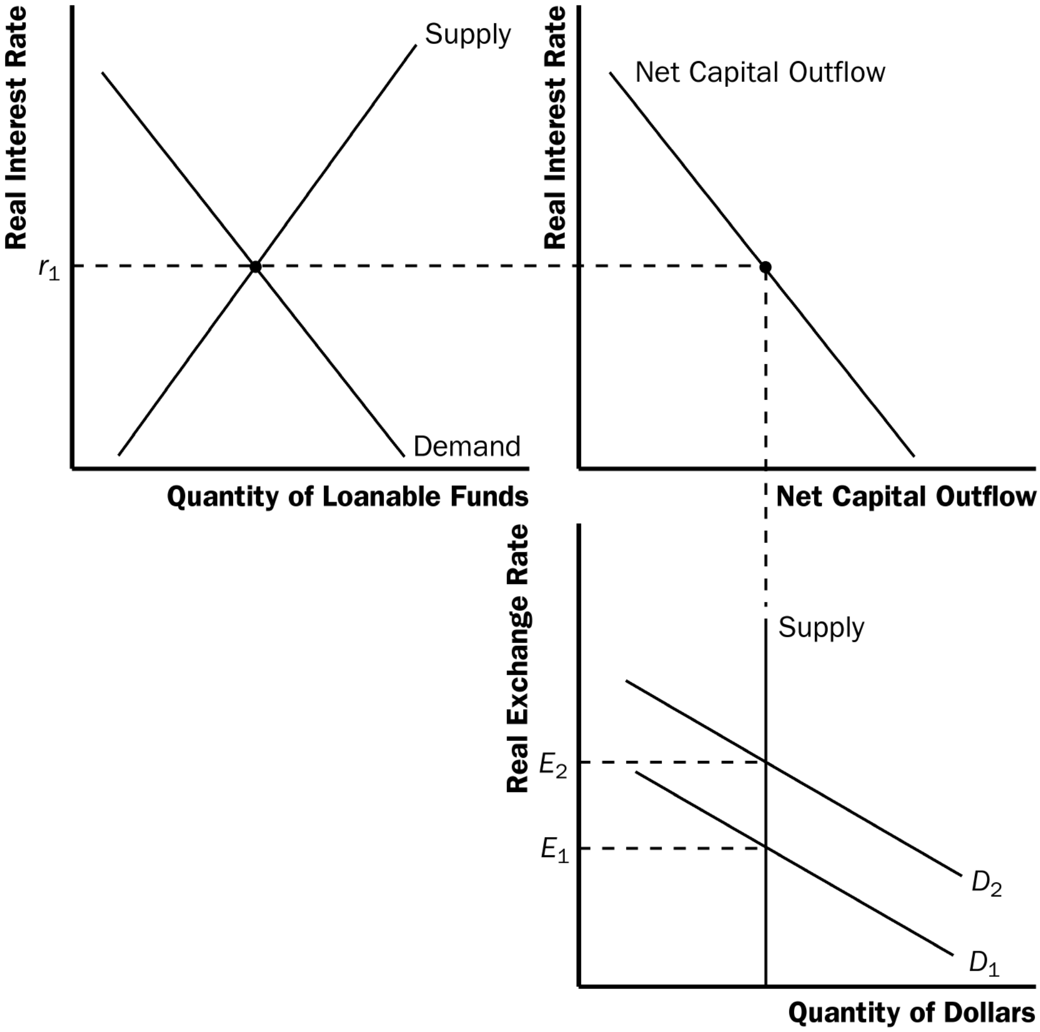

Figure 6

7. An export subsidy increases net exports at any given real exchange rate. This causes the demand for dollars to shift to the right in the market for foreign exchange, as shown in Figure 7. The effect is a higher real exchange rate, but no change in net exports. So the senator is wrong; an export subsidy will not reduce the trade deficit.

