**FOR AGENDA**



SM/86/20

February 3, 1986

To: Members of the Executive Board

From: The Secretary

Subject: A Comparative Analysis of the Functioning of the SDR and the ECU

Attached for consideration by the Executive Directors is a paper on a comparative analysis of the functioning of the SDR and the ECU which has been scheduled for discussion on Wednesday, February 26, 1986, together with the paper on the potential contribution of the SDR to economic stability (SM/86/17, 1/29/86).

Mr. Coats, Jr. (ext. 8249) is available to answer technical or factual questions relating to this paper prior to the Board discussion.

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Department Heads

INTERNATIONAL MONETARY FUND

# A Comparative Analysis of the Functioning of the SDR and the ECU

Prepared by the Treasurer's Department

(In consultation with the European, Exchange and Trade Relations and Research Departments)

Approved by W. O. Habermeier

February 3, 1986

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## I. Introduction

As part of the Fund's present review of the role of the SDR in the international monetary system, 1/ Executive Directors have expressed interest in a comparison of the functioning of the SDR and the ECU (European Currency Unit). Such a comparison could be useful, as one element among many, in assessing the evolution of the SDR and in considering its potential role in contributing to the stability and performance of the international monetary system, which is the subject of a companion paper. 2/

The terms "SDR" and "ECU" have come to have various meanings, as financial instruments, as the units by which those instruments and transactions in them are valued, and as units used for other purposes. The valuation characteristics of each are common to all of the purposes these units may serve and are discussed first in Section II of this paper. Section III examines the functioning of the official reserve assets created respectively in the context of the operations of the European Monetary System (EMS) and by the Fund, that is, the "official ECU" and the "official SDR". Section IV reviews the development of private market instruments denominated in the ECU and the SDR. Section V provides a summary and raises questions that might be discussed by Executive Directors in considering the potential role of the SDR in contributing to the stability of the international monetary system. An appendix provides additional information on the use of the ECU and SDR as units of account and as financial instruments, official and private, as background to this paper.

## II. Valuation of the ECU and SDR

### 1. Functions as units of value or account

The purposes the ECU and the SDR may serve as units of value or account are not necessarily the same as the purposes served by the instruments denominated in them. The ECU, for example, serves quite different functions as the unit of account for the European Communities (EC), as the numeraire for expressing central rates used in the exchange rate mechanism of the EMS, as the unit in which EMS intervention credits are denominated, and as the unit in which various financial assets and

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1/ See "The SDR--A Program of Studies" (SM/85/166, 6/11/85), Minutes of Informal Sessions 85/2 and 85/3 (6/26/85), and the Communiqué of the Interim Committee of the Board of Governors of the International Monetary Fund, Joint Press Release No. 85/33 (10/7/85).

2/ See "The Potential Contribution of the SDR to Economic Stability" (SM/86/17, 1/29/86).

obligations, both official and private, are denominated. 1/ Similarly, the SDR serves different functions as the Fund's unit of account and unit of value for Fund transactions, as the unit in which the official reserve assets created by the Fund are denominated, as a unit to which members' exchange rates may be pegged, and as the unit of account for certain international organizations, conventions and treaties. Distinguishing the ECU's and the SDR's roles as units of account or as numeraire for pegging exchange rates from their functions as financial instruments may be of help in understanding the past development of the SDR and considering its possible future role in contributing to the stability of the international monetary system.

The ECU, created in 1979 and replacing the European Unit of Account (EUA), is part of a system designed with the objective of creating closer monetary cooperation among the EC member states and fostering a zone of monetary stability in Europe. 2/ The ECU and the EMS exchange rate arrangements of which it is a part have a regional and integrative role in fostering convergence in the economic policies and performance of the member states. In the EMS, the ECU functions as the numeraire for the expression of the central rates for members' currencies and as the reference point for the EMS "divergence indicator," which acts as a signal of the presumptive need for corrective policy action by a participant. The ECU is the unit of value in which EMS intervention credits and other credit facilities of the EC are denominated. It is also the unit of account for EC institutions and the unit of value for many transactions by EC entities. As the common unit for the European Communities and the EMS, the ECU is intended to reflect the values of, and in the view of some could ultimately replace, under a new definition, European national currencies.

The SDR, which has existed since 1969, is a global unit and as such can provide a relatively stable unit of value in terms of currencies in general when one unit is needed on a worldwide basis. It serves as the unit of account and value for all of the Fund's transactions and operations, and is the unit in which members' financial obligations to and claims on the Fund are denominated. The SDR has also been adopted as the unit of account by a number of international entities in place of gold or national currencies. While the currencies

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1/ As of end-January 1986, the member states of the European Communities (EC) are: Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, and the United Kingdom. With the exceptions of Spain and Portugal, which have joined the EC only recently, the central banks of all of these countries are members of the EMS and their currencies are included in the ECU. All EMS members are now parties to the EMS swap mechanism, but Greece and the United Kingdom do not participate in the EMS exchange rate arrangements.

2/ See conclusion of the Presidency of the European Council of July 6 and 7, 1978, reproduced in Commission of the European Communities, European Economy, No. 3 (July 1979), p. 93.

of a few smaller Fund members are pegged to the SDR, the SDR does not serve as the numeraire of a generalized system of exchange rates, as does the ECU in the context of the EMS, although it could serve that function should members' exchange arrangements call for such a numeraire.

As composite units of value, the ECU and SDR both provide holders of financial assets and liabilities denominated in them with potential hedges against exchange risk and channels for diversification of exposure among currencies. They potentially lower the cost of international financial dealings in an environment of widespread exchange rate instability and inadequate forward cover, especially for outlying years.

## 2. Valuation

The methods presently used for determining the values of both units relative to currencies are similar in a number of technical respects. Both are defined as fixed amounts of a number of national currency units, which are valued at prevailing (changing) market exchange rates. 1/ That is, they are so-called "standard baskets," a valuation technique used in connection with the SDR since 1974, following the general move to floating exchange rates, and subsequently adopted for valuing the ECU. The definitions of the valuations of both units are governed by rules with respect to the number and selection of currencies, the determination of their initial weights, and the frequency of or occasions for changes in their amounts. For both baskets, movements in exchange rates result over time in changes in the weight of each component currency as compared with the weights originally assigned. Revisions of the currency amounts in the baskets are therefore needed from time to time if the original weights, or weights reflecting certain criteria, are to be maintained. (Further detail on the definition of the baskets and provisions for change is provided in Appendix Sections I.1.b. and II.1.b.)

The ECU and SDR baskets can in principle be replicated in the private market, by investing in the correct relative amounts of the component currencies. In practice, however, it may be impossible, because of exchange restrictions, capital controls, or other factors, to invest in one or more currencies in the baskets in the amounts and maturities needed to compose the baskets. 2/ Therefore, the use of these units makes it possible to obtain, in effect, the approximate behavior of the value of some currencies or financial instruments denominated in them that are otherwise difficult or impossible to obtain. The baskets may thus represent valuations that are unique and

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1/ The Fund's Articles of Agreement do not prescribe a particular method for the valuation of the SDR but include provisions establishing majorities required for determination of the method by the Fund.

2/ Also, revisions of the currency amounts in the baskets may give rise to a need for banks covering a position in the unit to make adjustments in the composition of their individual currency positions, leading to additional costs and inconvenience of covering operations.

independent, in the sense that they are not simply replicas of what could be obtained in other ways. By the same token, use of a basket means that the transactor or investor must accept as part of the valuation of the unit the behavior of all of the currencies included in the unit's definition, even if one or more of these currencies is not relevant to his purposes.

The values of each of the units and of assets and liabilities denominated in them reflect an averaging of the market values of the specific currency amounts included in each basket. In view of the regional and integrative role of the ECU, generally all currencies of members of the EC, and only those currencies, are included or to be included in the ECU basket. 1/ Given the SDR's global role, the currencies included in the SDR basket are the most important in the world's economic and financial system, and on practical grounds it has been decided to limit their number to the currencies of the five members having the largest exports. Reflecting these differing orientations, the compositions of the ECU and the SDR differ in two particularly notable respects: (i) the SDR basket contains the U.S. dollar and the Japanese yen, while the ECU basket does not but includes other currencies that are not in the SDR basket; and (ii) most of the currencies included in the ECU basket are part of a mechanism designed specifically to stabilize exchange rates among the participating currencies, while the currencies in the SDR basket are generally not related by such a mechanism.

These differences have consequences for the behavior of each unit's value in terms of currencies, which affect their stability and hence usefulness in various situations. Assessments of the units' behavior in terms of currencies depend on the purposes for which the units are used--e.g., as hedges, instruments of diversification, currency pegs--and the standard or viewpoint from which the assessment is made. For example, using the U.S. dollar as one standard of comparison, the ECU and SDR declined in value from January 1979 to December 1985 by 6.9 and 2.7 percent per annum, respectively. Their respective coefficients of variation for monthly observations over the same period were 0.24 and 0.10. The SDR's current U.S. dollar value is virtually unchanged from that of 1971. Using the Deutsche mark (the currency with the largest weight in the ECU) as the standard of comparison, the ECU declined in value from January 1979 to December 1985 by 1.8 percent per annum while the SDR rose in value over that period by 2.2 percent per annum. Their respective coefficients of variations for monthly observations over the same period were 0.05 and 0.09. Further information on the value of the ECU and SDR in terms of major currencies is provided in Appendix Sections I.1.c and II.1.c.

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1/ Portugal and Spain have been members of the European Economic Community since January 1, 1986, but the escudo and the peseta have not yet been included in the ECU basket. The inclusion of these currencies will be considered on the occasion of the next five-yearly review of the weighting of the currencies in the ECU.

## III. Official ECUs and SDRs

The official ECU and the official SDR are reserve assets having a number of important features in common. The values of both assets are, as discussed above, set administratively, on the basis of the market values of baskets of currencies. Their interest rates are also set administratively, on the basis of the interest rates on financial instruments in the domestic markets of countries whose currencies are included in the valuation baskets. Their holders are all official entities. Neither official asset can be used directly for intervention in exchange markets, 1/ but they can be exchanged for currencies used for intervention. Both can be used in official settlements, including the settlement of intervention credits extended under the EMS exchange rate arrangement. However, there are also considerable differences between the two assets, as discussed below, which may be of greater interest than their common features in assessing the evolution of the SDR.

### 1. Purposes

The official ECU is designed to support the exchange rate arrangements of the EMS and is used primarily, though not exclusively or extensively, in settling loans of currencies made available through the EMS' Very Short-Term Financing Facility (VSTF) for obligatory exchange market intervention. Although not designed as a supplement to reserves from a global perspective, the creation of ECUs serves to increase the usability of the reserves of participating countries, by temporarily transforming a portion of their gold holdings into an asset that can be used, under certain circumstances, without sale of the gold.

The official SDR is designed as a supplement to international liquidity, intended to improve the functioning of the international monetary system generally. 2/ It is an element of the collaborative effort of the Fund's membership to pursue their general interest in smoothly functioning international monetary arrangements. The SDR may also serve as an instrument for diversifying the composition of official reserves.

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1/ This does not apply to official holdings of private ECUs and SDRs, and it is understood that there has been some intervention using private ECU.

2/ For a more detailed discussion of the SDR's historical role in the international monetary system, see "Implications of Changes in the International Monetary System for the Role of the SDR" (SM/85/340, 12/27/85).

## 2. Supply

### a. Creation and amount

Official ECUs are created by means of revolving three-month swaps of gold and U.S. dollars between EMS members and the European Monetary Cooperation Fund (EMCF). 1/ In principle, ECU creation does not entail an increase in total international reserves, when defined to include gold valued at market prices, as the swap mechanism involves only the substitution of alternative forms of reserve assets. To the extent that EMS members are more prepared to use these ECUs than they are to use the gold swapped for them, however, the creation of ECUs does effectively increase the quantity of reserves that may be regarded as liquid in certain circumstances.

SDRs are created (or cancelled) by the Fund by means of allocations (or cancellations) in proportion to members' quotas, if and when it is determined by members representing at least 85 percent of the Fund's voting power that there is a global need to supplement (or reduce) international liquidity. By themselves, allocations add a like amount to the stock of owned reserves. However, the access of many countries to international capital markets, which enables them to hold the level of gross reserves they desire (at a price), means that an SDR allocation may result in part in a change in the composition of global reserves (toward more owned and less borrowed reserves), rather than an increase in the total amount outstanding.

Given the mechanism for creating them--swaps of gold and U.S. dollars--the volume of ECUs outstanding is determined by four variables, at least the first two of which are not exclusively within the control of EMS members or the Community in general: the price of gold, the exchange rate of the U.S. dollar, the respective amounts of these two assets in members' reserves, and the proportions of members' holdings swapped for ECUs. 2/ It has been noted by the Commission of the EC that this mechanism may not result in a quantity of ECUs over time that is consistent with the needs of countries participating in the exchange rate arrangements of the EMS. 3/

The volume of SDRs held in members' reserves is regulated by specific decisions of the Fund regarding the amount of allocations and the level of the Fund's own holdings of SDRs. Since the last allocation in January 1981, non-gold reserves held by participants in the SDR

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1/ The swap mechanism itself is periodically renewed by unanimous agreement of the EEC central banks.

2/ While swaps must consist of a minimum of 20 percent of participants' gold and 20 percent of U.S. dollar holdings, participants may engage in larger swaps for ECU on a voluntary basis. This has not been done so far. See Ungerer, H., "The European Monetary System: The Experience, 1979-82," IMF Occasional Paper No. 19 (May 1983), p. 16.

3/ European Commission, European Economy, No. 12 (July 1982), p. 44.

Department have increased by about SDR 67 billion (end-November 1985), which suggests a sizable growth in the demand for reserves. Nonetheless, there have been no allocations of SDRs since 1981, so that the growth in reserves over this period has taken forms other than SDR allocations.

The amounts of ECUs and SDRs in world reserves, and their size in relation to participants' non-gold reserves and imports, are given in Table 1 below. Over the period since 1981 (i.e., since the last SDR allocation) as a whole, their respective supply mechanisms have resulted in slight reductions in the ratios of official ECU holdings to non-gold reserves of EMS members and of official SDR holdings to non-gold reserves of Fund members. (For the SDR, the pattern of members' holdings reflects in part substantial payments of SDRs to the Fund in connection with the increase in quotas in 1983 and subsequent reductions in the Fund's SDR holdings). The ratio of official ECU holdings to EMS members' imports (expressed in numbers of weeks) shows no clear trend, while the comparable ratio for the SDR has remained relatively stable at a very low level.

Table 1. ECU Holdings of Members of the EMS, 1/ and SDR Holdings of Participants in the SDR Department

(End of period)

| | 1981 | 1982 | 1983 | 1984 | 1985 est. |
|---|---|---|---|---|---|
| 1. Amount in reserves (billions of SDRs) | | | | | |
| ECU | 35.5 | 37.1 | 42.0 | 38.0 | 37.8 |
| SDR | 16.4 | 17.7 | 14.4 | 16.5 | 18.2 |
| 2. Share of non-gold reserves (percent) | | | | | |
| ECU | 34.2 | 38.3 | 38.3 | 33.7 | 33.5 |
| SDR | 5.0 | 5.4 | 4.0 | 4.1 | 4.6 |
| 3. Weeks of imports | | | | | |
| ECU | 3.4 | 3.5 | 3.9 | 3.3 | 3.7 |
| SDR | 0.5 | 0.6 | 0.5 | 0.5 | 0.6 |

1/ Excluding Greece, which has participated in the EMS swap mechanism since early 1986.

In contrast to official ECUs created by swaps of gold and U.S. dollars with the EMCF, activation of the EMS intervention credit facilities gives rise, temporarily, to additional amounts of ECU-denominated official assets and liabilities. Similarly, apart from official SDRs allocated by the Fund, the Fund's financial operations give rise to a substantial volume of SDR-denominated, officially held, claims on the Fund which also form part of members' reserves, and to substantial SDR-denominated obligations of members to the Fund. At the end of 1985, members' reserve claims on the Fund, consisting of reserve tranche positions and loan claims on the Fund, amounted to nearly SDR 40 billion. Fund credit outstanding (including Trust Fund loans), which represents members' SDR-denominated debt to the Fund, amounted to some SDR 38 billion on the same date. These figures compare with the amount of SDR 18.2 billion of official SDRs held in members' reserves.

b. Distribution of official ECUs and SDRs

The initial distributions of the amounts of official ECUs and SDRs also reflect different criteria. ECUs are distributed through the swap mechanism in proportion to participants' gold and U.S. dollar holdings. To the extent these holdings are determined in part by the policies and preferences of EMS members themselves, initial ECU distributions will similarly reflect these factors. SDR allocations are distributed in proportion to participants' quotas in the Fund, which are not necessarily related to each individual participant's reserve demands, certainly not in the short run. However, as quotas do tend to reflect the economic size and trade of Fund members, they include factors generally regarded as relevant to longer-term demand for reserves.

### 3. Interest rate and other investment characteristics

In order to remunerate countries that accumulate net balances of ECUs or SDRs, and to provide these official assets with yields comparable to other reserve assets, interest is paid on a net basis on holdings of these assets in amounts above those received in allocations (or swaps). The techniques used are similar for the ECU and the SDR: interest payments are financed by charges at the same rates on the amounts by which other countries' holdings are below their allocations (or swaps). Both the ECU's and the SDR's interest rates are now calculated as weighted averages of rates on high-quality, short-term (three months or less) instruments in the financial markets of the countries whose currencies comprise each valuation basket (see Chart 1). 1/ Thus the interest rates of both assets automatically reflect the behavior of the market interest rates on relevant instruments in the component currencies. They cannot behave independently of the rates on the underlying instruments and thus do not necessarily reflect any special investment characteristics of the ECU and the SDR.

