B. Note by the Secretary-General: electronic funds transfer (A/CN.9/199)*

1. The Commission, at its eleventh session, included as an item in its programme of work the legal problems arising out of electronic funds transfer.[1] At its twelfth session the Commission noted that the UNCITRAL Study Group on International Payments, a consultative body composed of representatives of banking and trade institutions, was engaged in studying the question.[2] At its thirteenth session the Commission requested the Secretariat to submit to it at its fourteenth session a progress report on the matter, so that it might give directions on the scope of further work after having considered the Study Group's conclusions.[3]

2. The Study Group made a preliminary study of some of the legal aspects of electronic funds transfer at its meetings in September 1978 and April 1979. The Study Group considered that its work should be expanded to reflect the best available practical experience of setting up and operating electronic payment systems. Therefore, it requested the Secretariat to solicit such information by means of a questionnaire to be circulated to central banks and other appropriate organizations.

3. The questionnaire was sent on 19 March 1980. The Study Group had before it at its meeting at Toronto, Canada, from 23 to 27 June 1980, a number of replies which had already been received. However, since additional replies were expected, it was decided that an analysis of replies should be prepared by the Secretariat for the next meeting of the Study Group at which time more definite conclusions might be reached.[4]

* 29 April 1981. Referred to in Report, para. 34 (part one, A, above).

[1] Report of the United Nations Commission on International Trade Law on the work of its eleventh session, *Official Records of the General Assembly, Thirty-third Session, Supplement No. 17* (A/33/17), para. 67 (Yearbook . . . 1978, part one, II, A).

[2] Report of the United Nations Commission on International Trade Law on the work of its twelfth session, *Official Records of the General-Assembly, Thirty-fourth Session, Supplement No. 17* (A/34/17), para. 55 (Yearbook . . . 1979, part one, II, A).

[3] Report of the United Nations Commission on International Trade Law on the work of its thirteenth session, *Official Records of the General Assembly, Thirty-fifth Session, Supplement No. 17* (A/35/17), para. 163 (Yearbook . . . 1980, part one, II, A).

[4] The list of organizations which submitted replies to the questionnaire is contained in an annex to this note.

4. The next meeting of the Study Group is scheduled to be held at Munich from 17 to 21 August 1981 at which time the analysis of replies to the questionnaire will be considered. In certain respects the replies will be supplemented by information drawn from the publication entitled "Payment Systems in Eleven Developed Countries" prepared for the Bank for International Settlements by the Group of Computer Experts of the Central Banks of the Group of Ten Countries and Switzerland.

5. Since the Study Group will not have met between the thirteenth and fourteenth sessions of the Commission, the Secretariat is unable to submit to the Commission at this time any information in addition to that previously submitted which would aid the Commission in giving directives on the scope of further work.

6. The Secretariat will request the Study Group at its meeting in August to recommend to the Commission whether the Commission should undertake substantive work in this field at the present time and, if so, what the nature of that work might be. The Secretariat will submit the recommendation of the Study Group to the Commission at its next session.

ANNEX

Institutions which replied to questionnaire on electronic funds transfer systems

1. Reserve Bank of Australia
2. Creditanstalt-Bankverein, Austria
3. Canadian Bankers' Association
4. State Bank of Czechoslovakia
5. National Bank of Denmark
6. Finland Bank
7. Bank of France
8. Deutsche Bank, Germany, Federal Republic of
9. National Bank of Hungary
10. Bank of Italy
11. Central Bank of Jordan
12. Central Bank of Kuwait
13. Netherlands Bank
14. Databank Systems Limited, New Zealand
15. Bank of Norway
16. Bank of Portugal
17. Bank of Sweden
18. Bankers' Automated Clearing Services Ltd., United Kingdom
19. Federal Reserve Bank of New York, United States of America

C. Report of the Secretary-General: universal unit of account for international conventions (A/CN.9/200)*

1. At its eleventh session the Commission adopted the proposal of the delegation of France that the Commission "should study ways of establishing a system for determining a universal unit of constant value which would serve as a point of reference in international conventions for expressing amounts in monetary terms."[1]

* 12 May 1981. Referred to in Report, para. 25 (part one, A, above).

