BB Chapter 17: The International Monetary System

The rate at which one currency is exchanged for another is the exchange rate.

Here are some exchange rates as of November 12, 2004:

<table>
<thead>
<tr>
<th>USD</th>
<th>GBP</th>
<th>CAD</th>
<th>EUR</th>
<th>AUD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.8552</td>
<td>0.838996</td>
<td>1.29729</td>
<td>0.768497</td>
</tr>
<tr>
<td>0.539025</td>
<td>1</td>
<td>0.45224</td>
<td>0.699276</td>
<td>0.414239</td>
</tr>
<tr>
<td>1.1919</td>
<td>2.21121</td>
<td>1</td>
<td>1.54625</td>
<td>0.915972</td>
</tr>
<tr>
<td>0.770832</td>
<td>1.43004</td>
<td>0.646725</td>
<td>1</td>
<td>0.592382</td>
</tr>
<tr>
<td>1.30124</td>
<td>2.41406</td>
<td>1.09173</td>
<td>1.68809</td>
<td>1</td>
</tr>
</tbody>
</table>

http://www.x-rates.com/

For example, one U.S. dollar (USD) may be exchanged for 0.54 British pounds, 1.19 Canadian dollars, 0.77 Euros or 1.30 Australian dollars.

Alternatively, if you were buying the other currencies with dollars, you would pay $1.85 for a British pound, $0.84 for a Canadian dollar, $1.30 for a Euro and $0.77 for an Australian dollar.

The dollar has generally been falling in value or depreciating for the last couple of years.

Changes in the value of a country’s currency may occur because of market forces:
- When the value increases, the currency is said to appreciate
- When the value decreases, the currency is said to depreciate

Changes in the value of a country’s currency may also occur because of government decree:
- A devaluation is a reduction in the official value of a country’s currency
- A revaluation is an increase in the official value of a country’s currency

How are Exchange Rates Determined?
- Well, this is an economics class, so it’s probably through supply and demand, at least if there is a floating exchange rate.
Where does demand for a country’s currency come from?
1. International trade – more exports means greater demand for a country’s currency
2. More financial investment – more international investment in a country’s stock market or bond market increases demand for a country’s currency
3. More direct investment – more foreign purchases of land and capital increases demand for a country’s currency

Exercise from the book:
What will happen to the value of the U.S. dollar as a result of each of these events?
A. American investors are attracted by prospects for profit on the German stock market
B. A recession in Italy reduces Italian demand for American goods
C. Interest rates on government bonds rise in France but are stable in the U.S.

In general, when interest rates rise in a country, the value of its currency will also rise.

Further, when the prospect for profitable investments in a country rises its currency will rise.

A booming economy overseas will increase demand for a country’s exports and will increase the value of its currency.

On the other hand, when an economy has sharply increasing aggregate demand will increase the quantity of imports that it demands and the value of its currency will fall as a result.

The value of a country’s currency will be eroded by inflation.
**Purchasing Power Parity?**

In the long run, it must be the case that if goods can easily move across borders then the prices for things must be equal in different countries when adjustments are made for the relative values of the currencies.

If this were not true, people could make money by buying goods where they were relatively cheap and selling them where they were relatively expensive a practice known as *arbitrage*, and bring the prices into alignment.

In practice, prices and exchange rates tend toward purchasing power parity, but probably never reach it because they’re swayed by the overwhelmingly large quantity of foreign exchange transactions that are made on the basis of interest rates and expectations.

A fun demonstration of the lack of purchasing power parity in the world economy is the Big Mac Price Index, published in The Economist (which is a ruling news magazine) each month. Here are the values from January, 2004:

<table>
<thead>
<tr>
<th>Country</th>
<th>Big Mac Price</th>
<th>+/- %</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>$2.80</td>
<td>--</td>
</tr>
<tr>
<td>Sweden</td>
<td>$4.15</td>
<td>+48%</td>
</tr>
<tr>
<td>Great Britain</td>
<td>$3.45</td>
<td>+23%</td>
</tr>
<tr>
<td>Mexico</td>
<td>$2.21</td>
<td>-21%</td>
</tr>
<tr>
<td>South Africa</td>
<td>$1.97</td>
<td>-30%</td>
</tr>
<tr>
<td>Singapore</td>
<td>$1.95</td>
<td>-30%</td>
</tr>
<tr>
<td>Brazil</td>
<td>$1.76</td>
<td>-37%</td>
</tr>
<tr>
<td>China</td>
<td>$1.23</td>
<td>-56%</td>
</tr>
</tbody>
</table>

The big thing driving the differences here are probably differences in labor costs, which are a big chunk of the cost of delivering a Big Mac to your mouth. While lots of materials may be able to cross national borders, labor generally cannot. In fact, the higher cost of a Big Mac in some places may be due to labor costs and taxes, things that won’t be equilibrated across countries.

**Fixed Exchange Rates**

When exchange rates are set according to market forces, rates are said to be floating.

