

## 2 Exchange Rate Regimes and International Monetary Systems

One must have knowledge in foreign exchange rate regimes and foreign exchange rate arrangements to better understand foreign exchange rate behaviour, since the choice of foreign exchange rate regimes can influence or determine how the exchange rate between two currencies moves and fluctuates on foreign exchange markets. For example, if an arrangement is made for a currency which fixes the currency's exchange rate against the US dollar, then there is little sense to study the market force for the sake of exchange rate determination for the currency.

This chapter examines various foreign exchange regimes in international monetary systems and discusses their features. A brief review of the history of international monetary systems is also provided in the chapter, since the past lessons from the international monetary history can be helpful to the foreign exchange rate regime decision, the implementation of foreign exchange policies and the attainment of policy objectives.

### 2.1 Exchange Rate Regimes

The exchange rate can be totally flexible or completely free to float on the foreign exchange market on the one hand, and fixed or pegged to one of the major currencies or a basket of currencies on the other hand. Between these two extremes, there can be a few types of exchange rate arrangements and combinations. The International Monetary Fund (IMF) has classified the prevailing exchange rate regimes into eight categories. They are: Exchange Arrangements with No Separate Legal Tender, Currency Board Arrangements, Conventional Fixed Peg Arrangements, Pegged Exchange Rates within Horizontal Bands, Crawling Pegs, Exchange Rates within Crawling Bands, Managed Floating with No Predetermined Path for the Exchange Rate, and Independent Floating.

This classification system ranks exchange rate regimes on the basis of the degree of flexibility of the arrangement or a formal or informal commitment to a given exchange rate path. The classification emphasises the implications of the choice of exchange rate regimes to the independence of monetary policy. However, it must be stressed that absolute independence of monetary policy from ex-

change rate policy does not exist under any exchange rate regimes. Monetary policy decisions are taken in conjunction with a country's external positions one way or another, with or without explicitly imposed foreign exchange rate policy constraints. Table 2.1 presents information regarding exchange rate arrangements of IMF member countries or regions. It is based on members' actual, *de facto* regimes, as classified by the IMF as of April 30, 2003, which may differ from their officially announced arrangements.

Under independent floating, the exchange rate is market determined. The regime is also called free floating or clean floating. Foreign exchange intervention, if any, does not aim at establishing a level for the exchange rate; rather, it aims at moderating the rate of change and preventing undue fluctuations in the exchange rate. Monetary policy is, in principle, independent of exchange rate policy with an independent floating exchange rate regime.

Managed floating that is sometimes called dirty floating, or managed floating with no predetermined path for the exchange rate in full, has a lower degree of flexibility, compared with independent floating. The monetary authority influences exchange rate movements through active, direct or indirect intervention to counter the long-term trend of the exchange rate without specifying a predetermined exchange rate path or without having a specific exchange rate target. Indicators for managing the exchange rate are broadly judgmental. e.g., through balance of payments positions, international reserves, parallel market developments, and adjustments may not be automatic.

The IMF distinguishes "tightly managed floating" where intervention takes the form of very tight monitoring that generally results in a stable exchange rate without having a clear exchange rate path from "other managed floating" where the exchange rate is influenced in a more *ad hoc* fashion. The former intervenes with the aim of permitting authorities an extra degree of flexibility in deciding the tactics to achieve a desired path, while the latter lacks such an aim in managing the exchange rate.

Under the arrangement of exchange rates within crawling bands, the currency is maintained within certain fluctuation margins of at least  $\pm 1\%$  around a central rate, which is adjusted periodically at a fixed rate or in response to changes in selective quantitative indicators. The degree of flexibility of the exchange rate is a function of the band width. Bands can be either symmetric around the crawling central rate or asymmetric with different upper and lower bands. The commitment to maintaining the exchange rate within the band imposes constraints on monetary policy, the narrower the band, the lower degree of independence monetary policy possesses.

