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REVIEW OF METHODOLOGY OF CONVERTING NATIONAL INCOME IN NATIONAL CURRENCIES INTO A COMMON UNIT AND RELATED QUESTIONS

(Memorandum prepared by the Statistical Office)

Introduction

1. In its report to the General Assembly at its thirty-second session, the Committee on Contributions stated:[1/]

> "In past reviews of the scale, estimates expressed in national currencies have been converted into a common currency unit, the United States dollar, for the purpose of comparing the national incomes of Member States. However, the uncertainties and disturbances which have been experienced in the international monetary system of the market economies by the substitution of floating exchange rates for the par value régime, including the introduction of a floating exchange rate between the United States dollar and other currencies, and certain specific features of the system of currency exchange rates in countries with centrally planned economies, led the Committee to believe that the methodology of converting national incomes in national currencies into a common unit merited further exploration.
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> "The Committee, therefore, discussed alternative possibilities such as the use of purchasing power parities or the conversion into a common unit comprising a basket of currencies. It noted, however, that both alternatives were statistically and conceptually complex for the membership at large whose economic systems and stages of development varied widely. The Committee agreed that the question would be re-examined at its next session."

2. Sections (i) and (ii) of this document are intended to aid the Committee's discussion of these two questions, respectively.

1/ Official Records of the General Assembly, Thirty-second session, Supplement No. 11 (A/32/11), paragraphs 32 and 33.

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3. In its report to the General Assembly at its thirty-first session in 1976, the Committee on Contributions stated:[2/]

> "... It noted that movements in current values of the national incomes of Member States, when expressed in United States dollars, resulted from changes in quantity of output, price levels and exchange rates. Where price increases were offset by changes in exchange rates (by depreciation or devaluation), national income expressed in dollars at the new exchange rate served to eliminate in part the effect of domestic inflation. However, owing to the devaluation of the United States dollar, the currencies of a number of countries experienced appreciation in varying degrees. For those countries, the effect of converting national income expressed in a national currency into dollars was to add the rate of currency appreciation to the rate of domestic inflation, producing a higher national income figure than would have been obtained had the exchange rate remained unchanged between the two base periods. In that connexion, and within the context of its study of inflation in relation to capacity to pay, the Committee took into account the distinction between Member States with appreciating and depreciating national currencies in terms of the United States dollar.
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> "In examining the phenomenon of inflation in relation to exchange rates, the Committee studied the feasibility of expressing national income estimates in constant (rather than in current) United States dollars, which would have the effect of eliminating price changes. It found, however, that there were conceptual and practical difficulties in the substitution of constant for current prices, for the reasons that constant price data were not available for the majority of Member States; the possibility that the rate of conversion applied to the base period might in itself be under or overvalued; and imperfections might exist in price indices. The determination of a generally acceptable base period is in itself a problem".

4. The problem of ensuring that the element of inflation does not distort the statistical measurement of a country's national income and, therefore, its capacity to pay is one which has engaged the attention of the Committee for a number of years. The Committee, after an examination of this problem at its 1977 session, concluded that "it had no alternative but to continue its use of national income data in current price."[3/]

2/ Ibid, Thirty-first session, Supplement No. 11 (A/31/11), paras.26 and 27.

3/ Ibid, Thirty-second session, Supplement No. 11 (A.32/11), para. 27.

5. The Committee felt, nevertheless, that these important issues should be kept under its continuing review in the light of any new developments and taking into account new information that might become available.

6. Section (iii) of this document, therefore, is intended to aid the Committee's discussion on the question of the impact of appreciation and depreciation of currencies on assessments; and section (iv) presents relevant information for the Committee's discussion on the question of the need to take inflation into account in a more systematic manner.

SECTION (i)

Exchange Rates Used for the Conversion of National Income in National Currencies into a Common Unit

7. During the period from 1971 to 1975, uncertainties and disturbances of large magnitudes were experienced in the international monetary system of the market economies. The par value régime was gradually discontinued, with the result that the fixed exchange rate system was no longer in operation. A floating exchange rate system took its place. For this reason, in the statistical documents submitted to the Committee at its 1977 session, the procedures used for converting national income in national currencies into United States dollars, for years 1971 to 1975, differed from those used for years prior to 1971, when the fixed exchange rates were commonly used.

8. In preparing the national income estimates in the United States dollars for the examination of the Committee at its 1977 session, the Statistical Office used the following procedures.

9. For 109 countries, which are members of the International Monetary Fund (IMF), the conversion rates were selected from the period average exchange rates published in the IMF, International Financial Statistics (IFS). Departures from this general procedure are noted in paras. 16 to 18 below.

10. A schematic table covering all the exchange rate combinations shown on the country pages of the IFS is shown in Annex I of this document. Annex II shows lists of the 109 countries classified under each relevant exchange rate combination.

11. For 1969 and 1970 when the par value system was dominant, line rf or line rh (in the calculation of which par rate was given preference over market rate) shown on the country pages of the IFS was chosen. These are period averages of

par rates, i.e., official rates or par values agreed with the Fund that represent effective obligations to maintain market rates within margins of 1 per cent of the par. For some countries which did not have effective narrow margin par in 1969 and 1970, such as Brazil, Colombia, Uruguay and Venezuela, figures shown in line rf are period averages of implicit rates calculated from national trade data separately compiled in national currency and in US dollar.

12. Line rf is for countries quoting rates in units of national currency per US dollar, and line rh is for those quoting rates in US dollars per unit of national currency.

13. For the years 1971 to 1975, line af or ah (in the calculation of which market rate was given preference over par or central rate) shown on the country pages of the IFS was chosen. For those countries which had a single fluctuating exchange rate, the conversion rate used was normally the period average of market rates. They were period averages prepared by the IMF based on the market rates that were communicated to IMF by the monetary authority of each country; they were period averages of daily market rates in the market of the country, or if those were not available, daily quotations in New York, or if those were not available, end-of-month market rates, or if those were not available, official rates. The preference always was market rates; only when a free market rate was not available for a given country, use was made of the official rate, which is the rate at which a monetary authority is obligated to support, by central bank intervention, its currency in order to maintain a predetermined parity vis-à-vis another currency, such as the United States dollar, the British pound or the French franc.

14. Line af is for countries quoting rates in units of national currency per US dollar, and line ah is for those quoting rates in US dollars per unit of national currency.

15. As indicated in para. 9 above, however, calculations for certain countries for the purpose of the 1978-1979 scale did not follow the above general procedure.

16. For the following ten countries, the IFS does not publish country pages: Angola, Botswana, Comoros, Grenada, Lesotho, Mozambique, Oman,

Papua New Guinea, Seychelles and Swaziland. Exchange rates used for these countries were, however, provided by the IMF to the Statistical Office, which published them in the U.N. Monthly Bulletin of Statistics.

17. For Argentina, Chile and Peru, the use of exchange rates published in the IFS would yield United States dollar estimates which were totally unrealistic. These three cases were treated as exceptions and the following procedures were used:

Argentina:

1969-1971: period average of official rates.

1972-1974: trade conversion factors published in the May 1975 issue of International Financial Statistics.

1975: period average of implicit rates. (line rf)

Chile:

1969-1971: quarterly average of non-trade rates.

1972-1975: "adjusted exchange rates", obtained by adjusting a selected year's exchange rate, believed to represent a reasonable approximation to the purchasing power ratio of Chile and the U.S., by the ratio of relative price changes of the two countries since base year.

Peru:

1969-1975: "adjusted exchange rates", obtained by adjusting a selected year's exchange rate, believed to represent a reasonable approximation to the purchasing power ratio of Peru and the U.S., by the ratio of relative price changes of the two countries since the base year.

18. For the following countries, where national currency figures were not available, national income estimates were estimated by the Secretariat directly in US dollars: Bhutan, Cape Verde, Democratic Kampuchea, Equatorial Guinea, Guinea, Guinea-Bissau, Lao P.D.R., Maldives, Qatar, Sao Tome and Principe and United Arab Emirates.

19. For the centrally planned economies, the conversion rate used was usually the period average of United Nations operational rates. For details, reference is made to addendum 1 of this document.

20. Exchange rates used at the 1977 session of the Committee, for each country for the years 1969 to 1975, are listed in Annex III of this document.

21. A glossary of exchange concepts for members of the IMF is included as Annex IV of this document. The glossary is intended to explain some of the terms used in this document. It should be stressed that explanations rather than definitions are provided, since a number of expressions have very precise juridical meanings in terms of IMF's Articles of Agreement and the decisions of the Executive Directors of the Fund.

SECTION (ii)

The Use of Purchasing Power Parities or Baskets of Currencies

(a) Baskets of Currencies

22. The increased exchange rate flexibility in recent years has led to a proliferation of baskets of currencies or international units of account. In what follows are briefly reviewed fourteen baskets of currencies or international units of account. These fourteen include: (i) three major international units of account that have been created by public institutions and whose importance derives from the size of the transactions involved as well as from the institutions which created them, viz. the Special Drawing Right (SDR) of the International Monetary Fund, the Transferable Rouble of the Council of Mutual Economic Assistance and the Unit of Account (EU) of the European Communities, (ii) four relatively well-known units introduced and exclusively used on the private international bond markets, viz. The European Unit of Account (EUA), the European Currency Unit (ECU), the European Composite Unit (EURCO) and the Arab Currency-Related Unit (ARCRU), and (iii) seven baskets or units of account, which have been used at one time or another, either at the official level or in the private sector, in capital markets, banking, international tenders, insurance contracts, etc. In many cases such units play only a limited role for a very specific purpose; in other cases, these units involve a change of name, like for instance, the Asian Monetary Unit (AMU) whose value is equal to the SDR. This third group of seven units of account or baskets includes some which may not be in use today, but which are, nevertheless, described below as illustrations of types of purposes, valuations and uses originally envisaged for some of these units.

23. Of the fourteen baskets of currencies or units of account, the SDR is accpeted by the largest number of U.N. members, those common members of the IMF, which put the SDR to a wide range of uses explained in the next paragraph. Moreover, the IMF publishes, on the country pages of its publication International Financial Statistics, time series of exchange rates expressed as a single rate for the SDR value of the national currency unit. For these reasons, the description of the SDR is somewhat longer than and different in format from those of the other baskets or units of account.

