

## EXCHANGE, UNEQUAL

SEE *Unequal Exchange*.

## EXCHANGE RATES

An *exchange rate* represents the price of a national currency valued as a foreign currency. The exchange rate plays a significant role in the economy. Because exchange rate fluctuations influence the whole economy, the exchange rate is a major economic factor for growth, stability, and economic development. In addition, the exchange rate directly influences the unemployment rate and the inflation level, and it is an indicator of external competitiveness (Madura 2003). The exchange rate also affects trade flows and investments, which in turn influence the balance of payments. Generally, the exchange rate is considered the most important price in the economy.

The exchange rate has direct practical importance to those engaged in foreign transactions, whether for trade or investment. It affects the price of imports when expressed in domestic currency, as well as the price of exports when converted into a foreign currency. The exchange rate therefore has a link to inflation. Consequently, the exchange rate is above all a monetary indicator and occupies a central position in monetary policy, where it may serve as a target or an instrument as well as simply an indicator.

The exchange rate system used by a country is called its *exchange rate regime*. Countries can choose which exchange rate regime to follow, depending on their goals. Countries may either fix or float their exchange rate, but there are a number of other exchange rate systems between these two extremes. There are four main types of exchange rate regimes: *freely floating*, *fixed*, *pegged* (also known as *adjustable peg*, *crawling peg*, *basket peg*, or *target zone* or *bands*), and *managed float*. Within these four systems there are modified or intermediate regimes, such as *currency board*, *dollarization*, and *monetary union* regimes. The following entry analyzes each type of exchange rate regime, highlighting advantages and disadvantages.

### FREELY FLOATING EXCHANGE RATE

A freely (clean) floating (or flexible) exchange rate regime, where the monetary authorities refuse any intervention in the exchange rate market, is the simplest type of system. The rate is then freely determined by market forces and can fluctuate by any amount at any moment. More precisely, a *pure float* is an exchange rate that is determined in the market without any intervention. Flexible exchange rates are determined daily in the markets for foreign

exchange by the forces of demand and supply, without restrictions imposed by governmental policy on the extent to which rates can change. Supporters of free floating argue that the foreign exchange market is a highly transparent and efficient market because market forces are left unimpeded. Monetary policy is set autonomously, as deemed appropriate in the domestic context, and the exchange rate is allowed to follow whatever path transpires, consistent with monetary policy.

The advantages of a freely floating exchange rate regime are: (1) markets efficiently allocate resources (including financial capital) since there are no capital flow restrictions; (2) changes in the nominal exchange rate carry the bulk of adjustments to foreign and domestic shocks; (3) there are no opportunities for speculators to profit at the expense of the country's central bank; (4) demand and supply for domestic currency will be balanced in the market; (5) there is no obligation on the part of the central bank to intervene; and (6) the requirement for a country to hold large reserves is eliminated. Moreover, the monetary authority sets monetary policy, but it has no exchange rate policy since the exchange rate is determined by market forces. Thus, the monetary base is determined and in the control of the monetary authority of the country in question. This implies another advantage, which is that no conflicts can arise between monetary policy and the exchange rate; thus, a crisis in the balance of payments cannot occur because market forces automatically rebalance financial flows and avert balance-of-payment crises. In the absence of balance-of-payment reasons for interfering in international trade and payments, and given the autonomy of domestic policy, another benefit of a freely floating exchange rate regime is the exploitation of the economies of international specialization and labor.

Following a freely floating exchange rate system also brings disadvantages. High nominal and real exchange rate volatility may distort resource allocation, as many resources will be devoted to hedging the exposure of exchange rate fluctuations. Furthermore, the future path of the exchange rate will be uncertain, which may create difficulties for businesses in planning and pricing, and the freedom to operate an independent domestic monetary policy may be abused when, for instance, the government, not being compelled to prevent exchange rate depreciation, may be tempted into inflationary budgetary and monetary policies. In addition, there is a chance of overshooting, which will result in the exchange rate settling at a level not warranted by the country's financial position, perhaps for a considerable period (Aziz and Caramazza 1998; Kenen 2000).