Conventional fixed peg arrangements are exchange rate regimes where a country formally or *de facto* pegs its currency at a fixed rate to another currency or a basket of currencies, where the basket is formed from the currencies of major trading or financial partners and weights reflect the geographical distribution of trade, services, or capital flows, or the SDR. The monetary authority can adjust the level of the exchange rate, although relatively infrequently. There is no commitment to keep the parity irrevocably. The exchange rate may fluctuate within a narrow

**Table 2.1.** Exchange rate arrangements

Exchange rate regime (number of countries/ regions)	Country/region
Exchange arrangements with no separate legal tender (41)	<i>Another currency as legal tender:</i> Ecuador; El Salvador; Kiribati; Marshall Islands; Micronesia; Palau; Panama; San Marino; Timor-Leste <i>ECCU:</i> Antigua and Barbuda; Dominica; Grenada; St. Kitts and Nevis; St. Lucia; St. Vincent and the Grenadines <i>CFA franc zone WAEMU:</i> Benin; Burkina Faso; Côte d'Ivoire; Guinea-Bissau; Mali; Niger; Senegal; Togo <i>CFA franc zone CAEMC:</i> Cameroon; Central African Rep.; Chad; Congo, Rep. of; Equatorial Guinea; Gabon
Currency board arrange- ments (7)	Bosnia and Herzegovina; Brunei Darussalam; Bulgaria; Hong Kong SAR; Djibouti; Estonia; Lithuania
Conventional fixed peg arrangements (42)	<i>Against a single currency (33):</i> Aruba; Bahamas, The; Bahrain; Bangladesh; Barbados; Belize; Bhutan; Cape Verde; China; Comoros; Eritrea; Guinea; Jordan; Kuwait; Lebanon; Lesotho; Macedonia, FYR; Malaysia; Maldives; Namibia; Nepal; Netherlands Antilles; Oman; Qatar; Saudi Arabia; Suriname; Swaziland; Syrian Arab Republic; Turkmenistan; Ukraine; United Arab Emirates; Venezuela; Zimbabwe <i>Against a composite (9):</i> Botswana; Fiji; Latvia; Libya; Malta; Morocco; Samoa; Seychelles; Vanuatu
Pegged exchange rates within horizontal bands (5)	<i>Within a cooperative arrangement ERM II (1):</i> Denmark <i>Other band arrangements (4):</i> Cyprus; Hungary; Sudan; Tonga
Crawling pegs (5)	Bolivia; Costa Rica; Nicaragua; Solomon Islands; Tunisia
Exchange rates within crawling bands (5)	Belarus; Honduras; Israel; Romania; Slovenia
Managed floating with no pre- announced path for the exchange rate (46)	Afghanistan; Algeria; Angola; Argentina; Azerbaijan; Burundi; Cambodia; Croatia; Czech Rep.; Dominican Rep.; Egypt; Ethiopia; Gambia, The; Ghana; Guatemala; Guyana; Haiti; India; Indonesia; Iran, I.R. of; Iraq; Jamaica; Kazakhstan; Kenya; Kyrgyz Republic; Lao PDR; Mauritania; Mauritius; Moldova; Mongolia; Myanmar; Nigeria; Pakistan; Paraguay; Russian Federation; Rwanda; São Tomé and Príncipe; Serbia and Montenegro; Singapore; Slovak Rep.; Tajikistan; Thailand; Trinidad and Tobago; Uzbekistan; Vietnam; Zambia
Independent floating (36)	Albania; Armenia; Australia; Brazil; Canada; Chile; Colombia; Congo, Dem. Rep. of; Georgia; Iceland; Japan; Korea; Liberia; Madagascar; Malawi; Mexico; Mozambique; New Zealand; Norway; Papua New Guinea; Peru; Philippines, The; Poland; Sierra Leone; Somalia; South Africa; Sri Lanka; Sweden; Switzerland; Tanzania; Turkey; Uganda; United Kingdom; United States; Uruguay; Yemen, Rep. of

Source: IMF

margin of less than  $\pm 1\%$  around a central rate or the maximum and minimum value of the exchange rate may remain within a narrow margin of 2% for at least three months. The monetary authority stands ready to keep the fixed parity through direct intervention, e.g., via sale or purchase of foreign exchange on the foreign exchange market, or indirect intervention, e.g., via aggressive use of interest rate policy, imposition of foreign exchange regulations or exercise of moral suasion that constrains foreign exchange activity, or through intervention by other public institutions. Flexibility of monetary policy is limited, but traditional central banking functions are still possible.