[1] A/CN.9/156; Report of the United Nations Commission on International Trade Law on the work of its eleventh session, *Official Records of the General Assembly, Thirty-third Session, Supplement No. 17* (A/33/17), para. 67 (Yearbook . . . 1978, part one, II, A).

2. The proposal was examined by the UNCITRAL Study Group on International Payments at its meetings in 1978, 1979 and 1980. The Study Group was of the view that the most desirable approach was to combine the use of the special drawing right (SDR) with a suitable index which would preserve over time the purchasing power of the monetary values set forth in the international conventions in question.

3. In an annex to this report a note prepared by the staff of the International Monetary Fund (IMF) at the request of the Commission's Secretariat sets forth many of the considerations which led to this recommendation. The IMF note also suggests that for most purposes a consumer price index would be suitable. It recognizes, however, that it would be possible to specify any of a number of other price indices—producer prices, export prices, GNP deflators, etc.—in the text of a convention if that were found to be preferable. In an annex to the IMF note is given the formula for the calculation of the index, this formula being the same no matter which index was chosen. The note concludes by saying that if the SDR in conjunction with a suitable SDR price index were chosen as a unit of account for use in international conventions, the necessary data would be published in the monthly IMF publication *International Financial Statistics.*

4. The SDR is now well accepted as the unit of account in international conventions of world-wide application. In spite of some criticism[2] and of certain problems encountered in respect of States which are not members of the IMF, the formula used in the United Nations Convention on the Carriage of Goods by Sea, 1978* is essentially the same as that used in other conventions and draft conventions.[3] Therefore, the only new element in this proposal is that the purchasing power of sums specified in SDRs in such conventions be maintained through the use of a suitable price index.

5. The technical problems of drafting such a provision are minimal. The major policy question would be the particular price index to be used, but that decision could be left until the draft provision was before the Commission for adoption since all of the other policy and drafting questions would be the same no matter which price index were chosen.[4]

* Yearbook . . . 1978, part three, I, B.

[2] See A. Tobolewski, "The special drawing right in liability conventions: an acceptable solution?" *Uniform Law Review* (1978, II), p. 14.

[3] United Nations Convention on International Multimodal Transport of Goods, article 31 (TD/MR/CONF/16), adopted at Geneva on 24 May 1980; draft articles for a convention on liability and compensation in connexion with the carriage of noxious and hazardous substances by sea, article 10, IMCO document LEG XLIV/2 of 10 September 1980.

[4] It should be borne in mind, however, that while in principle any number of price indices might be appropriate for use in different conventions, each separate price index which might be used would require the commitment of the IMF to calculate and publish it. Therefore, it would be desirable if agreement could be reached on the use of a single price index.

6. Since provisions based upon the formula used in the United Nations Convention on the Carriage of Goods by Sea, 1978* are becoming increasingly common, it would be desirable for a definitive text to be prepared before any further conventions were adopted for which the provision would be appropriate.[5] Therefore, if the Commission agrees that it would be desirable to prepare such a provision for use in international conventions, the Commission may wish to adopt the provision at its next session.

7. The Commission may wish to consider requesting the Working Group on International Negotiable Instruments to prepare a draft provision to be presented to the Commission at its next session with a view to its adoption by the Commission at that time. The Commission may also wish to request the Secretary-General to conduct such studies as seem desirable in the light of the discussion in the current session of the Commission and to submit those studies to the Working Group along with a preliminary draft text.

8. In this connexion it may be noted that the Working Group on International Negotiable Instruments expects to complete the tasks currently assigned to it by the Commission at its eleventh session in August 1981.[6] Even if the Commission were to request the Working Group to consider the comments of Governments and interested international organizations on the draft Convention on International Bills of Exchange and International Promissory Notes and the draft Uniform Rules Applicable to International Cheques, as suggested by the Working Group,[7] those comments will not be received and ready for consideration until after the Commission's fifteenth session. Therefore, the Working Group, which is composed of Chile, Egypt, France, India, Nigeria, Union of Soviet Socialist Republics, United Kingdom of Great Britain and Northern Ireland and the United States of America, would be available to consider a provision on a universal unit of account in the early months of 1982.