### FIXED EXCHANGE RATE

In a fixed exchange rate regime, exchange rates are held constant or allowed to fluctuate within very narrow boundaries, perhaps 1 percent above or below the initial set of rates. When a country chooses to fix its exchange rate, local currency is assigned a par value in terms of gold, another currency, or a basket of currencies. When the exchange rate begins to move too much, the government intervenes with the devaluation or revaluation of its own currency against other currencies in order to maintain the exchange rate within the specified boundaries. In this case, the monetary authority has to defend the fixed parity: Such government intervention can be direct or indirect. Direct intervention requires a change in international reserves. Indirect intervention, in contrast, is affected by influencing the factors that determine exchange rates through increasing or decreasing interest rates or other economic indicators (income, inflation, etc.), a move that does not involve a change in reserves. There are two types of direct intervention. *Sterilized direct intervention* occurs when the central bank intervenes in the foreign exchange market while making adjustments to avoid a change in money supply; in other words, the central bank transacts simultaneously in foreign exchange markets and treasury securities markets. In *nonsterilized direct intervention*, the central bank changes the money supply by selling or buying foreign reserves in the foreign exchange markets.

Examples of fixed exchange regimes include the systems established by the Bretton Woods Agreement from 1944 to 1971 and the Euro zone between 1999 and 2002. Fixed but adjustable exchange rate regimes are similar, with the difference that they allow more fluctuation in the exchange rate. In such a regime, the exchange rate is fixed for extended periods or within very narrow margins, but adjustable if there is disequilibrium.

The advantages of a fixed exchange rate regime include: (1) the fixed exchange provides a stable basis for planning and pricing, and helps to increase investment and international trade; (2) it imposes discipline for monetary policy, restraining inflation; (3) it restrains competitive devaluation of the domestic currency, thus contributing to the stability of the world trade system; and (4) it reduces the risk of price fluctuations and lowers the risk premiums imposed on interest rates. The disadvantages of such a regime include the following: (1) governments cannot definitely determine if the chosen fixed exchange rate is optimal or sustainable; (2) a fixed exchange rate regime could be vulnerable to speculative attacks that may damage the monetary stability of the economy or the exchange rate reserves; (3) maintaining a fixed nominal exchange rate carries the risk of an excessive appreciation of the real exchange rate, which results in a loss of competitiveness and, ultimately, to a speculative run on an overvalued cur-

rency; (4) economies suffering from real shocks and having adopted a fixed exchange rate face the risk of a further deepening of the downturn; and (5) a fixed exchange rate regime requires the monetary authority to hold more foreign exchange reserves than other exchange rate regimes (Aziz and Caramazza 1998; Kenen 2000).

### PEGGED EXCHANGE RATE

Countries operating under a pegged exchange rate regime “peg” their currency’s value to a foreign currency or some unit of account (e.g., gold, the European currency unit, etc.). Hence, while bilateral parity is maintained, the home currency’s value fluctuates against other currencies in line with the anchor country’s currency (Madura 2003, p. 174). There are a variety of different types of pegged regimes defined by Jeffrey Frankel (1999) as intermediate arrangements or “soft pegs.” These include the adjustable peg, crawling peg, basket peg, and target zone or bands. Under adjustable peg systems, the bands are narrow (up to  $\pm 2.25\%$ ) and the target rate is adjusted less frequently and by large amounts. Under a crawling peg, the bands are wider and the peg is regularly reset, sometimes weekly, in a series of minidevaluations. Under a basket peg arrangement, the exchange rate is fixed to a weighted basket of currencies that usually reflects the country’s major trade partners. The target zone or band involves setting wide prescribed margins (bands) within which the government intervenes to maintain the exchange rate. Under this type of regime, a country or a group of countries hold their currencies within a predetermined range, and government intervention occurs only when the exchange rate exceeds this range. In this system, market forces determine the exchange rate. If the exchange rate moves above or below the predetermined limits, the government will intervene to move the price of the currency back within the tolerable zone. If the range is sufficiently narrow, the target zone approaches a fixed rate; if it is sufficiently wide, it approaches a freely floating regime.