Non-fixed pegs do not peg the currency to another currency or a basket of currencies and are in general more flexible than fixed pegs. Under pegged exchange rates within horizontal bands, the value of the currency is maintained within certain margins of fluctuation of at least  $\pm 1\%$  around a formal or a de facto fixed central rate. It also includes the arrangements of the countries in the exchange rate mechanism (ERM) of the European Monetary System (EMS), which was replaced with the ERM II on January 1, 1999. Though the Deutsch mark was the currency to which the other currencies of the EMS pegged, it was not pre-arranged to be the anchor currency – it performed the role due to its strength. So, the EMS was not a conventional fixed peg arrangement. There is a limited degree of monetary policy discretion, with the degree of discretion depending on the band width.

Under crawling pegs, the currency is adjusted periodically in small amounts at a fixed rate or in response to changes in selective quantitative indicators, such as past inflation differentials vis-à-vis major trading partners and differentials between the target inflation and expected inflation in major trading partners. The rate of crawl can be set to generate inflation-adjusted changes in the currency in retrospect, or set at a pre-announced fixed rate or below the projected inflation differentials, which is forward looking. The commitment to maintaining crawling pegs imposes constraints on monetary policy.

Currency Boards are monetary regimes based on an explicit legislative commitment to exchanging the domestic currency for a specified foreign currency at a fixed exchange rate. The domestic currency is issued only against foreign exchange and that remains fully backed by foreign assets, eliminating traditional central bank functions, such as monetary control and lenders of last resort, and leaving little scope for discretionary monetary policy. Some flexibility may still be afforded, depending on how strict the rules of the boards are. In the case of Hong Kong, although it operates a currency board system, the monetary authority can still be, and is regarded to have a role of, lenders of last resort, because it is backed by the People's Republic with enormous assets and foreign reserves.

There are two types exchange arrangements with no separate legal tender. One is formal dollarisation where the currency of another country circulates as the sole legal tender. The other is shared legal tender where members belonging to a monetary currency union share the same legal tender. Members of the currency union also share domestic monetary policy with each other, e.g., monetary policy of the ECB is jointly determined by its member states and may have impact in the whole euro area. Smaller states may benefit from being part of the currency union in the sense of effective control over domestic monetary policy. e.g., although the Neth-

erlands and Belgium could have operated their own domestic monetary policy under an independent floating exchange rate regime before the single currency, they hardly enjoyed monetary policy independence of their own and had any influence on German monetary policy that not only impacted but also determined Dutch and Belgian monetary policy. With the single currency and the ECB, the two countries have some say in the euro area monetary policy.

## 2.2 A Brief History of International Monetary Systems

With the rise of international trade in the second half of the 19<sup>th</sup> century, the establishment of international monetary systems became practically necessary. The industrial revolution, starting in Britain and soon spreading to Germany, France, America and other western countries, took place and got an accelerating momentum earlier in the same century at a time that witnessed so many famous inventors and engineers whose names are still influential in our everyday life now: James Watt (1736-1819), Isambard Kingdom Brunel (1767-1849), Werner von Siemens (1816-1892), Gottlieb Daimler (1834-1900), Karl Benz (1844-1929), and Rudolf Diesel (1858-1913), to mention a few. The industrial revolution greatly increased productivity through inventions and the use of engines in production, and later, in mass production. A substantial portion of manufactured goods had to find foreign markets. Consumption and production were no longer confined within national borders. Consequently and subsequently, international trading rules and methods of settlements took their initial shape at the time, and continued to evolve over time.