The remaining six mentioned under (i) and (ii) of the above paragraph are described in a standard format and in the order in which they are listed. Those under (iii) are described also in the same standard format but in the alphabetical order of the names of the units. The compositions of each of these fourteen are summarised in a table in Annex V of this document.

Group (i): The SDR, the Transferable Rouble and the EU

The Special Drawing Right (SDR) of the International Monetary Fund:

24. The SDRs are essentially book entries (credits) into newly created (SDR holdings) accounts for the participating members of the IMF. They may be freely used by Fund members among themselves and in transactions with the Fund in accordance with various provisions of the Articles of Agreement. The SDRs are thus monetary reserve assets which perform several functions. They act as a numeraire for the expression of values. Unlike some units (such as the EUA, ECU, EURCO and ARCRU) described below, SDRs are a form of (international) money or at least display a certain degree of "moneyness". Besides the unit of account function, SDRs act as a medium of exchange in that central banks can use them to effect payments (settle claims) among each other. And, being a reserve asset, SDRs perform the store-of-value function when countries hold them as part of their reserves.

Valuation of the SDR

25. When the SDR was created in 1969, its value was defined in terms of gold. Since the U.S. dollar was also defined in gold, and the United States defended the dollar by buying and selling gold, it was natural to define the exchange rate between the U.S. dollar and the SDR as their parity; and to determine the price of any other currency in terms of the SDR by multiplying the SDR/dollar parity by the market rate of the relevant currency in terms of the U.S. dollar. This approach had the effect of tying the value of the SDR rigidly to that of the dollar, except when the par value of the dollar was itself changed. Thus, the SDR appreciated against the dollar by 8.6 per cent following

the Smithsonian Agreement in December 1971, and by a further 11.1 per cent following the realignment of February 1973.

26. After two changes in the par value of the U.S. dollar, the exchange rate for the SDR in terms of the dollar had moved to SDR 1 = US$ 1.20635. Thus, with a market rate for the deutsche mark of, say, DM 2.50 per U.S. dollar, the rate for the SDR in terms of the deutsche mark was derived by multiplying the rate of DM 2.50 by $1.20635 (the rate of the SDR in terms of the dollar) to give a rate of SDR 1 = DM 3.01588. In practice, the Fund actually uses rates expressed as one currency unit in terms of a certain SDR amount: for example, US$ 1 = SDR 0.828948 or DM 1 = 0.331578, which are the reciprocals of the rates quoted above.

27. This approach became progressively less satisfactory as a result of developments in the world monetary system: notably the U.S. abandonment of the commitment to sell gold to monetary authorities in August 1971, and the progressive introduction of floating exchange rates between the U.S. dollar and other principal currencies. The ending of gold sales by the United States meant, in effect, that the monetary value of gold was determined by that of the SDR, rather than vice versa, with the value of gold fixed at 0.888671 gram per SDR. The greater flexibility in the exchange rate system meant that the value of the SDR in terms of currencies other than the dollar was no longer even approximately stable from one week to the next, but tended to move up or down in terms of currencies in general depending on the strength of the dollar. A number of countries increasingly felt this arrangement to be unsatisfactory, and as a result the currencies in the European common margins agreement (the "snake") requested the Fund to exempt them from the normal arrangements so far as transactions between each other were concerned, and to permit the transfer of SDRs at their own parity rates instead. This action, which involved a suspension in the Fund's Articles and was therefore limited in duration, was approved in November 1973.

28. Effective 1 July 1974, a new method, known as the "standard basket" technique, has been used by IMF to value the SDR in terms of currencies. Under the new method, one SDR is set equal to a combination of specified amounts of the currencies of 16 countries whose share in world exports

of goods and services exceeded 1 per cent on average over the period 1968-1972. The amounts of the 16 currency components in the basket were derived from relative weights. The weight of 33 per cent was selected for the U.S. dollar to reflect approximately the commercial and financial importance of that currency, and then the weights of lower percentages which are broadly proportionate to the countries' shares in international transactions, were assigned to the other 15 currencies. The countries and the weights (in per cent) selected for the basket are as follows:

Composition of SDR currency basket

Currency	(1) Weight (in per cent)	(2) Amount (In units of each currency)
U.S. dollar	33	0.40
Deutsche mark	12.5	0.38
Pound sterling	9	0.045
French franc	7.5	0.44
Japanese yen	7.5	26
Canadian dollar	6	0.071
Italian lira	6	47
Netherlands guilder	4.5	0.14
Belgian franc	3.5	1.60
Swedish krona	2.5	0.13
Australian dollar	1.5	0.012
Danish krone	1.5	0.11
Norwegian krone	1.5	0.099
Spanish peseta	1.5	1.10
Austrian schilling	1	0.22
South African rand	1	0.0082
	100.0	

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29. The amount of the 16 currencies (column 2 in the above table) were determined in such a way that on 28 June 1974 (Friday), the last day on which the old method of valuation was applied, the old and the new methods yielded the same values for currencies in terms of the SDR.

Daily calculations of exchange rates for the SDR

30. To obtain a daily exchange rate for the SDR in terms of any currency, it is more convenient to use the readily available market rates for the U.S. dollar against the currencies in the basket and against other currencies. Hence, on each business day, the Fund will value the currency components of the standard basket at their market exchange rates for the U.S. dollar, and the sum of the U.S. dollar equivalents of each of the currency components will yield the rate of the SDR in terms of the U.S. dollar. Exchange rates for the SDR in terms of other currencies will be derived from the market exchange rates of these currencies for the dollar and the U.S. dollar rate for the SDR.

31. The market exchange rates for all the currencies in the basket, except the yen, are reported to the Fund from one exchange market - either the London, New York or Frankfurt exchange markets - and these are the ruling rates at a particular time of day. For the yen, the rate is reported from Tokyo. However, the rates for individual currencies against the U.S. dollar used for deriving exchange rates for the SDR against those currencies (called the "representative rates") are reported individually by the central banks concerned.

Machine scale using SDR rates

32. Average 1969-1975 statistics of national income in national currencies were converted by the period averages of exchange rates for the SDR against those currencies. Annex VI of this document shows a table of comparison between the machine scale during the Committee's 1977 review and the machine scale using SDR rates.

33. The Transferable Rouble of the Council of Mutual Economic Assistance:

Introduced by: Council for Mutual Economic Assistance (CMEA)

Introduced in: October 1963

Purposes: To be used as a common measure of value and as a unit of account for multilateral settlements by the Organization of the International Bank for Economic Co-operation (IBEC). The IBEC serves as a clearing centre for payments between the members of CMEA (viz., Bulgaria, Cuba, Czechoslovakia, German Democratic Republic, Hungary, Mongolia, Poland, Romania, and the U.S.S.R.) and performs banking operations in convertible (non-CMEA) currencies on behalf of its members.

Valuation: The transferable rouble has an official gold content of 0.987412 gram - equal to that of the USSR rouble but legally independent of the latter. However, the transferable rouble is not convertible automatically into gold, the USSR rouble, or any other currency. Moreover, CMEA countries use a complex system of exchange coefficients which appears to be constantly subject to negotiation, depending on the countries involved and on the underlying transactions.

Uses: The transferable rouble is an important unit of account which is presently used as a common measure of value in a significant fraction of world trade and payments. However, it is much less clear to what extent - if at all - this unit can be regarded as providing a safeguard against exchange rate fluctuations.

The transferable rouble is similar to the SDR in that it is held only by countries in the accounts of an international institution. Like the SDR, it is more than a mere unit of account and displays a certain degree of "moneyness" as a measure of value in CMEA trade; as a means of payment in the servicing of "reciprocal accounts" pertaining to commercial transactions between CMEA members, as well as credit operations between these members and IBEC and the International Investment Bank

(IIB); and as a store of value in the accumulation of transferable roubles in accounts with IBEC and IIB.

The regulations amended in October 1976 specify that settlements in tranferable roubles by non-IBEC countries may cover trade in goods and services, non-commercial transactions and bilateral clearing accounts.

Sources: IMF Survey, June 6 1977, pp. 170-171, and November 21, 1977, pp. 361-362.

34. The Unit of Account of the European Communities (EU):

Introduced by: Originally by the former European Payments Union and then by the European Economic Community (EEC)

Introduced in: 1950 and later modified on 18 March 1975 by the European Commission as "basket of currencies".

Purposes: (1) To keep the EEC's internal accounts; (2) to safeguard against the effects of unilateral exchange rate action by countries, so that financial amounts resulting from rights and obligations under the treaties remain fixed in terms of a common denominator and (3) to ensure common prices for various commodities, which is important for the common agricultural policy.

Valuation: Since 18 March 1975, the weights of the currencies in the EU were based on the gross national product and world trade share of the Community members. The composition of the EU is as follows:

	Currency component (amount) (1)	Weight (percentage) (2)
Deutsche mark	0.828	27.3
French franc	1.15	19.5
Pound sterling	0.0885	17.5
Italian lira	109	14.0
Netherlands guilder	0.286	9.0
Belgian franc	3.66	7.9
Danish krone	0.217	3.0
Irish pound	0.00759	1.5
Luxembourg franc	0.14	0.3

The value of the EU is the sum of the Belgian franc equivalents of the currency components in column (1). The rates for the EU components are based on their Brussels exchange market quotations in terms of the Belgian franc or, in case of need, on those of London or Frankfurt in that order.

The initial rate for the EU (EU 1 = US $1.20635) was determined on the basis of the value of the various currencies on 28 June 1974, the date on which SDR 1 = US 1.20635. The choice of date was dictated by the need to retain a link with the old unit, defined as the equivalent of 0.888671 gram of fine gold in 1950 and thus worth US $1.20635, as well as a link with the SDR.

Uses: The EU is being used at present for accounting purposes by the European Coal and Steel Community and the European Investment Bank, as well as by the European Development Fund which provides aid to 32 developing countries linked to the EEC through the Lomé Convention. It is intended to gradually introduce this EU in all of the Community's activities.

Sources: IMF Survey, March 24, 1975, p. 88, and November 21, 1977, p. 362.

