

**Answers to the Review Quizzes****Page 216 (page 618 in *Economics*)**

1. What is the foreign exchange market and what prices are determined in this market?
The foreign exchange market is the market in which the currency of one country is exchanged for the currency of another country. The exchange rate, the price at which one currency is exchanged for another, is the price determined in the foreign exchange market.
2. Distinguish between appreciation and depreciation of the dollar.
The U.S. dollar appreciates when it rises in value against a foreign currency. The U.S. dollar depreciates when it falls in value against a foreign currency.
3. What are the world's major currencies?
The world's major currencies are the U.S. dollar, the Australian dollar, the Canadian dollar, the euro, the Japanese yen, the English pound, the Swedish krone, and the Swiss franc. The Chinese yuan also is becoming important.
4. Against which currencies and during which years has the U.S. dollar appreciated since 1998?
Since 1998, the U.S. dollar appreciated against the Mexican peso virtually every year until 2004. The U.S. dollar generally appreciated against the Canadian dollar until 2002. The U.S. dollar appreciated against the Japanese yen in 1998, with another slight appreciation from 2000 to 2001.
5. Against which currencies and during which years has the U.S. dollar depreciated since 1998?
The U.S. dollar depreciated slightly against the Mexican peso since 2004 and ever so slightly in 2000. The U.S. dollar depreciated against the Canadian dollar since 2002. The U.S. dollar generally depreciated against the Japanese yen from 1999 though the change has been slight. The U.S. dollar depreciated against the euro since 2002.
6. What is the distinction between the nominal exchange rate and the real exchange rate?
The *nominal exchange rate* is the value of the U.S. dollar expressed in units of foreign currency per U.S. dollar. It measures how many units of a foreign currency are necessary to buy one U.S. dollar. The *real exchange rate* is the relative price of U.S.-produced goods and services to foreign-produced goods and services. It measures how many units of foreign-produced GDP one unit of U.S.-produced GDP buys.
7. What does the trade-weighted index measure?
The *trade-weighted index* shows the average U.S. exchange rate. It is calculated by weighting each nation's individual currency exchange rate by its importance in U.S. international trade.

* This is Chapter 26 in *Economics*.

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1. What are the influences on the demand for U.S. dollars in the foreign exchange market?
The demand for U.S. dollars depends on four main factors: the exchange rate, the world demand for U.S. exports, the interest rate in the United State and other countries, and the expected future exchange rate.
2. Provide an example of the exports effect on the demand for U.S. dollars.
The *exports effect* is the result that the larger the value of U.S. exports, the larger the quantity of dollars demanded for purchasing those exports from U.S. firms. When the exchange rate for U.S. dollars falls, U.S. exports become cheaper relative to other countries' goods and services so the volume of U.S. exports increases, which increases the demand for U.S. dollars needed to finance their purchase. So if the exchange rate falls (and other influences remain the same), the quantity of U.S. dollars demanded in the foreign exchange market increases.
3. What are the influences on the supply of U.S. dollars in the foreign exchange market?
The supply of U.S. dollars depends on four main factors: the exchange rate, the U.S. demand for imports, the interest rate in the United State and other countries, and the expected future exchange rate.
4. Provide an example of the imports effect on the supply of U.S. dollars.
The *imports effect* is the result that the larger the value of U.S. imports, the larger the quantity of dollars supplied for purchasing those imports from foreign firms. When the exchange rate for U.S. dollars rises foreign imports become cheaper relative to U.S. produced goods and services so the volume of U.S. imports increases, which increases the supply of U.S. dollars to exchange for foreign currency to finance the purchase of the imports. So if the exchange rate rises (and other influences remain the same), the quantity of U.S. dollars supplied in the foreign exchange market increases. This change increases demand for foreign imports, which increases the supply of U.S. dollars to exchange for foreign currency to finance the purchase of imports, all else held constant.
5. How is the equilibrium exchange rate determined?
The equilibrium exchange rate is the exchange rate that sets the quantity of U.S. dollars demanded equal to the quantity of U.S. dollars supplied. At the equilibrium exchange rate there is neither a shortage nor a surplus of U.S. dollars.
6. What happens if there is a shortage or a surplus of U.S. dollars in the foreign exchange market?
If there is a shortage of U.S. dollars, the quantity of U.S. dollars demanded exceeds the quantity supplied. In this case, foreign exchange dealers who are selling dollars set a higher price and those who are buying dollars and could not find any to buy at the lower price will pay the higher price. As long as there is a shortage, this upward pressure on the price automatically forces the price higher to its equilibrium.
If there is a surplus of U.S. dollars, the quantity of U.S. dollars demanded is less than the quantity supplied. In this case, foreign exchange dealers who are selling dollars and could not sell at the higher price set a lower price and those who are buying dollars will buy at the lower price. As long as there is a surplus, this downward pressure on the price automatically forces the price lower to its equilibrium.

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1. Why does the demand for U.S. dollars change?
Three factors change the demand for U.S. dollars: the world demand for U.S. exports, the interest rate in the United States and other countries, and the expected future exchange rate. If world demand for U.S. exports increases, the demand for U.S. dollars increases. If the interest rate in the United States rises relative to interest rates in other countries, the demand for U.S. dollars increases. And if the expected future exchange rate rises, the demand for U.S. dollars increases.