The history of international monetary systems can be divided into five periods: The classical gold standard (1875-1914), interim instability (1914-1943), the Bretton Woods system (1944-1971), the collapse of the Bretton Woods system (1971-1973), and the recent float (1973- ). These systems are introduced and discussed in the following.

*Classical Gold Standard* (1875-1914). The starting point of the classical gold standard is not clear-cut, which can be as early as 1820s when the UK first adopted the gold standard, or in the 1870s when most western powers followed. Yet, no matter how the beginning of the gold standard period was decided, the emergence of the gold standard was a response to the rise of international trade at the time, brought about to a great extent by the industrial revolution. The gold standard is a fixed exchange rate regime. Nations on the gold standard pegged their currencies to gold, and then the exchange rate between two currencies was fixed in terms of a specific amount of gold. For example, if the US dollar was pegged to gold at \$1 = 1/30 oz of gold and the sterling was pegged to gold at £1 = 1/6 oz of gold, then the exchange rate of sterling vis-à-vis the US dollar was fixed at \$5/£. Maintenance of the exchange rate involved the buying and selling of gold at that price.

The gold standard was featured by its price-specie-flow mechanism, an automatic adjustment mechanism for maintaining trade balance, where specie was

gold coins. It worked as follows: a balance of payments surplus (deficit) led to a gold inflow (outflow); gold inflow (outflow) led to higher (lower) prices which reduced surplus (deficit). Moreover, exchange rates under the gold standard were highly stable, which helped conduct and promote international trade.

*Interim instability* (1914-1944). This period covered two world wars and the Great Depression. By early 20<sup>th</sup> century, the supply of minted gold was very limited relative to the rapid expansion of the economy in the last few decades, and the growth of international trade was held back because there were insufficient monetary reserves. The situation deteriorated quickly in World War I, during which many countries abandoned the gold standard, because it prevented them from printing more money as a means of paying the expenses of the war. This money printing process led to higher inflation during and immediately after the war, and increases in inflation rates naturally differed among countries. Consequently, a fixed exchange rate regime implemented through the gold standard was neither desirable nor workable.

Attempt was made to restore the gold standard because of a highly instable international trade environment following the abandonment of the regime. This led to a brief spell of the gold exchange standard between 1925 and 1931, in which only the US and the UK were pegged to gold, while other countries held gold, US dollar or sterling reserves. This temporary international monetary system and order was soon torn down by the Great Depression, since a fixed exchange rate arrangement appeared to amplify the extent of recessions and unemployment in the time of economic contraction. The lack of international co-ordination and commitment to maintaining a trustworthy international monetary and trading system resulted in a dreadful situation where countries adopted tactics of competitive depreciation of their currencies to gain comparative advantages in international trade. These, coupled with protectionist economic policies, were very harmful to the world economy as a whole. The foreign exchange market was extremely volatile as a consequence.

*The Bretton Woods system* (1946-1971). Concerns in exchange rate instability and disorders in international monetary systems and trade continued to deepen in World War II. Negotiations started as early as in 1942 to establish a credible international monetary system after the war. In July 1944, 44 nations gathered at Bretton Woods, New Hampshire to hold a conference that gave birth to a post war international monetary system named after the conference venue. Two international institutions, the International Monetary Fund and the World Bank, were created at the Bretton Woods conference. The Bretton Woods system was a fully negotiated international monetary system and order intended to govern currency relations among sovereign states. It was designed to combine binding legal obligations with multilateral decision-making processes conducted through an international institution, the IMF.

Under the Bretton Woods system, the US dollar was valued at \$35 per ounce of gold. The commitment by the US to redeem international dollar holdings at the rate of \$35 per ounce laid down the central foundation of the Bretton Woods system. The US dollar was the numeraire of the system, the standard to which other currencies were pegged. Consequently, the US did not have the entitlement to set

the exchange rate between the US dollar and other currencies. Changing the value of the US dollar in terms of gold has no real effect, because the values of other currencies were pegged to the dollar. The US dollar had special position in system and was the  $n^{\text{th}}$  currency - if there are  $n$  currencies, then there are only  $n-1$  bilateral exchange rates to be pegged.