Group (ii): EUA, ECU, EURCO and ARCRU

35. The European Unit of Account (EUA):

Introduced by: Kredietbank (Luxembourg)

Introduced in: 1961 and later modified in 1973

Purpose: To denominate international bonds in terms of a limited number of European currencies, called reference currencies.

Valuation: Originally, i.e. in 1961, the EUA was valued in terms of the currencies of the 17 member states of the former European Payments Union based on their respective gold value.

Since the beginning of 1973, only the nine currencies of the present member states of the European Community are eligible as reference currencies. However, a reference currency must (1) have a par value or central rate, and (2) participate in the European

narrow margins agreement. Thus, the French franc, the Italian lira, the Pound sterling, and the Irish pound have lost their status as reference currencies because they are floating independently; and the value of the EUA is now dependent on the five remaining reference currencies - Belgian franc, Danish krone, Deutsche mark, Luxembourg franc, and the Netherlands guilder.

The relation between the EUA and each reference currency is based on gold content. The EUA agreements state that, if gold is replaced as the universal monetary common denominator, the EUA would be defined on the basis of the new common denominator. The EUA is equivalent to 0.88867088 gram of fine gold (valued at the official price), which is also the gold value of the SDR, so that in that sense SDR 1 = EUA 1. The reference currencies, on the other hand, used to have par values expressed directly in terms of gold; today they have central rates which have an official gold value expressed in terms of SDRs.

Based on the above, as of November 1977, the relation between the EUA and each of the five reference currencies was: 1 EUA = 48.6572 Belgian francs; 8.13824 Danish kroner; 3.15664 Deutsche mark; 48.6572 Luxembourg francs; and 3.35507 Netherlands guilders.

The value of the EUA itself will only be changed in terms of gold if <u>all</u> the reference currencies have changed their central rate with an absolute (unweighted) majority in the same direction; it will then follow the majority in the same proportion as the least-changed currency of the majority. If all the reference currencies should lose their status of reference currency (float independently), the EUA would be tied to the last reference currency to renounce its central rate. If, as in the case of liquidation of the European "snake", all remaining reference currencies should lose their status at the same time, the EUA would be linked to the most stable.

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Uses: Introduced in 1961, the EUA remained until 1970 the only unit of account used to denominate international bonds and since then has continued to be the most popular unit for that purpose.
When EUA-denominated bonds are issued, the borrower will nominate the reference currency in which bonds are to be subscribed, and the amount he will receive in that currency will depend on its relationship on the issue date. The payment of interest and principal will be made in a different reference currency chosen by the bondholder. The borrower will have to convert the EUA into this latter reference currency on the basis of its relationship to the EUA on the fourth day before payment date.

Source: IMF Survey, November 7, 1977, p. 346.

36. The European Currency Unit (ECU) (sometimes called European Monetary Unit (EMU)):

Introduced by: European Economic Community (EEC)

Introduced in: December 1970

Purpose: To denominate bonds.

Valuation: This unit's value is fixed for the duration of each bond issue in terms of the currencies of the six original members of the European Economic Community - Belgium, Germany, France, Italy, Luxembourg, and the Netherlands. Past U.S. dollar parities of these six currencies at the time of the bond issues, have been used for this purpose, e.g.:

ECU 1	ECU 2
= 50 Belgian francs	= 44.8159 Belgian francs
= 3.66 Deutsche mark	= 3.2225 Deutsche mark
= 5.55419 French francs	= 5.11570 French francs
= 625 Italian lire	= 581.50 Italian lire
= 50 Luxembourg francs	= 44.8159 Luxembourg francs
= 3.62 Netherlands guilders	= 3.2447 Netherlands guilders

Uses: An investor in ECU bonds may freely choose the currency in which payment of principal and interest must take place. ECU loans have mainly been used by borrowers who had a direct income in the 6 original member countries of the Community, except Italy, and who

could offset exchange risks. Only six loans, raising about ECU 185 million have been denominated in this unit before 1972, and it has only been used once since then.

Sources: IMF Survey, November 7, 1977, p. 347; Business International Corporation, Operating in a Floating Rate World (New York: 1976), p. 74.

37. The European Composite Unit (EURCO):

Introduced by: N.M. Rothschild and Sons of London

Introduced in: September 1973

Purposes: To be used for denominating Eurobonds and for attracting long-term borrowers and investors.

Valuation: The Eurco is composed of the sum of fixed amounts of the currencies of the nine member countries of the European Community. Its composition is as follows:

	Currency component (amount) (1)	Weight (percentage) (2)
Deutsche mark	0.90	30.0
French franc	1.20	20.2
Pound sterling	0.075	15.3
Italian lira	80.00	10.5
Netherlands guilder	0.35	10.0
Belgian franc	4.50	9.3
Danish krone	0.20	2.7
Irish pound	0.005	1.0
Luxembourg franc	0.50	1.0

The original weights (column 2) corresponding to the fixed currency components (column 1) were based on the relative shares in the overall gross national product of the European Community. The value of the Eurco in terms of currencies is calculated daily by the Luxembourg stock exchange on the basis of effective market rates.

Uses: Eurco was the first basket-type unit to be used on the bond markets. The first issue denominated in Eurcos was offered on behalf of the European Investment Bank (EIB) and the practice has been followed in other issues for the benefit of the EIB and of other obligors. The bonds issued on behalf of the EIB are denominated at the value of the Eurco in terms of a component currency or another currency.

Sources: IMF Survey, November 7, 1977, p. 347; Joseph Gold, Floating Currencies, Gold, and SDRs, IMF Pamphlet Series, no. 19 (Washington, D.C., 1976), pp. 41-42.

38. Arab Currency-Related Unit (ARCRU):

Introduced by: Hambros Bank (London)

Introduced in: November 1974

Purpose: To minimize the risks of exchange market fluctuations of individual currencies of the 12 Arab nations (Algeria, Bahrain, Egypt, Iraq, Kuwait, Lebanon, Libya, Oman, Qatar, Saudi Arabia, Syria and the United Arab Emirates) in denominating bond issues, and to help recycle Arab oil money. The group of 12 currencies includes those of the largest Arab oil producers and of two regional financial centres. The Arcru could be appropriate for long-term private placements or public financings as well as for straightforward banking transactions. It might equally be suitable for transactions within the Arab world.

Valuation: The value of Arcru depends on the relation of 12 Arab currencies to the U.S. dollar: the Algerian dinar, Bahrain dinar, Egyptian pound, Iraqi dinar, Kuwaiti dinar, Lebanese pound, Libyan dinar, Omani rial, Qatar riyal, Saudi Arabian riyal, Syrian pound and United Arab Emirates dirham. All Arcru transations are made in U.S. dollars.

The base valuation date for the Arcru was 28 June 1974, when it was set equal to US $1 or SDR 0.828948. Later valuation of the Arcru disregards the two strongest and the two weakest of the 12

currencies - in terms of U.S. dollars and compared with 28 June 1974 - and the new value of the Arcru then depends on the average movement (since base date) of the remaining 8 Arab currencies (equally weighted) against the dollar. The equal weighting of currencies is designed to reassure both borrowers and investors that events in one country will not disproportionately affect either their financing costs or their investment. And the inclusion of only the middle 8 currencies eliminates the effect of sharp fluctuations in the market value of one currency.

Uses: The first international loan denominated in Arcrus was raised on 19 November 1974 by a Swedish Company, Sydkraft, which arranged placement of a 10-year, 8.5 per cent bond issue of 12 million Arcrus in Abu Dhabi.

No new bonds denominated in Arcru have been issued in recent years.

Sources: IMF Survey, November 7, 1977, p. 347; Business International Corporation, Operating in a Floating Rate World (New York, 1976), pp. 74-75; M. Melville, "The Acru: Something for Everyone, Not a One-Way Street," Euromoney, September 1974, pp. 36-38.

Group (iii): The Arab Dinar, AMU, B-UNIT, IUV, IFU, UIC Franc and Islamic Dinar

39. Arab Dinar:

Introduced by: Arab Monetary Fund (AMF)

Introduced in: 1976

Purposes: To be used as a unit of account of the AMF and for paving the way for the creation of a unified Arab currency; to help towards the correction of disequilibria in the balance of payments of the members of the AMF; to be used by the AMF in settling payments among its members and in providing short- and medium-term loans to its members; and also for use in the Arab money markets. (The 21 members of the AMF are: Algeria, Bahrain, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, Qatar, Saudi Arabia, Somalia,

Sudan, the Syrian Arab Republic, Tunisia, the United Arab Emirates, the Yemen Arab Republic, the People's Democratic Republic of Yemen, plus the Palestine Liberation Organization).

Valuation: One Arab dinar equals 3 SDRs.

Uses: The Arab Dinar is used by the AMF as its unit of account in capital subscriptions since the Fund was established on 2 February 1977.

Source: IMF Survey, March 6, 1978, pp. 69-71.

40. Asian Monetary Unit (AMU):

Introduced by: Asian Clearing Union

Introduced in: December 1974

Purpose: To keep the accounts of the Asian Clearing Union which is a mechanism for settling payments for current international transactions on a multilateral basis within the Economic and Social Commission for Asia and the Pacific (ESCAP) region. (The members of the Union are Bangladesh, India, Iran, Nepal, Pakistan and Sri Lanka). By promoting the use of participants' currencies in transactions, the Asian Clearing Union effects economies in the use of participants' reserves in terms of the hard currencies of the Organization for Economic Cooperation and Development (OECD) countries.

Valuation: One AMU is equivalent to one SDR.

Uses: The instruments of payment that may be used to make payments through the clearing facility are confined to instruments denominated in the currencies of participating countries or in AMUs.

Source: Joseph Gold, Floating Currencies, Gold and SDRs, IMF Pamphlet Series, no. 19 (Washington, D.C., 1976), p. 57; S. Venu, "The New Asian Monetary Unit", Euromoney, February 1975, pp. 71-72.

41. Barclays Unit (B-UNIT):

Introduced by: Barclays Bank International (London)

Introduced in: June 1974

Purposes: To offset the shortcomings of European Composite Unit (EURCO) which are: (1) Eurco is exclusively composed of EEC currencies which are more likely to move as a whole against the U.S. dollar; (2)Eurco's currencies are weighted against Gross National Product (GNP) and trade balances.