Some countries favor a pegged exchange rate because it enhances the credibility of the government’s commitment to low inflation. There is a tradeoff between credibility and flexibility. Other advantages of a pegged exchange rate system are: (1) the country can mitigate pressures for domestic price fluctuations and indicate a signal of responsible monetary policy; (2) the country can reduce inflationary expectations and (3) stabilize the prices of imports and exports; (4) the government can devalue its home currency in response to large shocks; and (5) inflation is limited because such an exchange rate regime limits the government’s ability to issue money when there are no foreign exchange reserves. The disadvantages of a pegged exchange rate are: (1) when a nation links its monetary policy to some other nation, monetary

policy and fluctuations in that other nation will create fluctuations in the home nation's monetary condition; (2) the country's central bank loses its monetary independence; (3) a peg system may lead to persistent misalignments if inflation is higher compared to the pegged country, causing a situation in which the home currency could be overvalued and uncompetitive; (4) in order for this policy to be credible, additional institutional measures are required; (5) pegged systems are often targets for speculative attacks; (6) such a regime is not sustainable in small countries with huge capital flows leading to a balance-of-payment crisis; and (7) a pegged system is unlikely to be sustainable when there is full capital mobility.

#### MANAGED FLOAT EXCHANGE RATE

In a managed float (or dirty float) exchange rate regime, the monetary authority influences the movements of the exchange rate through active intervention in the foreign market without specifying, or recommitting to, a preannounced path for the exchange rate. Although market conditions determine the exchange rate, this type of exchange rate regime also involves certain less-specified central bank interventions with various objectives. A managed float exchange rate regime belongs with the so-called intermediate methods because it stands between the extremes of perfectly flexible and fixed regimes. It resembles the freely floating exchange rate in the sense that exchange rates can fluctuate on a daily basis and official boundaries do not exist. The difference is that the government can intervene in order to prevent the currency rate from fluctuating too much in a certain direction. Under a managed float, the goal of intervention is to prevent sharp fluctuations in the short run, but intervention does not target any particular rate over the long run. Generally, the central bank intervenes only to smooth fluctuations. Some governments impose bands within which the exchange rate can fluctuate, which is one of the reasons for calling this approach "dirty."

Unlike the free float approach, the dirty float protects investors against rapid exchange rate fluctuations. It also provides a more stable investment environment, protects the country from the risk of large exchange rate movements, and mixes market-determined exchange rates with a non-rule-based stabilizing intervention by the central bank, which helps avoid potential crises. The dirty float approach has disadvantages in that the government may manipulate the exchange rate for the benefit of its own country at the expense of another currency merely because this exchange rate regime does not offer transparency. In addition, the dirty float system requires cooperation between exchange rate policy and monetary policy that may lead to conflict; the country's central bank often cannot determine whether a movement in the rate is short

term or long term, thus whether an intervention is warranted; there are no definite rules giving credibility to the monetary authorities to intervene; and such a system may not place constraints on monetary and fiscal policy, resulting in a clash with the exchange rate policy.

#### OTHER EXCHANGE RATE SYSTEMS

The *currency board* is a type of fixed regime, but it is more restrictive and also includes a requirement for minimum domestic reserves in foreign currency and a monetary institution that issues notes and coins fully backed by a foreign reserve currency and convertible into the reserve currency at a fixed exchange rate. This institution cannot act as a lender of last resort, does not regulate reserve requirements for commercial banks, only earns seignorage from interest on reserves, and does not engage in forward exchange operations (Hanke 1999, p. 341). The advantage of a currency board system is that it reduces the real exchange rate volatility. There are drawbacks, however, in the country's loss of an independent monetary policy, and such a system is often a target of speculative attacks and requires very high reserves of foreign currency (Bell 2001).

A country with a *dollarization* regime replaces its own currency with another foreign currency, usually the U.S. dollar. Such an approach may reduce exchange rate volatility, but it poses the drawback that the home monetary policy is dependent on a foreign country's policy. This approach amounts to a complete replacement of a local currency with a foreign one, which is a step beyond a currency board. Dollarization, a type of unified currency regime, is no guarantee for growth but can provide macroeconomic stability.