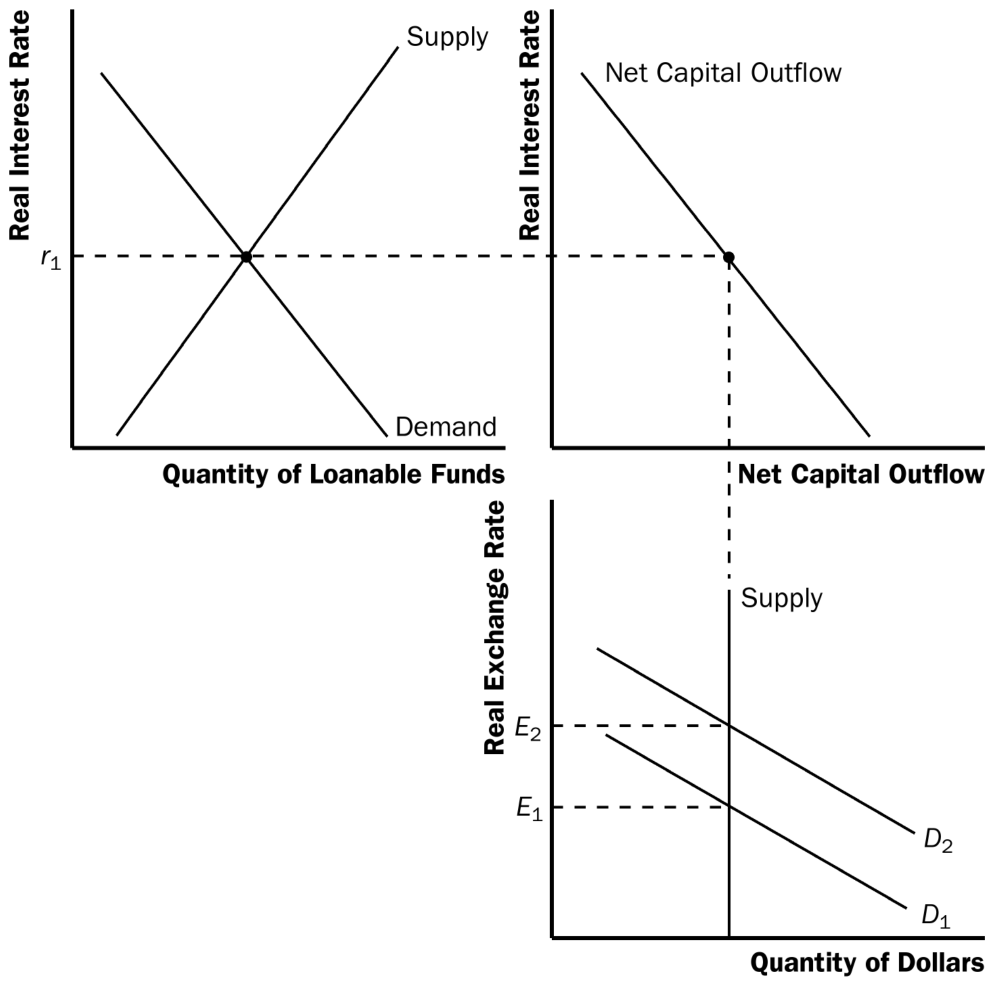

Figure 7

8. Higher real interest rates in Europe lead to increased U.S. net capital outflow. Higher net capital outflow leads to higher net exports, since in equilibrium net exports equal net capital outflow ($NX = NCO$). Figure 8 shows that the increase in net capital outflow leads to a lower real exchange rate, higher real interest rate, and increased net exports.