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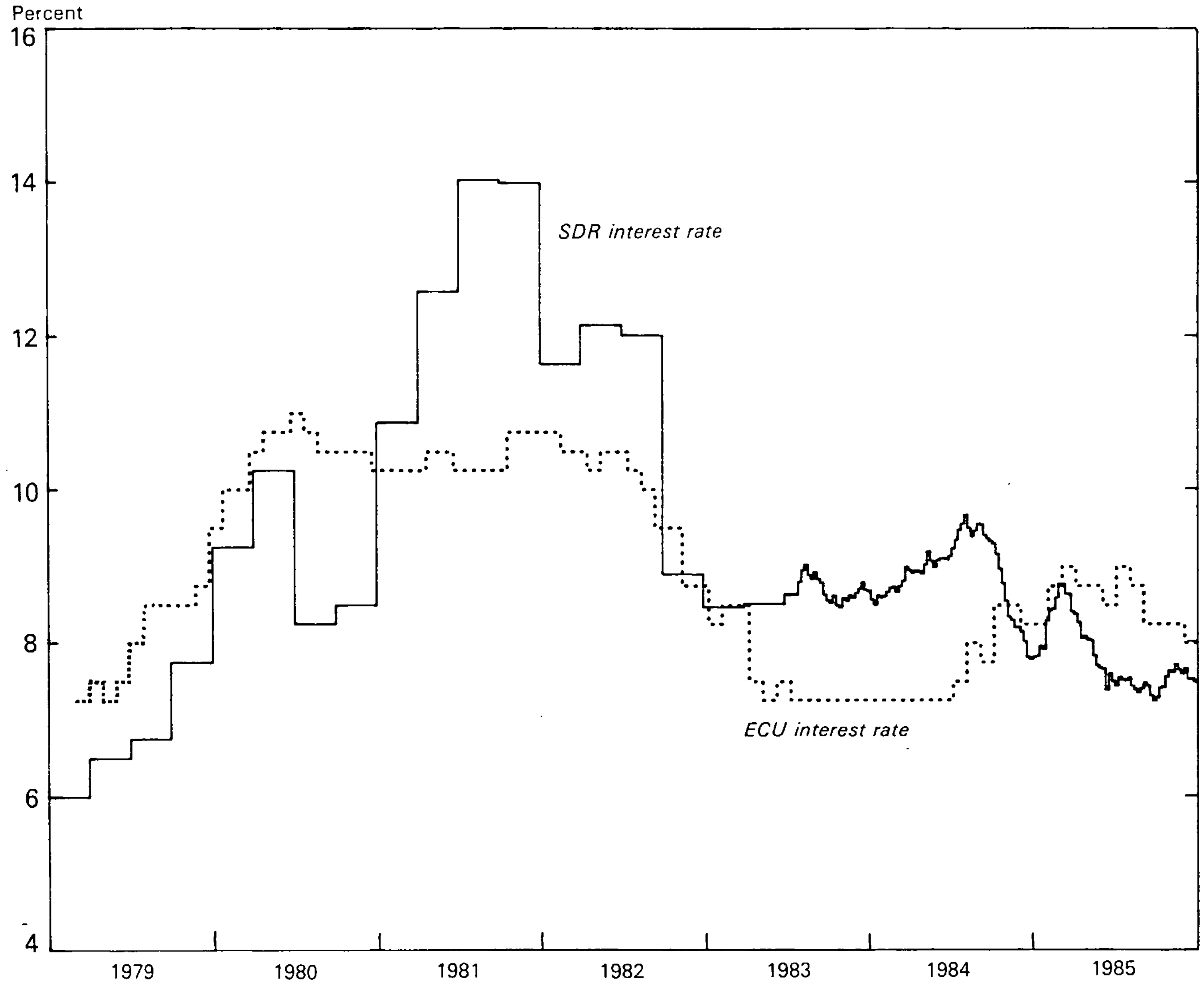
1/ Prior to July 1985, the ECU interest rate was based on official discount rates. For further detail on the ECU and SDR interest rates, see Appendix Sections I.3.c. and II.3.c.

CHART 1

# THE OFFICIAL ECU AND SDR INTEREST RATES, 1979 - DECEMBER 1985



The official ECU and the official SDR each have only one valuation and one interest rate, i.e., each is a single, unique asset. In addition, both assets are without a specific maturity 1/ and thus cannot replicate fully the characteristics of fixed interest and fixed-term financial instruments with which they might compete in reserve portfolios; nor can the investment of currencies to replicate the ECU or SDR provide a full substitute for the units themselves, as currency investments are usually dated.

Equilibrium between the supply of and demand for assets with fixed interest returns is maintained through variations in the prices at which they trade in the market. In this way, the effective yields on previously issued instruments are continuously adjusted to changing market conditions, making them competitive with yields on new issues. A similar adjustment cannot, however, take place in the price of the official ECU or the official SDR as they are currently valued, since these assets are not allowed to be traded at a discount from or premium over their administratively established values. Their interest rates are, however, kept close to the market rates for instruments in the component currencies by adjusting the rates frequently (weekly for the SDR and monthly for the ECU). This provides a partial, but not complete, substitute for pricing the ECU or SDR in foreign exchange markets as a technique for maintaining a competitive yield on these assets. 2/

4. Transferability and use

The ability of participants in the exchange rate arrangements of the EMS and in the SDR Department of the Fund to use both official assets is assured under certain circumstances, related to the purposes of the assets, by the obligations of other members to accept them in those circumstances. ECUs may be used up to a limit to settle obligations arising from intervention required by the EMS exchange rate mechanism and financed by the use of the VSTF. Since July 1, 1985, ECUs may also be used for limited periods by members of the EMS as collateral, in the form of swaps, to acquire currency for intervention purposes. Participants in the SDR system are obligated to accept in exchange for freely usable currency, in transactions with "designation," SDRs from other participants having a balance of payments need to use reserves. SDRs may also be used to settle obligations to the Fund.

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1/ While the stock of official ECUs is adjusted quarterly as a result of the three-month swaps that create them, the use of these ECUs need not ever be reversed unless a member's holdings becomes negative, which could result from a new swap reducing the amount of ECU distributed on a renewal date below the amount used by a member. In fact, however, members have tended to reconstitute their ECU allocations.

2/ The Fund can prescribe "operations" in SDRs that allow use of market-determined interest rates and exchange rates. It has done so with respect to loans, swaps, and forward dealings in SDRs. Further possibilities are discussed in "Simplification of Operations in SDRs," (SM/83/187, 8/15/83). No comparable possibilities presently exist for the ECU.

For both the ECU and the SDR, the obligations of participants to accept these assets, which obligations are the primary basis for insuring the instruments' liquidity, are limited in amount as well as circumstance. These limits are referred to in both cases as "acceptance limits" but operate in different ways for the two assets. 1/ The ECU's acceptance limit constrains the extent to which ECUs can be used by a participant on an individual occasion, normally to 50 percent of the amount of VSTF credit to be settled, 2/ but does not limit the aggregate amount a participant may be obligated to hold. The SDR's acceptance limit relates not to specific transactions but is such that a participant is obligated to accept SDRs only in amounts that will not raise its holdings beyond 300 percent of its allocation. The ECU's acceptance limit thus operates so as to constrain the use of ECUs by a participant when settling its obligations. The SDR's acceptance limit does not constrain the extent of a participant's use of SDRs in transactions with designation, and such use, given the existence of a balance of payments need to use reserves, may be up to the full amount of its holdings.

In addition to uses assured by participants' acceptance obligations, official ECUs and SDRs can be transferred voluntarily against a currency agreed between the parties to the transfer. Voluntary uses of SDRs have also been extended to a number (presently 14) of international official entities, so called "other holders," and the EC has set up a framework providing certain non-EC monetary entities with the possibility to acquire ECUs in swaps or under repurchase agreements from EMS participants. In addition to transactions by agreement, the Fund has adopted a series of decisions to permit the uses of SDRs among participants or participants and other holders in swap arrangements, in forward operations, in loans, in pledges, in the settlement of financial obligations, as security for the performance of financial obligations, and in donations.

Beyond uses among participating members or other holders, official SDRs are used extensively in financial dealings between the Fund and its members which generally have no counterpart in the arrangements of the EMS. Remuneration of reserve tranche positions in the Fund is generally paid in SDRs, and SDRs are used, along with currencies, to finance drawings on the Fund; the Fund is also prepared to sell SDRs to participants needing them to pay charges in the SDR Department and in the General Department. Participants must use SDRs in payment of charges to the Fund and, unless decided otherwise, in payment of the reserve asset portion of quota payments. SDRs may also be used in discharge of repurchases. These uses of SDRs to discharge obligations to the Fund entail an additional element of transferability for the SDR and account for a substantial part of the SDR's uses.

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1/ For details, see Appendix Sections I.3.d and II.3.d.

2/ Since July 1, 1985, the 50 percent acceptance limit is waived if and to the extent that the recipient central bank is itself a net debtor in ECUs.

Such possibilities do not at present exist for the ECU, although they could arise should the EMS institutional arrangements evolve in that direction. The use of ECUs, both in absolute amounts and relative to the amount held, has been small and has tended to decline in recent years. Most uses of ECUs have been related to the settlement of intervention credits extended through the VSTF and have generally been reversed. The bulk of exchange market interventions by EMS participants has occurred before exchange rates have reached their permissible margins and has consequently not involved the use of VSTF credit nor, therefore, the use of ECUs in settlement.

As can be seen in Table 2, the official SDR has been used in large amounts, particularly in relation to the amounts in existence, and that use has risen over the years. By far the largest volume of uses consists of transfers between the Fund and participants, reflecting the growing scale of the Fund's financial dealings with its members in recent years. With respect to SDR transfers among participants, transactions with designation have fallen as a proportion of total SDR transfers and are now less in amount than SDR transactions by agreement, which have grown considerably as a proportion of total SDR transfers.

Table 2. Annual Average Transfers of SDRs

(In millions of SDRs)

| | 1970-75 | 1976-78 | 1979-81 | 1982-84 | 1985 |
|---|---|---|---|---|---|
| Total transfers | 1,162 | 4,019 | 7,692 | 16,201 | 15,918 |
| Of which: | | | | | |
| Transactions: | | | | | |
| With designation | 261 | 446 | 1,458 | 2,638 | 1,950 |
| By agreement | 377 | 960 | 520 | 2,255 | 2,593 |
| Ratio of use to amount outstanding | .12 | .43 | .44 | .76 | .74 |

The official ECU's relatively modest use in comparison with that of the official SDR reflects in substantial part the more limited circumstances in which its use is envisaged or possible under present EMS arrangements, including the absence of transfers of the asset between the EMCF and its participants such as those that take place between the Fund and participants in the SDR Department. As has been noted above, several steps were taken in 1985 to strengthen the ECU's attractiveness and usability, by raising its interest rate to levels prevailing in markets of the component currencies, broadening somewhat its uses and the range of potential holders, and relaxing the acceptance limits in certain circumstances.

It was originally intended that a second phase of the EMS would entail the creation of a European Monetary Fund (which would replace the European Monetary Cooperation Fund) as well as the full utilization of the ECU as a reserve asset and a means of settlement. Work on the second phase of the EMS began in the Committee of Central Bank Governors and the Monetary Committee soon after the start of the EMS. One of the main issues discussed was enhancing the role of the ECU in the EMS, including the possibility of replacing the present revolving swap arrangements for creating ECU with a permanent transfer of reserves to the European Monetary Fund (EMF).

In subsequent discussions, a more gradual approach to the development of the EMS has emerged. In early 1982, the European Commission submitted to the European Council a set of proposals intended to further the step-by-step development of the EMS in certain key areas, including three concerning development of the ECU: (i) the method of issue of ECUs, with the aim of limiting the volatility in the amount of ECUs created; (ii) abolition of the acceptance limit for the use of the ECUs in intra-EMS settlement of intervention debts; and (iii) increased private use of ECUs. 1/ Consideration of these proposals to date has resulted in certain improvements in the official ECU's attractiveness and usability noted above, though these fall short of those proposed.

It may not be precluded that at some point the ECU's continued development could make it a more prominent factor in the global volume of international reserves and reserve transactions. The development of the wider range of ECU-denominated financial instruments discussed in the following section may be of relevance in this context, as private ECUs can be held in countries' reserves and as the existence of large and well-developed ECU money and capital markets could enhance the attractiveness of the official ECU as a reserve asset.

## IV. Private ECUs and SDRs

### 1. Supply and demand

In a world characterized by exchange rate variability, greater exchange risk has led transactors to seek various means of cover. For some transactors and situations, currency composites like the ECU and SDR can provide an efficient and low cost hedge. Perfect cover can be obtained by matching the currency composition of assets and liabilities, or resources and obligations. For purposes of obtaining asset portfolio (liabilities) valuation characteristics similar to the units in which obligations (assets) are denominated, individualized baskets can be constructed and utilized. However, there are potentially significant advantages in using standardized composite units for denominating obligations and the assets that cover them, even if their composition does not fit precisely the needs of

1/ For the full text of the proposals, see European Economy, No. 12 (July 1982), Annex D, pp. 88-91.

individual users. This is because the complementary infrastructure that tends to accompany widening use (such as clearing arrangements for the unit's use in making payments) lowers transactions costs, and the wider range of similarly denominated financial instruments also tends to lower the cost of their use.

The use of the ECU for denominating financial obligations and traded goods in Europe has created a growing demand for financial instruments denominated in ECUs. Similarly, the adoption of the SDR in place of other units in a number of international conventions and agreements for establishing values, and by a number of international organizations as their unit of account and denominator of their financial dealings, has created some demand, but of a much smaller size so far, for financial instruments denominated in the SDR.

These uses of the two composite units have encouraged development of markets in "private" ECUs and to some extent "private" SDRs, i.e., financial instruments held and traded in the private sector (or at least outside the official domain of the EC or the Fund) whose values are denominated in ECUs or SDRs. Private ECUs and SDRs are usually created by changing the denomination of assets already in existence. A private ECU deposit, for example, can be created by a bank accepting currency and recording the value of the deposit in ECUs. The bank will generally wish to cover its newly created ECU liability by exchanging the currency deposited in a way that establishes an asset of the same value in terms of the ECU. If no true ECU assets are available or suitable, the bank may exchange the currency deposited for the ten EC currencies in the ECU valuation basket in the same proportions (a process referred to as "unbundling").

Private ECUs and SDRs are subject to market conventions and are not constrained by the rules governing the uses of the official assets. Their values are normally determined by reference to the same baskets of currencies as the official ones, at least when the open basket definitions are used. 1/ The European Commission has so far successfully encouraged use of the open basket definition of the ECU by private or official entities adopting the unit. While some lenders to the Fund (all are official entities) have an option to hold closed basket SDRs, this option has not been used and does not affect the use of the unit outside the Fund, which has not been restricted by the Fund in any way.

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1/ An "open" SDR basket, for example, is defined as consisting of whatever currency amounts are specified by the Fund as comprising the SDR basket at any time, whereas a "closed" SDR basket is defined as the currency amounts specified by the Fund at a particular point in time. A closed SDR basket can thus differ from the Fund's current definition of the SDR following a revision by the Fund of the currency amounts in the SDR basket.

The first private SDRs appeared in mid-1975 (a bond issue and bank deposit facility). The first ECU deposit (actually denominated in the ECU's identical predecessor, the European Unit of Account or EUA) followed a year later. Users of the ECU and the SDR in the private market initially experienced start-up costs and encountered (and to some extent still encounter) a number of legal or institutional problems such as restrictions as to the units in which contracts can be stated, limitations as to foreign exchange exposure, and the need to adapt contracts for the possibility that the composition of either basket could be changed, that one of the component currencies might not be available or that the value of a component currency could not be determined. For many, however, the potential benefits of using either unit appear to have outweighed the inconvenience of dealing with these problems, and, as the use of these assets developed and expanded, the associated costs and certain limitations imposed by governments were reduced.

It is estimated that by the end of 1981, some 40 to 50 banks were prepared to accept and manage SDR deposits and that such deposits amounted to some SDR 5-7 billion, net of interbank deposits. 1/ The largest depositors were private international corporations, especially oil companies, but a number of central banks and other official institutions also placed SDR-denominated deposits with commercial banks and with the BIS. Also by end-1981, SDR 563 million in SDR-denominated bonds had been issued, and five syndicated bank credits amounting to SDR 908 million had been extended. In contrast, by the end of 1981, ECU deposits are estimated to have been on the order of SDR 300 million, while ECU bonds and credits amounted to SDR 188 million and SDR 233 million, respectively.

Since that time, there have been no new SDR bond issues. Nor have there been new bank credits in SDRs following two SDR bank loans amounting to SDR 300 million in early 1982. Officially reported gross SDR deposits of Belgian, Luxembourg and U.K. banks and the BIS amounted to SDR 2.2 billion at the end of September 1985, about the same as at the end of 1983 (see Appendix Table 14). (The Fund's SDR-denominated investments, which are included in these figures, amounted to SDR 0.4 billion at end-September 1985 and SDR 0.9 billion at end-1983.)

The development of private ECU instruments has differed dramatically. A wide range of financial instruments and services has developed for the ECU which do not exist for the SDR. Private ECUs now include a variety of money market instruments, for which there is an active interbank market, syndicated bank loans, warrants, options, futures contracts, and Eurobonds with fixed or floating interest rates. By the end of June 1985, gross ECU bank liabilities had increased to SDR 33.3 billion, of which SDR 4.3 billion was due to non-bank clients, and ECU bonds issued, all of which are thought to be outstanding, amounted to some SDR 11.6 billion (see Table 3).

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1/ Although no comprehensive data on SDR deposits were collected at that time, it is estimated on the basis of conversations with market participants that about half of total SDR deposits were interbank deposits.

Table 3. ECU and SDR Denomination in Private Markets

(In millions of SDRs) 1/

| Instrument | end-1981 ECU | end-1981 SDR | end-June 1985 ECU | end-June 1985 SDR |
|---|---|---|---|---|
| Amounts outstanding | | | | |
| Bonds and notes 2/ | 188 | 563 | 11,647 | 60 |
| Bank deposits 3/ | 300 | 10,000-14,000 | 33,342 | 1,666 |
| Loans extended | | | | |
| Publicized syndicated loans 4/ | 233 | 908 | 4,114 | 1,208 |

Sources: Bank of England, National Bank of Belgium, BIS, ECU Newsletter (Instituto Bancario San Paulo di Torino), and Fund staff estimates.

1/ Where data were originally expressed in ECUs, they have been converted into SDRs using the exchange rates of the last business day of the period to which each figure pertains.
2/ ECU amounts reflect amounts of bonds issued, all of which are thought to be still outstanding in January 1986.
3/ Amounts for 1981 are rough estimates. See the footnote on page 14 as regards the amount of SDR deposits.
4/ All syndicated SDR loans have been repaid. Most syndicated ECU loans were made in the last two years and most of the amounts extended are thought to be still outstanding.

As the use of the ECU, and to a much lesser extent the SDR, as units of account have grown, and with it the demand for financial instruments denominated in these units, there has also tended to be an increase in the demand for payments in these units. In the case of the private ECU, payments have grown in volume to the point that a rather extensive, organized system for payments in that unit has been established. 1/

1/ See Appendix Section I.4.b.(1)(a).