Sometimes countries maintain fixed exchange rates, commitments to do what is necessary to maintain a certain exchange rate for their currency relative to another currency.
To take the example from the book, imagine that the Canadian government sets a fixed exchange rate for the Canadian peso to the U.S. dollar of 1.000. If the market value of the Canadian peso falls, Canada will have a balance of payments of deficit.

This means that the Canadian government will have to buy Canadian pesos to make up the gap. This means that they will have to spend some of the foreign reserves (the foreign money) that they hold, in order to prop up the value of their currency and maintain its value at the official rate.

The number of pesos that the Canadian government is forced to buy to maintain the value of their currency is the balance of payments deficit.

![Graph showing balance of payments](image)

If the Canadian government is forced to do this for a long enough period of time it will run out of reserves of foreign currency and will have to abandon the official exchange rate, perhaps opting for a lower official exchange rate or for allowing the Canadian peso to float.

When people start to expect that the government is running out of foreign reserves, they will anticipate this move and the value of the currency will fall even further. As a result the government will have to spend even more to maintain the value of the currency and its fall will be accelerated. It’s sort of a cool self-fulfilling prophecy.

**Balance of Payments**

If a country’s exchange rate is fixed (as with the Canadian peso above) then it is possible for a country to have a balance of payments deficit or surplus.

If a country’s exchange rate floats (is determined by market forces) then the quantity supplied will equal the quantity demanded.

However, a country with a floating exchange rate can have a balance of payments surplus or deficit if the government or the central bank buys or sells currency, which they usually do. This looks like:
The balance of payments is balanced in the current account and the capital account.

The current account is based on payments for goods and services, interest and dividends and gifts. In recent years the U.S. has had a current account deficit meaning that more dollars have been flowing out of the country than have been flowing into it for goods and services.

This is balanced by the capital account. The capital account is based on purchases of assets. The U.S. has had a capital account surplus in recent years, meaning that foreigners have been taking the money they got as a result of the current account deficit and re-investing it in the U.S.

This relates back to the circular flows model in that, in a slightly simplified form, net exports (which are negative for the U.S.) represent the current account deficit and the resulting flows from the rest of the world back into U.S. financial markets represent the capital account surplus.
Gosh, Fixed Exchange Rates Sound Like Fun! Are There Examples?
Yes, here are two examples of systems of fixed exchange rates in world history.

1. The Classical Gold Standard
Under the gold standard, currencies were defined in terms of gold. That means that they were backed by gold and were either made of it or exchangeable for it.

When a country ran a balance of payments deficit, it would have to sell gold (and buy its currency) to make up the difference. When the government sold gold or bought its currency, this reduced the money supply, which raised interest rates and increased demand for and the value of the currency. This would tend to lead to correct the balance of payments deficit because it would encourage investments in the country by foreigners (adding to the capital account surplus) and, because higher interest rates would lower GDP, it would also discourage imports.

When a country ran a balance of payments surplus, it could buy gold (selling its currency) to make up the difference. The opposite process would act to correct the surplus.

The primary problem with the gold standard is that monetary policy had to be used to maintain the value of the currency relative to other currencies and could not be used to stabilize the macroeconomy. Then again, at the time the understanding of the role of money in an economy was not terribly sophisticated and the inability of bank officials to conduct activist monetary policy was probably just as well.

A second problem with the gold standard was that the quantity of money was at the mercy of gold discoveries. If the supply of gold didn’t keep up with the growth of the global economy, prices would fall.
2. The Bretton Woods system
The Broton woods system was established in 1944 and tied all other currencies to the U.S. dollar, which was tied to gold. So, other currencies could be converted into dollars at an agreed upon rate and then converted into gold at the rate of $35/ounce.

This was done because it was believed that a system of fixed exchange rates was necessary for the conduct of international trade. Current systems of monetary trading where you can buy future currencies have made this unnecessary and, in fact, under flexible exchange rates such speculation is stabilizing as it anticipates future changes in exchange rates.

The problem with Bretton Woods was that the values of currencies would change only as the result of a chronic deficit or surplus in a country’s balance of payments. A currency might wind up being devalued if a lot of people sold it and the country ran out of foreign reserves necessary to maintain the value of the currency. If investors/speculators identified currencies that were relatively weak, they could make money by destabilizing it by selling it (actually, by borrowing the currency and then selling it and promising to pay it back in the future, by which point it may well have been devalued). Such speculation is destabilizing under a system of fixed rates.

The International Monetary Fund (IMF) was created to enforce the Bretton Woods system and remains a favorite international institution to this day.

The Broton woods system died in 1973.

Gosh, this history is really interesting, but what’s happening now?
Currently most currencies are floating, although a few are pegged to either the dollar or some other currency or currencies.

Some countries allow their currency to float, but the government or central bank sometimes intervene to maintain or suppress its value, a practice or situation known as a dirty float.