Draw two side by side charts:

1. Market for € (vs. US$)
2. Market for US$ (vs. €)

Assume a starting exchange rate of $1.25 per € and 0.80€ per $

For each scenario, show how S&D for € and $ shift and what happens to the XΔ rate

Scenario #1

The income of workers in the U.S. is increasing, and more people are buying goods and services produced in Europe.

Answer: As the income of U.S. workers rises, their prosperity allows them to buy more European goods. The supply of dollars in the dollar market increases, and the demand for euros in the euro market increases, causing the value of the dollar to depreciate as the value of the euro appreciates. U.S. exports should increase, and U.S. imports should decrease.

Scenario #2

The Fed has decreased interest rates so that the interest rates in the U.S. are now relatively lower than the interest rates in countries of the European Union.

Answer: Since the interest rates in the U.S. are now relatively lower than the interest rates in the European Union countries, investors will increase their demand for European government bonds, leading to an increase in the demand for euros in the euro market and an increase in the supply of dollars in the dollar market. This will cause the euro to appreciate and the dollar to depreciate. U.S. exports should increase, and U.S. imports should decrease.

Scenario #3

The number of tourists visiting the U.S. from countries of the European Union has greatly increased.

Answer: With an increased number of tourists visiting the U.S, they will increase their demand for U.S. goods and services. In order to purchase those goods and services in the U.S., euros must be exchanged for dollars. There will be an increase in the demand for dollars in the dollar market and an increase in the supply of euros in the euro market. This will lead to an appreciation of the dollar and a depreciation of the euro. U.S. imports should increase, and U.S. exports should decrease.

Scenario #4

The central bank of the European Union raises interest rates that are now relatively higher than the interest rates in the U.S.

Answer: Since the interest rates in the U.S. are now relatively lower than the interest rates in the European Union countries, investors will increase their demand for European government bonds, leading to an increase in the demand for euros in the euro market and an increase in the supply of dollars in the dollar market. This will cause the euro to appreciate and the dollar to depreciate. U.S. exports will increase, and U.S. imports will decrease.

Scenario #5

As an economic advisor, you are predicting that the interest rates in the U.S. will be increasing significantly in the near future. What advice do you have for speculators in the foreign exchange market?

Answer: The advice is to buy dollars now. Since the expectation is that interest rates will be higher in the future, foreign investors will want to increase their holdings of dollars now. This will increase the demand for dollars and increase the supplies of the foreign currency. The increased interest rates will also increase the demand for dollars. Both actions will lead to an appreciation of the dollar and a depreciation of the foreign currency.

Scenario #6

The price level in the U.S. is not rising as quickly as the price level of the European Union countries.

Answer: With a price level that is not rising as quickly in the U.S., consumers in European Union countries will want to increase their purchases of the relatively less expensive U.S. goods. This will lead to an increase in the demand for dollars in the dollar market and an increase in the supply of euros in the euro market. U.S. imports should increase, and U.S. exports should decrease.

Scenario #7

The GDP of the European Union countries increases, increasing the incomes of its population.

Answer: As the GDP and incomes of the European Union countries rise, their prosperity allows them to buy more U.S. goods. The demand for dollars in the dollar market increases, and the supply of euros in the euro market increases, causing the value of the dollar to appreciate as the value of the euro depreciates. U.S. exports should decrease, and U.S. imports should increase.

Scenario #8

U.S. buyers are increasing their purchases of goods from the European Union, while the purchases from the European Union are unchanged.

Answer: As the U.S. buyers increase their demand for goods from the European Union, they will also increase their demand for euros in the euro market and increase the supply of dollars in the dollar market, causing the value of the dollar to depreciate as the value of the euro appreciates. U.S. exports should increase, and U.S. imports should decrease.

M/C Question:

Assume that originally 1 U.S. dollar = 1 euro. Which of the following may explain a change to 1 U.S. dollar = 1.3 euros?

a. U.S. buyers prefer European products.
b. U.S. GDP increases, increasing U.S. incomes.
c. European banks increase their interest rates relative to the U.S. rates.
d. U.S. banks increase their interest rates relative to the European rates.
e. The price level in the countries of the European Union increases.

Sample Free-Response Questions

1. Assume that the U.S. and Japan operate under a flexible exchange rate system and that the interest rate in both nations is the same.

    a. Using a correctly labeled graph of the foreign exchange market for yen, indicate the equilibrium exchange rate of the yen in terms of the dollar.

    b. If the Federal Reserve sells bonds on the open market:

        i. Explain how this will affect interest rates.

        ii. Indicate on the graph how the change in the interest rates will affect the value of the yen.

        iii. How will imports of U.S. products by the Japanese be affected?

<u>Scoring Rubric</u>: (7 points maximum)

Part (a): 2 points––(see pg. 49 of 63) graph Market for ¥ (vs. US$) | Y axis: $ per ¥ | X axis: Q of ¥

Part (b)(i): 2 points—If the Federal Reserve sells bonds, the excess reserves in banks will decrease, decreasing the supply of money and increasing interest rates. Japanese investors will want to increase their holdings of U.S. securities. This will lead to an increase in the supply of yen in the foreign exchange market, shifting the supply curve to the right. This will lower the value of the Japanese yen and increase the value of the U.S. dollar.

Part (b)(ii): 2 points––shift $S_{¥}$ *to right*

Part (b)(iii): 1 point—Japanese imports of U.S. products will decrease due to the depreciation of the yen.

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2. Interest rates in the countries of the European Union have not risen, but interest rates in the U.S. have risen and are now higher than the rates in the EU.

    a. Explain the change in the international value of the dollar.
    b. Explain the change in the international value of the euro.
    c. Explain the effect on the U.S. exports to the member countries of the EU.
    d. Explain the effect on the European Union exports to the U.S.

<u>Scoring Rubric</u>: (8 points maximum; answers to parts (a) through (d) are worth 2 points each)

a. *The value of the dollar will appreciate since capital will flow into the U.S. to earn the higher interest rate returns. Those people in the European Union wanting to invest in the U.S. will demand dollars and supply euros to the foreign exchange market.*
b. *The value of the euro will depreciate since funds will flow from the member countries in search of better returns on their investment. Those people in the European Union wanting to invest in the U.S. will demand dollars and supply euros to the foreign exchange market.*
c. *Exports from the U.S. will now be more expensive since citizens in the member countries will need to give up more euros to get a dollar for an export good. Exports from the U.S. will decline.*
d. *Exports from the European Union are really U.S. imports. We must give up fewer dollars to obtain euros to buy their goods. Exports coming from the European Union will increase; U.S. imports will rise.*