

The Foreign Exchange Market

The price of one currency in terms of another is called the **exchange rate**. It affects the economy because when the Bahamian dollar becomes more valuable relative to foreign currencies, Bahamian goods become more expensive and foreign goods become cheaper. When the Bahamian dollar falls in value, Bahamian goods become cheaper and foreign goods become more expensive. In addition, changes in the exchange rate have a major impact on financial institutions because many of their assets are denominated in foreign currencies; when the value of foreign currencies changes, the market value of financial institutions changes as well. To understand exchange rate and why it changes, we need to examine the market in which they are determined, the **foreign exchange market**.

Foreign Exchange Market

Most countries of the world have their own currencies: The Bahamas has its dollar; Japan, its yen; the United States has its dollar; France, its franc; Brazil, its cruzeiro real; and India, its rupee. Trade between countries involves the mutual exchange of different currencies (or, more usually, bank deposits denominated in different currencies). When a Bahamian firm buys foreign goods, services, or financial assets, for example, Bahamian dollars (typically, bank deposits denominated in Bahamian dollars) must be exchanged for foreign currency (bank deposits denominated in the foreign currency).

The trading of currency and bank deposits denominated in particular currencies takes place in the foreign exchange market. The volume of these transactions worldwide averages over \$1 trillion daily. Transactions conducted in the foreign exchange market determine the rates at which currencies are exchanged, which in turn determine the cost of purchasing foreign goods and financial assets. Trade in the foreign currency market is like buying wholesale, it's not the same as when you buy currencies to take holiday or to buy goods in another country—this is the retail market. The exchange rate is not determined by the retail market. It is determined by the wholesale market. Yes Jovan, you were right. **N.B.** When you purchase foreign exchange in the retail market, the dealers will add their respective margins.

There are two kinds of exchange rate transactions. The predominant ones, called **spot transactions**, involve the immediate (two-day) exchange of bank deposits. **Forward transactions** involve the exchange of bank deposits at some specified future date. The spot exchange rate is the exchange rate for the spot transaction, and the forward exchange rate is the exchange rate for the forward transaction.

When a currency increases in value, it experiences **appreciation**; when it falls in value and is worth fewer Bahamian dollars, it undergoes **depreciation**.

Exchange rates are important because they affect the relative price of domestic and foreign goods.

The dollar price of French goods to a Bahamian is determined by the interaction of two factors: the price of French goods in francs and the franc/dollar exchange rate.

Suppose that Dekeria, the Winetaster, a Bahamian, decides to buy a bottle of 1961 (a very good year) Chateau Lafite Rothschild to complete her wine cellar. If the price of the wine in France is 2000 francs and the exchange rate is \$0.1651 to the franc, the wine will cost Kerah \$330 (= 2000 francs x \$0.1651/franc). Now suppose that Kerah delays her purchase by two months, at which time the French franc has appreciated to \$0.20 per franc. If the domestic price of the bottle of Lafite Rothschild remains 2000 francs, its dollar cost will have risen from \$330 to \$400.

The same currency appreciation, however, makes the price of foreign goods in France less expensive. At an exchange rate of \$0.1651 per franc, a Compaq computer priced at \$2000 costs Robert the Programmer 12,113 francs (I.e. \$2000/\$0.1651. Remember that \$0.1651 is our original exchange rate \$ per franc); if the exchange rate increases to \$0.20 per franc, the computer will cost only 10,000 francs. Do the math.

A depreciation of the franc lowers the cost of French goods in The Bahamas but raises the cost of Bahamian goods in France. If the franc drops in value to \$0.10, Kerah's bottle of Lafite Rothschild will cost her only \$200 instead of \$330, and the Compaq computer will cost Robert 20,000 francs rather than 12,113.

Such reasoning leads to the following conclusion: ***When a country's currency appreciates (rises in value relative to other currencies), the country's goods abroad become more expensive and foreign goods in that country become cheaper (holding domestic prices constant in the two countries). Conversely, when a country's currency depreciates, its goods abroad become cheaper and foreign goods in that country become more expensive.***

Appreciation of a currency can make it harder for domestic manufacturers to sell their goods abroad and can increase competition at home from foreign goods because they cost less. In this case the consumer would benefit from the variety caused through the competition as well as the lower price of the foreign good.

You cannot go to a centralized location to watch exchange rates being determined; currencies are not traded on exchanges such as the New York Stock Exchange. Instead, the foreign exchange market is organized as an over-the-counter market in which several hundred dealers (mostly banks) stand ready to buy and sell deposits denominated in foreign currencies. Because these dealers are in constant telephone and computer contact, the market is very competitive; in effect, it functions no differently from a centralized market.

