

This is supplemental material to Chapter 38 (The Balance of Payments, Exchange Rates, and Trade Deficits) that is found in *Economics* (Chapter 21 in *Macroeconomics* and Chapter 24 in *Microeconomics*). It can either be fully integrated into the chapter by assigning it immediately before the section “The Current Exchange Rate System: The Managed Float” or simply assigned as an addendum to the full chapter.

## Previous International Exchange-Rate Systems

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Chapter 38 discusses the current system of managed floating exchange rates in some detail. But before this system began in 1971, the world had previously used two other exchange rate systems: the gold standard, which implicitly created fixed exchange rates, and the Bretton Woods system, which was an explicit fixed-rate system indirectly tied to gold. Because the features and problems of these two systems help explain why we have the current system, they are well worth knowing more about.

## The Gold Standard: Fixed Exchange Rates

Between 1879 and 1934 the major nations of the world adhered to a fixed-rate system called the **gold standard**. Under this system, each nation must:

- Define its currency in terms of a quantity of gold.
- Maintain a fixed relationship between its stock of gold and its money supply.
- Allow gold to be freely exported and imported.

If each nation defines its currency in terms of gold, the various national currencies will have fixed relationships to one another. For example, if the United States defines \$1 as worth 25 grains of gold, and Britain defines £1 as worth 50 grains of gold, then a British pound is worth  $2 \times 25$  grains, or \$2. This exchange rate was fixed under the gold standard. The exchange rate did not change in response to changes in currency demand and supply.

### Gold Flows

If we ignore the costs of packing, insuring, and shipping gold between countries, under the gold standard the rate of exchange would not vary from this  $\$2 = \text{£}1$  rate. No one in the United States would pay more than  $\$2 = \text{£}1$  because 50 grains of gold could always be bought for \$2 in the United States and sold for £1 in Britain. Nor would the British pay more than £1 for \$2. Why should they when they could buy 50 grains of gold in Britain for £1 and sell it in the United States for \$2?

Under the gold standard, the potential free flow of gold between nations resulted in fixed exchange rates.

### Domestic Macroeconomic Adjustments

When currency demand or supply changes, the gold standard requires domestic macroeconomic adjustments to maintain the fixed exchange rate. To see why, suppose that U.S. tastes change such that U.S. consumers want to buy more British goods. The resulting increase in the demand for pounds creates a shortage of pounds in the United States (recall Figure 38.2 in *Economics*—21.2 in *Macroeconomics* or 24.2 in *Microeconomics*), implying a U.S. balance-of-payments deficit.

What will happen? Remember that the rules of the gold standard prohibit the exchange rate from moving from the fixed  $\$2 = \text{£}1$  rate. The rate cannot move to, say, a new equilibrium at  $\$3 = \text{£}1$  to correct the imbalance. Instead, gold will flow from the United States to Britain to correct the payments imbalance.

But recall that the gold standard requires that participants maintain a fixed relationship between their domestic

money supplies and their quantities of gold. The flow of gold from the United States to Britain will require a reduction of the money supply in the United States. Other things equal, that will reduce total spending in the United States and lower U.S. real domestic output, employment, income, and, perhaps, prices. Also, the decline in the money supply will boost U.S. interest rates.

The opposite will occur in Britain. The inflow of gold will increase the money supply, and this will increase total spending in Britain. Domestic output, employment, income, and, perhaps, prices will rise. The British interest rate will fall.

Declining U.S. incomes and prices will reduce the U.S. demand for British goods and therefore reduce the U.S. demand for pounds. Lower interest rates in Britain will make it less attractive for U.S. investors to make financial investments there, also lessening the demand for pounds. For all these reasons, the demand for pounds in the United States will decline. In Britain, higher incomes, prices, and interest rates will make U.S. imports and U.S. financial investments more attractive. In buying these imports and making these financial investments, British citizens will supply more pounds in the exchange market.

In short, domestic macroeconomic adjustments in the United States and Britain, triggered by the international flow of gold, will produce new demand and supply conditions for pounds such that the  $\$2 = \text{£}1$  exchange rate is maintained. After all the adjustments are made, the United States will not have a payments deficit and Britain will not have a payments surplus.