Valuation: The B-Unit is composed of the sum of fixed amounts of 5 currencies: Deutsche mark, French franc, Pound sterling, Swiss franc, and U.S. dollar. Each currency had an equal weight of 20 per cent in the unit. Its composition is as follows:

	Currency component (amount)	Weight (percentage)
Deutsche mark	6	20
French franc	11.50	20
Pound sterling	1	20
Swiss franc	7	20
U.S. dollar	2.40	20

Uses: B-unit has found less acceptance than Eurco. It has not been used at all for bond issues, commercial transactions or short-term borrowing.

Sources: Business International Corporation, Operating in a Floating Rate World (New York, 1976), p. 73; A. Middernacht, "The development of Euromarket borrowing instruments", Euromoney, April 1975, pp. 42-48.

42. International Air Transport Association (IATA) Unit of Value (IUV):

Introduced by: International Air Transport Association (IATA)

Introduced in: 1975

Purpose: To use the SDR, as designed by IMF effective 1 July 1974, as the basis for expressing all basic fares, rates, charges and associated financial transactions, in order to establish a more stable basis for settling international business and currency matters involving approximately 160 currencies. (IATA represents 106 passenger and cargo carriers in 85 countries).

Valuation: The IUV is equivalent to the SDR, modified by two factors

designed to maintain fares at approximately their present level. A fare expressed in a particular currency would be adjusted if the currency depreciated against the SDR by 2.5 per cent or appreciated against it by 5 per cent for 15 consecutive business days.

Uses: The new system was proposed to be implemented by IATA not later than 1978 in the Eastern Hemisphere (Europe, Middle East, Africa, Asia and the Far East). However, on account of inflation, requiring increases in fares and rates in all currencies and the widening gap between strong currencies and currencies growing weaker, it was difficult to achieve progress towards implementing the IUV. It was agreed, however, to continue to work towards the adoption of a single worldwide basic unit as IATA's long term objective. Meanwhile, the U.S. dollar and sterling continue to be the bases for fares and rates.

Source: Joseph Gold, Floating Currencies, Gold, and SDRs, IMF Pamphlet Series, no. 19 (Washington, D.C., 1976), pp. 49-50; and Floating Currencies, SDRs, and Gold Further Legal Developments, IMF Pamphlet Series, no. 22, 1977, pp. 32-33.

43. International Financial Unit (IFU):

Introduced by: Crédit Lyonnais (Paris)

Introduced in: March 1975

Valuation: The IFU is composed of the sum of fixed amounts of 10 currencies. Its composition is as follows:

	Currency component (amount)	Weight (percentage)
U.S. dollar	0.21	21
Deutsche mark	0.432	17
Pound sterling	0.044	10.5
French franc	0.477	10
Japanese yen	27.90	10
Canadian dollar	0.073	7.5
Italian lira	46.70	7.5
Netherlands guilder	0.188	7
Belgian franc	2.35	6
Swedish krona	0.154	3.5

/...

Uses: The proposal for this unit of account has found no real application.

44. International Union of Railways (UIC) Franc:

Introduced by: International Union of Railways (UIC)

Introduced in: May 1975

Purpose: To be used as a unit of account of the International Union of Railways which has as its object the standardization and improvement of railway equipment and operating methods.

Valuation: A proposal to employ the SDR was not adopted because non-members of the IMF belong to the UIC. Instead, it was decided to create UIC's own unit, but to adopt certain features of the Fund's method of valuation of the SDR.

The gold franc was taken to be equivalent to 15.89599 Belgian francs on the basis of the definition of the gold franc and the par value of the Belgian franc on 31 December 1975. The UIC franc was deemed to be equal to the total of specified amounts of 17 currencies and was expressed as follows:

0.236890 Deutsche mark	0.0371854 Swiss francs
0.267854 French francs	0.279779 Hungarian forint
0.251729 Czechoslovakian koruny	0.0601823 Romanian lei
0.608208 Polish zlote	0.200830 Austrian schillings
0.0117601 Pounds sterling	0.623373 Spanish pesetas
0.0574162 German Dem. Rep. marks	0.0431885 Swedish kronor
15.1691 Italian lire	0.0086785 Bulgarian leva
0.639018 Belgian francs	0.143028 Yugoslav dinars
	0.0195434 Netherlands guilders

The choice of the component currencies was determined by the fact that the unit of account is used mainly by European railways and those countries that have direct links to them. For that reason, the currencies of some countries with considerable railways traffic (India, Japan, and Canada) were not included. Moreover, the currencies of European countries were included only if the revenue

of a country's railway network was in excess of 1 per cent of the total shown in the UIC statistics. The composition of the UIC franc was reviewed on 1 January 1977 and is to be reviewed every three years.

The Brussels Central Clearing Office, acting on behalf of all railway networks, calculates the value of the UIC franc by converting all the currencies that compose the unit into Belgian francs on the basis of rates of exchange in the Brussels exchange market or of rates of exchange fixed by the monetary authorities of some of the countries. Rates as calculated in Belgian francs are communicated to all parties according to agreed procedures. Each railway network translates the value of the UIC franc from Belgian francs into its own currency on the basis of the exchange rate in its exchange market between its currency and the Belgian franc or as fixed by its authorities.

Uses: The UIC franc has been used since 1 January 1976 by the International Union of Railways as its unit of account.

Source: Joseph Gold, Floating Currencies, SDRs, and Gold Further Legal Developments, IMF Pamphlet Series, no. 22, (Washington, D.C., 1977), pp. 35-37.

45. Islamic Dinar:

Introduced by: Islamic Development Bank

Introduced in: 1975

Purposes: To be used as the unit of account of the Islamic Development Bank and in denominating loans to the public and private sectors for the financing of productive projects, enterprises, and programmes in member countries.

Valuation: One Islamic Dinar is equivalent to one SDR.

Uses: The Islamic Dinar is used by the Islamic Development Bank as its unit of account and in denominating its loans.

Source: Joseph Gold, Floating Currencies, SDRs, and Gold Further Legal Developments, IMF Pamphlet Series, no. 22 (Washington, D.C., 1977), p. 46.

SECTION (ii) (continued)

The Use of Purchasing Power Parities or Baskets of Currencies (continued)

(b) Purchasing Power Parities

The reason for calculating purchasing power parities: Limitations of the use of exchange rates for converting national income in national currencies into a common unit

46. In order to produce correct results through the use of exchange rates, it would be essential for the average relationship of the internal purchasing power of currencies to be the same as the exchange rates used to convert the national incomes into common currency units. There are many reasons why this equivalence is highly improbable.

47. First, for this equivalence to prevail, even for goods and services which can be internationally traded, it would be necessary for a long-term equilibrium in exchange rates to exist. In view of exchange controls, existence of quantitative restrictions to trade and other barriers to trade in the form of tariffs and transportation costs this can hardly be said to be the case.

48. Second, even if the relation of prices of internationally traded goods were approximately the same as exchange rates, the final prices to domestic buyers would certainly differ widely because of differences in the margins added for net indirect taxes, domestic processing, internal transportation and distribution costs. Most of these differences arise not only because of differences in the costs themselves, but also because of differences in the need for the additional productive activity among countries. If, for example, the rate of exchange provided the correct relationship for the prices of wheat or flour between two countries, assuming these were internationally traded, it would still be highly unlikely that it would provide the correct relationship for

the price of bread purchased by the consumer.

49. This difficulty is considerably magnified by the fact that the bulk of the final goods and services included in the gross products are not traded internationally. Since countries differ very markedly in their economic systems, in the availability of natural resources, in the volume and kind of their accumulated capital, and in the skill and availability of manpower relative to the other factors of production, the price relations of individual goods and services not internationally traded do in fact depart very widely from the relationships given by exchange rates. Hence, to convert the value of this domestically produced and consumed bulk of the national product by exchange rates introduces distortions in the international comparisons of total national products.

50. Third, the unsatisfactory nature of exchange rate conversions has become even clearer in the past few years under the new regime of managed floating rates. The possibility of appreciation or depreciation and of revaluation or devaluation is enough to show the risks involved in the use of exchange rates. Exchange rate changes of as much as twenty per cent within the space of a year have not been unusual even among major currencies. Exchange rate conversions thus sometimes show substantial changes in relative gross domestic products between pairs of countries when no such real change has actually occurred.

51. From a more fundamental viewpoint, however, it should be noted that the entire method of the use of exchange rates for conversion grossly over-simplifies the problem. This over-simplification results from the assumption implicit in the method that there is a unique answer to the question of the comparative income levels between two countries. Since countries differ in the relative amounts of goods and services of different kinds they utilize, and since their relative internal

price structures differ, there need not in fact be such a unique answer to the question. In comparing the national products of, say, the United States and France, the quantities of the various goods and services utilized in the two countries can be combined either on the basis of U.S. prices or French prices. Hence two results will be produced.

The difference between purchasing power parities and equilibrium rates of exchange

52. While the above paragraphs stress that there are a number of weaknesses in the use of exchange rates for converting national income in national currencies into a common unit for international comparisons of income levels, the obverse of this proposition must be understood in order to avoid misinterpretation of estimates based on purchasing power parities calculations. The purchasing power equivalents calculated to measure the relation of internal purchasing power of currencies are not in any sense an indication of the equilibrium rates of exchange. If international markets were left entirely free of all controls and barriers to trade, the play of market forces would, in theory, produce a single rate of exchange between any two currencies. On the other hand, if the relationship between the internal purchasing power of the currencies of two countries is appropriately computed, two ratios between the currencies will be established according to whether the pattern of gross domestic product in the one or in the other country is used to weight the price relationships together.

The U.N. International Comparison Project (ICP)

53. Recent years have witnessed a great deal of progress in the development and use of reasonably detailed national accounts statistics in a number of countries as well as a notable movement towards the adoption of common methods (standard definitions, classifications and the like) by

national accounts experts in different countries. This offers the opportunity of making international comparisons of national product levels by a method which is conceptually acceptable and, depending on the availability of sufficient source data, of assuring reasonable reliability in the results.