## 2. Reasons for differences in market growth

The question arises why the supply of and demand for private ECUs has been so much greater than for private SDRs. Explanations vary, but the answer appears to lie to a considerable extent in the differing degree of support by each unit's "parent" and the member countries involved with it, certain characteristics of the units themselves, and the special capital market situation of certain EC members. These factors are discussed below.

### a. Official support

EC institutions and certain European governments have actively supported the use of the ECU in private markets through suasion, through market operations in the unit, and in some cases through preferential treatment. In proposals submitted to the European Council in April 1983, 1/ the European Commission stressed that the development of the role of the ECU is an essential factor for financial integration in the EC, both as a vehicle for increased transferability of financial assets within the Community and as an expression of emerging monetary union. The Commission proposed that the ECU be recognized as a foreign currency in all EC member states, that financial transactions in ECUs receive privileged treatment within the EC, that any new instrument for tapping savings introduced at Community level be preferably denominated in ECU, and that the official role of the ECU be enlarged. While these proposals have not been realized in full, progress has been made on important elements.

The European Economic Community (EEC), the European Investment Bank (EIB), the European Coal and Steel Community, EURATOM, and the Council of Europe Resettlement Fund have all launched bond issues in ECUs (all of which have used the open basket and required payment and servicing in ECUs) and have been active depositors in ECUs. The EIB has, in addition, extended part of its loans in ECUs and has made it a part of the loan agreement that the proceeds be deposited in ECU accounts, another important factor encouraging commercial banks to establish ECU-denominated accounts. The EC Commission also initiated the establishment of a banking group to study the possibility of a clearing institution in ECUs, which has led to the establishment of an ECU Banking Association whose immediate aim is to conclude an agreement with the BIS to set up a multilateral clearing system in ECUs.

All EC member countries except one have recognized the ECU as a foreign currency and some have taken certain steps to facilitate and promote use of the ECU in financial markets. For example, some member governments of the EC have been prepared to permit their citizens and companies to deal in ECUs to a greater extent than such permission has been forthcoming for dealings in other currencies or units. This freer

1/ For the full text of the proposals, see European Economy, No. 18 (November 1983), p. 183.

use of ECU in some countries has served as a part of a gradual approach to reducing capital restrictions and provides a temporary impetus to the growth in the ECU's use.

Also, in part stemming from the ECU's official status, interest in the ECU among private European residents may have a non-economic dimension that contributes to its popularity. It is the official unit of the EC, and each EC member's currency (presently with the exception of members that have joined only recently) is included in it. Europeans may therefore have both a national and a Community-wide interest in the unit of a sort that does not exist for the SDR. The SDR does not serve or reflect a tightly defined geographical area, nor would it appear that non-economic factors have stimulated private sector interest in its development.

The Fund has provided technical and legal assistance to international entitites interested in adopting the SDR as their unit of account. It has also simplified the valuation basket and unified it with the interest rate basket, in part to facilitate the development of SDR-denominated financial instruments in private markets. However, while the Fund has expressed interest in private uses of the SDR, it has not so far taken as active a role in promoting the SDR as has the EC with respect to the ECU.

It may be mentioned that commercial banks also play an increasingly important and independent role in promoting the private ECU. This represents a significant shift from banks' earlier activities in promoting development of the SDR and, to a large extent, may also represent a case of "success breeding success." Commercial banks' incentives and profits lie in developing and promoting what their customers want and find useful; they would presumably be similarly prepared to facilitate and promote private SDR instruments if they perceived a potential demand for such instruments by official or private entities.

b. Characteristics of the units

The most fundamental and durable source of demand for private ECUs and private SDRs comes from those for whom it is advantageous, convenient, or required to use one or the other unit for denominating, accounting or paying for their financial and commercial activities. Official EC demand and support appear to have been important factors fostering development of the private ECU, as discussed above. More generally, as a hedge against exchange risk for private transactors, no single unit will be best for all activities and purposes. A composite unit (which usually will not provide a perfect hedge) may be preferred to more exact but generally more costly hedging techniques if the value of the composite unit is expected to be relatively stable in relation to the units relevant to the parties using it. The particular success of the private ECU market may therefore be due in part to the facts that all of the ECU's component currencies are in a trading area consisting of countries with close economic ties, and that the operation of the EMS exchange arrangements and the ECU's composition tend to assure that the value of the ECU will remain reasonably stable in terms of most participating currencies compared with other units that might be used, such as the SDR. In the present environment, the EMS is seen as having achieved a growing degree of exchange rate stability among participating EC currencies; as a result, the exchange risk of the ECU may be perceived as modest or small in relation to the interest rate differentials that presently exist among these currencies. All ECU component currencies have been more stable in terms of the ECU than in terms of the SDR, and generally more stable in terms of the ECU than in terms of other EC currencies (see Appendix Section I.1.3).

The relative success of the private ECU compared to the private SDR may reflect in part a larger number of commercial dealings for which the ECU is a more natural unit than exist for the SDR. Given the importance of intra-European trade for most European companies, there may be more firms involved in regional European trade, for which the ECU might be a natural contracting unit, than are involved in trade on a worldwide scale and for which the SDR might be regarded as a more suitable unit. The ECU is more representative of European currencies and more stable in terms of these currencies than is the SDR or, in general, any single currency. Consequently, for European firms, the ECU may serve as a convenient unit involving only a small exchange risk in terms of their own domestic currencies, providing a mutually acceptable and low-cost (compared with the U.S. dollar, the SDR or other external units) compromise means of sharing exchange risk. For non-European firms, the ECU may serve as a good single proxy for EC currencies in general, diminishing exchange risks and operational costs involved in dealing with several European currencies.

From a more global perspective, the SDR's broader currency representation may offer an attractive unit for reducing or sharing exchange risks between, for example, U.S. dollar-based and European-based firms, as well as with firms whose operations are based on other non-European currencies or are worldwide. However, companies operating on a world scale often handle such large sums that either hedging in individual currencies or setting up a tailor-made basket becomes economically warranted. 1/

Similar considerations apply to the choice of units in which to denominate financial assets and obligations. While effective yields across currencies (adjusted for expected exchange rate changes) tend toward equality, there are likely to be perceived and real differences in the stability of yields as between instruments denominated in ECU, SDR or currencies. For many smaller investors, it may be infeasible or too costly to obtain foreign exchange cover, so that as a practical matter they must take an open position if they are to invest abroad. For risk averse investors, the choice of the unit of denomination will

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1/ See Karlik, J., "Some Aspects of Using the SDR to Invoice Private International Goods and Services Transactions" (DM/82/29, 4/23/82).

be influenced by the stability of its value in terms of the investor's own currency. The risk-return characteristics of the ECU may make it more attractive for many borrowers and lenders than transactions denominated in national currencies.

The incentive for capital to flow in response to interest rate differentials of course exists independently of the use of the ECU. The ECU may facilitate such flows, however, because, as already noted, the perceived exchange risk associated with it may be smaller than the risk associated with individual European currencies, and because of the preferential treatment that has been given to it by some EC members. In general, the ECU would tend to be preferred over the direct use of the relevant national currencies as the vehicle for residents of low interest rate countries to invest in countries with higher interest rates, if the ECU's yield is seen as more certain.

The risk and return relationship among EC currencies and the ECU may look quite different from that associated with U.S. dollar investments vis-a-vis the ECU or EEC currencies. During the first half of the 1980s, U.S. dollar-denominated financial instruments enjoyed a combination of high interest rates and strong appreciation of the dollar. Over this period, U.S. dollar investments yielded a very high effective return to foreign investors and attracted very large capital flows into the United States, which may have been, to some extent, at the expense of ECU-denominated investments.

The development of the private SDR may have suffered in the first half of the 1980s by comparison with U.S. dollar-denominated financial instruments for the same reason. In fact, to the extent capital movements within Europe motivated by longer-term business interests may be somewhat less sensitive to U.S. dollar or other external yields because of the concentration of intra-European commercial and financial relationships, the unusually high yields on U.S. dollar instruments and the consequent attraction of dollar investments may have affected the development of the private SDR more strongly than that of the private ECU. If this is so, a restoration of more normal yield relationships might tend to increase relative interest in SDR-denominated investments.

c. Capital and exchange controls and tax considerations

One EC member with controls on foreign investments has relaxed some of these controls with regard to the ECU. It will allow, for example, its residents to exchange domestic currency for private ECUs in order to acquire securities denominated in ECUs issued in the domestic market by EC institutions without having to use the "divise titre" rate of exchange, while such transaction are not allowed for the purpose of acquiring other foreign securities. It will also allow forward purchases of ECUs up to six months against payments for traded goods invoiced in ECUs. Such preferential treatment for the ECU adds a source of demand for private ECUs which is possibly transient but has presumably added to their growth. At the same time, some EC members restrict the holding of foreign currencies, including ECUs, by their residents, which would tend to limit the growth of ECU deposits.

EC members do not have uniform tax treatments of investment income. Thus a possible source of demand for ECU assets arises because the withholding tax of another EC member cannot be easily enforced on Euroinvestments, and individuals may acquire and hold some amount of their investments externally in order to escape taxation. This source of demand for foreign assets has often taken the form of demand for ECU assets because of their lower exchange risk, as already discussed. In addition, borrowing or investing in the ECU-denomination can provide access to the behavior of currencies that are otherwise unavailable, for example, because of exchange controls.

### 3. Prospects for further growth of private ECUs and private SDRs

Any prediction of growth in the ECU and SDR markets is highly uncertain. However, while recent growth of private ECU markets has been very rapid, it is possible that growth will moderate in the future of its own accord. Some part of the ECU's recent growth has probably been the result of a new "product" developing its sustainable market share. If so, as that process is completed, the ECU market would be more likely to grow at rates bearing a closer relationship to overall growth of financial markets. Some part of the ECU's growth is also probably a result of incomplete economic integration in Europe, exchange and capital market restrictions and the willingness of some EC member countries to give preferential treatment to dealings in ECU. To the extent that economic integration proceeds and controls are relaxed further, their special impetus to growth in private ECUs would diminish. Some controls, however, have tended to impede the ECU's growth, and relaxation of these controls could provide support for further development of the market.

The more enduring source of demand for private ECUs and SDRs is likely to come from their use for denominating all kinds of contractual obligations. The activities of the units' "parents"--the EC and its member countries, the Fund and its members--in creating demand for instruments denominated in these units, including their activities in the official ECU and SDR, will likely continue to be an important factor influencing overall demand. Apart from strong official impetus, the ECU, given its composition and regional context, may also be a natural or appropriate unit in more market situations than the SDR. Although the rate of growth of the ECU market may moderate, the market would now seem to have attained a reasonably firm basis in official interest and support, the ECU's characteristics, and the stage of development of the market itself.

Development of the private SDR, by contrast, has not been adopted as an objective of the Fund, and the SDR may also be too diffuse a hedge for many entities that are exposed to the risks of dealing with only a few currencies or that have no difficulty in constructing their own tailor-made basket. There are instances, however, where a single unit must be agreed upon on a worldwide basis by official or quasi-official bodies, or for use in arrangements and conventions and where a global unit rather than a national or regional unit is regarded to be more attractive or appropriate. The SDR has been adopted in a number of such cases, and these uses are a continuing basis for demand for private SDRs. That basis is at present modest, however, and there is little current indication that the private SDR market will begin to develop at a more vigorous pace.

## V. Summary and Questions for Discussion

As part of the Fund's examination of the role of the SDR in the international monetary system, this paper has compared the functioning of the ECU and the SDR as units of value and account, as official reserve assets, and as private financial instruments. The methods of determining the values of the two units in terms of currencies, which is of relevance to all of their functions, are similar in a number of technical respects: both are composites of a number of national currencies, and their values and yields are determined administratively by reference to the component currencies. However, their currency composition and roles as official instruments differ in important respects. Though both units are at a relatively early stage of evolution, these differences have already contributed to a number of contrasting developments in their uses in official and private circles.

a) The functions of the ECU and the SDR as official instruments differ markedly. The ECU unit serves as "numeraire" of the regional exchange rate arrangements of the EMS, and the "official ECU"--representing in essence a redenomination of other existing reserve assets--is used in settlements in support of those arrangements. The SDR serves no comparable "numeraire" or settlement functions under present global exchange arrangements. The SDR does, however, serve as unit of account and denomination for all of the Fund's transactions and operations, and the "official SDR" serves as a global supplement to other reserve assets, designed to contribute to a smoothly functioning international monetary system.

b) The differing degrees of emphasis on the various functions of the official ECU and SDR have led to substantial contrasts in their use. The official ECU, while forming a significant part of EC members' reserves, has been used relatively little in actual transactions, primarily due to the limited circumstances and ranges of use at present envisaged under the EMS arrangements. Official SDRs have been created in relatively small amounts. Their use is less narrowly constrained, however, and demands arising primarily in connection with participants' transactions with the Fund have given rise to a relatively large volume of official dealings in SDRs.

c) The ECU's regional currency composition, its link to the exchange arrangements of the EMS, demands and promotion by EC entities, and to some extent the effects of restrictions and tax considerations, have contributed to the rapid development of a market for private ECU financial instruments, primarily though not exclusively in European capital markets. The SDR by contrast, as a more "global" unit, has not attracted comparable interest in private markets, although it has been adopted as a unit of account by a number of international organizations. Indeed, after a brief surge of private interest in the early 1980s, which may have arisen in part in anticipation of significant Fund borrowing in the SDR denomination in private markets that did not materialize, the development of private SDRs has essentially stagnated.

The differences in the official uses to which the ECU and the SDR have been put, and in the volume of their uses, derive essentially from the specific arrangements of which they are a part, decisions that have been taken to regulate their creation and use, and holders' attitudes toward their use. However, perhaps the greater contrast between the ECU and the SDR lies in the vastly different experience of the two units in the private sector. Although there have no doubt been a number of factors underlying the ECU's rapid development in private markets, it is likely that an important impetus has been provided by the activities of EC entities and member states, not only in promotion of the ECU "name," but in creating practical demands through denominating various payments obligations, borrowing, and other transactions in ECUs. The questions arise whether the Fund and the membership in general have an interest in similarly promoting and fostering the development of the private SDR and, if so, how that would be accomplished.

The Fund does have a certain direct interest in development of the SDR market, deriving from its need to invest in the SDR-denomination; that interest would multiply should it be decided that the Fund should borrow in private markets. Irrespective of this specific issue, however, a number of more fundamental questions would need to be addressed, including whether the private use of the SDR (or ECU) contributes to international financial stability and whether the functioning of the SDR as an official reserve asset would be enhanced by the development of the private SDR market or, indeed, by some form of integration of the private and official markets. If it were considered desirable for the Fund actively to encourage development of the private SDR at a pace faster than might occur naturally, it would seem appropriate to re-examine both the composition of the basket from the viewpoint of its suitability for private uses and the basic mechanisms by which the SDR's value is determined.

Exploration of such questions is beyond the scope of the present paper. The definition of the role the SDR is to play in contributing to the stability of the international monetary system, and the context of the broader monetary arrangements in which that role is to be played, will to a significant extent determine the attributes that would be appropriate for the asset. If the view were to prevail that the SDR should be placed "on the shelf" in readiness for possible future need, there might be little purpose or interest in actively pursuing significant modifications in its characteristics and uses at this time. Interest in some further refinements may nonetheless be justified, even if the relatively modest role currently played by the SDR is to be maintained. If it were determined that the SDR could and should play a more significant stabilizing role in world monetary arrangements, consideration could be given to more substantial adaptations of its characteristics and uses, possibly including adaptations that could give the instrument a stronger market orientation or develop its use as a unit among governments and central banks, in light of that objective. Given the SDR's relative development as an asset used in official transactions, extensions of its use by the Fund and by other official entities would be possible areas for further exploration.

# I. The ECU

## 1. The unit of value

### a. Purposes

Units of account other than national currencies have been used for many years in the activities of the European Communities (EC). With the aim of adapting the then-existing gold-based unit to a floating rate environment, and establishing a single unit for all EC financial activities, the EC Council of Ministers (European Council) in 1975 redefined the then existing European Unit of Account (EUA) as a basket of the nine EC member currencies and provided for its gradual replacement of the other existing units of account. 1/ The ECU was created January 1, 1979 2/ as part of the European Monetary System (EMS), to replace the EUA as the unit of account of various EC institutions, but retained the same value. 3/ The process of replacing all units of account in use within the EC by the ECU was completed by the end of 1980. The unit's purpose is to give Europe a common monetary unit and thereby to promote economic integration and the improved efficiency in resource allocation expected to result from that.

The ECU is the unit of account for the European Communities. Hence it is used for the EC budget, in the accounts and transactions of the European Investment Bank, the European Development Fund, and the financial operations of the European Coal and Steel Community. Moreover, the ECU plays a role in the Common Agricultural Policy of the EC, in particular for denominating common agricultural prices.

The ECU also plays a central role in the exchange rate mechanism of the EMS. It is used as a numeraire for expressing central rates, as the unit of denomination of credit extended through the European Monetary Cooperation Fund (EMCF) in connection with the EMS intervention mechanism, and as a reference unit for the operation of the EMS divergence indicator.

The ECU is also used to denominate the reserve asset created in the framework of the EMS, the so-called official ECU, and as a unit of

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1/ The EUA served as a unit of account for the European Coal and Steel Community, the European Development Fund, the European Investment Bank, and the European Communities budget; for the Common Agricultural Policy and the operations of the European Monetary Cooperation Fund the gold-based unit remained in use.

2/ Council of Ministers Regulation (EEC) No. 3180/78 of December 18, 1978.

3/ The post-1975 EUA and pre-September 1984 ECU were identically valued, the only difference being that the EUA had a closed basket definition, and the ECU an open one, which means, in the latter case, that any change in the official definition of the ECU is automatically applied to contracts denominated in that unit.

account and denomination for a wide range of contracts and financial instruments and as a means of payment in the private sector.

b. Valuation

The ECU is defined as specific amounts of the currencies of the ten EC members listed in Appendix Table 1. The weights of these currencies in the ECU valuation basket, the amounts of which remained unchanged until September 1984, are determined on the basis of criteria relating to the economic importance of EC members and their currencies. 1/

In establishing the ECU, provision was made for periodic re-examinations and revisions, if needed, of its composition to take account of changes in member countries' economic situations and exchange rates. 2/ A need for revision can also arise because of changes in the membership of the EC. When Greece joined the EC in January 1981, it was decided that the drachma would be included in the ECU basket at the latest by December 31, 1985, and earlier if a revision of the basket took place in accordance with the above-mentioned provisions. Similarly, it is envisaged that the Spanish peseta and the Portuguese escudo will be considered for inclusion in the basket on the occasion of the next periodic review. 3/

In order to offset the effects of past realignments of exchange rates in the EMS on the percentage weights of the currencies in the ECU and to bring them more in line with the current relative economic importance of EC countries, the European Council changed the currency composition of the ECU as of September 17, 1984. 4/ The new basket did not change the value of the ECU as previously determined on the day the change was made. The revised basket is shown in Appendix Table 1. No advance notice was given of the exact date and composition of the new basket, and it went into effect at the time of its announcement.