2. **Why does the supply of U.S. dollars change?**
Three factors change the supply of U.S. dollars: U.S. demand for imports, the interest rate in the United States and other countries, and the expected future exchange rate. If U.S. demand for imports increases, the supply of U.S. dollars increases. If the interest rate in the United States falls relative to interest rates in other countries, the supply of U.S. dollars increases. And if the expected future exchange rate falls, the supply of U.S. dollars increases.
3. **What makes the U.S. dollar exchange rate fluctuate?**
Changes in the demand for U.S. dollars and the supply of U.S. dollars lead to fluctuations in the U.S. dollar exchange rate. Because the demand for dollars and the supply of dollars generally change at the same time and in opposite directions, exchange rate fluctuations are frequently large.
4. **What is interest rate parity and what happens when this condition doesn't hold?**
Interest rate parity occurs when the rate of return earned by a unit of currency is the same in different nations. If the rate of return for the U.S. dollar is higher than that for, say, the Japanese yen, interest rate parity does not occur. In this case people will generally expect the value of the dollar to fall against the yen (that is, the U.S. dollar is expected to depreciate over time) so that interest rate parity is restored because the rate of return earned by a unit of currency is the same in both nations.
5. **What is purchasing power parity and what happens when this condition doesn't hold?**
Purchasing power parity occurs when a unit of money buys the same amount of goods and services in different nations. If prices of goods and services are higher in the United States than the (exchange rate adjusted) prices of goods and services in, say, Japan, purchasing power parity does not occur because a unit of currency buys less in the United States than in Japan. The demand for U.S. dollars decreases and the supply of U.S. dollars increases so that the value of the dollar falls against the yen to restore purchasing power parity.
6. **What determines the real exchange rate and the nominal exchange rate in the short run?**
In the short run, the nominal U.S. exchange rate is determined in the foreign exchange market as the exchange rate that sets the quantity of U.S. dollars demanded equal to the quantity of U.S. dollars supplied. The real exchange between the United States and Japan, RER , equals $E \times P/P^*$ where P is the U.S. price level, P^* is the Japanese price level, and E is the nominal exchange rate in yen per dollar. In the short run, changes in the nominal exchange rate bring an equal change in the real exchange rate.
7. **What determines the real exchange rate and the nominal exchange rate in the long run?**
In the long run, the real exchange rate is determined by demand and supply in the goods market. Identical goods in the United States and Japan sell for the same price once adjusted for the (nominal) exchange rate. The prices of goods that are not identical are determined by the supply and demand for them. In the long run, the nominal exchange rate is equal to $RER \times P^*/P$. Changes in the real exchange rate and changes in the price levels change the nominal exchange rate. In the long run, the price level is determined by the quantity of money. So changes in the U.S. or the Japanese quantity of money change the nominal exchange rate.

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1. **What are the transactions that the current account records?**
The *current account* records payments for imports of goods and services from abroad, receipts from exports of goods and services sold abroad, net interest paid abroad, and net transfers (such as foreign aid payments).
2. **What are the transactions that the capital account records?**
The *capital account* records foreign investment in the U.S. minus U.S. investment abroad. Any statistical discrepancy is also recorded in the capital account.

3. What are the transactions that the official settlements account records?
The official settlements account records the change in U.S. official reserves.
4. Is the United States a net borrower or a net lender and a debtor or a creditor nation?
The United States is a net borrower and is a debtor nation.
5. How are net exports and the government sector balance linked?
Net exports is the value of exports of goods and services minus the value of imports of goods and services. Net exports is equal to the sum of *government sector surplus or deficit* plus *the private sector surplus or deficit*. The government sector balance is equal to net taxes minus government expenditure on goods and services. If the government sector balance is negative, then the government sector has a deficit, that is, a budget deficit. So if the government budget deficit increases and the private sector balance, which equals saving minus investment, does not change, the value of net exports becomes more negative.

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1. What is a flexible exchange rate and how does it work?
A flexible exchange rate policy is an exchange rate that is determined by demand and supply with no direct intervention in the foreign exchange market by the central bank. In this arrangement, the forces of supply and demand with no direct central bank intervention are the only factors that influence the exchange rate.
2. What is a fixed exchange rate and how is its value fixed?
A fixed exchange rate policy is an exchange rate that is pegged at a value decided by the government or central bank. The central bank directly intervenes in the foreign exchange market to block the unregulated forces of supply and demand from changing the exchange rate away from its pegged value. For instance, if a central bank wanted to hold the exchange rate steady in the presence of diminished demand for its currency, the central bank props up demand by buying its currency in the foreign exchange market to keep the exchange rate from falling. If the demand for its currency increases, the central bank increases the supply by selling its currency and keeps the exchange rate from rising.
3. What is a crawling peg and how does it work?
A crawling peg exchange rate policy selects a target path for the exchange rate and then uses direct central bank intervention in the foreign exchange market to achieve that path. A crawling peg works like a fixed exchange rate except that the central bank changes the target value of the exchange rate in accord with its target path.
4. How has China operated in the foreign exchange market, why, and with what effect?
From 1997 until 2005, the People's Bank of China fixed the Chinese yuan exchange rate. Over this time, the demand for the yuan increased, so the People's Bank of China supplied additional yuan to keep the exchange rate constant. By supplying yuan, the People's Bank acquired large amounts of foreign currency. In addition, by fixing its exchange rate China essentially pegged its inflation rate to equal the U.S. inflation rate. Since 2005 the yuan has been allowed to appreciate slightly as the People's Bank moved to a crawling peg exchange rate policy. The exchange rate has not been allowed to change much, so over the long run the Chinese inflation rate remains closely tied to U.S. inflation.