54. A number of international comparisons have been made in the 1950s and the 1960s using this approach, at least for a number of relatively homogeneous groups of countries - namely those of the former Organization for European Economic Co-operation (OEEC),[4] the Council of Mutual Economic Assistance (CMEA)[5] and the Economic Commission for Latin America (ECLA).[6] Some pioneering work in comparisons between centrally planned and market economies has been carried out under the auspices of the Conference of European Statisticians.[7]

55. The ICP represents a co-operative effort of the Statistical Office of the United Nations, the World Bank and the International Comparison Unit of the University of Pennsylvania. The Project's principal aim is to establish a worldwide system of consistent, reliable comparisons of real product and purchasing power covering a substantial number of countries comprising a heterogeneous group.

4/ M. Gilbert and I. Kravis, An International Comparison of National Products and the Purchasing Power of Currencies (Paris: Organization for European Economic Co-operation, 1954); and M. Gilbert and Associates, Comparative National Products and Price Levels: A Study of Western Europe and the United States (Paris: Organization for European Economic Co-operation, 1958).

5/ L. Drechsler, Értékbeni mutatoszamok nemzetkozi összehasonlitasanak módszertang (Budapest: Kozgazdasagi és Jogi Könyvkiado, 1966)

6/ "The Measurement of Latin American Real Income in U.S. Dollars," Economic Bulletin for Latin America, XII (October 1967), pp. 107-142.

7/ Conference of European Statisticians, Comparison of Levels of Consumption in Austria and Poland, Document WG.22/19, mimeo. (New York: United Nations, 1968).

Nature of the comparisons problem

56. The statistical objectives of international comparisons work of the kind carried out under the ICP may be said to be attained through the revaluation of national accounts aggregates in national currency terms by a common set of international prices. As in the case of temporal (time-to-time) comparisons, quantum (quantity) estimates are directly obtained from the revalued aggregates and price measures are obtained implicitly, in this case, as the ratio of the aggregate at national currency prices to the same aggregate revalued at international prices. In effect, this means that the temporal (time-to-time) price index is replaced by a purchasing power parity defined as a weighted average of the ratios of national price to international prices for each commodity included in the national accounts aggregates.

57. This is the basic approach to the problem of multilateral comparisons currently employed by the ICP and by the Statistical Office of the European Communities. In the case of the ICP, however, the quantum (quantity) results are generally presented in the form of relatives with respect to the United States rather than in the form of aggregates at international prices and the purchasing power parities in terms of units of national currency per U.S. dollar rather than per international unit.

The International Comparison Project contribution to date

58. The immediate objective of the U.N. International Comparison Project has been to develop a system of national purchasing power parities for gross domestic product (GDP) and its major final expenditure components and to derive from these parities a correlated system of final expenditure flows in real terms. It is in this form that the Project has been developed and the results of the work published.

59. The methodology of the system involves (i) the estimation of a purchasing power parity for each detailed category of final expenditure

as a simple geometric average of the price ratios of a sample of goods and services in the category and (ii) the estimation of a parity for each summary category of final expenditure (and for GDP as a whole) as a weighted arithmetic average of the parities for the detailed categories. Parities for each summary category and for GDP as a whole are given by weighting the detailed parities for the two countries concerned according to their respective expenditure patterns. The correlative real flows are then derived by dividing these parities into the appropriate expenditure ratios. This procedure results in the binary form of the comparison (i.e., comparison focusing on one pair of countries at a time), a form which is limited in its usefulness as a general solution to the multi-country comparisons problem since the results normally depend on the reference country chosen.

60. The development of the multilateral form for these comparisons constitutes a distinct departure from this traditional methodology. In the form selected for use in the Project, a unique set of comparisons is produced as the solution of a system of simultaneous equations using as input the detailed binary parities and quanta (quantities) calculated broadly in the above manner and giving as output the corresponding multilateral parities and quanta (quantities).

61. In defining the conceptual framework for the Project, special attention has been given to maintaining consistency with relevant international recommendations. The over-all GDP concept is essentially the same as in the revised system of National Accounts (SNA) and the expenditure categories employed are closely related to SNA concepts and classification.

62. The basic data for the Project are largely collected and compiled by statistical services of participating countries and supplied directly to the United Nations Statistical Office. As a major exception, the data for the EEC member countries are supplied by the Statistical Office of the European Communities primarily from the information collected for

its own purchasing power comparisons.

63. The preparation of the binary and multilateral comparisons is undertaken centrally. At this final stage, detailed comparative analysis of the results frequently gives rise to further queries about the accuracy or relevance of the basic data. Following the resolution of these queries, the comparisons are completed and submitted to participating countries for review.

Phases of the U.N. International Comparison Project[8/]

64. The development of work on the Project to date has taken place in three well-defined phases. The first phase was centred on 1970 as reference year and, in addition to establishing the basic methodology, produced comparisons for that year for ten countries (Colombia, France, Germany (F.R.), Hungary, India, Italy, Japan, Kenya, United Kingdom and United States). For six of these countries (Hungary, India, Japan, Kenya, United Kingdom and United States), parallel comparisons were also produced for the reference year 1967. This phase was effectively completed in 1974.

65. The second phase of the work was introduced as an interim phase. It was designed to extend the country coverage of Phase I, to produce a revised and expanded set of benchmark comparisons for 1970, and to develop a general methodology for updating these benchmark comparisons on an annual basis. In this phase, the over-all coverage was expanded to sixteen countries and the representation of the developing countries improved by the inclusion of Iran, Korea (R.), Malaysia and the Philippines.[9/] Work on this phase was concluded early in 1977.

66. The third phase of the Project began in late 1974 and was planned

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8/ The discussion on the phases is summarized in Annex VII.

9/ Country participation in the three phases is indicated in Annex VII.

as a new round of benchmark comparisons, centred on 1975 and with a substantially broader coverage than the previous phases.[10] In addition to the intrinsic improvement in the results expected from its broader scope and from the application of an established methodology, it was hoped that the coverage would be representative enough to permit some general conclusions to be drawn about the possibilities of extending the system by simplified methods. Work on this phase has involved over thirty countries and is expected to end by the middle of 1979.

67. The published report on the first phase of the Project deals in depth with virtually all aspects of the early work. The results achieved in terms of binary and multilateral comparisons for the ten countries participating in this phase are tabulated in full detail and are supplemented by a comprehensive description and evaluation of the procedures followed. An illustrative analysis of the results is also presented.[11]

68. The Phase II report, which is scheduled to be published in June 1978, is more limited in scope. It includes (i) binary and multilateral comparisons for all sixteen participating countries for 1970, (ii) associated comparisons for 1973 developed by detailed extrapolation from the 1970 estimates or by new benchmark inquiries and (iii) summary annual estimates for the period 1965-1975 derived by the use of national price indices. The report also includes a recapitulation of the methodology underlying the comparisons and an account of the sources and methods used in the collection and compilation of the basic data.

69. The primary accomplishment of the Project by the end of Phase III will be the development, testing and application of a methodology for comprehensive, multilateral comparisons of national product and purchasing power. As a consequence of the work of the past ten years, a large body

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10/ Ibid.

11/ A System of International Comparisons of Gross Product and Purchasing Power published for the World Bank by The Johns Hopkins University Press, Baltimore and London, 1975.

of experience will have been accumulated on the organization and execution of national inquiries of this kind and on the production of binary and multilateral comparisons in alternative forms. The empirical results, both in terms of the basic data collected and of the comparisons produced, will provide an important part of the foundation for developing the global system envisaged.

70. With the successful completion of Phase III, a minimum basis will be available for the development of the simplified methods of comparison required for the construction of the global system. A further phase of the Project has therefore been planned to provide for the development of these simplified methods and to strengthen the basis for this work by adding to the number of countries participating in comprehensive comparisons. To meet the general objectives of the Project, suitable extrapolation techniques for the preparation of annual comparisons will also have to be developed.

71. With a view to establishing the developing system as a regular component of the international statistical programme, the Statistical Office intends, as plans for Phase IV, to undertake the following substantive activities within the five-year period beginning 1 July 1979:

(i) refinement of existing methodology and expansion of full-scale comparisons to a total of about 60 countries;

(ii) establishment of a cycle of full-scale comparisons for the selected countries, probably at five-year intervals;

(iii) development, testing and application of reduced-information methodologies which will enable summary comparisons of product and purchasing power to be made for a large number of additional countries; and

(iv) development, testing and application of extrapolation techniques to enable a series of simplified annual comparisons to be made for all countries in the system for years between the more detailed comparisons.

SECTION (iii)

The Impact of the Appreciation and Depreciation of Currencies on Assessments

72. The years under the Committee's review at its 1977 session, particularly 1971 to 1975, witnessed price increases and currency fluctuations of varying magnitudes in the Member States. Where the price increases were offset by changes in the rate of exchange of the currencies involved (i.e. depreciation), the expression of the national income in dollars at the new exchange rates served to eliminate, in part, the effect of domestic price rise on the national income expressed in dollars. The Committee may wish to note, however, that owing to the depreciation of the United States dollar, the currency of a number of countries experienced appreciation in varying degrees. For the latter group of countries, the effect of the conversion of national income in national currency into national income in dollars is to add the rate of currency appreciation to the rate of domestic price rise; the result is a national income figure in dollars which is higher than a figure obtained with the exchange rates unchanged between the two periods.

73. This suggests, therefore, that in order to study the impact of the appreciation and depreciation of currencies on assessments, one could compare two machine scales: one with each year's exchange rates separately applied to the corresponding year's estimates of national income in national currency and the other machine scale - the base of comparison - with a single year's exchange rate applied to estimates of national incomes in national currency of all the years under review. The results indicating the impact of the appreciation and depreciation of currencies on assessments will depend on the two periods for which the two sets of exchange rates are chosen for calculating the machine scales.

74. If appreciations and depreciations between the two periods chosen are about balanced in their steepness, then Member States with appreciating currencies will, as a rule, show higher assessments and Member States

with depreciating currencies will, as a rule, show lower assessments. If there are a number of very steep depreciations in some Member States between the two periods, as was the case between 1970 and average 1969-1975, then higher assessments would be shown not only by all Member States whose currencies appreciated but also by those whose currencies experienced relatively moderate depreciations or no change in their currencies; lower assessments, in this situation, would be shown only by those Member States whose currencies experienced relatively substantial depreciations in their currencies. If, on the other hand, there are a number of very steep appreciations in some Member States between the two periods being compared, then exactly the opposite results will occur. The reason for this phenomenon is that since all scales must add up to 100.00 per cent, the increases and decreases between the two machine scales represent relative movements of percentages for Member States between the two scales being compared.