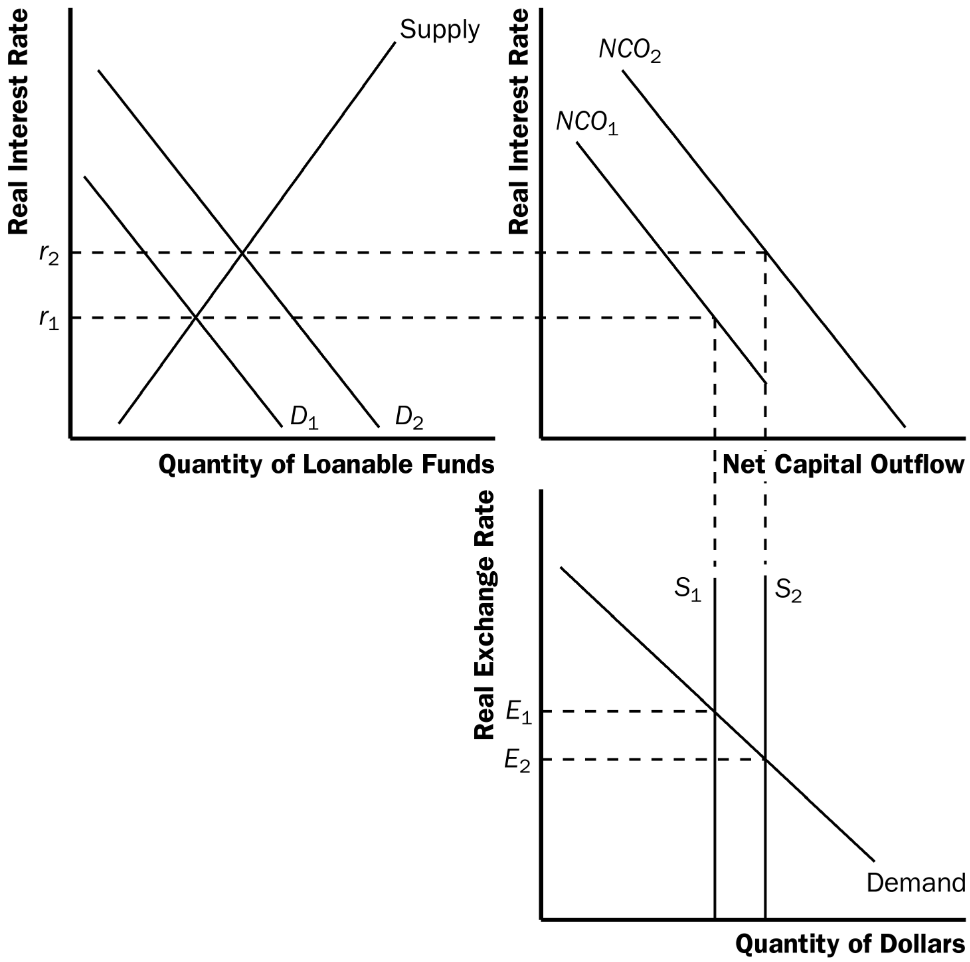

Figure 8

9. a. If the elasticity of U.S. net capital outflow with respect to the real interest rate is very high, the lower real interest rate that occurs because of the increase in private saving will increase net capital outflow a great deal, so U.S. domestic investment will not increase much.

b. Since an increase in private saving reduces the real interest rate, inducing an increase in net capital outflow, the real exchange rate will decline. If the elasticity of U.S. exports with respect to the real exchange rate is very low, it will take a large decline in the real exchange rate to increase U.S. net exports by enough to match the increase in net capital outflow.

10. a. If the Japanese decided they no longer wanted to buy U.S. assets, U.S. net capital outflow would increase, increasing the demand for loanable funds, as shown in Figure 9. The result is a rise in U.S. interest rates, an increase in the quantity of U.S. saving (because of the higher interest rate), and lower U.S. domestic investment.

b. In the market for foreign exchange, the real exchange rate declines and the balance of trade increases.