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1/ These criteria included the share of each country, whose currency is included in the basket, in EC gross national product, its share in intra-EEC trade and in the quotas of the Short-Term Monetary Support Credit Facility of the EC. However, no formal weighing scheme of such economic criteria has been established.

2/ The Resolution of the European Council of December 5, 1978 establishing the European Monetary System (EMS) and the ECU as its unit of account provided that "the weights of currencies in the ECU will be re-examined and if necessary revised within six months of the entry into force of the system and thereafter every five years or, on request, if the weight of any currency has changed by 25 percent. Revisions have to be mutually accepted; they will, by themselves, not modify the external value of the ECU. They will be made in line with underlying economic criteria." The next regular review is to be in September 1989.

3/ Portugal and Spain joined the EC on January 1, 1986.

4/ Council Regulation (EEC) No. 2626/84 and Declaration of September 15, 1984. See also SM/84/224(10/12/84), "Change in the Currency Composition of the ECU (European Currency Unit)".

For use by the EC and the EMS, the value of the ECU in terms of the U.S. dollar and EC member currencies is calculated daily by the Commission of the EC (European Commission) on the basis of market exchange rates of the component currencies (in terms of the U.S. dollar) as reported by member central banks in a 2:30 p.m. (Brussels) conference call.

Appendix Table 1. The ECU Valuation Basket

| Currency | March 13, 1979 - September 16, 1984 1/ Percentage Weight at Inception 3/ | March 13, 1979 - September 16, 1984 1/ Currency Units | September 17, 1984 - Present 2/ Percentage Weight at Inception 3/ | September 17, 1984 - Present 2/ Currency Units |
|---|---|---|---|---|
| Belgian franc | 9.3 | 3.66 | 8.2 | 3.71 |
| Danish kroner | 3.1 | 0.217 | 2.7 | 0.219 |
| French franc | 19.8 | 1.15 | 19.0 | 1.31 |
| Deutsche mark | 33.0 | 0.828 | 32.0 | 0.719 |
| Irish pound | 1.1 | 0.00759 | 1.2 | 0.00871 |
| Italian lira | 9.5 | 109 | 10.2 | 140 |
| Luxembourg franc | 0.4 | 0.14 | 0.3 | 0.14 |
| Netherlands guilder | 10.5 | 0.286 | 10.1 | 0.256 |
| Pounds sterling | 13.3 | 0.0885 | 15.0 | 0.0878 |
| Greek drachma | -- | -- | 1.3 | 1.15 |
| | 100.0 | | 100.0 | |

1/ Council Regulation (EEC) No. 3180/78 of December 18, 1978.
2/ Council Regulation (EEC) No. 2626/84 and Declaration of September 15, 1984.
3/ Once the currency amounts are established, the percentage contribution of each currency in the basket to the value of the ECU will vary, depending upon movements in the bilateral exchange rates.

c. Behavior of value

The behavior of the ECU's value in terms of its component currencies depends on the behavior of their bilateral exchange rates and their weights in the ECU valuation basket. For currencies of those EC member countries participating in the exchange rate arrangements of the EMS, 1/ these rates cannot move beyond the margins of 2 1/4 percent

1/ All EC members whose currencies are in the ECU valuation basket participate in the EMS exchange rate arrangements except for Greece and the U.K. The full text of the "Agreement Between the Central Banks of the Member States of the European Economic Community Laying Down the Operating Procedures for the European Monetary System" is reproduced in the Annex.

around bilateral parities (6 percent for Italy) established by the EMS. Realignments, which must be agreed to by all participating members, establish a new set of central rates in terms of the ECU from which the bilateral rates and their permissable margins are derived. The EMS arrangement is designed to narrow fluctuations in exchange rates among participating currencies. To the extent that this objective is met and participating currencies have a heavy weight in the ECU's valuation, this arrangement would tend to stabilize the value of most EC currencies in terms of the ECU.

Appendix Table 2 indicates an increase in bilateral stability of ECU component currency exchange rates in recent years. The weighted average of the coefficients of variation of these currencies against the ECU is lower in the more recent period than for the first four years of the EMS. The exchange rates of the ECU's component currencies have also generally been more stable against the ECU than, for example, against the Deutsche mark or the SDR, but more stable against the SDR than the U.S. dollar.

Appendix Table 2: Coefficients of Variation of ECU Component Currency Exchange Rates in Terms of the ECU, the SDR and the Deutsche Mark

(Monthly Averages of Daily Operations)

| Country | 1979 - 1982 | | | | 1983 - 1985 | | | |
|---|---|---|---|---|---|---|---|---|
| | ECU | SDR | DM | US.$ | ECU | SDR | DM | US.$ |
| Belgian/Luxembourg franc | .046 | .126 | .074 | .203 | .010 | .057 | .010 | .094 |
| Danish kroner | .048 | .121 | .068 | .195 | .010 | .056 | .010 | .092 |
| French franc | .043 | .125 | .071 | .201 | .015 | .066 | .019 | .102 |
| Deutsche mark | .028 | .065 | -- | .136 | .010 | .054 | -- | .092 |
| Irish pound | .015 | .095 | .037 | .170 | .014 | .064 | .019 | .100 |
| Italian lira | .060 | .141 | .084 | .216 | .040 | .080 | .044 | .111 |
| Netherlands guilder | .028 | .068 | .009 | .139 | .007 | .058 | .006 | .096 |
| Pound sterling | .072 | .060 | .071 | .121 | .029 | .067 | .032 | .104 |
| Greek drachma 1/ | (.097) | (.168) | (.116) | (.240) | .139 | .181 | .164 | .195 |
| Weighted average 2/ | .060 | .123 | .063 | .218 | .012 | .038 | .012 | .059 |

Source: IMF International Financial Statistics.

1/ The Greek drachma has been included in the ECU valuation basket only since September 17, 1984 and is not included in the weightd average in this Table for the first period.

2/ Weighted by average nominal GDP.

## 2. Use of the ECU by the EMS 1/

### a. Parity grid

The currencies participating in the exchange rate mechanism of the EMS have central rates expressed in ECU. These central rates determine a grid of bilateral central rates (the so-called parity grid) for each currency in terms of each of the other participating currencies. Exchange rates of the participating currencies may not deviate from their bilateral central rates by more than 2.25 percent (6 percent for the Italian lira). At these limits, participating central banks are obligated to intervene in their own markets in the currencies concerned in whatever amounts are necessary to keep the bilateral rates within the agreed limits.

### b. Intervention credit facilities

Central banks participating in the EMS exchange rate arrangements may intervene in the exchange markets at any time by using their own reserve holdings. However, a country may finance obligatory intervention (i.e., at the permissible margin) either by using its reserves or by borrowing the EC currency needed for intervention from its issuer through the Very Short-Term Financing Facility (VSTF) of the EMS. This facility provides short-term credit, denominated in ECUs and unlimited in amount, which central banks participating in the exchange rate mechanism grant to each other through the EMCF in order to finance obligatory intervention in each other's currencies. Several longer term credit facilities are also available to all EC members.

Intervention carried out before the compulsory intervention limits are reached ("intramarginal intervention") is also allowed; it may take place in third currencies or in the currencies of participants. However, prior approval of the issuing central bank in whose currency

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1/ In 1978, the members of the European Communities were Belgium, Denmark, France, the Federal Republic of Germany, Ireland, Italy, Luxembourg, the Netherlands, and the United Kingdom. Greece became a member on January 1, 1981 and Portugal and Spain became members on January 1, 1986. With the exceptions of Spain and Portugal, the central banks of all of these countries are members of the EMS and their currencies are included in the ECU. All EMS members are now parties to the EMS swap mechanism for creating ECU, but Greece and the United Kingdom do not participate in the EMS exchange rate arrangements. For documents concerning the EMS, see: International Monetary Fund, IMF Survey, Vol. 8 (March 19, 1979), pp. 81, 93 and "Supplement: The European Monetary System", pp. 97-100; Ungerer, Horst (1983), with Owen Evans and Peter Nyberg, "The European Monetary System: The Experience, 1979-82," Occasional Paper No. 19, International Monetary Fund, Washington D.C. (May); "The European Monetary System: Structure and Operation," Monthly Report of the Deutsche Bundesbank, Vol. 31 (March 1979), pp. 11-18; Commission of the European Communities "The European Monetary System," European Economy, No. 3 (July 1979).

intervention is to take place is needed for intramarginal intervention in community currencies. Since the EMS's inception, intramarginal intervention has accounted for four-fifths of total intervention by EMS central banks. The main Community currency of intervention has been the Deutsche mark, but the bulk of intramarginal intervention has been effected in U.S. dollars.

#### c. The divergence indicator

The ECU-based divergence indicator is a supplementary device to the EMS exchange rate mechanism functioning as an early warning system which will normally, but not necessarily, be activated before the compulsory intervention limits are reached. The divergence indicator for an EMS currency measures the divergence in its market rate from its central rate, both expressed in ECU, adjusted by a factor neutralizing the weight of the currency in the ECU basket and, hence, the weight's influence on the value of the ECU in this currency. When the market rate of a given currency reaches 75 percent of its maximum allowed deviation from the central rate, that currency has reached its divergence threshold and the indicator "flashes". 1/

When a currency crosses its divergence threshold, there is a presumption that the authorities concerned will correct this situation by adequate measures, such as diversified intervention, measures of domestic monetary policy, changes in central rates, or other measures of economic policy. 2/ However, the divergence indicator has not so far played a prominent role in the operation of the system. 3/

### 3. The official ECU

#### a. Purpose

The official ECU is an asset created by revolving three-month swaps of gold and U.S. dollars against amounts denominated in ECU with the EMCF. Official ECUs are intended as financing in support of the exchange rate arrangements of the EMS.

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1/ For further details on the functioning of the divergence indicator, see European Economy, No. 3 (July 1979); Ungerer (1983), p. 15; Jean-Jacques Rey, "Some Comments on the Merits and Limits of the Indicator of Divergence of the European Monetary System," Revue de la Banque, No. 1 (1982), pp. 3-15; and Joanne Salop, "The Divergence Indicator: A Technical Note," International Monetary Fund, Staff Papers, Vol. 28 (December 1981), pp. 682-97.

2/ EC Council Resolution of December 5, 1978 (the list was not meant to be exhaustive).

3/ For a discussion of possible reasons, see EC Commission, COM (84) 125, p. 12 and Ungerer (1983), p. 15.

b. Supply

The amount of official ECUs held by an EMS central bank is determined by the value of its gold and U.S. dollars swapped with the EMCF, adjusted by any uses or receipts of ECUs in transactions with other participants in the EMS. EMS central banks have placed 20 percent each of their gold holdings and U.S. dollar holdings with the EMCF in return for a corresponding amount of ECUs. For the purpose of determining the amounts of the swaps, U.S. dollars are valued at market rates, two working days before the value date of the swap, and gold at the average market price of the six previous months or of the two fixings on the penultimate working day before the swap date, whichever is lower (to avoid valuations above the prevailing market price at the time of the swap). In principle, these swaps do not add to the existing stock of reserves, if defined to include gold at market prices. However, as they may be regarded as more liquid than the gold they to some extent replace, the creation of ECUs may tend to increase somewhat the stock of usable reserves held by participants.

Every three months the amounts of each swap is adjusted (the swaps are reversed and new amounts are swapped) to ensure that they continue to represent at least 20 percent of the gold and U.S. dollar reserves of participating central banks, and to bring the amount of ECUs into line with changed valuations of gold and U.S. dollars. These quarterly adjustments affect each participant's holdings of ECUs but not its net use or receipt of ECUs in transactions with other participants, which are the basis for interest payments and receipts.

While a central bank cannot use more ECUs than it holds (it can augment its holdings by buying additional ECUs from other holders or by swapping additional gold or U.S. dollars with the EMCF), it is theoretically possible for a member's holdings to be negative if, at the time of the next swap renewal, the newly allocated amount is less than the amount that central bank has already used. In such instances the central bank is expected to eliminate any negative balance but is not otherwise obligated to reverse the uses of its ECUs.

In the event that the EMS were terminated, or a central bank were to leave the EMS, the swaps of gold and dollars against ECUs would not be renewed further. 1/ In this case, for the swaps with the EMCF to be unwound, central banks that are net users of ECUs would have to bring their holdings back to a level equal to their present "allocations" by purchasing ECUs from central banks that are net recipients of ECUs. These transfers must be effected in exchange for the currency of the

1/ The swaps mechanism was originally set up by the EMS central banks for a period of two years, i.e. the duration of the originally envisaged transitional stage for the EMS. Since the stage of establishing the European Monetary Fund (EMF) has not been achieved so far, central banks, by unanimous consent, have extended the mechanism every two years for a new period.

central banks that are net recipients, or in accordance with any other arrangements agreed between the parties, or against the transfer of reserve components (including SDRs) in proportion to the composition of the reserves of the central bank repurchasing ECUs.

In sum, under the present provisions calling for swaps of 20 percent of members' gold and U.S. dollar reserves, the creation of official ECUs is determined by the price of gold, the exchange rate of the U.S. dollar, and the respective amounts of these two assets in the member countries' reserves. At the start of the EMS' operations, ECU 23 billion were created. When, in July 1979, the United Kingdom decided to voluntarily deposit 20 percent of its gold and U.S. dollar reserves with the EMCF, the amount increased to ECU 27 billion. Since that time, the amount of ECUs in existence has varied essentially with fluctuations in the price of gold, the exchange rate of the dollar, and the volume of dollars in members' reserves, as shown in Appendix Table 3.

c. Interest rate

No interest is paid on the amount of ECUs distributed to a country through the swap mechanism. Each participating central bank continues to administer the investment of the reserves swapped with the EMCF and to receive interest at U.S. dollar rates on the U.S. dollars swapped.

Net users of ECUs pay interest to net recipients at ECU interest rates on a monthly basis, in ECUs. Since July 1, 1985, the ECU interest rate has been based on interest rates on specified short-term instruments in the money markets of the EC countries, weighted in accordance with their respective currencies' relative importance in the ECU's valuation basket as derived from the prevailing ECU central rates. 1/ The ECU interest rate also applies to the use of the Very Short-Term Facility (VSTF). Accrued interest on debtor positions in the VSTF is also paid in ECUs on a monthly basis or at the same time as advance liquidation of a debtor balance is effected.

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1/ The yields used in this calculation are the three-month interbank deposit rate in Germany, the market yield for three-month U.K. Treasury bills, the three-month interbank money rate on private paper in France, the three-month interbank deposit rate in Belgium, the three-month money market rate in Denmark, the three-month interbank deposit rate in convertible drachma, the three-month interbank deposit rate in Ireland, the tender rate for three-month Italian Treasury bills, and the three-month interbank deposit rate in the Netherlands. The weighted average is calculated on the basis of the average of daily observations during each month and applies during the following month. Before July 1, 1985, the ECU interest rate was based on the weighted average of the official discount rates of the EC Member States.

Appendix Table 3. The Creation of ECUs
by Swap Operations

(April 1979 - December 1985)

| Swap Operations Starting In | Gold Transfers (million ounces) | U.S. Dollar Transfers (billions) | Gold Price (ECUs per ounce) | US $ rate (US $ per ECU) | Counterpart in ECUs (billions) | | |
|---|---|---|---|---|---|---|---|
| | | | | | Gold | U.S. Dollars | Total |
| Apr. 1979 | 80.7 | 13.4 | 165.0 | 1.33 | 13.3 | 10.0 | 23.3 |
| July 1979 | 85.3 | 15.9 | 185.1 | 1.38 | 15.8 | 11.6 | 27.4 |
| Oct. 1979 | 85.3 | 16.0 | 211.3 | 1.42 | 18.0 | 11.3 | 29.3 |
| Jan. 1980 | 85.5 | 15.5 | 259.2 | 1.45 | 22.2 | 10.7 | 32.9 |
| April 1980 | 85.6 | 14.4 | 370.5 | 1.30 | 31.7 | 11.1 | 42.8 |
| July 1980 | 85.6 | 13.7 | 419.9 | 1.43 | 35.9 | 9.6 | 45.5 |
| Oct. 1980 | 85.6 | 13.9 | 424.8 | 1.41 | 36.4 | 9.9 | 46.3 |
| Jan. 1981 | 85.6 | 14.5 | 447.0 | 1.33 | 38.3 | 10.9 | 49.2 |
| Apr. 1981 | 85.7 | 14.2 | 440.5 | 1.18 | 37.7 | 12.0 | 49.7 |
| July 1981 | 85.7 | 12.7 | 406.3 | 1.03 | 34.8 | 12.3 | 47.1 |
| Oct. 1981 | 85.7 | 11.5 | 402.6 | 1.09 | 34.5 | 10.5 | 45.0 |
| Jan. 1982 | 85.7 | 11.7 | 368.0 | 1.09 | 31.6 | 10.7 | 42.3 |
| Apr. 1982 | 85.7 | 10.5 | 327.2 | 1.00 | 28.0 | 10.5 | 38.6 |
| July 1982 | 85.7 | 9.9 | 324.3 | 0.96 | 27.8 | 10.3 | 38.1 |
| Oct. 1982 | 85.7 | 10.0 | 367.2 | 0.92 | 31.5 | 10.8 | 42.3 |
| Jan. 1983 | 85.7 | 10.0 | 428.5 | 0.98 | 36.7 | 10.3 | 47.0 |
| Apr. 1983 | 85.7 | 10.5 | 452.1 | 0.93 | 38.8 | 11.2 | 50.0 |
| July 1983 | 85.7 | 10.5 | 465.3 | 0.89 | 39.9 | 11.8 | 51.7 |
| Oct. 1983 | 85.7 | 10.6 | 476.8 | 0.87 | 40.9 | 12.2 | 53.1 |
| Jan. 1984 | 85.7 | 10.6 | 460.9 | 0.81 | 39.5 | 13.1 | 52.6 |
| Apr. 1984 | 85.7 | 10.8 | 451.6 | 0.85 | 38.7 | 12.7 | 51.4 |
| July 1984 | 85.7 | 10.6 | 460.5 | 0.80 | 39.5 | 13.3 | 52.8 |
| Oct. 1984 | 85.7 | 10.1 | 454.4 | 0.74 | 38.9 | 13.6 | 52.5 |
| Jan. 1985 | 85.7 | 10.2 | 434.4 | 0.71 | 37.2 | 14.5 | 51.7 |
| Apr. 1985 | 85.7 | 9.0 | 449.0 | 0.71 | 38.5 | 12.6 | 51.1 |
| July 1985 | 85.7 | 10.0 | 428.7 | 0.74 | 36.7 | 13.5 | 50.2 |
| Oct. 1985 | 85.7 | 10.5 | 396.3 | 0.84 | 34.0 | 12.5 | 46.5 |

Source: European Monetary Cooperation Fund.

d. Uses

The official ECU can be used to settle intervention-related obligations between the monetary authorities of the EC countries. In case of need, EMS central banks can also mobilize part of their ECU holdings to obtain U.S. dollars from EMS members. Furthermore, ECUs can be bought and sold voluntarily among holders against currencies, SDRs, gold and other monetary assets. 1/

(1) Settlement of intervention credits

EMS central banks are obligated to accept official ECU in settlement of a limited amount of the value (ECU denominated) of their currencies lent through the VSTF to finance obligatory intervention in defense of EMS exchange rate margins. VSTF liabilities may be settled in advance of their due dates by transferring holdings of the creditor's currency to the creditor country. At the due date, settlement is carried out entirely or in part by transferring ECUs. However, beyond the acceptance of an amount of ECUs that will raise a creditor country's holdings of ECUs to its allocated level, a creditor central bank is not obligated to accept settlement in ECUs of an amount exceeding 50 percent of its claim. Any remaining balance must be settled in other reserve assets. 2/

(2) Temporary mobilization

Effective July 1, 1985, EMS central banks may temporarily mobilize net creditor positions in ECUs and a part of their current ECU allocation as collateral (in the form of swaps) to obtain U.S. dollars or EMS currencies for intervention purposes. This mechanism can be used in connection with intramarginal intervention. The extent to which allocated ECUs can be used to obtain U.S. dollars for intervention purposes by any individual EMS member is established at the beginning of each quarterly swap period on the basis of an arithmetic formula. Presently, the potential amount is roughly equal to 40 percent of the ECUs allocated to the member using ECUs. Each EMS central bank is committed to accept ECUs as collateral for this purpose and to provide U.S. dollars up to an agreed ceiling, in principle equivalent to their

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1/ Article 18 of the EMS Agreement as amended June 10, 1985 (see Annex).