Price changes and exchange rates

75. The Committee, at its previous sessions, in connexion with the problem of taking into account differential price changes in relation to exchange rates, studied the element of appreciation and depreciation of currencies as one of the determinants of individual national income estimates which formed the basis of the machine scales examined by the Committee.

76. Since all data on national income are expressed in United States dollars for the purpose of calculating assessments, changes in the relations of statistical rates of assessments of particular countries could occur both because of relative changes in the real national income and because of relative changes in the price component. The price component itself consists of two factors: changes in domestic prices and changes in exchange rates in terms of the United States dollar. In connexion with the very last element of exchange rates, the analysis which is elaborated below isolates this element in terms of appreciation and depreciation in each individual case.

77. Annex VIII shows for each Member State, except for those which are at the 0.01 per cent level in the present scale, the following information:

(a) Machine scale using 1970 data only;

(b) Machine scale using average 1969-1975 data; this machine scale formed the basis of the present scale;

(c) The changes in the average values of national income in the specified period relative to the values in the specified base period, expressed in United States dollars. These changes can be decomposed into a volume (quantum) component in column (d) and a price component (in U.S. dollars) in column (e). The price component can be decomposed into a national price component in column (f) and a conversion component in column (g);

(d) The changes in the average volume (quantum) of national income in the specified period relative to the quantities in the specified base period. This column measures the changes in real national income, often referred to as real economic growth;

(e) The changes in average prices (U.S. dollars) in the specified period over the prices (U.S.dollars) in the specified base period. These changes which reflect the price changes in the various countries after their national income figures have been converted into U.S. dollars can be decomposed into national price changes (column f)) and changes attributable to the conversion into U.S. dollars (column (g));

(f) The changes in average prices in the specified period over the prices in the base period, implied in national income data expressed in national currency;

(g) The changes in domestic price rise attributable to conversion into U.S. dollars. This column shows whether a country's currency has appreciated, depreciated, or remained steady relative to the U.S. dollar;

(h) The increase in domestic prices relative to world price rise for the various Member States based on data expressed in U.S. dollars, i.e. the price changes in column (e) are related to the average price increase for all Member States in the specified period over the specified

base period.

78. Of the countries presented in Annex VIII, a number have experienced currency depreciation (figures below 100 in column (g)) which reduced the sometimes very high rates of domestic price rises. There are a few countries, however, where a currency depreciation occurred even when the domestic price rise was relatively moderate. The rest of the countries experienced currency appreciation (figures above 100 in column (g)) in varying degrees. As a whole, it may be noted that the exchange rate movements did not properly serve to correct the very different rates of domestic price rises in the Member States between the two periods.

79. This type of analysis can be performed using any two periods, average or single year. However, the year 1970 is used throughout as the base for comparison because this was the last year which preceded the period during which the monetary system of the market economies experienced upheavels and instability.

Value of national currency expressed in U.S. dollars and in SDRs

80. To further aid the Committee's discussion of this question, two tables are annexed to this document (Annexes IX and X) showing the movements of values of national currency of each Member State expressed in U.S. dollars and in SDRs.

81. In Annex IX, for each Member State, row (A) shows exchange rates for each year 1969 to 1975 in terms of U.S. dollars per the Member State's currency unit; the last column in row (A) shows, for each Member State, an average exchange rate (also in terms of U.S. dollars per the Member State's currency unit) for the period 1969-1975, obtained by weighting each year's exchange rate by national income in national currency; this latter exchange rate is the rate implied in the calculations which formed the basis of the machine scale during the 1977 review.

82. Row (B) presents the same data as in row (A) in terms of index numbers with 1970=100. These index numbers show, on an annual basis, whether a country's currency is steady, continually appreciating, con-

tinually depreciating or fluctuating up and down in terms of the U.S. dollar.

83. If in rows (A) and (B), the figures in the last column are respectively greater than those in the second column, then there has been, on average, an appreciation of the currency of the Member State during 1969-1975 compared with 1970; if the figures in the last column are respectively smaller than those in the second column, then there has been a depreciation of the currency of the Member State during 1969-1975 compared with 1970. The appreciations and depreciations herein are in terms of the U.S. dollar.

84. All the exchange rates presented in Annex IX are reciprocals of the rates used by the Committee on Contributions at its 1977 review of the scale and presented in Annex III of this document.

85. In Annex X, for each Member State, row (A) shows exchange rates for each year 1969 to 1975 in terms of Special Drawing Rights per the Member State's currency unit; the last column in row (A) shows, for each Member State, an average exchange rate (also in terms of Special Drawing Rights per the Member State's currency unit) for the period 1969-1975, obtained by weighting each year's exchange rate by national income in national currency.

86. Row (B) presents the same data as in row (A) in terms of index numbers with 1970=100. These index numbers show on an annual basis, whether a country's currency is steady, continually appreciating, continually depreciating or fluctuating up and down in terms of the Special Drawing Right.

87. If in rows (A) and (B), the figures in the last column are respectively greater than those in the second column, then there has been, on average, an appreciation of the currency of the Member State during 1969-1975 compared with 1970; if the figures in the last column are respectively smaller than those in the second column, then there has been a depreciation of the currency of the Member State during 1969-1975 compared with 1970. Appreciations and depreciations herein are in terms of the Special Drawing Right.

SECTION (iv)

The Need to Take Inflation into Account in a More Systematic Manner

88. The problem of ensuring that the element of inflation does not distort the statistical measurement of a country's national income and, therefore, its capacity to pay is one which has engaged the attention of the Committee on Contributions for a number of years. The Committee has, on several occasions in the past, examined the possibility of using national income statistics expressed in constant prices instead of in current prices. The conceptual and practical difficulties encountered by the Committee at its 1976 session, in the substitution of constant for current prices, are cited in para. 3 of this document.

89. In its report to the General Assembly at its thirty-second session in 1977, the Committee stated:[12/]

> "..... In seeking improvements in the Statistical measurement of relative capacity to pay, the same difficulties were encountered by the Committee at its current session, since data in constant prices compiled in the manner required for international comparisons are not universally available. Nor does an internationally-agreed set of statistical techniques exists to the degree necessary for the work of the Committee even if data were available. As a consequence, the Committee concluded that it had no alternative but to continue its use of national income data in current prices."

90. The problems of improving national accounts statistics in constant prices continue to be studied by the international statistical community; however, for the reasons cited above, the chances of their satisfactory resolution for the purpose at hand appear to be somewhat slim for the near future.

91. The Committee might, therefore, wish to study this question on an ad hoc basis. It might wish to examine, as it has done during its past sessions, individual cases of Member States suffering from inflation not corrected by appropriate exchange rate changes. To aid the Committee's discussion of this question, two tables are annexed to this document (Annexes XI and XII) showing rates of price increases of Member States.

12/ Official Records of the General Assembly, Thirty-second Session, Supplement No. 11 (A/32/11), para. 27.

These two tables, which can be used only as general and rough guide, are but examples of the types of elements the Committee might wish to consider in connexion with how the problem of inflation might be tackled in determining the scale.

92. In Annex XI , row (A), for each Member State the current dollar estimate of national income for each year from 1969 to 1975 is divided by the corresponding year's estimate of national income in constant 1970 dollars. The resulting quotients are expressed as index numbers with 1970=100. These numbers show the annual movements of prices implied in the national incomes of Member States; they do not, however, represent movements in domestic prices but in prices after conversion into U.S. dollars. The last figure is an average annual percentage of increase of prices for a given Member State over the period 1969 to 1975.

93. In row (B) of the same annex is shown each year's price index expressed as a change from the previous year's with the latter =100. If a figure exceeds 100, the amount by which it exceeds 100 is the percentage increase from the previous year's price; if a figure is less than 100, the amount by which it falls short of 100 is the percentage decrease from the previous year's price.

94. Annex XII presents a matrix, grouping the Member States assessed over 0.01 per cent in the present scale by the average annual increase of the dollar price in each Member State during the period 1969-1975 (prices are measured in terms of implicit price deflators obtained from data in U.S. dollars) and by per cent change for each Member State in dollar prices (prices again defined in terms of implicit price deflators obtained from data in U.S. dollars) between 1974 and 1975, i.e. the change in prices which occurred during the last year of the period. All dollar implicit price deflators used for grouping Member States are based on statistics which produced the machine scale reviewed by the Committee at its 1977 session.

95. The matrix, grouping Member States in terms of classes of U.S. dollar implicit price deflators, shows the average annual price behaviour of each Member State during 1969-1975 and also the price trend in each Member State towards the end of the period, both in terms of price deflators obtained through dollar conversions. The table makes it possible to divide Member States into three types: (a) those where price increase is accelerating in the last year compared with the average for the seven-year period, (b) those where price increase is decelerating in the last year compared with the average for the seven-year period, and (c) those where price increase in the last year remained unchanged from the average for the seven-year period.

96. It is possible to construct other similar matrices, grouping Member States in terms of classes of U.S. dollar implicit price deflators. For example, one could examine, for a group of Member States within a given range of average rates of price increases for the seven-year period, price trends for a year or years beyond the seven-year period or price trends over more than one year within the period but still years towards the end of the period.