ANNEX I

A unit of account for international conventions[a]

Increasing recognition is being accorded to use of the special drawing right (SDR) as an international unit of account. At the same time, proposals are being put forward to refine its application in international conventions. Following the adoption of the United Nations Convention on the Carriage of Goods by Sea,* which specifies the SDR

* Yearbook . . . 1978, part three, I, B.

[5] It is expected that the draft convention cited in footnote 3 will be submitted in 1982 to a conference of plenipotentiaries by the Intergovernmental Maritime Consultative Organization.

[6] Report of the Working Group on International Negotiable Instruments on the work of its tenth session, A/CN.9/196, para. 208 (reproduced in this volume, part two, II, A).

[7] *Ibid.*, para. 213.

[a] A note prepared by the IMF staff observers at the request of the UNCITRAL Secretariat.

as its unit of account, the Study Group on International Payments of the United Nations Commission on International Trade Law (UNCITRAL) began examination of a proposal made by the representative of France at the eleventh session of UNCITRAL (May 30-June 16, 1978). The proposal urged UNCITRAL to "study ways of establishing a system for determining a universal unit of constant value which would serve as a point of reference in international conventions for expressing amounts in monetary terms" (A/CN.9/156, 2 June 1978).*

The SDR is defined as a basket of currencies containing specified amounts of the currencies of the five member countries of the International Monetary Fund (IMF) that, in a recent five-year base period (1975-79), had the largest exports of goods and services—United States, Federal Republic of Germany, Japan, France, and United Kingdom. In that base period, these five countries together accounted for almost one half of the total exports of goods and services of all IMF members. Being defined as a basket of currencies, the SDR maintains its purchasing power over the collection of component currencies as well as over any other currencies that maintain a stable relationship to the SDR. Its purchasing power over goods and services varies, however, with the purchasing power of the component currencies.

For a monetary amount specified in terms of SDRs to represent, as much as possible, a constant real value over time, the amount would have to be adjusted periodically in relation to a suitable price index. Such adjustments could be made either automatically or through a reviewing procedure. Although the latter method could in principle give some flexibility, it has the disadvantage of requiring periodic administration, which may in practice rob it of much of the flexibility it may have in principle. Moreover, the discretionary character of the method may introduce a measure of uncertainty. For these reasons an automatic procedure may recommend itself.

Under an automatic procedure, monetary amounts used in conventions would be specified in terms of an SDR with the purchasing power over goods and services actually observed in a base period. Whenever the corresponding nominal amount in terms of a particular currency is to be determined, the specified SDR amount would first be multiplied by the current value of the chosen price index before being converted into the desired currency by means of the current exchange rate between that currency and the SDR.

Two questions arise with respect to the choice of a price index: first, which of a number of available national price indices to employ and, second, the country composition of the international index. The first question does not have a general answer. The choice largely depends on the purpose of the monetary amounts to be specified. For most purposes a consumer price index would be suitable, for instance, when the amounts refer to the compensation of individuals for injuries or losses. Consumer price indices, in contrast to some other indices, are generally not subject to revision once published and are commonly used to protect contracts against the erosion of purchasing power of a national currency. It would be possible, however, to specify any of a number of other price indices—producer prices, export prices, GNP deflators, etc.—in the text of a convention if that should be found to be preferable.

As regards the country composition of the price index, it would be most logical to adapt it to the composition of the SDR itself. This would entail combining the national price indices of the countries whose currencies are contained in the SDR currency basket with weights corresponding to the currency composition of the basket. This method recommends itself for the following important reason, which has to do with the relation between prices and exchange rates. There is a tendency for differential price trends in two countries to be reflected in the exchange rate between the two currencies. This relation, although far from perfect, is too strong to be set aside in designing the index in question. It implies that the purchasing power of an amount denominated in a particular currency can best be kept constant by correction for changes in the price index reflecting goods and services that are bought with that currency. Extension of this principle to a basket of currencies leads to the proposed index, whose composition and weighting match those of the basket.

The SDR price index can best be defined by reference to the objective that a specified amount of SDRs, multiplied by the current index value, should be just sufficient to purchase in the current period the same basket of goods and services that could have been bought with that specified amount in a chosen base period, with each of the five component currencies having been spent on a representative collection of goods and services in the respective issuing country. A formula for such an index is developed in annex II.