2/ Settlement in other reserve components must be in accordance with the composition of the debtor central bank's reserves at the end of the month preceding the settlement. For this purpose, the composition of the debtor's reserves is determined on the basis of assets denominated in SDRs and in currencies and, among these, the debtor central bank may choose which assets it will deliver in settlement. However, these provisions may be overridden by other forms of settlement agreed between creditor and debtor central banks. See Article 16 of the EMS Agreement as amended June 10, 1985 (Annex).

U.S. dollar contributions to the EMCF. Subject to this ceiling, all member central banks, other than those mobilizing their ECUs through this mechanism, share in providing dollars in proportion to their dollar deposits with the EMCF. Central banks using ECUs in this way pay interest to the central banks acquiring them at the U.S. dollar interest rate used by the IMF for calculating the SDR interest rate. Obtaining an EMS currency with these dollars requires the agreement of the issuer. ECUs may be mobilized in this way in a three-month swap, which can be renewed once.

(3) Other holders

In October 1985 the European Council adopted a regulation enabling the EMCF to grant "other holder" status to non-EC central banks and international monetary institutions, such as the BIS, to obtain official ECUs from EMS central banks by means of sale and repurchase agreements or reversible swap transactions. They will be entitled to the same remuneration on their ECU holdings as EC central banks receive on their net ECU positions. The BIS became the first "other holder" of ECUs on January 14, 1986.

(4) Voluntary transactions

Member central banks may agree to transfer ECUs among themselves in exchange for currencies, gold and other monetary assets. For example, if the user wishes, at some point, to bring its ECU holdings back to the level "allocated" to it, it may seek to enter into a voluntary ECU repurchase transaction against a currency acceptable to a willing seller.

4. Private ECUs

The ECU, the SDR, or any other composite currency unit may be used, in principle, for denominating financial instruments. Certain special problems arise from the use of composite units, however, which do not occur when denominating contracts in national currencies. These problems include the need to adapt contracts for the possibilities that the composition of the basket could be changed, that one of the constituent currencies might not be available, or that a currency's value cannot be determined and, for purposes of making payments of composite unit amounts, the need for provisions for converting composite unit amounts into equivalent amounts of national currencies or to develop ways to make payments in the composite units themselves. Private ECUs, i.e., ECU-denominated financial instruments outside the context of the EMS, have developed and grown in amounts and variety as such problems have been resolved.

a. History

The first EUA (the ECU's predecessor) bank deposit was placed by the European Commission in March 1976. At first, commercial banks were reluctant to open ECU accounts for their clients because it was difficult to on-lend the deposits directly and assets had to be composed from the ECU's component currencies ("unbundling"), thus complicating the task and raising the cost of investing such funds.

Despite initial difficulties, commercial banks were encouraged to establish ECU-denominated accounts by the activities of the European Commission and certain European governments. The European Economic Community (EEC), the European Investment Bank (EIB), the European Coal and Steel Community, EURATOM, and the Council of Europe Resettlement Fund have all issued bonds denominated in ECUs. These bonds used the open basket definition of the ECU and required payment and servicing in ECU. The EIB, in addition, has extended part of its loans in ECUs and made it a part of the loan agreement that the amount be deposited in ECU accounts. Certain member governments of the EC have also been willing to see their citizens and companies deal in ECUs to a greater extent than they have allowed them to deal in other currencies.

The lead given by the Community institutions since 1976 has given important impetus to the private ECU market from 1981 onwards. 1/ In that year, the first ECU-denominated certificate of deposit (CD) was issued, the first ECU bond issue took place, and the first syndicated loan denominated in ECUs was extended. Also, the ECU was officially recognized as a foreign currency by Italy in 1981, the first such recognition by an EC member.

In 1982, ECU retail sight and term deposits and ECU-denominated savings accounts appeared. In February of that year, the first meeting to establish a clearing system took place, and the Republic of Italy launched an ECU 500 million bond issue targeted on Italian residents. Also in 1982, Belgium and France officially recognized the ECU as a foreign currency. At about this time, the ECU began to gain significance in trade finance. A number of firms, mostly multinational companies with subsidiaries in several EC countries, started to use the ECU in accounting for transactions between their subsidiaries and, in some cases, for external invoicing. As a consequence of the increasing use of the ECU for financial and commercial transactions, an interbank ECU market emerged and has now become well established.

In 1983, a credit card denominated in ECU appeared, the World Bank issued its first bonds denominated in ECU, and all remaining member states of the EC, with the exception of Germany, officially recognized

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1/ See, Matthias S. Wolf, "The Private Use of the European Currency Unit (ECU)," Economic and Financial Prospects, Swiss Bank Corporation, No. 3/1984 (June/July), p. 2; Pierre Guimbretiere, "Chronique de l'ECU; Faits, reperes et jalons," Eurepargne, Luxembourg, No. 5-1984, pp. 17-18.

the ECU as a foreign currency. In 1985, traveller's cheques denominated in ECU were introduced.

At end-December 1983, when reliable data first became available, total ECU-denominated assets of the nonbank public (bank deposits and bonds) amounted to about ECU 4.1 billion. By mid-1985, the amount had risen to some ECU 21.8 billion.

b. ECU-Denominated obligations and instruments 1/

(1) Banking sector

In the early stages of the ECU's development, the supply of ECU-denominated deposits, in particular the deposits of the European Commission, the European Investment Bank and some EC central banks, exceeded ECU-denominated bank assets as the banks had little scope for using the ECUs directly for lending. The subsequent growth of ECU-denominated security issues, syndicated bank loans, and trade credit (the latter especially in Italy), changed this situation. By end-1982, when actual data first became available, bank credits in ECUs had already exceeded deposits. The excess of ECUdenominated bank assets over liabilities became pronounced in 1984 and the banking system (particularly Belgian and French banks) 2/ has had to cover its net creditor position by incurring liabilities in the component currencies (see Appendix Table 4).

While the more recent excess of bank ECU-assets over ECU-liabilities is of the same order of magnitude as for other Eurocurrencies, 3/ it may be more troublesome for the growth of bank ECU assets. For other Eurocurrencies excess bank credits can be financed by borrowing in the currency's domestic market at costs often comparable to those of Euromarkets so that such credit remains competitive. For the ECU, an excess of bank ECU assets over ECU deposits must be financed by creating ECUs from its components. This makes financing ECU loans potentially more costly (particularly for currencies whose asset markets are thin) than for other Eurocurrency loans, and could restrain the growth of bank lending in ECUs.

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1/ Data used in this section are expressed in ECUs. Where data were originally expressed in other units they were converted into ECU using the applicable ECU exchange rate of the last business day of the period to which each figure pertains.

2/ See Bank for International Settlements "The Role of the ECU in International Banking Activity," Fifty-fifth Annual Report, Basle (June 1985), p. 132.

3/ BIS International Banking Developments Fourth Quarter 1984 (April, 1985. Table 7.

Appendix Table 4: ECU-denominated Assets
and Liabilities of Commercial Banks Reporting to the BIS

(ECU billions)

| At End Of: | Liabilities | Assets | Difference |
|---|---|---|---|
| 1982 | | | |
| December | 5.7 | 6.7 | 1.0 |
| 1983 | | | |
| December | 12.1 | 14.4 | 2.3 |
| 1984 | | | |
| March | 17.1 | 20.7 | 3.6 |
| June | 20.5 | 26.0 | 5.5 |
| September | 25.4 | 32.3 | 6.9 |
| December | 31.5 | 39.5 | 8.0 |
| 1985 | | | |
| March | 41.1 | 51.6 | 10.5 |
| June | 45.4 | 52.8 | 7.4 |

Source: Bank for International Settlements, International Banking and Financial Market Developments," and Bank for International Settlements "The Role of the ECU in International Banking Activity". Fifty-fifth Annual Report, Basle (June 1985), p. 138. Banks reporting ECU data to the BIS are those of Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Luxembourg, Netherlands, Norway, Spain, Sweden, Switzerland, United Kingdom, Canada and Japan.

The ability of banks to attract ECU deposits is restrained by various national restrictions on the holding of foreign currencies. Laws and regulations within a number of EC member countries still restrict the holding of ECU deposits by residents. For example, German law effectively forbids residents to hold ECU deposits in Germany, though they may hold them elsewhere.

(a) Deposits

The ECU-denominated deposit market encompasses a very broad spectrum ranging from ECU savings and demand deposits at the retail level to five-year deposits in the interbank market. About 1,000 financial institutions are estimated to participate, in one way or another, in this market. As indicated in Appendix Table 5, the ECU deposit market is predominantly an interbank market. The interbank ECU market is a larger share of total bank ECU liabilities than is the case for any other Eurocurrency. This probably reflects the fact that there is no supporting domestic interbank market or clearing system for ECU transfers to which the "Euro"-ECU market can turn for generating, placing or transferring ECU. ECU deposits of the nonbank public have generally been in the neighborhood of 10 percent of total ECU deposits, although the proportion has risen somewhat in the most recent period for which data is available. ECU deposits held by official monetary institutitons have accounted for only about two percent of total ECU deposits. As deposits held by the nonbank public have grown, spreads between the bid and offer rates quoted by banks have narrowed, from about 3/8 percent in 1982 to about 3/16 percent in 1985. 1/ Since 1981 there has also been a modest and slow-growing market for ECU-denominated Certificates of Deposit (CDs). 2/

At the early stages of the ECU's development, ECU transfers between banking institutions posed problems because, in the absence of an official issuer of ECUs that could be held by banks, it was necessary to transfer all the currencies making up the ECU, causing a large handling charge that inhibited the development of the ECU market. Five European banks 3/ particularly active in offering ECU deposits have overcome this difficulty by establishing a two-tier ECU clearing system, and two additional banks have recently joined this arrangement. 4/

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1/ The quoted rates referred to here are the average of rates quoted by commercial banks to the Financial Times in London.

2/ See ECU Newsletter, No. 8, (March 1984), p. 10.

3/ Lloyds Bank, London; Credit Lyonnais, Paris; Kredietbank, Brussels; Kredietbank, Luxembourg; and Societe Generale de Banque, Brussels.

4/ Banque Bruxelles Lambert, Brussels and Instituto Bancario San Paulo di Torino, Turin joined in October 1985.

Appendix Table 5. ECU-denominated Liabilities of Commercial Banks Reporting to the BIS

(In ECU billions)

| | At End Of | | | |
|---|---|---|---|---|
| | 1983 | 1984 | March 1985 | June 1985 |
| Due to nonbanks: | | | | |
| Domestic | 0.6 | 1.3 | 2.1 | 3.0 |
| External | 0.7 | 1.4 | 2.0 | 2.9 |
| Sub-total | 1.3 | 2.7 | 4.1 | 5.9 |
| Due to banks: | | | | |
| Domestic | 3.0 | 7.5 | 10.6 | 10.1 |
| External | 7.8 | 21.3 | 26.4 | 29.5 |
| Sub-total (interbank deposits) | 10.8 | 28.8 | 37.0 | 39.5 |
| Total liabilities | 12.1 | 31.5 | 41.1 | 45.4 |
| Ratio of nonbank to total liabilities | .11 | .09 | .10 | .13 |

Source: Bank for International Settlements, "International Banking and Financial Market Developments," October 1985, Statistical annex, Tables 3 and 3a. Countries reporting to the BIS are listed in Appendix Table 4.

An estimated 1,000 correspondent banks (the first tier) maintain ECU-denominated clearing accounts with these seven banks (the second tier).

An ECU payment can often be made internally on the books of one of these seven banks by debiting the correspondent account of the payor's bank and crediting the payee's bank's correspondent account, i.e. by a transaction within the "first tier". Payments in ECUs between banks whose accounts are with different clearing banks, i.e. a transaction within the "second tier", are made by debiting and crediting a so-called Mutual ECU Settlement Account (MESA) maintained by each of the seven clearing banks for each of the other six clearing banks. Once each day, the net balances or overdrafts between these seven clearing banks are settled by paying out the component currencies when the amounts are in excess of agreed credit limits (currently ECU 20 million). It is estimated that well over 90 percent of all ECU payments are made in ECUs, i.e. without decomposing ("unbundling") into the ECU's component currencies.

The desire to broaden the base of ECU clearing arrangements and to formalize these operations has led to the formation of an ECU Banking Association. Membership in the Association, which is headquartered in Paris, is open to all banks that maintain an ECU clearing account with any of the designated ECU Clearing Banks (currently the seven MESA banks). The Association has developed and agreed upon the technical aspects necessary to set up a system for multilateral ECU clearing in association with the BIS and through which participating clearing banks would settle the daily balances of their interbank transfers. Although the final details of the proposed clearing system are practically finalized, the formal agreements remain to be signed. It is envisaged that the system will become operational in the latter part of 1986.

(b) Loans

The amount of total ECU-denominated assets of banks in industrial countries reporting to the BIS almost tripled between end-1983 and end-1984 and grew by another 30 percent between end-1984 and end-March 1985 (see Appendix Table 6). However, growth appears to have slowed since then. At the end of 1984, approximately 60 percent (ECU 6.8 billion) of banks' direct claims on nonbanks represented domestic lending in ECU, of which residents of Italy and France took more than 90 percent. Italian borrowers also accounted for more than one-third of the ECU 4.4 billion of ECU-denominated crossborder lending to nonbanks at end-1984. 1/ Domestic loans in ECUs increased by 20 percent, to ECU 8.1 billion, between end-1984 and March 1985, but decreased to ECU 7.1 billion by end-June 1985.

The first ECU-denominated syndicated bank loan was extended in June 1980. As shown in Appendix Table 7, the number of such loans has grown substantially since then. The market recorded particularly significant growth from 1983 on, characterized, in part, by a notable increase in the geographical diversification of borrowers. One hundred international banks from 20 countries have been involved as leaders or co-lead managers, 2/ and syndicated loans represent somewhat over 11

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1/ BIS, "The Role of the ECU in International Banking Activity," Fifty-fifth Annual Report, Basle (June 1985), p.127.

2/ ECU Newsletter, No. 11 (January 1985), p. 22.

Appendix Table 6. ECU denominated Assets of Commercial Banks Reporting to the BIS

(In ECU billions)

| | At End of | | | |
|---|---|---|---|---|
| | 1983 | 1984 | March 1985 | June 1985 |
| Due from nonbanks: | | | | |
| Domestic | 3.3 | 6.8 | 8.1 | 7.1 |
| External | 1.5 | 4.4 | 5.6 | 6.4 |
| Sub-total | 4.8 | 11.2 | 13.7 | 13.5 |
| Due from banks: | | | | |
| Domestic | 2.8 | 7.5 | 11.0 | 10.3 |
| External | 6.9 | 21.0 | 26.8 | 29.0 |
| Sub-total (interbank loans) | 9.7 | 28.5 | 37.8 | 39.3 |
| Total Assets | 14.4 | 39.5 | 51.6 | 52.8 |

Source: Bank for International Settlements, "International Banking and Financial Market Developments," October 1985, Statistical Annex, Tables 3 and 3a. Countries reporting to the BIS are listed in Appendix Table 4. Components may not add to totals due to rounding.

percent of total ECU bank assets. The ECU accounted for 8 percent of all syndicated loans extended in 1984, making it the second most important denomination in that market. 1/

(2) Bonds and notes

(a) Size of the market

Since the first ECU-denominated bond issue took place in April 1981, the ECU has been increasingly used for issuance purposes, as shown in Appendix Table 8. The ECU now ranks fifth worldwide among new international bond issues (following the U.S. dollar, Swiss franc, Japanese yen and Deutsche mark) and is now the unit of denomination

1/ ECU Newsletter, No. 13 (July 1985), p. 14.