ANNEXES

I. IMF exchange rate matrix

II. (a) Countries for which exchange rates from IFS line rf (1969, 1970) or af (1971 to 1975) are used

(b) Countries for which exchange rates from IFS line rh (1969, 1970) or ah (1971 to 1975) are used

III. Exchange rates for 1969-1975

IV. Glossary of exchange concepts for members of the IMF

V. Compositions of baskets of currencies or international units of account

VI. Comparison between machine scale during the 1977 review and machine scale using Special Drawing Rights (SDR) rates

VII. Summary. U.N. International Comparison Project (ICP)

VIII. Price changes and exchange rates

IX. Value of national currency in terms of exchange rates, expressed in US dollars

X. Value of national currency in terms of exchange rates, expressed in units of SDR

XI. Rates of price changes

XII. Member States assessed over 0.01 per cent: Distribution according to changes in implicit price deflators from data in U.S. dollars, 1969-1975

ANNEX I

IMF EXCHANGE RATE MATRIX

			Market Rate/ Par or Central Rate a	Par or Central Rate/ Market Rate d	Par Rate/ Market Rate r
National Currency Units per SDR	End of period	a	aa		
	Period average	b			
SDRs per Unit of National Currency	End of period	c	ac		
	Period average	d			
National Currency Units per U.S.dollar	End of period	e	ae	de	
	Period average	f	af		rf
U.S.Dollars per Unit of National Currency	End of period	g	ag	dg	
	Period average	h	ah		rh

ANNEX II

(a) Countries for which exchange rates from IFS line rf (1969, 1970) or af (1971 to 1975) are used

Afghanistan
Algeria
Austria
Bahamas[1]
Bangladesh[2]

Barbados
Belgium
Benin
Bolivia[2]
Brazil[2]

Burma
Burundi[2]
Canada
Central African Empire
Chad

Colombia[2]
Congo
Costa Rica
Denmark
Dominican Republic[1]

Ecuador[2]
El Salvador[1]
Ethiopia[2]
Finland
France

Gabon
Germany, Fed. Rep. of
Greece[2]
Guatemala[1]
Guyana
Haiti[1]
Honduras[1]
Iceland
India

Indonesia[2]
Iran
Israel
Italy
Ivory Coast

Japan
Kenya[2]
Lebanon[2]
Liberia[1]
Luxembourg

Madagascar
Malawi
Malaysia
Mali
Mauritania

Mauritius
Mexico
Morocco
Nepal
Netherlands

Nicaragua
Niger
Norway
Pakistan
Panama[1]
Paraguay
Philippines
Portugal
Rwanda[2]

Saudi Arabia
Senegal
Singapore
Somalia
Spain

Sri Lanka
Surinam
Sweden
Syrian Arab Republic[2]
Thailand

Togo
Trinidad and Tobago
Tunisia
Turkey
Uganda[2]

United Rep. of Cameroon
United Rep. of Tanzania[2]
Upper Volta
Uruguay[2]
Venezuela[2]

Yemen[2]
Yugoslavia
Zaire

Source: IMF, International Financial Statistics, 1977 Supplement, Annual Data 1952-1976, May 1977.

1/ Countries with fixed rates for all years 1969-1975. Line ae, which refers to exchange rates at end of period, is published in IFS, instead of rf or af. End of period exchange rates (ae) and period averages (rf or af) are identical.

2/ Countries for which line af is not published in IFS; instead line rf is used for all years 1969-1975.

ANNEX II (continued)

(b) Countries for which exchange rates from IFS line rh (1969, 1970) or ah (1971 to 1975) are used

Australia
Bahrain[2/]
Cyprus
Democratic Yemen
Egypt
Fiji
Gambia
Ghana
Iraq[2/]
Ireland
Jamaica
Jordan[2/]
Kuwait
Libyan Arab Jamahiriya[2/]
Malta
New Zealand
Nigeria[2/]
Samoa[2/]
Sierra Leone
South Africa
Sudan[1/]
United Kingdom
Zambia[2/]

Source: IMF, International Financial Statistics, 1977 Supplement, Annual Data 1952-1976, May 1977.

1/ Countries with fixed rates for all years 1969-1975. Line ag, which refers to exchange rates at end of period, is published in IFS, instead of rh or ah. End of period exchange rates (ag) and period average (rh or ah) are identical.

2/ Countries for which line ah is not published in IFS; instead line rh is used for all years 1969-1975.

ANNEX III

EXCHANGE RATES FOR 1969-1975

NOTE: For purpose of comparison of national income, the following exchange rates were used to convert estimates expressed in national currencies into United States dollars. Unless otherwise specified, for Member States with market economies, the rates shown for 1969 and 1970 were generally the par value of the currency; for 1971 to 1975, the period averages of daily market rates were used as published in the International Monetary Fund, International Financial Statistics. For Member States with centrally planned economies, the rates used were the period averages of effective rates communicated to the Secretariat by the Governments of the Member States. For more detailed explanations, refer to paragraphs 7 to 20 of this document as well as to addendum 1 of this document.

Member State	1969	1970	1971	1972	1973	1974	1975
	(Units of national currency per US dollar)						
AFGHANISTAN	45.000	45.000	45.000	45.000	45.000	45.000	45.000
ALBANIA	12.500	12.500	11.500	11.500	10.250	10.250	9.750
ALGERIA	4.937	4.937	4.913	4.484	3.959	4.181	3.949
ANGOLA	28.750	28.750	28.211	27.011	24.673	25.408	25.553
ARGENTINA 1/	3.500	3.792	4.522	8.547	9.980	9.980	27.390
AUSTRALIA	.893	.893	.880	.839	.704	.695	.763
AUSTRIA	26.000	26.000	24.914	23.115	19.580	18.693	17.417
BAHAMAS	1.000	1.000	1.000	1.000	1.000	1.000	1.000
BAHRAIN	.476	.476	.475	.439	.399	.395	.396
BANDLADESH	4.762	7.279	7.761	7.595	7.742	8.113	12.019
BARBADOS	2.000	2.000	1.964	1.922	1.959	2.053	2.020
BELGIUM	50.000	50.000	48.594	44.015	38.977	38.959	36.781
BENIN	259.710	277.710	275.520	252.210	222.700	240.500	214.320
BHUTAN 2/	...	...	...	...	...	...	...
BOLIVIA	11.880	11.880	11.880	13.233	20.000	20.000	20.000
BOTSWANA	.714	.714	.713	.772	.693	.679	.732
BRAZIL	4.026	4.494	5.304	5.960	6.128	6.843	8.204
BULGARIA	2.000	2.000	1.940	1.850	1.680	1.610	1.200
BURMA	4.762	4.762	4.842	5.454	4.907	4.858	6.454
BURUNDI	87.500	87.500	87.500	87.500	79.480	78.750	78.750

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ANNEX III (continued)

Member State	1969	1970	1971	1972	1973	1974	1975
CANADA	1.081	1.044	1.010	.991	1.000	.978	1.017
CAPE VERDE 2/	...	...	...	...	...	...	...
CENTRAL AFRICAN EMPIRE	259.710	277.710	275.520	252.210	222.700	240.500	214.320
CHAD	259.710	277.710	275.520	252.210	222.700	240.500	214.320
CHILE 3/	.011	.014	.021	.037	.186	1.267	5.461
CHINA	...	...	...	...	...	...	...
COLOMBIA	17.227	18.352	20.080	22.018	23.813	27.109	30.869
COMOROS	259.710	277.710	275.520	252.210	222.700	240.500	214.320
CONGO	259.710	277.710	275.520	252.210	222.700	240.500	214.320
COSTA RICA	6.625	6.625	6.635	6.635	6.647	7.959	8.570
CUBA	1.320	1.320	1.320	.960	.829	.829	.829
CYPRUS	.417	.417	.409	.384	.350	.365	.368
CZECHOSLOVAKIA	16.200	16.200	16.160	13.320	11.740	11.800	11.260
DEMOCRATIC KAMPUCHEA	42.650	55.540	69.880	... 2/	... 2/	... 2/	... 2/
DEMOCRATIC YEMEN	.417	.417	.415	.384	.349	.345	.345
DENMARK	7.500	7.500	7.407	6.977	6.050	6.095	5.746
DOMINICAN REPUBLIC	1.000	1.000	1.000	1.000	1.000	1.000	1.000
ECUADOR	18.000	20.917	25.000	25.000	25.000	25.000	25.000
EGYPT	.435	.435	.435	.435	.395	.391	.391
EL SALVADOR	2.500	2.500	2.500	2.500	2.500	2.500	2.500
EQUATORIAL GUINEA 2/	...	...	...	...	...	...	...
ETHIOPIA	2.500	2.500	2.485	2.320	2.105	2.086	2.086
FIJI	.871	.871	.855	.825	.794	.804	.823
FINLAND	4.200	4.200	4.209	4.163	3.828	3.760	3.687
FRANCE	5.194	5.554	5.510	5.044	4.454	4.810	4.286
GABON	259.710	277.710	275.520	252.210	222.700	240.500	214.320
GAMBIA	2.085	2.083	2.046	1.998	1.686	1.710	1.800
GERMAN DEM. REP.	4.200	4.200	4.200	3.150	2.880	2.720	2.420
GERMANY, FED.REP. OF	3.943	3.660	3.482	3.189	2.673	2.592	2.461
GHANA	1.020	1.020	1.061	1.312	1.160	1.150	1.150

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ANNEX III (continued)

Member State	1969	1970	1971	1972	1973	1974	1975
GREECE	30.000	30.000	30.000	30.000	29.625	30.000	32.287
GRENADA	2.000	2.000	1.964	1.922	1.959	2.053	2.020
GUATEMALA	1.000	1.000	1.000	1.000	1.000	1.000	1.000
GUINEA 2/	...	...	...	...	...	...	...
GUINEA-BISSAU 2/	...	...	...	...	...	...	...
GUYANA	2.000	2.000	1.978	2.087	2.127	2.229	2.355
HAITI	5.000	5.000	5.000	5.000	5.000	5.000	5.000
HONDURAS	2.000	2.000	2.000	2.000	2.000	2.000	2.000
HUNGARY	30.000	30.000	30.000	27.630	25.240	24.900	20.920
ICELAND	88.000	88.000	87.860	87.730	90.130	99.950	153.700
INDIA	7.500	7.500	7.463	7.594	7.742	8.102	8.376
INDONESIA	326.000	365.000	393.420	415.000	415.000	415.000	415.000
IRAN	75.750	75.750	76.380	76.380	68.720	67.625	67.639
IRAQ	.357	.357	.355	.329	.299	.296	.296
IRELAND	.417	.417	.409	.400	.408	.428	.450
ISRAEL	3.500	3.500	3.792	4.200	4.200	4.500	6.390
ITALY	625.000	625.000	618.360	583.000	583.000	650.340	652.850
IVORY COAST	259.710	277.710	275.520	252.210	222.700	240.500	214.320
JAMAICA	.833	.833	.821	.800	.909	.909	.909
JAPAN	360.000	360.000	348.940	308.000	272.190	291.510	296.800
JORDAN	.357	.357	.357	.357	.327	.321	.319
KENYA	.357	.357	.357	.357	.351	.357	.371
KUWAIT	.357	.357	.355	.328	.295	.293	.290
LAO PEOPLE'S DEM.REP. 2/	...	...	...	...	...	...	...
LEBANON	3.255	3.270	3.228	3.051	2.610	2.328	2.250