The Bretton Woods system was a kind of gold exchange standard. Upon entering the IMF, a country submitted a par value of its currency expressed in terms of gold or in terms of the US dollar using the weight of gold in effect on July 1, 1944, which was \$35 per ounce of gold. By signing the agreement, member countries submitted their exchange rates to international disciplines. All exchange transactions between member countries were to be effected at a rate that diverged not more than 1% from the par values of the respective currencies. A member country could change the par value of its currency only to correct a fundamental disequilibrium in its balance of payments, and only after consulting with the IMF. In case when the IMF objected a change, but the member devalued its currency, then that member was ineligible to use the IMF's resources. There would be no objection to a change if the cumulative change was less than 10% of the par value. forbids members to restrict current account balances. Members were obligated to maintain currency convertibility for current account transactions to facilitate trade but convertibility was not required for capital account transactions.

*The collapse of the Bretton Woods system (1971-1973).* At the launch of the Bretton Woods system, the US Federal Reserve held three quarters of all central bank gold in the world and the US was the only dominant force enjoying global monetary supremacy; while the economic and financial fortunes of Europe and Japan had been largely ruined by the war. However, ultimately the US dollar was not gold. The system would continue to work properly while the mass of US dollars circulating in the rest of the world was backed by gold held in the US but would cease functioning vice versa. With economic recovery taking momentum gradually in Europe and Japan, there was an increasing need for international liquidity in the form of US dollars to facilitate growth in international trade. This could only lead to outflows of US dollars under the Bretton Woods system. In 1959, the problem of dollar overhang, the amount of US dollars in international circulation in excess of gold reserves held by the US Federal Reserve, surfaced for the first time. Shortly before that in 1958, Europe's currencies returned to convertibility, which also contributed to the diminished desire to obtain and accumulate reserves in the form of US dollars. Before 1958, less than 10% of US balance of payments deficits had been financed by calls on the US gold stock, with the rest being financed by US dollars. During the next decade however, almost two thirds of US balance of payments deficits were transferred to the rest of the world in the form of gold, mostly to Europe. The gravity of the problem was first revealed by Triffin (1960) in what was later known as the Triffin dilemma. He argues that, the gold exchange standard of the Bretton Woods is fundamentally flawed by its reliance on the pledge of convertibility of the US dollar into gold. The Bretton Woods system had to rely on US deficits to avert a world liquidity shortage. The resulting erosion of US reserves was bound in time to undermine confidence in the continued convertibility of US dollars. Therefore, the Bretton Woods system and the

countries in the system confronted a dilemma. To stop speculation against the dollar, US deficits would have to cease, which would deepen the liquidity problem. To solve the liquidity problem, US deficits would have to continue, which would bring about a confidence problem for the continued convertibility of US dollars. In the 1960s, dollar overhang began to grow larger and larger as a result of increased capital outflow induced by higher returns abroad, military commitments, and the Vietnam War. By 1963, the US gold reserve held at Manhattan barely covered liabilities to foreign central banks, the gold coverage had fallen to 55% by 1970, and to 22% by 1971. Thus, from 1963, had the foreign central banks tried to convert their dollar reserves into gold, the US would have been forced to abandon gold convertibility. The Bretton Woods system was clearly under grim strain and the collapse of the system was just a matter of time.