Appendix Table 7: Publicized Syndicated ECU Loans of ECU 20 Million or More

| Period | | Number of loans | Amount (ECU million) |
| --- | --- | --- | --- |
| 1980 | | 1 | 20 |
| 1981 | | 2 | 230 |
| 1982 | | 6 | 367 |
| 1983 | | 15 | 812 |
| 1984 | 1st quarter | 8 | 822 |
| | 2nd quarter | 5 | 228 |
| | 3rd quarter | 10 | 500 |
| | 4th quarter | 13 | 1,230 |
| | Total | 36 | 2,780 |
| 1985 | 1st quarter | 11 | 1,008 |
| | 2nd quarter | 8 | 390 |
| | 3rd quarter | 12 | 798 |
| 1985 | Jan-Sept. | 31 | 2,196 |
| | Grand total | 91 | 6,405 |

Source: ECU Newsletter, various issues and staff estimates.

for close to 5 percent of all new international bond issues. 1/ In the Eurobond market, the stock of outstanding ECU issues at the end of 1984 was larger than in any currency other than the U.S. dollar, Deutsche mark, Pound sterling and Canadian dollar. 2/

Straight ECU bonds account for the great bulk of the total amount of securities issued so far. However, modest amounts have also been issued in the form of floating rate notes, short-term notes, convertible bonds and equity warrants.

1/ Morgan Guaranty Trust, World Financial Markets, August 1985, p. 8.
2/ BIS, op.cit., p. 128.

Appendix Table 8. ECU Bonds Issued on the International Market: Number of Issues and Amount

(In ECU millions)

| Year | Number of Issues | Amount |
|---|---|---|
| 1981 | 5 | 190.0 |
| 1982 | 18 | 722.0 |
| 1983 | 44 | 1,930.0 |
| 1984 | 63 | 3,444.2 |
| 1985 | 131 | 9,410.3 |
| Total | 261 | 15,696.5 |

Source: EC Commission.

1/ Included are ECU bond issues on the Euromarket and issues where issuer (debtor) and investors (creditors) are residents of different countries (foreign bond issues). Not included are ECU bond issues where issuer and investors are residents of the same country (domestic issues). Domestic issues of ECU-denominated bonds have especially taken place in Italy.

(b) Market participants

Appendix Table 9 gives a breakdown of ECU borrowers in the international bond market by country and by groups of institutions. Through 1985, EC institutions have accounted for about 17 percent of total ECUdenominated Eurobonds issued on the international market. Borrowers in Europe altogether have accounted for some 70 percent of the total issued, and borrowers in France and Italy alone have accounted for nearly 30 percent of the total. 1/ The World Bank, which engaged in two ECUdenominated bond issues in 1983 and 1984 and two semi-private placements of ECU-denominated notes in 1985, represented about 3 percent of the total volume of ECU Eurobond issued internationally through 1985.

1/ Italy has also issued substantial amounts of ECU bonds domestically, which are not reflected in these figures. See note 1 to Appendix Table 9.

Appendix Table 9. ECU Bond Issues (in Volume and Number) on the International Market, 1981-85 1/

(Amounts in millions of ECUs)

| Institution or Residence of Borrower | Total | |
|---|---|---|
| | Amount | Percent |
| Belgium | 193.5 | 1.2 |
| Denmark | 502.0 | 3.2 |
| France | 3,247.0 | 20.7 |
| Germany | 290.0 | 1.8 |
| Ireland | 390.0 | 2.5 |
| Italy | 1,270.5 | 8.1 |
| Luxembourg | 120.0 | 0.8 |
| Netherlands | 300.0 | 1.9 |
| United Kingdom | 380.0 | 2.4 |
| EC institutions | 2,657.0 | 16.9 |
| Total EC area | 9,350.0 | 59.6 |
| Austria | 292.5 | 1.9 |
| Finland | 258.5 | 1.6 |
| Norway | 140.0 | 0.9 |
| Spain | 46.5 | 0.3 |
| Sweden | 247.5 | 1.6 |
| Other European institutions | 165.0 | 1.1 |
| Multinational institutions | 680.0 | 4.3 |
| Total Other Europe | 1,830.0 | 11.7 |
| Total Europe | 11,180.0 | 71.3 |
| Australia/New Zealand | 730.0 | 4.7 |
| Canada | 265.0 | 1.7 |
| Hong Kong | 50.0 | 0.3 |
| Japan | 1,091.0 | 7.0 |
| Korea | 50.0 | 0.3 |
| South Africa | 230.0 | 1.5 |
| United States | 1,090.3 | 6.9 |
| International institutions | 1,010.0 | 6.4 |
| Total Non-Europe | 4,516.3 | 28.8 |
| Grand total | 15,696.5 | 100.0 |

Source: EC Commission.

1/ Since 1981 an amount of more than ECU 4.6 billion has been raised by the Italian government, of which ECU 1.8 billion in 1985.

Diversity of investors in ECU bonds is understood to have increased substantially over the years. At first, the buyers of ECU bonds were mainly private investors from the Benelux countries. As the market developed, the geographical distribution of placements has widened and, although Belgian residents are still the most important buyers, placement in Austria, Australia, Denmark, and Spain, is reportedly progressing steadily due, among other things, to changes in local laws and regulations. Most recently, France decided to lift the requirement that its residents pay the premium of the so-called "Devise-titre" when buying ECU bonds issued by French borrowers or the EC institutions themselves, while Italy lowered the deposit requirement for its residents when buying ECU bonds issued by the European Communities.

As a part of its program to broaden the market for private ECU, the EC became the first issuer of non U.S. dollar-denominated bonds in the domestic U.S. market, when it issued ECU 200 million in ECU bonds in the U.S. in December 1984. Similarly, in the first quarter of 1985 the EEC issued ECU 50 million in ECU bonds in Japan.

(c) Yields

Statistical information on the yields of ECU bonds has been available since January 1982, when the Luxembourg Stock Exchange began calculating an average yield for ECU bonds. These rates do not have a direct comparison with rates calculated on the basis of instruments in the component currencies, however, because comparable instruments do not exist in all the component currencies. As a result, arbitrage possibilities between ECU bonds and bonds denominated in the ECU's component currencies are limited, and the ECU bond market, especially for longer maturities, operates somewhat independently of the underlying rates for instruments in the basket's components.

(3) Other instruments and transactions

Information on other types of ECU instruments and transactions is limited and fragmentary. Although data on activity in foreign exchange markets are not reported and published officially, the ECU has been reported to be the fourth most active unit in terms of turnover, following the U.S. dollar, Deutsche mark, and Swiss franc. It is reported that the ECU foreign exchange market, both spot and forward, is now well developed and very active, and the ECU is officially quoted at the foreign exchange fixings of all EC countries where such proceedings exist with the exception of Germany. 1/

1/ As part of measures to ease exchange regulations in France, French importers have been authorized since March 2, 1985 to obtain forward cover not exceeding six months in settlement for imports invoiced in ECUs.

The ECU is reportedly being used increasingly to price, invoice and settle commercial transactions. Some of the main Italian insurance companies have issued ECU-denominated life insurance policies. Some European multinationals have introduced the ECU in their intercompany billing and for external invoicing, and ECU-denominated credit cards and traveller's cheques have been introduced.

Since December 5, 1985, an ECU 10,000 currency option against U.S. dollars has been traded on the European Options Exchange. In addition, the Philadelphia Stock Exchange is planning to add an ECU 50,000 currency option and the London Commodity Exchange is considering the development of an ECU option. Various over-the-counter options are also offered by commerical banks. ECU futures contracts have been traded on the Financial Investment Division of the New York Cotton Exchange since January 7, 1986. The Chicago Mercantile Exchange has developed an ECU currency contract of ECU 125,000, in which trading started on January 15, 1986. ECU-denominated stock certificates were issued by two unit-trusts in September 1984 and in July 1985 and have been quoted on the Luxembourg stock exchange since then.

## II. The SDR

### 1. The unit of value

#### a. Purposes

The SDR presently serves as the unit of account for the Fund and is the unit in which all Fund transactions and operations, and members' obligations to and claims on the Fund, are denominated. The currencies of a few Fund members are pegged to the SDR, although, the unit does not play a generalized role as a numeraire for the expression of members' currency values. The SDR has been adopted as the unit of account of a number of other international organizations and conventions, and has played a limited role in denominating transactions and instruments in private financial markets.

#### b. Valuation

The SDR system was created by the Fund in 1969 as a means of supplementing the quantity of official reserves in the international monetary system. The creation of the SDR did not initially introduce a truly new unit, as the value of the SDR was initially set in terms of gold, but rather a new form of reserve asset. The major changes in international monetary arrangements in the early 1970s, in particular the move to a generalized system of floating exchange rates, gave rise to the need for a replacement for gold as the means of valuing the official SDR.

What became known as the "standard basket" approach to valuing the SDR was adopted in 1974, when the Fund redefined the value of the SDR as fixed amounts of the 16 leading currencies in international trade. As of July 1, 1978, the currency composition of the SDR basket (both currencies and weights) was revised on the basis of export data for the period 1972-76, with the U.S. dollar retaining a weight of 33 percent. Subsequently, because the large number of currencies in the basket was perceived as cumbersome and possibly a handicap for use of the SDR outside the Fund, and to facilitate unification of the interest rate and valuation baskets, the Fund decided, with effect from January 1, 1981, to reduce the number of currencies in the SDR basket to the five most important currencies in world trade and established procedures for subsequent revisions every five years. Pursuant to the latest regular five-yearly revision of the basket, the weights (but not the currencies in the basket) were adjusted again with effect from January 1, 1986. The initial and revised baskets are shown in Appendix Table 10.

Appendix Table 10. SDR Valuation Baskets

| Currency | July 1, 1974 - June 30, 1978 | | July 1, 1978 - December 31, 1980 | | January 1, 1981 - December 31, 1985 | | from January 1, 1986 | |
|---|---|---|---|---|---|---|---|---|
| | Percentage Weight at Inception | Currency Units | Percentage Weight at Inception | Currency Units | Percentage Weight at Inception | Currency Units | Percentage Weight at Inception | Currency Units |
| U.S. dollar | 33.0 | 0.40 | 33.0 | 0.40 | 42 | 0.54 | 42 | 0.452 |
| Deutsche mark | 12.5 | 0.38 | 12.5 | 0.32 | 19 | 0.46 | 19 | 0.527 |
| Japanese yen | 7.5 | 26.0 | 7.5 | 21.0 | 13 | 34.0 | 15 | 33.4 |
| French franc | 7.5 | 0.44 | 7.5 | 0.42 | 13 | 0.74 | 12 | 1.02 |
| Pound sterling | 9.0 | 0.045 | 7.5 | 0.050 | 13 | 0.071 | 12 | 0.0893 |
| | | | | | 100 | | 100 | |
| Canadian dollar | 6.0 | 0.071 | 5.0 | 0.070 | | | | |
| Italian lira | 6.0 | 47.0 | 5.0 | 52 | | | | |
| Netherlands guilder | 4.5 | 0.14 | 5.0 | 0.14 | | | | |
| Belgian franc | 3.5 | 1.6 | 4.0 | 1.6 | | | | |
| Swedish krona | 2.5 | 0.13 | 2.0 | 0.11 | | | | |
| Australian dollar | 1.5 | 0.012 | 1.5 | 0.017 | | | | |
| Danish krona | 1.5 | 0.11 | -- | -- | | | | |
| Norwegian krone | 1.5 | 0.099 | 1.5 | 0.10 | | | | |
| Spanish peseta | 1.5 | 1.1 | 1.5 | 1.5 | | | | |
| Austrian schilling | 1.0 | 0.22 | 1.5 | 0.28 | | | | |
| South African rand | 1.0 | 0.0082 | -- | -- | | | | |
| Saudi Arabian riyal | -- | -- | 3.0 | 0.13 | | | | |
| Iranian rial | -- | -- | 2.0 | 1.7 | | | | |
| | 100 | | 100 | | | | | |

In order to assure reasonable continuity in the valuation of the SDR, changes in the principle of valuation, or fundamental changes in the application of the principle in effect, cannot be made unless agreed by a high majority (85 percent) of the Fund's total voting power. The principles guiding revisions of the SDR's valuation basket were established in 1980. 1/ The main criteria to be followed in revisions are summarized below.

(i) The list of currencies that determine the value of the SDR is to be revised every five-year period from January 1, 1981, as necessary to include the currencies of the five-member countries of the Fund with the largest exports of goods and services during the five-year period ending 12 months before the effective date of the revision.

(ii) Revisions of the percentage weights for the currencies in the valuation basket are to reflect the values of the exports of goods and services and the balances of a member's currency held by other members in a manner that would broadly maintain the relative significance of these factors in determining the percentage weights in the 1981-1985 SDR valuation basket. The percentages so calculated are to be rounded to the nearest one percent.

(iii) Revisions are to be made in such a manner that the value of the SDR on the last business day preceding the effective date of the new basket will be the same under the method of valuation in effect before and after that date.

The value of the SDR in terms of currencies is established daily on the basis of representative market exchange rates reported to the Fund by its members. The SDR/U.S. dollar rate is calculated on the basis of the dollar values (mid rates) of the basket currencies in the London market at noon as reported to the Fund by the Bank of England. The SDR values of other member currencies are calculated from the SDR/U.S. dollar rate and representative rates of member currencies in terms of the U.S. dollar as reported to the Fund by its members.

c. Behavior of value

As with the ECU, the behavior of the SDR's value over time depends on the currency or currencies in terms of which it is valued and the period involved. Appendix Table 11 presents measures of short-run and longer-run stability of the values of the five freely usable currencies, which are also the SDR basket components, in terms of the ECU, the SDR

1/ See Decision No. 6631-(80/145) GS, September 17, 1980.

Appendix Table 11

The Stability of the Value of the ECU, the SDR, and the U.S. dollar in Terms of SDR Component Currencies

(Monthly observations from January 1979 through December 1985)

| | Coefficient of Variation | | | Annual Average % Change | | |
|---|---|---|---|---|---|---|
| | ECU | SDR | US$ | ECU | SDR | US$ |
| U.S. dollar | 0.24 | 0.10 | -- | -6.93 | 2.66 | -- |
| Deutsche mark | 0.05 | 0.09 | 0.18 | -1.81 | 2.21 | 4.47 |
| French franc | 0.07 | 0.20 | 0.29 | 2.18 | 5.99 | 7.97 |
| U.K. pound | 0.06 | 0.13 | 0.23 | -2.08 | 2.26 | 4.70 |
| Japanese yen | 0.21 | 0.08 | 0.07 | -5.64 | 1.92 | 0.37 |

Source: IMF International Financial Statistics.

and the U.S. dollar. By either measure the SDR value of all component currencies except the Japanese yen has been more stable than have their U.S. dollar values. Chart 2 shows the behavior of the component currencies' SDR values since 1974.

2. Uses by the IMF, its members, and other entities

a. The Fund

Apart from allocations of "official SDRs," all Fund credits, borrowings, investments, currency holdings and the resources administered by the Fund as trustee are denominated in SDRs, as are its members' quotas and reserve positions in the Fund. At the end of 1985 Fund credit to members, which is SDR denominated debt of Fund members, stood at SDR 37.8 billion (including SDR 2.5 billion outstanding Trust Fund loans). Fund members held SDR 39.5 billion in reserve positions (reserve tranche positions and loan claims) in the Fund the SDR value of the Fund's holdings of member currencies was SDR 97.2 billion. The Fund also held investments totaling SDR 380 million in SDR-denominated deposits with the BIS. Consequently, the Fund's use of the SDR denomination in its operations has led to significant official balances of SDR-denominated assets and liabilities apart from the allocation of official SDRs.

b. Fund members

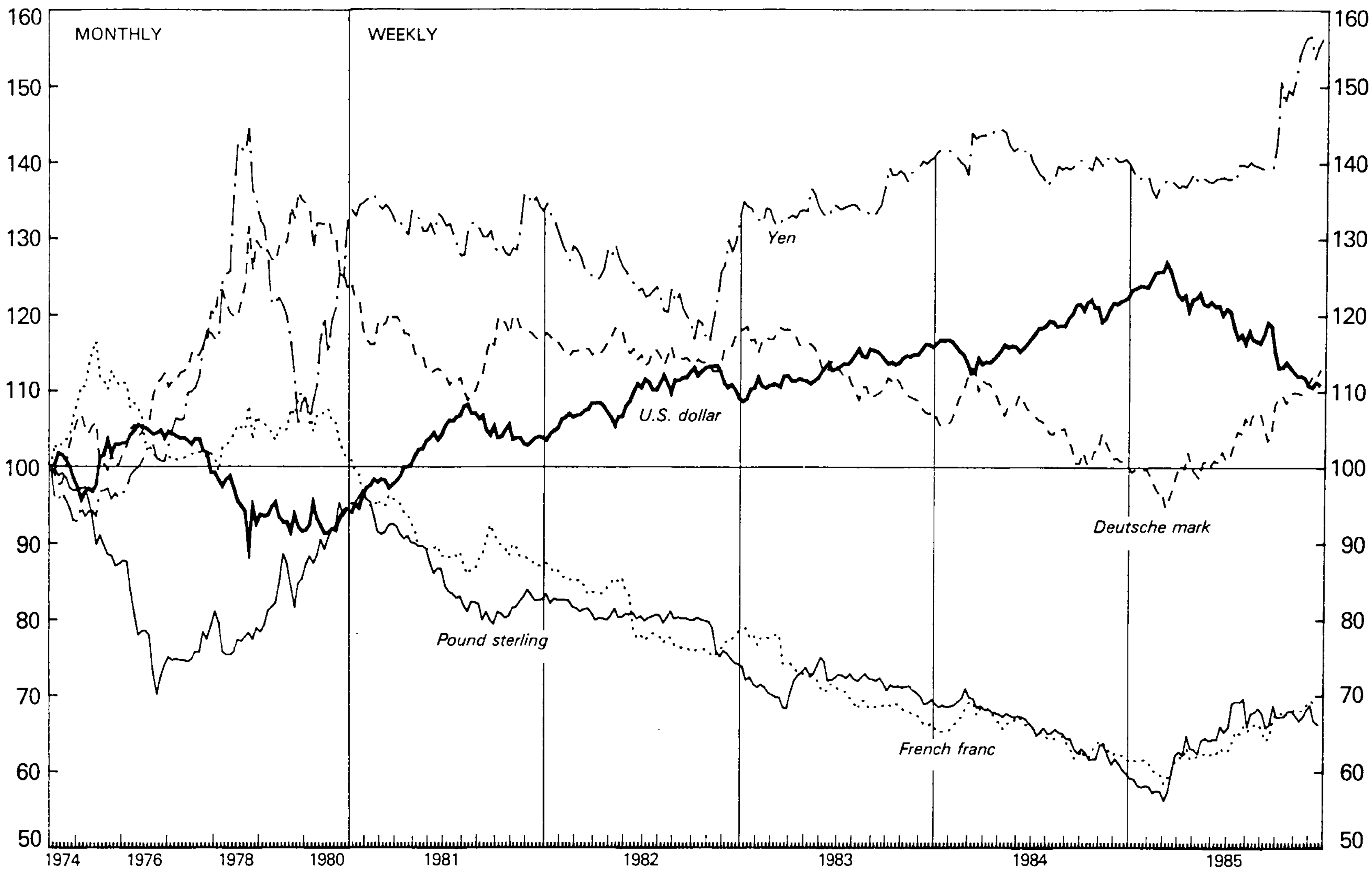
The SDR is used by some Fund members as the unit against which the value of their currencies is maintained. At the end of 1985, twelve

CHART 2

# INDEXES OF EXCHANGE RATES OF FIVE MAJOR CURRENCIES AGAINST THE SDR

JUNE 1974 - DECEMBER 1985

(June 28, 1974=100)



member countries of the Fund pegged the values of their currencies to the SDR. When a country pegs its currency to the SDR, the value of that currency in terms of other currencies is determined by reference to the SDR value of those currencies, as calculated and published daily by the Fund.