*Monetary union* or a *currency union* occurs when a group of countries use a common currency issued by a common central bank, as do the twelve European countries in the Euro zone. This type of system reduces real exchange rate volatility, but the member countries lose the stabilization tool of an independent monetary policy. Jeffrey Frankel and Andrew Rose (2002, p. 11), analyzing data for more than two hundred countries, determined that by belonging to a currency union a country triples its trade with other union members. Furthermore, the results suggest that for every percentage of increase in a country's trade relative to its gross domestic product, membership in a currency union raises income per capita by at least 0.33 percent.

In conclusion, different types of exchange rate regimes have various advantages and disadvantages. Governments must determine which system is the most appropriate for a particular country and for the specified time period. No one system exploits all the advantages without any disadvantages, and no system can be applica-

ble for all countries, which have different goals and political structures in different periods (Frankel 1999).

**SEE ALSO** *Banking Industry; Currency; Currency Appreciation and Depreciation; Currency Devaluation and Revaluation; Dirty Float; Money; Mundell-Fleming Model; Policy, Monetary; Purchasing Power Parity; Trade*

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## **EXCHANGE VALUE**

*Exchange value* refers to “the power of purchasing other goods which the possession of [an] object conveys” (Smith [1776] 1960, p. 32); in other words, it expresses the relative price of a good in terms of other goods. Although the concept of exchange value has always played an important role in economic thought, the analysis of how it is determined has been the subject of much controversy.

For Adam Smith, David Ricardo, and Karl Marx it was important to distinguish *exchange value* from *use value*. Use value was the utility or the value in the use of a commodity, and was seen as necessary but not sufficient

for a commodity to have exchange value. This is illustrated by the paradox of value, whereby things that had the greatest use value, such as air and water, had the lowest exchange value compared to (for example) diamonds, which had a low use value but high exchange value.

According to David Ricardo, commodities derive their exchange value from two sources. First, “from their scarcity,” where commodities cannot be reproduced (e.g., rare paintings, coins, pictures, etc.). These commodities are, by their very nature, a very minor part of what is exchanged in any economy. Second, the majority of commodities are produced by “the exertion of human industry: and these commodities have their exchangeable value determined by the quantity of labour embodied in their production” (Ricardo [1817] 1951, p. 12). This labor theory of value, which was present in a more ambiguous form in Adam Smith’s writings, played an important role in the works of both Ricardo and Karl Marx. The relationship between labor values and prices has been a source of much controversy.

In discussing these three economists, it is also important to distinguish between values that are determined in this way, that is, natural values or prices and market prices. Market prices may diverge from their natural values owing to “accidental” or “temporary deviations” (Ricardo [1817] 1951, p. 89). However, competition in the form of capital seeking the most profitable activity will ensure that the deviation is temporary and will establish a long-run tendency toward uniform profit rates through the economy. “The natural price, therefore, is, as it were, the central price, to which the prices of all commodities are continually gravitating” (Smith [1776] 1960, p. 65).

It is important to note that the factors that determine the natural price are different from the factors that bring market price toward natural prices. This is important because it means that the natural prices will not be influenced by the path taken by market prices as they adjust to their natural levels (Kriesler 2003).

For Marx, the essence of a commodity is that it is produced for its exchange value; in other words, it is produced specifically in order to be sold. It is the generalization of commodity production into all spheres of society that he saw as one of the important results of capitalism. According to Marx, exchange value reflects the underlying social relations and “is in reality only an outward form of the *social* relation between the ... producers themselves” (Sweezy 1968, p. 27, emphasis in original). So the market expression of exchange values reflected deeper social relations. This view should be compared with that of John Stuart Mill, for whom exchange value did not arise “from the nature of things,” but was “created by social arrangements” (Mill [1848] 1994, p. 54).

From the 1870s a new version of economics, sometimes referred to as “neoclassical theory,” came into favor,