For strict validity, the proposed SDR price index would require constancy of both the SDR basket of currencies and the five baskets of goods and services on which the component national price indices are based. As long as these six baskets are unchanged, the SDR price index can be envisaged as a measure of the cost, expressed in SDRs, of a basket containing five national sub-baskets of goods and services. Changes in either the SDR basket or in one or several of the national consumption baskets between the base period and the current period preclude use of the index for strict comparison of the cost of a given collection of goods and services between the two periods. Nevertheless, if the changes are marginal—e.g. moderate changes in the currency composition of the SDR reflecting movements in trade shares of the five countries, or changes in the national consumption baskets as a result of alterations in consumption patterns—the index based on the new set of baskets could be linked to that based on the old set in a manner customary in the use of indices over longer time spans when weights are subject to change. Such marginal changes would not be expected to impair the general usefulness of the index as a practical measure of changes over time in the purchasing power of the SDR.

Accordingly, whenever the number of units of the five currencies in the SDR basket are altered as a result of periodic reviews of the composition of the basket, the base period should be shifted to the period (say, the month) preceding the change of the basket. The index using the new weights would be linked to that calculated with the old weights so that the index value would not jump arbitrarily as a consequence of the change in the composition of the SDR basket. Changes in the consumption baskets on which the national price indices are based are handled in a similar manner by the national statistical offices publishing them.

In the unlikely event that one of the baskets were altered more drastically—for instance, if one of the national price indices should cease to be published or if the list of currencies in the SDR basket should be changed—a new SDR price index would have to be calculated for the period following the alteration. It would then be for consideration whether monetary amounts in various conventions and agreements should be respecified in SDRs of the purchasing power attained during the base period of the new index or whether the new index should simply be linked to the old one at the period of overlap (i.e., the base period of the new index). The outcome of these two procedures would probably not differ greatly in practice, since the revision of specified monetary amounts required by the first procedure would most likely be guided by the calculated value of the old SDR price index during the period that forms the base period of the new index.

If the SDR in conjunction with a suitable SDR price index were chosen as a unit of account for use in international conventions, the data needed for calculating monthly values of the index, as well as monthly exchange rates between the SDR and the currencies of IMF member countries (and of some nonmember countries) would be available in the monthly IMF publication *International Financial Statistics*. Moreover, there would in principle appear to be no obstacle to calculation of the monthly price index by the IMF staff, with a delay of no more than three months.

* Yearbook . . . 1978, part two, IV, C.

ANNEX II

Formula for an SDR price index

The SDR price index sought can be defined as the SDR amount needed at a given time, t, to purchase the basket of goods and services that could have been bought during a chosen base period with the five currency amounts of which one SDR is composed, each currency being spent on a representative collection of goods and services in the respective issuing country. The elements needed for calculating such an index are the following:

P_{it} = price index of country i at time t ($P_{i0} = 1.0$, with period 0 being the base period);

C_i = number of units of currency i in the SDR basket; and

R_{it} = exchange rate of currency i, defined as the number of SDRs per unit of currency i at time t.

The product C_iP_{it} represents the number of units of currency i that are needed at time t to purchase the same basket of goods and services in country i that could have been acquired for C_i currency units in the base period.

The SDR value at time t of the collection of the five currency amounts C_iP_{it}, defined in the preceding paragraph, represents the proposed price index for the SDR at time t. This index, P_{st}, is shown below in three alternative, though equivalent, forms:

$$P_{st} = \sum_{i=1}^{5} (C_iP_{it})R_{it} = \sum_{i=1}^{5} (C_iR_{it})P_{it} = \sum_{i=1}^{5} (C_iR_{i0})P_{it}(R_{it}/R_{i0})$$

The first of these forms (on the left) suggests the basic definition of the index, namely, the SDR value of the five currency amounts needed to purchase at time t the five national sub-baskets that could have been bought with the five currency components of the SDR in the base period.

The second formulation (in the middle) indicates that this SDR price index is the weighted average of the five component national price indices, with the current value shares of the five currencies in the SDR being used as weights.

The third formulation (on the right) suggests that the index can also be viewed as a weighted average of the national price indices measured in terms of SDRs—P_{it} multiplied by (R_{it}/R_{i0})—with the base-period value shares of the five currencies in the SDR being used as weights.

If desired, the index could be multiplied by 100 in order to bring it into customary index form.