#### c. International organizations and conventions

A number of international organizations use the SDR as their unit of account or as the basis for their unit of account. These include the African Development Bank, the Arab Monetary Fund, the Asian Clearing Union, the International Development Association, International Fund for Agricultural Development, the Islamic Development Bank and the Nordic Investment Bank. In addition, various international conventions use the SDR as a standard of value in which to express monetary magnitudes, notably conventions expressing limits of liability for carriers in the international transport of goods and persons. In some cases, the SDR has been adopted in these conventions to replace the Poincare or Germinal franc, both of which are defined by reference to fixed quantities of gold. For example, the Universal Postal Union's and International Telecommunication Union's units of account are the gold franc, which has been declared by a legal instrument of these organizations to have a specified relationship to the SDR (one SDR equals 3.061 gold francs). Therefore, in practice, international postal and telecommunication accounts are maintained in SDRs.

### 3. The official SDR

#### a. Purpose

The official SDR is a supplement to existing reserve assets, allocated by the Fund in proportion to each participating member country's quota in the Fund. The volume of official SDRs in existence is determined by decisions of the Fund, and the Fund's membership has undertaken to pursue policies with respect to reserve assets that are consistent with "making the SDR the principal reserve asset in the international monetary system." 1/

#### b. Supply

The Fund creates SDRs by means of periodic allocations. The Fund's Articles of Agreement specify that: "In all its decisions with respect to the allocation and cancellation of special drawing rights the Fund shall seek to meet the long-term global need, as and when it arises, to supplement existing reserve assets in such a manner as will promote the attainment of its purposes and will avoid economic

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1/ Articles of Agreement, Article VIII, Section 7.

stagnation and deflation as well as excess demand and inflation in the world." 1/ Decisions to allocate SDRs are made by the Board of Governors, on the basis of a proposal of the Managing Director, concurred in by the Executive Board, and require an 85 percent majority of the Fund's voting power. 2/

Decisions to allocate SDRs are made for "basic periods" which last for five years unless another duration is agreed upon. 3/ The first basic period ran from 1970 to 1972, the second from 1973 to 1977, and the third from 1978 to 1981; the fourth basic period started in 1982 and, unless a decision is taken to the contrary, will run to the end of 1986. When allocations are made, the amount allocated to each participant is a uniform percentage of its quota. Allocations have occurred in the first and third basic periods, and cumulative allocations now amount to SDR 21.4 billion. The amounts and timing of SDR allocations are shown in Appendix Table 12.

The Fund may also cancel previously allocated SDRs. Decisions on cancellation are governed by the same principles and considerations that apply to allocations and are likewise made for five-year basic periods. 4/

If a participant in the SDR Department of the Fund either terminates its participation or withdraws from membership in the Fund under Article XXIV, it must surrender an amount of SDRs equal to its net cumulative allocation, and these SDRs are to be cancelled. 5/ The same procedure would apply for all participants if the SDR Department were liquidated. 6/

c. Interest rate

Participants pay charges on their net cumulative allocations of SDRs and, together with prescribed holders and the Fund, earn interest at the same rate, on their SDR holdings. Thus, a participant with holdings of SDRs in excess of (below) its allocation earns (pays) net interest on the difference. Net SDR interest or charges are payable quarterly. Over the years, the SDR interest rate has been raised from very low levels toward market rates. Since 1981 the interest rate on the SDR has been set equal to the average of the interest rates on prime domestic money market instruments in the five countries whose currencies are included in the SDR's valuation basket, weighted according to their

1/ Articles of Agreement, Article XVIII, Section 1(a).
2/ Ibid, Section 4(a).
3/ Ibid, Section 2.
4/ See Articles of Agreement, Article XVIII, Sections 1 and 2.
5/ See Articles of Agreement, Article XXIV, Sections 2-5.
6/ See Articles of Agreement, Article XXV and Schedule I.

Appendix Table 12. SDR Allocations 1970-85

(In billions of SDRs)

| | Basic Period | SDR Allocations | Net Cumulative Allocations |
|---|---|---|---|
| 1970 | First | 3.4 | 3.4 |
| 1971 | First | 3.0 | 6.4 |
| 1972 | First | 3.0 | 9.4 |
| 1973 | Second | -- | 9.4 |
| 1974 | Second | -- | 9.4 |
| 1975 | Second | -- | 9.4 |
| 1976 | Second | -- | 9.4 |
| 1977 | Second | -- | 9.4 |
| 1978 | Third | -- | 9.4 |
| 1979 | Third | 4.0 | 13.4 |
| 1980 | Third | 4.0 | 17.4 |
| 1981 | Third | 4.0 | 21.4 |
| 1982 | Fourth | -- | 21.4 |
| 1983 | Fourth | -- | 21.4 |
| 1984 | Fourth | -- | 21.4 |
| 1985 | Fourth | -- | 21.4 |

current shares in the basket, as derived from market exchange rates. 1/ The rate is calculated weekly, on the basis of market rates for the preceding Friday.

d. Uses

Participation in the SDR Department is open to all member countries of the Fund, and all Fund members are now participants in the SDR Depart-

1/ The yields used in this calculation are the market yield for three-month U.S. Treasury bills, the three-month interbank deposit rate in Germany, the three-month interbank money rate on private paper in France, the discount rate on two-month (private) bills in Japan and the market yield for three-month U.K. Treasury bills.

ment. The Fund itself may accept and use SDRs in transactions and operations specified in the Articles of Agreement. The Fund also has the power to prescribe "other official entities" as holders of SDRs. 1/ At present, 14 institutions have been prescribed to hold SDRs. They may acquire and use SDRs in transactions and operations by agreement with any participant or other prescribed holder, but do not receive allocations or have any obligations to accept SDRs.

Official SDRs may be used only in the various ways provided for in the Fund's Articles and Decisions. SDRs may be used by participants in spot transactions to acquire other monetary assets, in two categories of transactions, transactions with designation and transactions by agreement. The SDR's liquidity is assured for participants having a balance of payments need to use reserves by the designation mechanism: the Fund designates another participant in a strong balance of payments and gross reserve position to provide currency in exchange for SDRs to the participant wishing to convert its SDRs, provided that the user has a balance of payments need to use them. Each participant is obligated to accept SDRs in designation to the extent its holdings are less than three times its total allocations. Both participants and prescribed holders of SDRs can also use SDRs to obtain foreign exchange from other participants or prescribed holders willing to accept the SDRs voluntarily in transactions by agreement.

In order to widen the range of possible uses of SDRs, the Fund may prescribe uses of SDRs that are not otherwise explicitly authorized by the Articles. These are called "operations." Between December 1978 and March 1980 the Fund adopted a series of decisions to permit the use of SDRs in swap arrangements, in forward operations, in loans, in the settlement of financial obligations, as security for the performance of financial obligations, and in donations.

SDRs are also used in a range of transactions and operations between members and the Fund. The Fund accepts SDRs in repurchases of drawings, and charges on the use of the Fund's resources are paid in SDRs. The reserve asset portion of members' quota subscriptions is to be paid in SDRs, unless decided otherwise by the Fund. The Fund may use SDRs in various ways, including in financing purchases, payment of remuneration (i.e., interest payments on members' creditor positions in the Fund), payment of interest and principal on borrowings, and replenishment of needed currencies. The Fund may be authorized to buy or sell SDRs against the currency of other members 2/ though it has done so only for a few specific purposes. Currently, the Fund sells SDRs under this provision to members needing them in order to pay charges to the Fund.

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1/ Article XVII, Section 3.
2/ Article V, Section 6.

The number and value of transactions in the SDR Department has grown considerably over the years (see Appendix Table 13), and the SDR is now used extensively as a medium of exchange and settlement between the Fund and its members. Total SDR transfers increased from an average of SDR 1 billion per year in the period 1970-75 to an average of about SDR 16 billion per year between 1982 and 1985. The last several years have seen an annual average of almost 2,500 transfers (or approximately 10 per business day).

Appendix Table 13. Summary of Transfers of SDRs
Annual Averages

(SDR million)

| | 1970-1975 | 1976-1978 | 1979-1981 | 1982-1984 | 1985 |
|---|---|---|---|---|---|
| Transfers among participants and prescribed holders | 661 | 1,475 | 2,151 | 5,808 | 5,026 |
| of which | | | | | |
| Transactions with Designation | 261 | 446 | 1,458 | 2,638 | 1,950 |
| Transactions by Agreement | 377 | 960 | 520 | 2,255 | 2,593 |
| Transfers from Participants to General Resources Account | 296 | 1,381 | 3,406 | 5,186 | 4,502 |
| Transfers from General Resources Account to Participants and Prescribed Holders | 204 | 1,163 | 2,135 | 5,206 | 6,391 |
| Total Transfers | 1,162 | 4,019 | 7,692 | 16,201 | 15,918 |

Source: IMF: Financial Statement of the SDR Department December 1985.

Voluntary dealings among participants and prescribed holders (transactions by agreement and operations) have increased from about SDR 0.3 billion in 1980 to about SDR 2.8 billion in 1985. Transactions by agreement have exceeded designated transactions in amount since 1983. 1/

1/ These developments are the subject of a staff report to be issued next month: "Report on Voluntary Dealings in SDRs."

However, the volume of these voluntary dealings among participants and prescribed holders remains relatively small, and the SDR's liquidity is not assured through this channel. The principal source of the SDR's liquidity remains the ability of participants having a balance of payments need to use reserves to exchange their SDRs immediately for freely usable currency through the designation mechanism, supplemented by the Fund's obligation to accept SDRs in repurchases and payment of charges.

4. Private SDRs

a. History

The SDR has also been used to denominate some private contracts, agreements and financial instruments. The value of these "private" SDRs is determined on the basis of the same basket of currencies as the official SDR. Private SDRs are subject to the conventions of the marketplace and are not constrained by the rules governing the uses of official SDRs. As the Fund does not regulate the use of the SDR-denomination outside the Fund, private entities are free to adopt the closed as well as the open basket definition. 1/

The first SDR-denominated bond was issued in June 1975, the same month in which the first commercial bank deposit facility in SDRs was offered. The first and subsequent SDR-denominated bonds are really SDR-indexed currency bonds, in that the basket method of valuation has been used to determine the value of the bonds, but payments have been generally made by transfer of one or all of the SDR's component currencies, most often the U.S. dollar--that is, an SDR-denominated asset has not generally been used as a means of payment.

The first syndicated loans denominated in SDRs did not appear until after the reduction of the SDR valuation basket to five currencies in January 1981. Current accounts denominated in SDRs were first offered at about the same time. After the last SDR bond issue in December of 1981, development of the private SDR came to a virtual halt, and a relatively small volume of SDR-denominated bank deposits comprise most of the present "market." After a contraction from 1981 levels, the amount of such deposits stabilized and has recently shown some tendency to increase. Their existence is probably related to the financial activities of those organizations and firms whose operations are denominated in SDRs, whose numbers have grown modestly over the last five years.

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1/ An open SDR basket is defined as consisting of whatever currency amounts are currently stipulated by the Fund, whereas a closed SDR basket is defined as specific amounts of currencies which do not change, even if the Fund's definition changes.

b. SDR-denominated financial instruments 1/

(1) Banking sector

(a) Deposits

The first deposit facility in SDRs was offered by a bank in London in June 1975. By the end of 1978, some 20 banks were prepared to accept SDR-denominated deposits, although it is not certain how many of them had actually taken deposits at that stage. With the adoption of the five-currency basket in 1981, the volume of SDR-denominated deposits increased substantially. In that year, two commercial banks offered current accounts denominated in SDRs, and participants in the Euroclear and Cedel clearing systems for Eurobonds became able to purchase SDR-denominated bonds by debiting the SDR-denominated current accounts held by these clearing systems. These accounts are used to make payments in connection with the issue of SDR-denominated loans and bonds (e.g. brokerage fees and interest).

By the end of 1981, it was estimated that between 40 and 50 banks were prepared to accept SDR deposits and that the volume of deposits amounted to about SDR 5-7 billion net of interbank deposits. 2/ Starting in 1982, the volume of SDR-denominated deposits dwindled; by end-1983, SDR-denominated deposits with Belgian, Luxembourg and U.K. banks and the BIS totaled only about SDR 2.2 billion, about the same amount as was outstanding at the end of September 1985 (see Appendix Table 14).

(b) Certificates of deposit

The first certificates of deposit (CD) denominated in SDRs were issued in June 1980 at a fixed rate of interest. During 1981, there were a number of issues, bringing the total value of such CDs issued to SDR 500-700 million by the end of that year. 3/ Moreover, in January 1981, a group of seven banks in London announced they would issue and trade SDR-denominated CDs. Although there were some new issues of CDs and some secondary market trading in the first half of 1982, interest in SDR-denominated CDs diminished after that time and the market is now believed to be insignificant.

1/ For a more detailed discussion see, "Evolution of the SDR Outside the Fund" in George von Furstenberg (ed.), International Money and Credit: The Policy Roles, pp. 561- 586, Washington, D.C., 1983.
2/ von Furstenberg (ed.) (1983), p.571.
3/ Lawrence de V. Wragg, "The SDR Revolution-Speedy and Smooth," International Herald Tribune, November 24, 1981, Euromarket Supplement, Part I, p. 93.

Appendix Table 14

SDR Denominated Bank Deposits

(SDR millions)

| At end of: | 1983 | 1984 | 1985 March | 1985 June | 1985 Sept. |
|---|---|---|---|---|---|
| | 2,162 | 1,473 | 1,615 | 1,666 | 2,217 |

Source: Bank of England, National Bank of Belgium, and Bank for International Settlements.

(c) Syndicated bank loans

In 1981 and 1982, there were seven syndicated bank loans totaling approximately SDR 1.2 billion, which compares with a total of SDR 104.3 billion for syndicated credits in all denominations in 1981. 1/ No SDR-denominated syndicated loans have been arranged after 1982.

(2) Bonds and notes

Between 1975 and 1981, there were 13 issues of SDR-denominated bonds or notes for a total of SDR 563 million, of which SDR 60 million is currently outstanding. Except for two issues by private corporations, all issuers were official institutions. No SDR-denominated bonds or notes have been issued since late 1981.

(3) Other

Following the simplification of the SDR valuation basket in January 1981, and with the emergence of SDR-denominated syndicated credit, deposit and CD markets, a modest forward market in SDRs against other major currencies (mainly U.S. dollars) developed. Forward operations still occur on a modest scale.

Use of the SDR for invoicing or pricing has been rare. Since 1975, transit tolls payable to the Suez Canal Authority by vessels using the waterway have been denominated in SDRs. A multinational corporation used the SDR for intra-company pricing of its finished product for some time, but has discontinued this use.

1/ Bank of England, Quarterly Bulletin, Vol. 22 (March 1982), p. 47.

ANNEX

AGREEMENT*

OF 13th MARCH 1979

BETWEEN THE CENTRAL BANKS OF THE MEMBER STATES

OF THE EUROPEAN ECONOMIC COMMUNITY

LAYING DOWN THE OPERATING PROCEDURES FOR THE EUROPEAN MONETARY SYSTEM

THE CENTRAL BANKS OF THE MEMBER STATES OF THE EUROPEAN ECONOMIC COMMUNITY,

HAVING REGARD to the Resolution of the European Council of 5th December 1978 on the establishment of the European Monetary System (EMS) and related matters;

HAVING REGARD to Regulation (EEC) No. 907/73 of the Council of the European Communities of 3rd April 1973 establishing a European Monetary Co-operation Fund;

HAVING REGARD to Regulation (EEC) No. 3180/78 of the Council of the European Communities of 18th December 1978 changing the value of the unit of account used by the European Monetary Co-operation Fund;

HAVING REGARD to Regulation (EEC) No. 3181/78 of the Council of the European Communities of 18th December 1978 concerning the European Monetary System;

WHEREAS the European Council has agreed to set up a scheme for the creation of closer monetary co-operation leading to a zone of monetary stability in Europe;

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* Text incorporating the amendments made by the Instrument of 10th June 1985.

WHEREAS the said Resolution provides that a European currency unit, the ECU, shall be at the centre of the European Monetary System and that the value and composition of the ECU shall, initially, be identical with the value and composition of the European unit of account (EUA);

WHEREAS under the terms of the said Resolution

- each currency will have an ECU-related central rate and the central rates will be used to establish a grid of bilateral parities or central rates,
- fluctuation margins of 2.25 per cent. will be fixed around these bilateral central rates, although Member States not at present participating in the narrower margins mechanism may in the initial stage of the European Monetary System opt for wider margins of up to 6 per cent., which must be progressively reduced as soon as economic conditions permit;

WHEREAS the said Resolution further provides that a formula for an ECU-based basket shall be used as an indicator to detect divergences between Community currencies, and sets out the principles governing the operation of this indicator, which will be re-examined at the end of a period of six months;

WHEREAS this re-examination will also cover questions regarding imbalances accumulated by divergent creditor or debtor countries;

WHEREAS a Member State that does not initially participate in the exchange rate mechanism can do so at a later date and whereas it is therefore advisable to ensure co-operation between the central bank of such a State and the central banks of the participating States;

WHEREAS very short-term credit facilities of unlimited amount will be created;

WHEREAS the European Council has asked the central banks of the Member States of the Community to amend their Agreement of 10th April 1972 on the narrowing of the margins of fluctuation between the currencies of the Member States so as to embody the rules set forth in the said Resolution;

WHEREAS in order to make provision for means of settlement the central banks have been asked initially to transfer to the European Monetary Co-operation Fund, in the form of revolving swaps against ECUs, 20 per cent. of their gold holdings and 20 per cent. of their US dollar reserves, and thereafter to keep at least 20 per cent. of the said reserves on deposit with the European Monetary Co-operation Fund;

HAVE AGREED AS FOLLOWS:

## I. EXCHANGE RATE MECHANISM

### Article 1 - Central rates in terms of the ECU

Each participating central bank shall notify the Secretariat of the Committee of Governors of the Central Banks of the Member States of the European Economic Community of a central rate in terms of the ECU for its currency. The Secretariat shall pass on this information to the other central banks and the Commission of the European Communities.