So the gold standard has the advantage of maintaining stable exchange rates and correcting balance-of-payments deficits and surpluses automatically. However, its critical drawback is that nations must accept domestic adjustments in such distasteful forms as unemployment and falling incomes, on the one hand, or inflation, on the other hand. Under the gold standard, a nation's money supply is altered by changes in supply and demand in currency markets, and nations cannot establish their own monetary policy in their own national interest. If the United States, for example, were to experience declining output and income, the loss of gold under the gold standard would reduce the U.S. money supply. That would increase interest rates, retard borrowing and spending, and produce further declines in output and income.

### Collapse of the Gold Standard

The gold standard collapsed under the weight of the worldwide Depression of the 1930s. As domestic output and employment fell worldwide, the restoration of prosperity became the primary goal of afflicted nations.

They responded by enacting protectionist measures to reduce imports. The idea was to get their economies moving again by promoting consumption of domestically produced goods. To make their exports less expensive abroad, many nations redefined their currencies at lower levels in terms of gold. For example, a country that had previously defined the value of its currency at 1 unit = 25 grains of gold might redefine it as 1 unit = 10 grains of gold. Such redefining is an example of **devaluation**—a deliberate action by government to reduce the international value of its currency. A series of such devaluations in the 1930s meant that exchange rates were no longer fixed. That violated a major tenet of the gold standard, and the system broke down.

## The Bretton Woods System

The Great Depression and the Second World War left world trade and the world monetary system in shambles. To lay the groundwork for a new international monetary system, in 1944, major nations held an international conference at Bretton Woods, New Hampshire. The conference produced a commitment to a modified fixed-exchange-rate system called an *adjustable-peg system*, or, simply, the **Bretton Woods system**. The new system sought to capture the advantages of the old gold standard (fixed exchange rate) while avoiding its disadvantages (painful domestic macroeconomic adjustments).

Furthermore, the conference created the **International Monetary Fund (IMF)** to make the new exchange-rate system feasible and workable. The new international monetary system managed through the IMF prevailed with modifications until 1971. (The IMF still plays a basic role in international finance; in recent years it has performed a major role in providing loans to developing countries, nations experiencing financial crises, and nations making the transition from communism to capitalism.)

## IMF and Pegged Exchange Rates

How did the adjustable-peg system of exchange rates work? First, as with the gold standard, each IMF member had to define its currency in terms of gold (or dollars), thus establishing rates of exchange between its currency and the currencies of all other members. In addition, each nation was obligated to keep its exchange rate stable with respect to every other currency. To do so, nations would have to use their official currency reserves to intervene in foreign exchange markets.

Assume again that the U.S. dollar and the British pound were “pegged” to each other at  $\$2 = \pounds 1$ . And suppose

again that the demand for pounds temporarily increases so that a shortage of pounds occurs in the United States (the United States has a balance-of-payments deficit). How can the United States keep its pledge to maintain a  $\$2 = \pounds 1$  exchange rate when the new equilibrium rate is, say,  $\$3 = \pounds 1$ ? As we noted previously, the United States can supply additional pounds to the exchange market, increasing the supply of pounds such that the equilibrium exchange rate falls back to  $\$2 = \pounds 1$ .

Under the Bretton Woods system there were three main sources of the needed pounds:

- **Official reserves** The United States might currently possess pounds in its official reserves as the result of past actions against a payments surplus.
- **Gold sales** The U.S. government might sell some of its gold to Britain for pounds. The proceeds would then be offered in the exchange market to augment the supply of pounds.
- **IMF borrowing** The needed pounds might be borrowed from the IMF. Nations participating in the Bretton Woods system were required to make contributions to the IMF based on the size of their national income, population, and volume of trade. If necessary, the United States could borrow pounds on a short-term basis from the IMF by supplying its own currency as collateral.