America's domestic problems also contributed to the collapse of the Bretton Woods system. In the 1960s, the US economy experienced higher inflation, higher unemployment and lower growth relative to, most notably, Japan and Germany. The US dollar appeared to be overvalued and the speculation on the devaluation of the US dollar continued to grow and accelerate. On August 15, 1971, the US president Nixon announced in a Sunday evening televised address that the convertibility of the US dollar into gold was suspended. In response to the crisis, international monetary negotiations were undertaken within the framework of the Group 10 in a meeting at the Smithsonian Institution in Washington DC. The agreement was then formalised by the IMF to be known as the Smithsonian Agreement, which was a temporary regime. The Smithsonian Agreement made following currency realignments: the Japanese yen appreciated 17%, the Deutsch mark 13.5 %, the British pound 9%, and the French franc 9%. The US dollar devalued to \$38 per ounce from \$35 per ounce. The boundaries for exchange rate fluctuations were widened from  $\pm 1\%$  to  $\pm 2\frac{1}{4}\%$  of the central rates after currency realignment. This devaluation of the US dollar had no significance because the US dollar remained inconvertible. One and a half years later, with the second devaluation of the US dollar in February 1973 to \$42.22 per ounce, and after new waves of speculation against a realigned structure of par values negotiated in the Smithsonian Agreement, the currencies of all the industrial countries were set free to float independently. Both the par value system and the gold exchange standard, the two central elements of the postwar monetary regime, came to an end. The Bretton Woods system finally and officially collapsed.

*The recent float (1973-).* In February 1973, the official boundaries for the more widely traded currencies were eliminated and the floating exchange rate system came into effect. The gold standard became obsolete and the values of a range of currencies were to be determined by the market. Under this regime, for those countries that have chosen to float their currencies independently, foreign exchange intervention, if any, does not aim at establishing a level for the exchange rate but aims at moderating the rate of change and preventing undue fluctuations in the exchange rate. As having seen in the previous section, most industrialised countries have adopted independent floating, but the present international monetary system is a mixture of several kinds of exchange rate arrangements operating in parallel at the same time. It is because the world is no longer dominated by



America or America with its western partners doing international trade and business. International trading rules, international monetary systems and orders suitable for industrialised countries or benefiting industrialised countries alone cannot be applied to developing countries without being challenged for reasonable amendments and adjustments.

## 2.3 The European Single Currency

The European single currency, the euro, is a milestone in the history of international monetary systems. After World War II, most western economies adopted the Bretton Woods system, which paved the way for international monetary stability and established the supremacy of the US dollar. As shown and discussed earlier, the weaknesses and problems inherited with the Bretton Woods system surfaced to limelight in the 1960s. Between 1968 and 1969 foreign exchange market turbulence led to the depreciation of the French franc and the appreciation of the German mark, threatening the stability of other European currencies and the system of common prices set up under the European common agricultural policy. In this context, the Barre report proposed greater coordination of economic policies and closer monetary cooperation within Western Europe in February 1969. At the summit in The Hague in December the same year, the heads of state and government of Western Europe decided to create an economic and monetary union (EMU), an official goal of European integration. Headed by the Prime Minister of Luxembourg, Pierre Werner, A working group (the Werner group) was given the task of drawing up a report on how this goal might be reached by 1980. The Werner group submitted its final report in October 1970. It envisaged the achievement of full economic and monetary union within ten years according to a three-stage plan. The ultimate goal was to achieve full liberalisation of capital movements, the irrevocable fixing of parities among national currencies and the replacement of national currencies with a European single currency. The report also recommended that the coordination of economic policies be strengthened and guidelines for national budgetary policies drawn up.

The project to create the European Monetary System (EMS) started in 1979 when members of the European Union organised the European Monetary System to link their currencies to prevent large fluctuations in exchange rates and counter inflation among member states. The EMS was based on the concept of fixed, but adjustable exchange rates. The currencies of all the Member States, except the UK, participated in the exchange rate mechanism (ERM). Exchange rates were based on central rates against the ECU, the European unit of accounts, which was a weighted average of the participating currencies. A grid of bilateral rates was calculated on the basis of these central rates expressed in ECUs, and currency fluctuations had to be contained within a band of 2.25% either side of the bilateral rates, except the Italian lira, which was allowed to fluctuate within a band of 6%.