### Article 2 - Intervention rules

2.1 Each participating central bank shall notify the Secretariat of the Committee of Governors of the rates for compulsory intervention expressed in its currency, and the Secretariat shall pass on this information to the other central banks. These rates shall be fixed in relation to the bilateral central rates derived from the central rates in terms of the ECU referred to in Article 1 of the present Agreement. The market shall be notified of them.

2.2 Interventions shall in principle be effected in currencies of the participating central banks. These interventions shall be unlimited at the compulsory intervention rates. Other interventions in the foreign exchange market shall be conducted in accordance with the relevant guidelines that were adopted by the Committee of Governors in its Report of 9th December 1975 or that may be adopted in the future, or shall be subject to concertation among all the participating central banks.

Article 3 - Operation of the indicator of divergence

3.1 On either side of the central rate for its currency in terms of the ECU each participating central bank shall establish rates for its currency in terms of the ECU that will constitute "thresholds of divergence". These thresholds of divergence shall be calculated in such a way as to neutralise the influence of the differences in weights on the probability of their being reached; they shall be set at 75 per cent. of the maximum divergence spread, this being measured by the percentage difference between the daily rate and the central rate of a currency against the ECU when that currency is standing at the opposite pole from all the other currencies at the compulsory intervention rates referred to in Article 2.1 of the present Agreement. The necessary steps shall be taken to take account of the effects of the adoption of different maximum margins of fluctuation for the participating currencies and of the possible non-participation of a currency in the exchange rate mechanism.

3.2 If a currency crosses a divergence threshold, this shall entail the consequences set out in paragraph 3.6 of the Resolution of the European Council of 5th December 1978.

Article 4 - Method of calculating the values of the ECU in each currency

For the purposes of the operation of the indicator of divergence provided for under Article 3 of the present Agreement, the market value of the ECU in each currency shall be calculated by a uniform method as frequently as necessary and at least on the occasion of each daily concertation session among central banks.

Article 5 - Non-participation

Any central bank that is not participating in the exchange rate mechanism shall co-operate with the other central banks in the concertation and the other exchanges of information necessary for the proper functioning of the exchange rate mechanism.

## II. VERY SHORT-TERM FINANCING

### Article 6 - Basic principles

6.1 To enable interventions to be made in Community currencies, the participating central banks shall open for each other very short-term credit facilities, unlimited in amount, in accordance with the conditions set out in Articles 7 to 16 of the present Agreement.

6.2 The financing operations concluded in this connection shall take the form of spot sales and purchases of Community currencies against the crediting or debiting of accounts denominated in ECUs with the European Monetary Co-operation Fund (hereinafter referred to as "EMCF").

### Article 7 - Accounting procedures

7.1 The accounts opened for the central banks in the books of the EMCF shall be denominated in ECUs. The conversion of currencies into ECUs shall be effected at the daily rates for the ECU as established by the Commission's staff on the basis of the method adopted. The relevant rates shall be those ruling on the day on which the interventions were made.

7.2 The value date of the financing operations shall be identical with the value date of the interventions in the market.

### Article 8 - Remuneration*

8.1 The debtor and creditor interest rates applying to very short-term financing operations shall be the weighted average of the most representative domestic money-market rates in those EEC countries whose currencies make up the ECU basket. The average is weighted in accordance with the weights of these currencies in the ECU basket as derived from the ruling ECU central rates. The weighted average shall be calculated on the basis of the average of daily observations during each month and shall apply during the following month to all outstanding amounts in respect of very short-term financing operations.

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* Amended by the Instrument of 10th June 1985.

8.2 Accrued interest shall be paid in ECUs at each monthly settlement date or, between settlement dates, at the same time as advance liquidation of a debtor balance is effected.

8.3 For the purposes of Article 8.1 each central bank whose currency is in the ECU basket shall notify the Secretariat of the Committee of Governors of the Central Banks of the Member States of the European Economic Community of the title of its reference rate. The Secretariat shall pass on this information to the other central banks, the Commission of the European Communities and the Agent of the European Monetary Co-operation Fund.

Article 9 - Initial settlement date

The initial settlement date for a very short-term financing operation shall be the last working day preceding the sixteenth day of the second month following that in which the value date of the intervention fell.

Article 10 - Automatic renewal

At the request of the debtor central bank, the initial settlement date for a financing operation may be extended for a period of three months.

However:

(a) any initial settlement date may only be automatically extended once for a maximum of three months;

(b) recourse may only be had to the renewal facility referred to above if the relevant debt does not thereby remain continuously outstanding for more than six consecutive months;

(c) the total amount of indebtedness resulting from application of the present Article may at no time exceed a ceiling equal to the debtor quota of the central bank concerned under the short-term monetary support arrangement;

(d) if a central bank has recourse to the additional automatic borrowing facility for six consecutive months, the Committee of Governors shall take steps to ascertain whether the payments deficit of the country concerned is such that recourse to other means of financing, in particular short-term monetary support or medium-term financial assistance within the EEC, would be more appropriate.

Article 11 - Renewal by mutual agreement

11.1 Any debt exceeding the ceiling laid down in Article 10(c) of this Agreement may be renewed once for three months subject to the agreement of the creditor or creditors in the EMCF.

11.2 Any debt already renewed automatically for three months may be renewed a second time for a further three months subject to the agreement of the creditor or creditors in the EMCF.

11.3 Debts and claims thus extended by mutual agreement shall be settled separately outside the provisions of Articles 12, 13 and 14 of this Agreement without prejudice, however, to the priority accorded to settlements carried out under those Articles. Offsetting or advance settlement of debts and claims of the kind for which provision is made in the present Article shall be subject to the agreement of all creditors and debtors in the EMCF, whatever their status.

Article 12 - Order of repayment of claims

12.1 Claims arising from financing operations carried out in accordance with Articles 9 and 10 above shall be settled in order of seniority; however, if a central bank's claim exceeds the amount of its creditor quota under the short-term monetary support arrangement, that central bank may request that the excess be treated for purposes of the next settlement as equal in seniority to the most senior claims of other creditor central banks.

12.2 All claims arising within the same monthly accounting period shall be regarded as of equal seniority. When a settlement covers a number of claims regarded as of equal seniority, each of the components of the settlement shall be distributed in proportion to the respective amounts of the claims.

12.3 The rules governing the order or distribution of settlements may be departed from subject to the agreement of all the parties to the financing operations carried out in accordance with Articles 9 and 10 of the present Agreement.

Article 13 - Automatic offsetting

13.1 All the debts and claims of a single central bank arising from the operations provided for under Articles 9 and 10 of the present Agreement shall, where appropriate, be automatically offset against each other.

13.2 Any new liability shall be offset against the most senior claim of the same central bank. Any new claim shall be offset against the most senior debt of the same central bank.

Article 14 - Advance repayment

14.1 Any debtor balance recorded in accordance with Articles 9 and 10 of the present Agreement may be settled in advance at the request of the debtor central bank:

- at any time in the currency of a creditor in the EMCF under Articles 9 and 10 of the present Agreement;
- on the monthly settlement date by transfer of the means of settlement provided for in Article 16 of the present Agreement.

14.2 Any advance repayment shall be applied first to the most senior liabilities contracted under Article 10 of the present Agreement.

Article 15 - Working balances

The central banks may hold working balances in Community currencies within the limits laid down by the Committee of Governors. These limits may be exceeded only with the consent of the central bank concerned.

Article 16 - Means of settlement*

16.1 When a financing operation falls due, settlement shall be carried out - insofar as this is not done in the first instance by means of holdings in the creditor's currency - entirely or in part by transferring ECUs, with the proviso that:

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*Article 16.1 amended by the Instrument of 10th June 1985.

- a creditor central bank shall not be obliged to accept settlement by means of ECUs of an amount equal to more than 50 per cent. of its claim which is being settled, unless its assets in ECUs are smaller than its forward sales of ECUs to the EMCF;
- if, but only to the extent that, a creditor central bank's assets in ECUs are smaller than its forward sales of ECUs to the EMCF, it shall be obliged to accept full settlement in ECUs; if the claim of the central bank in question exceeds the amount of its net debtor position in ECUs, the rule set out in the above indent shall be applied to the balance of the claim.

ECU assets referred to above include forward purchases of ECUs from the EMCF.

Insofar as settlement is only partially effected by transferring ECUs, the balance shall be settled by transferring other reserve assets in accordance with the composition of the debtor central bank's reserves as at the end of the month preceding the settlement.

These provisions shall be without prejudice to other forms of settlement agreed between creditor and debtor central banks.

Debtor balances in ECUs settled by means of assets denominated in currencies and in SDRs shall be converted into such assets on the basis of the daily rates for the ECU established by the Commission's staff.

16.2 For the purposes of the preceding paragraph the composition of the debtor's reserves shall be determined on the basis of assets denominated in SDRs and in currencies. Nevertheless, gold holdings may also be taken into account if the price proposed by the debtor central bank is accepted by the creditor central bank. As far as assets denominated in SDRs and in currencies are concerned, the debtor central bank may choose which assets it will deliver in settlement.

16.3 If the debtor central bank no longer possesses ECUs and wishes to acquire some, it shall apply in the first instance to central banks that are net accumulators of ECUs or possibly to the EMCF. In the latter case, the ECUs shall be acquired against the contribution of an equal percentage of the gold and dollar assets held by that central bank.

## III. CREATION, UTILISATION AND REMUNERATION OF ECUs

### Article 17 - Creation of ECUs against contributions of gold and dollars

17.1 Each central bank participating in the exchange rate mechanism outlined in Chapter I of the present Agreement shall contribute to the EMCF 20 per cent. of its gold holdings and 20 per cent. of its gross dollar reserves as at the last working day of the month preceding the month in which the present Agreement takes effect; it shall be credited by the EMCF with an amount of ECUs corresponding to these contributions.

Central banks that are not participating in the exchange rate mechanism referred to above may likewise make contributions in accordance with the terms of the preceding sub-paragraph.

17.2 The contributions referred to in Article 17.1 of the present Agreement shall be made available in the case of the participating central banks at the latest ten working days after the implementation of the present Agreement or in the case of the non-participating central banks at the time of exercising the option referred to above.

17.3 The contributions of gold and dollars shall take the form of three-month revolving swaps against ECUs which may be unwound at two working days' notice. These operations shall be concluded at flat rates.

17.4 For the purposes of the swap operations referred to in the present Article the value of the reserve components transferred to the EMCF shall be established as follows:

- for the gold portion, the average of the prices, converted into ECUs, recorded daily at the two London fixings during the previous six calendar months, but not exceeding the average price of the two fixings on the penultimate working day of the period;
- for the dollar portion, the market rate two working days prior to the value date.

17.5 Contracts shall be concluded between each central bank and the EMCF detailing the arrangements for the delivery of the gold and dollars to the EMCF and for their management insofar as this is entrusted to the central banks.

17.6 At the beginning of each quarter, when the swaps referred to in the present Article are renewed, the central banks and the EMCF shall make the necessary adjustments to these swaps, first to ensure that each central bank's contribution to the EMCF continues to represent at least 20 per cent. of its gold and dollar reserves on the basis of its gross reserve position recorded on the last working day of the preceding quarter and, secondly, to take account of any price or rate changes that may have occurred since the initial contribution or previous adjustment.

Article 18 - Utilisation of ECUs*

18.1 ECU assets shall be used in intra-Community settlements within the limits and on the terms set out in Article 16 of the present Agreement.

18.2 The EEC central banks may transfer ECUs to one another against currencies, gold and other monetary assets. They may also exchange ECUs with other central banks and international monetary institutions which have been accorded the status of Other Holder by the EMCF on the terms and conditions it has established.

18.3 For the purposes of meeting a decline in its dollar reserves a central bank may acquire dollars against ECUs from the EMCF between two periodic adjustments, initially by unwinding a swap transaction.

18.4 The operations referred to in Articles 18.2 and 18.3 of the present Agreement shall not be carried out for the sole purpose of altering the composition of a central bank's reserves.

Article 18a - Mobilisation mechanism**

18a.1 In the event of a need for intervention currency a central bank may mobilise ECU holdings against dollars through the intermediary of the EMCF up to a ceiling which is defined in the following way:

- a proportion of the ECUs received by the central bank concerned through the operations referred to in Article 17.1 of the present Agreement. This proportion shall be determined at the beginning

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*Article 18.2 amended by the Instrument of 10th June 1985.
**Article 18a inserted by the Instrument of 10th June 1985.

of each swap period by the ratio of the ECU equivalent of the EMCF's total dollar holdings to the total amount of ECUs created by the EMCF under Article 17.1 of the present Agreement, multiplied by a factor which shall be agreed unanimously by the Governors of the central banks;

- plus the amount of ECU assets held by the central bank in excess of its forward sales of ECUs to the EMCF (net creditor position), or minus the amount by which its forward sales of ECUs to the EMCF exceed its ECU assets (net debtor position). ECU assets referred to above include forward purchases of ECUs from the EMCF.

At least four working days' notice shall be given by the mobilising central bank.

18a.2 To cover the mobilisation operations referred to in the preceding paragraph, each central bank other than the mobilising central bank undertakes to provide spot dollars in proportion to and up to an amount equivalent to its forward purchases of dollars from the EMCF in accordance with Article 17 of the present Agreement, minus any amount which may have been withdrawn in accordance with Article 18.3. In exceptional circumstances, a central bank may opt out entirely or in part from participation in the initial mobilisation operation (see Article 18a.1) or its renewal (see Article 18a.5). In such an event the uncovered amount shall be shared out in proportion to the undertakings of the other central banks. To the extent that a mobilisation request cannot be met out of the commitments of the other central banks, it shall be automatically scaled down by the necessary amount.

18a.3 At the request of the mobilising central bank and through the intermediary of the EMCF, the proceeds of the mobilisation operations referred to above may be converted immediately fully or in part into the currency of a participating central bank, subject to its agreement. In this event, the conversion request will be met by the central bank issuing the currency requested, together with any other central bank making voluntary contributions.

18a.4 All the operations with the EMCF referred to in the preceding paragraphs shall take the form of three-month swaps which shall be concluded at flat rates. The rate applicable is the market rate two working days prior to the value date of the spot transactions.

18a.5 In the event of continuing need for intervention currency the swaps referred to above may be renewed once at the request of the mobilising central bank. In this event, the EMCF and the central banks shall make the necessary adjustments:

- first, to ensure that a central bank's use of the mobilisation mechanism does not exceed the ceiling referred to in Article 18a.1;
- secondly, to ensure that the dollar contributions made by the central banks in respect of Article 18a.2 are in proportion to and within the commitments defined there;
- thirdly, to take account of exchange rate changes that may have occurred since the beginning of the swap to be renewed.

18a.6 At the request of the mobilising central bank the swap may be unwound fully or in part before maturity with at least three working days' notice.

18a.7 Central banks receiving currency assets from the EMCF shall pay interest on these assets. Central banks which have provided currency assets to the EMCF shall receive interest on these assets. The rate of interest shall be the most representative domestic money-market rate in the country whose currency has been used, two working days prior to the value date of the spot transaction, i.e. in the case of the US dollar, the rate used by the IMF for the calculation of SDR remuneration and in the case of Community currencies, the rates provided by Article 8.1 of the present Agreement. Interest payments shall be due at maturity of the swaps or when the swaps are unwound prematurely and shall be payable in the currency used.

*Article 19 - Remuneration**

19.1 Central banks whose ECU assets are less than their forward sales of ECUs shall pay interest to the EMCF on the difference between these two aggregates. The EMCF shall pay central banks whose ECU assets exceed their forward sales interest on the difference between these two aggregates. The amount of interest due shall be calculated in proportion to the average daily balances.

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*Articles 19.3 and 19.4 inserted by the Instrument of 10th June 1985.

19.2 The rate of interest provided for in Article 19.1 of the present Agreement shall be determined in accordance with the provisions of Article 8 of the present Agreement. Such interest shall be paid monthly.

19.3 ECU assets referred to in Article 19.1 include forward purchases of ECUs from the EMCF.

19.4 Articles 19.1 and 19.2 apply by analogy to remuneration of ECU assets held with the EMCF by Other Holders referred to in Article 18.2 of the present Agreement.

Article 20 - Liquidation*

20.1 Save in the event of a unanimous decision to the contrary, the swaps referred to in Articles 17.3 and 18a.4 of the present Agreement shall be unwound at the end of the period for which the Governors of the central banks extend the mechanism provided for in Article 17 of the present Agreement.

20.2 For this purpose central banks that are net users of ECU assets shall bring these back up to a level equal to that of their forward sales and central banks that are net accumulators shall transfer to the net users the excess of their ECU assets over their forward sales either directly or through the intermediary of the EMCF.

20.3 The transfers of ECUs provided for in the preceding paragraph shall be effected in exchange for the currency of the central banks that are net accumulators, or in accordance with any other arrangements agreed between the parties, or against the transfer of reserve components in proportion to the composition of the reserves of the central bank repurchasing ECUs, this composition being determined in accordance with the provisions of Article 16.2 of the present Agreement.

Article 21 - Institutional provisions

The Committee of Governors shall periodically review the operation of the present Agreement in the light of experience gained.

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*Article 20.1 amended by the Instrument of 10th June 1985.

Article 22 - Termination of the Agreement of 10th April 1972

22.1 The present Agreement terminates and replaces, with effect from 13th March 1979, the Agreement of 10th April 1972, as amended by the Agreement of 8th July 1975, establishing a system for the narrowing of the margins of fluctuation between the currencies of the European Economic Community.

22.2 The present Agreement shall be drawn up in duly signed versions in English, French and German. A certified copy of the original in each language shall be sent to each central bank by the Secretariat of the Committee of Governors, which is required to retain the originals.

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