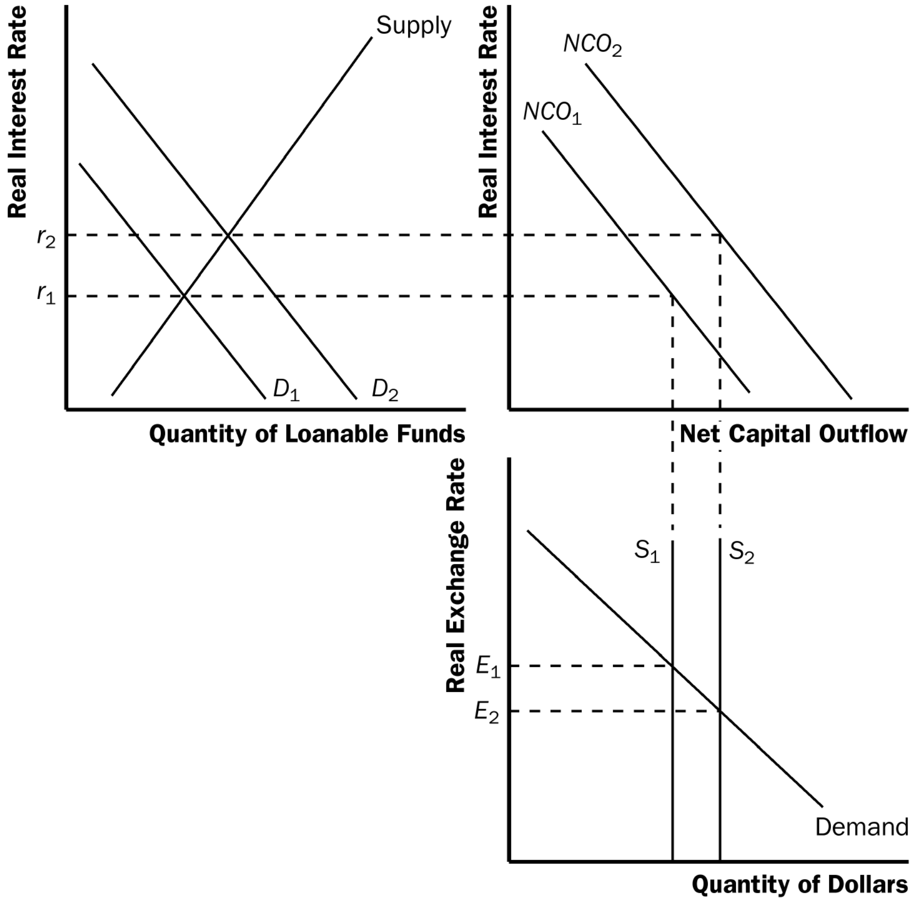

Figure 9

11. The flight to safety led to a desire by foreigners to buy U.S. government bonds, resulting in a decline in U.S. net capital outflow, as shown in Figure 10. The decline in net capital outflow also means a decline in the demand for loanable funds. As the figure shows, the shift to the left in the demand curve results in a decline in the real interest rate in the United States. In addition, the decrease in net capital outflow decreases the supply of dollars in the foreign-exchange market, causing the dollar to appreciate, shown as a rise in the real exchange rate. The lower real interest rate causes national saving to decline, but increases domestic investment. Since net capital outflow is lower, net exports are lower, thus the trade balance declines.