## Fundamental Imbalances: Adjusting the Peg

The Bretton Woods system recognized that from time to time a nation may be confronted with persistent and sizable balance-of-payments problems that cannot be corrected through the means listed above. In such cases, the nation would eventually run out of official reserves and be unable to maintain its current fixed exchange rate. The Bretton Woods remedy was correction by devaluation, that is, by an “orderly” reduction of the nation’s pegged exchange rate. Also, the IMF allowed each member nation to alter the value of its currency by 10 percent, on its own, to correct a so-called fundamental (persistent and continuing) balance-of-payments deficit. Larger exchange-rate changes required the permission of the Fund’s board of directors.

By requiring approval of significant rate changes, the Fund guarded against arbitrary and competitive currency devaluations by nations seeking only to boost output in their own countries at the expense of other countries. In our example, devaluation of the dollar would increase U.S. exports and lower U.S. imports, helping to correct the United States’ persistent payments deficit.

## Demise of the Bretton Woods System

Under this adjustable-peg system, nations came to accept gold and the dollar as international reserves. The acceptability of gold as an international medium of exchange derived from its earlier use under the gold standard. Other nations accepted the dollar as international money because the United States had accumulated large quantities of gold, and between 1934 and 1971 it maintained a policy of buying gold from, and selling gold to, foreign governments at a fixed price of \$35 per ounce. The dollar was convertible into gold on demand, so the dollar came to be regarded as a substitute for gold, or “as good as gold.” The discovery of new gold was limited, but a growing volume of dollars helped facilitate the expanding volume of world trade during this period.

But a major problem arose. The United States had persistent payments deficits throughout the 1950s and 1960s. Those deficits were financed in part by U.S. gold reserves but mostly by payment of U.S. dollars. As the amount of

dollars held by foreigners soared and the U.S. gold reserves dwindled, other nations began to question whether the dollar was really “as good as gold.” The ability of the United States to continue to convert dollars into gold at \$35 per ounce became increasingly doubtful, as did the role of dollars as international monetary reserves. Thus the dilemma was: To maintain the dollar as a reserve medium, the U.S. payments deficit had to be eliminated. But elimination of the payments deficit would remove the source of additional dollar reserves and thus limit the growth of international trade and finance.

The problem culminated in 1971 when the United States ended its 37-year-old policy of exchanging gold for dollars at \$35 per ounce. It severed the link between gold and the international value of the dollar, thereby “floating” the dollar and letting market forces determine its value. The floating of the dollar withdrew U.S. support from the Bretton Woods system of fixed exchange rates and effectively ended the system. Nearly all major currencies began to float. This led to the current regime of “managed floating exchange rates” that is described at length in Chapter 38.

## Summary

1. Before the current system of managed floating exchange rates started in 1971, several different international monetary systems were used.
2. Between 1879 and 1934, most major trading nations were on the gold standard, in which each nation fixed an exchange rate between its currency and gold. With each nation’s currency fixed to gold, the system also implicitly set fixed exchange rates between different national currencies.
3. Any balance-of-payments imbalance would automatically lead to offsetting international flows of gold. This, in turn, lead to automatically occurring domestic macroeconomic adjustments as the country exporting gold automatically encountered a decrease in its money supply while the country importing gold automatically felt an increase in its money supply. When the Great Depression hit, many countries found these automatic adjustments too hard to bear and they abandoned the gold standard.
4. The Bretton Woods system was implemented after the end of the Second World War and lasted until 1971. Under this system, the United States fixed the value of the U.S. dollar to gold at a rate of \$35 per ounce. Other countries then set fixed exchange rates with the dollar so that their currencies were indirectly fixed to gold through the dollar.
5. The International Monetary Fund was created to administer the Bretton Woods system, which had some flexibility because exchange rates between countries could be adjusted to help offset balance-of-payments imbalances.
6. As the United States encountered increasingly large balance-of-payments imbalances in the 1960s and early 1970s, its ability to maintain its gold peg of \$35 per ounce lost credibility. The United States abandoned the gold standard in 1971, thereby ending the Bretton Woods system. All major currencies then began the current regime of managed floating exchange rates.

## Terms and Concepts

gold standard  
devaluation

Bretton Woods system  
International Monetary Fund (IMF)