The report of the Delors Committee of April 1989 set to achieve EMU in three stages. The first stage was to step up cooperation framework between European

central banks, the second stage was focused on the progressive transfer of decision-making on monetary policy to supranational institutions and the establishment of a European System of Central Banks (ESCB), and in the third stage, the national currencies would have their convergence rates irrevocably fixed and would be replaced by the European single currency. The European Council in Madrid adopted the Delors report in June 1989 as a basis for its work and decided to implement the first of these stages from July 1, 1990, when capital movements in the Community would be liberalised completely. The Council then decided to convene an intergovernmental conference to prepare the amendments to the Treaty of Rome, which was signed on March 25, 1957 and established the European Economic Community (EEC), in view of the development of EMU. Approved by the European Council of December 1991, the amendments proposed by the intergovernmental conference were incorporated in the Treaty on European Union, best known as the Maastricht Treaty, which was signed at Maastricht, the Netherlands on February 7, 1992 and entered into force on November 1, 1993. The Treaty's EMU project was based on the general outline of the Delors report but differed from it on some significant points. In particular, the second stage was delayed until January 1994 and some objectives for the second stage, e.g., the transfer of responsibilities for monetary policy to a supranational body, were excluded or trimmed down.

The first stage of EMU began on July 1, 1990 and ended on December 1, 1993 when the process of the single market was completed. The second stage of EMU began on January 1, 1994 and ended on December 31, 1998. An important monetary institution, the European Monetary Institute (EMI) and the predecessor of the European Central Bank, was established at Frankfurt. The tasks of the EMI were to strengthen cooperation between the national central banks and the coordination of Member States' monetary policies, and to carry out the necessary preparatory work for the establishment of the European System of Central Banks (ESCB), which was to conduct the single monetary policy from the beginning of the third stage, and for the introduction of the single currency. On May 31, 1995, the European Commission Green Paper was drawn on the practical arrangements for the introduction of the single currency. The European Council, meeting in Madrid on December 15 and 16, 1995, confirmed that the third stage of EMU would commence on January 1, 1999, in accordance with the convergence criteria, timetable, protocols and procedures laid down in the Treaty establishing the European Community. The European Council considered that the name of the currency had to be the same in all the official languages of the European Union, taking into account the existence of different alphabets, being simple and to symbolise Europe. The European Council therefore decided that, as of the start of stage three, the name given to the European currency would be "euro". This name was meant as a full name, not as a prefix to be attached to the national currency names.

In order to be able to participate in the euro area, each Member State must satisfy four criteria. (a) Price stability: The inflation rate of a given Member State must not exceed by more than  $1\frac{1}{2}$  percentage points that of the three best-performing Member States in terms of price stability during the year preceding the examination of the situation in that Member State. (b) Government finances: The

ratio of the annual government deficit to GDP must not exceed 3% at the end of the preceding financial year. If this is not the case, the ratio must have declined substantially and continuously and reached a level close to 3% or, alternatively, must remain close to 3% while representing only an exceptional and temporary excess. The ratio of gross government debt to GDP must not exceed 60% at the end of the preceding financial year. If this is not the case, the ratio must have sufficiently diminished and must be approaching the reference value at a satisfactory pace. (c) Exchange rates: The Member State must have participated in the exchange-rate mechanism of the European monetary system without any break during the two years preceding the examination of the situation and without severe tensions. In addition, it must not have devalued its currency on its own initiative during the same period. (d) Long-term interest rates: The nominal long-term interest rate must not exceed by more than 2 percentage points that of, at most, the three best-performing Member States in terms of price stability. The period taken into consideration is the year preceding the examination of the situation in the Member State concerned.