An important point to note is that while banks, companies, and governments talk about buying and selling currencies in foreign exchange markets, they do not take a fistful of dollar bills and sell them for British pound notes. Rather, most trades involve the buying and selling of **bank deposits** denominated in different currencies. So when we say that a bank is buying dollars in the foreign exchange market, what we actually mean is that the **bank is buying deposits denominated in, dollars.**

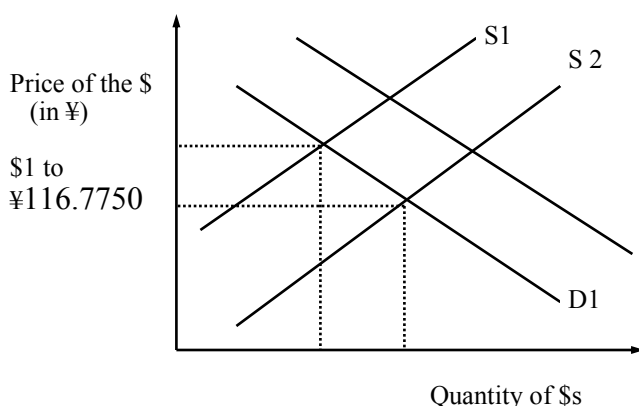
The Law Of One Price

The starting point for understanding how exchange rates are determined is a simple idea called the **law of one price**: If two countries produce an identical good the price of the good should be the same throughout the world no matter which country produces it. Suppose that American steel costs \$100 per ton and identical Japanese steel costs 10,000 yen per ton. The law of one price suggests that the exchange rate between the yen and the dollar must be 100 yen per dollar (\$0.01 per yen) in order for one ton of American steel to sell for 10,000 yen in Japan (the price of Japanese steel) and one ton of Japanese steel to sell for \$100 in the States (the price of U.S. steel). If the exchange rate were 200 yen to the dollar, Japanese steel would sell for \$50 per ton in the United States, or half the price of American steel, and American steel would sell for 20,000 yen per ton in Japan, twice the price of the Japanese steel. Because American steel would be more expensive than Japanese steel in both countries and is identical to Japanese steel, the demand for American steel would go to zero. Given a fixed dollar price for American steel, the resulting excess supply of American steel will be eliminated only if the exchange rate falls to 100 yen per dollar, making the price of American steel and Japanese steel the same in both countries.

Theory Of Purchasing Power Parity

One of the most prominent theories of how exchange rates are determined is the **theory of purchasing power parity (PPP)**. It states that exchange rates between any two currencies will adjust to reflect changes in the **price levels** of the two countries. *The theory of PPP is simply an application of the law of one price to national price levels. So law of one price is in one good while ppp is price of a basket of good— kinda like inflation.*

PPP theory provides some guidance to the long-run movement of exchange rates, it is not perfect and in the short run is a particularly poor predictor. What, explains PPP Theory's failure to predict well?



The exchange rate is: \$1 to ¥117

1. What will happen to the price of yen if Bahamians demand more Japanese cars? Show example
2. If a Toyota cost ¥ 80, 000, what is the amount a Bahamian would pay for the car in Japan?
3. How much will it cost Mr. Lee in order to buy a \$1,000 vacation in the Bahamas? Show all calculations.

The PPP conclusion that exchange rates are determined solely by changes in relative price levels rests on the assumption that all goods are identical in both countries. When this assumption is true, the law of one price states that the relative prices of all these goods (that is, the relative price level between the two countries) will determine the exchange rate. The assumption that goods are identical may not be too unreasonable for American and Japanese steel, but is it a reasonable assumption for American and Japanese cars? Is a Toyota the equivalent of a Chevrolet?

Because Toyotas and Chevys are obviously not identical, their prices do not have to be equal. Toyotas can be more expensive relative to Chevys and both Americans and Japanese will still purchase Toyotas. Because the law of one price will not hold for all goods, a rise in the price of Toyotas does not necessarily mean that the yen must depreciate by the relative amount of the price increase of Toyotas over Chevys.

PPP theory furthermore does not take into account that many goods and services (whose prices are included in a measure of a country's price level) are not traded across borders. Housing, land and services such as restaurant meals, haircuts, and golf lessons are not traded goods. So even though the price of these goods might rise and lead to a higher price level relative to another country's, there would be little, if any, direct effect on the exchange rate.

Aside

Anything that increases the demand for domestic goods relative to foreign goods tends to appreciate the domestic currency because domestic goods will continue to sell well even when the value of the domestic currency is higher. Similarly, anything that increases the demand for foreign goods relative to domestic goods tends to depreciate the domestic currency because domestic goods will continue to sell well only if the value of the domestic currency is lower.

The Factors

1. *Relative price levels*
2. *Tariffs and quotas*
3. *Preferences for domestic versus foreign goods or foreign good versus domestic*
4. *Productivity*
5. Domestic interest rates
6. Foreign interest rates
7. Expected domestic price levels
8. Expected tariffs and quotas
9. Expected import demand
10. Productivity

Question: What will happen to the Bahamian currency if each of these were to increase? Give reasons for your answers.