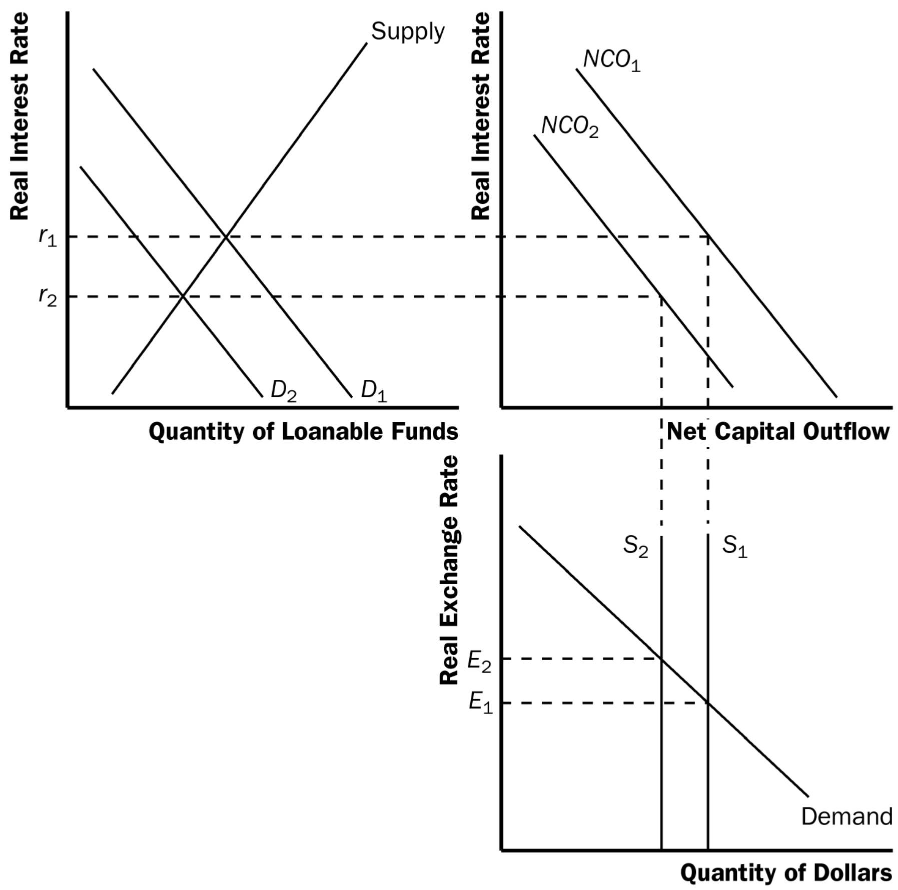

Figure 10

12. a. When U.S. mutual funds become more interested in investing in Canada, Canadian net capital outflow declines as the U.S. mutual funds make portfolio investments in Canadian stocks and bonds. The demand for loanable funds shifts to the left and the net capital outflow curve shifts to the left, as shown in Figure 11. As the figure shows, the real interest rate declines, thus reducing Canada's private saving, but increasing Canada's domestic investment. In equilibrium, Canadian net capital outflow declines.

b. Since Canada's domestic investment increases, in the long run, Canada's capital stock will increase.

c. With a higher capital stock, Canadian workers will be more productive (the value of their marginal product will increase) so wages will rise. Thus Canadian workers will be better off.

d. The shift of investment into Canada means increased U.S. net capital outflow. As a result, the U.S. real interest rises, leading to less domestic investment, which in the long run reduces the U.S. capital stock, lowers the value of marginal product of U.S. workers, and therefore decreases the wages of U.S. workers. The impact on U.S. citizens would be different from the impact on U.S. workers because some U.S. citizens own capital that now earns a higher real interest rate.

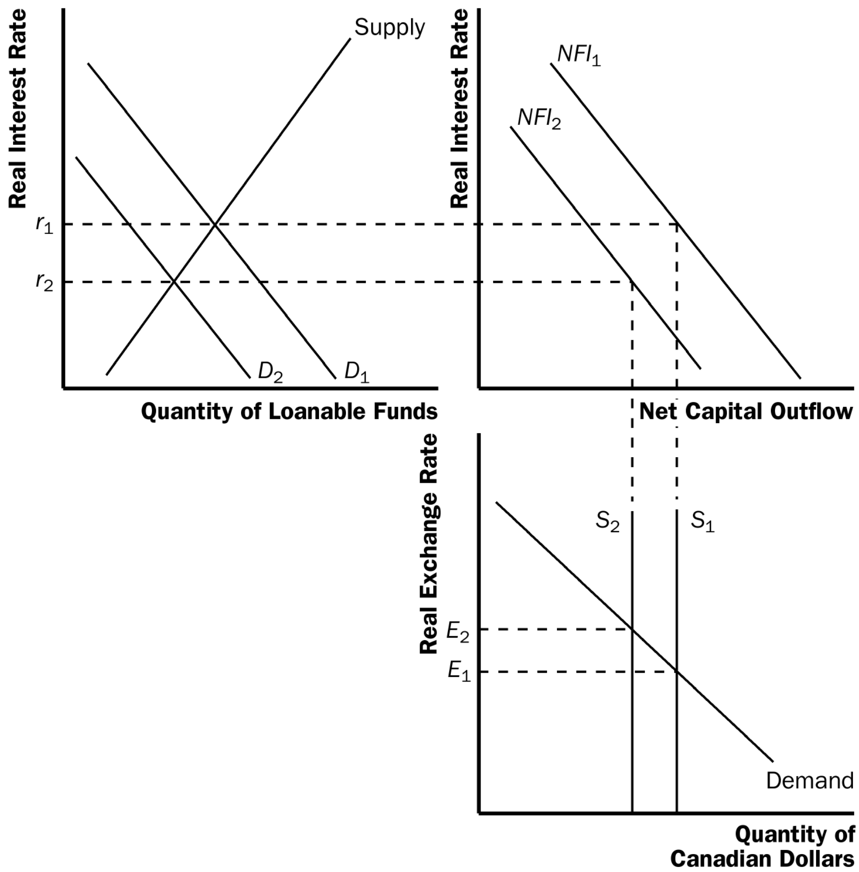

Figure 11