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ANNEX III (continued)

Member State	1969	1970	1971	1972	1973	1974	1975
LESOTHO	.714	.714	.713	.772	.693	.679	.732
LIBERIA	1.000	1.000	1.000	1.000	1.000	1.000	1.000
LIBYAN ARAB REPUBLIC	.357	.357	.355	.329	.299	.296	.296
LUXEMBOURG	50.000	50.000	48.594	44.015	38.977	38.959	36.781
MADAGASCAR	259.710	277.710	275.520	252.210	222.700	240.500	214.320
MALAWI	.833	.833	.828	.807	.816	.840	.866
MALAYSIA	3.061	3.061	3.020	2.805	2.443	2.407	2.402
MALDIVES 2/	...	...	...	...	...	...	...
MALI	519.420	555.420	551.040	504.420	445.400	480.990	428.640
MALTA	.417	.417	.407	.383	.367	.385	.382
MAURITANIA	51.942	55.542	55.105	50.443	44.540	45.176	43.181
MAURITIUS	5.556	5.556	5.457	5.339	5.442	5.703	6.027
MEXICO	12.500	12.500	12.500	12.500	12.500	12.500	12.500
MONGOLIA	20.000	20.000	20.000	20.000	20.000	20.000	20.000
MOROCCO	5.060	5.060	5.021	4.596	4.107	4.370	4.053
MOZAMBIQUE	28.750	28.750	28.211	27.011	24.673	25.408	25.553
NEPAL	10.125	10.125	10.125	10.125	10.523	10.560	11.049
NETHERLANDS	3.620	3.620	3.495	3.210	2.796	2.689	2.529
NEW ZEALAND	.893	.893	.877	.837	.734	.714	.823
NICARAGUA	7.000	7.000	7.026	7.026	7.026	7.026	7.026
NIGER	259.710	277.710	275.520	252.210	222.700	240.500	214.320
NIGERIA	.714	.714	.712	.658	.657	.630	.615
NORWAY	7.143	7.143	7.044	6.588	5.766	5.540	5.227
OMAN	.417	.417	.413	.384	.351	.345	.345
PAKISTAN	4.762	4.762	4.767	8.952	10.023	9.931	9.931
PANAMA	1.000	1.000	1.000	1.000	1.000	1.000	1.000
PAPUA NEW GUINEA	.893	.893	.880	.839	.704	.695	.763
PARAGUAY	126.000	126.000	126.000	126.000	126.000	126.000	126.000
PERU 3/	49.980	51.340	51.340	51.890	55.440	59.540	65.270
PHILIPPINES	3.900	6.012	6.375	6.670	6.752	6.798	7.266

ANNEX III (continued)

Member State	1969	1970	1971	1972	1973	1974	1975
POLAND	24.000	24.000	23.950	22.080	20.270	19.920	19.920
PORTUGAL	28.750	28.750	28.211	27.011	24.673	25.408	25.553
QATAR 2/	...	...	...	...	...	...	...
ROMANIA	18.000	18.000	17.980	16.000	14.580	13.780	12.000
RWANDA	100.000	100.000	99.710	92.110	83.920	92.840	92.840
SAMOA	.721	.721	.717	.675	.612	.607	.631
SAO TOME AND PRINCIPE 2/	...	...	...	...	...	...	...
SAUDI ARABIA	4.500	4.500	4.471	4.150	3.690	3.550	3.518
SENEGAL	259.710	277.710	275.520	252.210	222.700	240.500	214.320
SEYCHELLES	5.560	5.560	5.453	5.333	5.440	5.707	6.000
SIERRA LEONE	.833	.833	.818	.799	.816	.855	.900
SINGAPORE	3.061	3.061	3.027	2.809	2.444	2.437	2.371
SOMALIA	7.143	7.143	7.128	6.979	6.282	6.295	6.295
SOUTH AFRICA	.714	.714	.713	.772	.693	.679	.732
SPAIN	70.000	70.000	69.282	64.273	58.243	57.688	57.407
SRI LANKA	5.952	5.952	5.935	6.002	6.405	6.649	7.050
SUDAN	.348	.348	.348	.348	.348	.348	.348
SURINAM	1.886	1.886	1.789	1.789	1.789	1.789	1.789
SWAZILAND	.714	.714	.713	.772	.693	.679	.732
SWEDEN	5.173	5.173	5.108	4.762	4.367	4.439	4.152
SYRIAN ARAB REPUBLIC	3.820	3.820	3.820	3.820	3.821	3.723	3.700
THAILAND	20.800	20.800	20.928	20.928	20.651	20.375	20.379
TOGO	259.710	277.710	275.520	252.210	222.700	240.500	214.320
TRINIDAD AND TOBAGO	2.000	2.000	1.964	1.922	1.959	2.053	2.170
TUNISIA	.525	.525	.518	.477	.420	.437	.402

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ANNEX III (continued)

Member State	1969	1970	1971	1972	1973	1974	1975
TURKEY	9.000	11.370	14.860	14.150	14.150	13.927	14.442
UGANDA	7.143	7.143	7.143	7.143	7.021	7.144	7.412
USSR 4/	.900	.900	.900	.823	.735	.772	.723
UNITED ARAB EMIRATES 2/	...	...	...	...	...	...	...
UNITED KINGDOM	.417	.417	.409	.400	.408	.428	.450
UNITED REPUBLIC OF CAMEROON	259.710	277.710	275.520	252.210	222.700	240.500	214.320
UNITED REPUBLIC OF TANZANIA	7.143	7.143	7.143	7.143	7.021	7.143	7.414
UNITED STATES	1.000	1.000	1.000	1.000	1.000	1.000	1.000
UPPER VOLTA	259.710	277.710	275.520	252.210	222.700	240.500	214.320
URUGUAY	.250	.250	.260	.563	.875	1.216	2.299
VENEZUELA	4.500	4.500	4.501	4.400	4.304	4.285	4.285
YEMEN	5.500	5.500	4.690	4.690	4.575	4.575	4.562
YUGOSLAVIA	12.500	12.500	15.167	17.000	16.189	15.913	17.386
ZAIRE	.500	.500	.500	.500	.500	.500	.500
ZAMBIA	.714	.714	.714	.714	.649	.643	.643

1/ For 1970 and 1971, weighted average of official rates, for 1972 to 1974, trade conversion factors were used.

2/ National income estimates were made in U.S. dollars.

3/ Since conversion by all exchange rates used in international transactions yield totally unrealistic results, the rates were obtained by extending a selected year's exchange rate, believed to represent a reasonable approximation to the purchasing power parity between the country and the United States, by the ratio of the implicit price deflators of these two countries.

4/ Including the Byelorussian Soviet Socialist Republic and the Ukrainian Soviet Socialist Republic.

ANNEX IV

GLOSSARY OF EXCHANGE CONCEPTS FOR MEMBERS OF THE IMF

(Source: IMF Survey, 14 August 1972)

Note: This glossary is intended to explain some of the terms used in the main part of the document. It should be stressed here that explanations rather than definitions are provided, since a number of expressions have very precise juridical meanings in terms of IMF's Articles of Agreement and the decisions of the Executive Directors of the Fund.

A central rate is a rate established under a temporary regime (based on an Executive Board decision of 18 December 1971) by a country which temporarily does not maintain rates based on a par value in accordance with the relevant Fund rules but does maintain a stable rate as the basis for exchange transactions in its territories. Central rates are in certain respects treated as par values, and the concept was introduced primarily to allow Fund members who, prior to 15 August 1971, had an effective par value to base their exchange rates on a stable rate subject to specified margin requirements during the period when the par value of the U.S. dollar was not effective. The temporary regime provides for the possibility of margins of 2-1/4 per cent either side of the central rate. After the change in the par value of the U.S. dollar on 8 May 1972, a number of countries have replaced their central rates with new par values.

The terms devaluation and revaluation normally are reserved for changes in the par value which make the currency concerned cheaper or more expensive in terms of other currencies. Where similar changes occur in an exchange rate that is not a par value, the terms depreciation and appreciation are generally used. Depreciation or appreciation may involve either discrete or gradual changes in value.

A dual exchange market exists when the authorities operate two exchange markets, prescribing the use of one market for exchange transactions relating to specified types of underlying transactions and the use of the other for all other permitted dealings in foreign exchange. Such arrangements have often involved a market where the value of foreign

exchange is kept relatively stable and in which the bulk of all transactions take place, and another, a "free market", where foreign currencies fluctuate freely or with a high degree of freedom. In the secondary market foreign exchange may be either more or less expensive than in the main market, depending on the regulations governing access to each. Official intervention in the form of purchases or sales of foreign currency by the authorities may be resorted to in order to affect fluctuations in the secondary market.

An effective exchange rate is any spot exchange rate actually paid or received by the public, including any taxes or subsidies on the exchange transaction as well as any applicable banking commissions. The Articles of Agreement envisage that all effective exchange rates shall be situated within the permitted margins around the par value.

A floating currency is one whose value in terms of foreign currency is not kept stable (on the basis of the par value or a fixed relationship to some other currency) but instead is allowed, without a multiplicity of exchange rates, to be determined (entirely or to some degree) by market forces. Even where a currency is floating, the authorities may influence its movements by official intervention; if such intervention is absent or minor, the expression "clean float" is sometimes used.

A forward exchange transaction is a purchase or sale of foreign currency for future delivery. Standard periods for forward contracts are one, three, and six months.

The intervention currency is the foreign currency a country uses to ensure by means of official exchange transactions that the permitted exchange rate margins are observed. Intervention usually takes the form of purchases and sales of foreign currency by the central bank or exchange equalization fund in domestic dealings with commercial banks. Under the temporary regime of central rates and wider margins mentioned above, members must communicate an intervention currency to the Fund, which is then used to determine the limits around the par value or central rate within which spot exchange transactions should take place.