To clarify the process of introducing the single currency, the European Council adopted the scenario for the changeover to the single currency, which was based on the draft prepared at its request by the Council, in consultation with the Commission and the EMI. The reference scenario comprised three successive phases that take account of users' capacity to adjust. Phase A was the launch of Economic and Monetary Union. On May 1 and 2, 1998 the Council, meeting at the level of the Heads of State or Government, designated, in accordance with the procedure laid down by the Treaty, the Member States which had achieved a sufficient degree of convergence to participate in EMU. Data for 1997 formed the basis of this "transition examination". In May 1998 the Council announced the bilateral parities between participating currencies. Phase B was effective start of Economic and Monetary Union. Phase B, and with it the third stage of EMU, began on January 1, 1999 with the irrevocable fixing of conversion rates among currencies of participating countries and against the euro. This phase has a three-year duration. From this point on, the euro became a currency in its own right and its external value was that of the official ECU basket, which ceased to exist. The ESCB, which was established on July 1, 1988 and composed of the European Central Bank (ECB) and the national central banks, become operational to formulate and implement monetary and exchange-rate policy in euros. Large-value payment systems started to operate in euros and new issues of public debt to be denominated in euros. However, the euro remained a book currency only, notes and coins in circulation were still denominated in the national currencies. Phase C was general introduction of the single currency. On January 1, 2002, euro notes and coins started to circulate alongside national notes and coins; national notes and coins were gradually withdrawn.

The start of the third stage of EMU on January 1, 1999 marked the effective beginning of economic and monetary union. It was from this date that the ECU ceased to be a basket of currencies and became a currency in its own right, in the form of the euro. In economic terms, the implementation of EMU increased convergence of policies, with reinforced multilateral surveillance and an obligation on

the euro-area Member States to avoid excessive government deficits. In monetary terms, the implementation of EMU gave birth to a single monetary policy managed by ESCB consisting of the ECB and the national central banks. Finally, most importantly and symbolically, the implementation of EMU introduced the euro as the single currency of the participating countries in Europe.

The irrevocably fixed conversion rates between the euro and the currencies of the Member States adopting the euro were determined and adopted on 31 December 1998. As regards Greece, which adopted the single currency on 1st January 2001, the Council fixed the conversion rate of the Greek drachma on 19 June 2000. The conversion rates are presented in Table 2.2.

**Table 2.2.** Conversion rates of the euro and national currencies

1 euro =	Exchange rate	Former national currency
-	40,3399	Belgian francs
-	1,95583	German marks
-	340,750	Greek drachmas*
-	166,386	Spanish pesetas
-	6,55957	French francs
-	0,787564	Irish pounds
-	1936,27	Italian lire
-	40,3399	Luxembourg francs
-	2,20371	Dutch guilders
-	13,7603	Austrian schillings
-	200,482	Portuguese escudos
-	5,94573	Finnish marks

\* applicable from 1st January 2001

Source: ECB

Currently three European Union members, Denmark, the UK, and Sweden, do not adopt the euro. These member states are euro zone “pre-ins” while the adopting countries are euro zone “ins”. A new exchange rate mechanism (ERM II) has been set up to guarantee monetary stability and solidarity between the euro and the national currencies of the “pre-ins”. Nine new members of the European Union are set to join the euro from 2009 to 2014. They are, according to time sequence, Slovakia, Lithuania, Estonia, Bulgaria, The Czech Republic, Hungary, Latvia, Poland and Romania.

It is worthwhile mentioning that the euro is not the first single currency in monetary history. The United States experienced some kind of currency unification on its territory since its independence from the United Kingdom in the 18<sup>th</sup> century. In 221 BC, Qin Shi Huang (first emperor of the Qin dynasty) unified the currencies and other measurement systems in the then alleged central domain of all lands, where hundreds of states and duchies existed, which were reduced to seven

larger states by the time of Qin Shi Huang's unification. A unified currency, together with other unified measurement systems, has played important roles in holding this vast land together for over two millennia almost continuously. Presently, there are a few currency unions in operation, e.g., East Caribbean Currency Union (ECCU) and Western Africa Economic and Monetary Union (WAEMU). Some other single currencies have been proposed and their feasibility has been examined as well. Although it is not sure whether these exercises, experiments and discussions may lead to the implementation of a single currency in the area concerned, there is no doubt that a currency area must be large enough so that the internal economic activity within the area is substantially greater than the external economic activity conducted with the outside world to reduce costs and inconvenience. A size of the United States, the People's Republic and the European Union can be appropriate and feasible in this sense, which, though, does not rule out the functioning of a small number, and only a small number, of special currencies, such as the Swiss franc.

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