

The SDR in Private International Finance

The considerable volatility and uncertainty in interest rate and exchange rate developments among the major countries in recent years have led borrowers and investors to seek ways to hedge against these risks. In the process, use of the special drawing right (SDR), which is a basket of the five major currencies of members of the International Monetary Fund (IMF), has become an option for some transactors. The prime attraction of the SDR is that it tends to display less interest rate and exchange rate variability over time than any of its components. Since the beginning of 1981, new instruments denominated in SDRs have become increasingly available on the private international financial markets. These innovations have substantially expanded the potential of the SDR in private international finance.

This article explores the advantages and drawbacks of the private SDR as a basket currency and the nature of the evolving markets in private SDR instruments. The article also considers the reasons for the growth of these markets, the conditions under which they are likely to persist and flourish, and the role that the official community might play in their development.

The official versus the private SDR

The official and the private SDR are two distinct instruments. The official SDR is the creation of the IMF, and it is governed by the rules of that institution. It was created on July 28, 1969 to be available to supplement the growth of official reserves when the IMF determined that there was a global need. As a result of the second amendment to the IMF Articles of Agreement, which became effective April 1, 1978, the

IMF members have undertaken to collaborate with the Fund in making the SDR the principal reserve asset in the international monetary system.

The usefulness of the official SDR as a reserve asset derives from the obligation of its holders to accept it either directly or in exchange for currency when designated by the IMF. In a technical sense, the official SDR is a bookkeeping device or, more accurately, a computer entry on the books of the IMF. Effectively, however, the asset forms a means of payment among the monetary authorities of the participating IMF member countries,¹ enabling them to use their SDRs as they would a currency to meet a balance-of-payments need or in certain specified transactions. No member is, however, obliged to accept more SDRs in exchange for currency than three times its net cumulative allocation of SDRs.

The official SDR also functions as the unit of account for all transactions in the IMF. When it was created in 1969, its value was tied to the gold content of the United States dollar. This meant that, when the dollar was devalued in December 1971 and February 1973, the SDR appreciated in value against the dollar. With the advent of floating exchange rates in March 1973, the IMF decided to base the SDR on a basket of currencies. Effective July 1, 1974, sixteen currencies were

¹ In addition to the IMF member countries that have joined the Special Drawing Rights Department, the following institutions have been officially named "other holders" of SDRs by the IMF: the Andean Reserve Fund, the Arab Monetary Fund, the Bank for International Settlements, the East Caribbean Currency Authority, the International Bank for Reconstruction and Development, the International Development Association, the International Fund for Agricultural Development, the Nordic Investment Bank, and the Swiss National Bank.

chosen and assigned weights based on the importance of the issuing countries in world trade and international finance. Fixed amounts or units of each currency were derived from the percentage weights. The amounts of each currency and even the currencies themselves could be changed to reflect changes in the relative importance of countries in world trade and international finance.

To develop the SDR as the principal reserve asset in the international monetary system, the IMF decided as of January 1, 1981 to simplify the SDR by reducing the number of currencies in the basket from sixteen to five. The five chosen were also assigned weights intended to reflect their importance in world trade and international finance. The dollar weight was set at 42 percent, the German mark at 19 percent, and the French franc, Japanese yen, and British pound sterling at 13 percent each. As in the sixteen-currency basket, fixed amounts of each currency were derived from the percentage weights.² Because the calculation of the value of the SDR is based on fixed amounts for each currency, the percentage share of each currency in the basket will change from day to day with changes in exchange rates.³

Like the official SDR, the private or commercial SDR is composed of the same five currencies in the same proportions. It, too, functions as a means of payment and as a unit of account. But, whereas the official SDR exists almost entirely within the framework of the IMF, the private SDR is used in the international financial markets. Instead of being governed by the

rules of the IMF, the private SDR is subject to the conventions of the marketplace. Any party may hold a private claim denominated in SDRs. The main difference is that the claim will not be treated as an SDR by the IMF. This means that the IMF will not exchange the claim for currency—that is the responsibility of the issuer (Table 1).

Although the official and the private SDR have functioned in separate markets to date, a recent agreement between the IMF and the Saudi Arabian Monetary Authority (SAMA) raises the possibility that the lines between the markets in which these two instruments function may become blurred. In this agreement, SAMA undertook to lend the IMF SDR 4 billion in 1981 and SDR 4 billion in 1982. The loan is an obligation of the IMF and is denominated in SDRs. The novelty of the agreement is that, at its option, SAMA may convert its SDR claims on the IMF into bearer notes and sell these notes to another party, official or private. If SAMA were to exercise this option, the IMF would have an SDR-denominated liability to a private party.⁴ While these notes would not be SDRs in the narrow sense (they would be obligations of the General Department not the Special Drawing Rights Department of the IMF), they would be a very close relative.

The advantages and drawbacks of the SDR as a basket currency

Before examining how the private SDR works in practice, it is useful first to consider the advantages and drawbacks that the SDR as a basket currency can offer to borrowers and investors. The SDR is called a basket currency because it is composed of more than one currency. It is also called a standard basket because each currency in the basket is assigned fixed units or amounts. These units are derived from the weights attached to each currency when the basket is established or redefined.

In a standard basket, an appreciation or increase in the value of any one currency in the basket in terms of all other currencies will raise the value of the SDR in terms of each other currency. By contrast, a depreciation or decline in the value of any one currency will lower the value of the SDR in terms of each other currency. Because the movements of some currencies can be moderated or offset by the movements of other currencies, the value of the SDR in terms of a group of currencies is likely to be relatively stable.

A basket currency such as the SDR can offer potential advantages to private market participants in international borrowing and lending. Perhaps most importantly, because a basket currency averages the

² Every five years, beginning January 1, 1986, the IMF will review the currencies in the SDR basket and their amounts so as to take into account any changes that may have taken place in the importance of these currencies in international trade and finance. No currency in the basket will be replaced unless the value of its country's exports is exceeded by those of another country by at least 1 percent. The expectation is that the current basket will remain unchanged for some time. This is primarily because at present a large gap exists between the value of the exports of the five countries whose currencies are included in the basket and that of any other IMF member country.

³ When the IMF changed the valuation method for the SDR, it also changed the method it had used to calculate the interest rate on the SDR. This had originally been set at a fixed rate of 1.5 percent. As of July 1, 1974, the IMF decided to base the interest rate on a formula reflecting weighted market interest rates on the five major currencies in the sixteen-currency basket. These were the same five currencies that now comprise the SDR valuation basket. Initially, the IMF attached only 60 percent of the combined market interest rate to the SDR. This percentage was increased to 80 percent on January 1, 1979 and to 100 percent on May 1, 1981. In calculating the interest rate that will apply to the SDR for each calendar quarter, the IMF currently uses market yields for three-month United States Treasury bills, three-month interbank deposits in Germany, three-month interbank money against private paper in France, the discount of two-month (private) bills in Japan, and market yields for three-month United Kingdom Treasury bills. The yields are averaged for the three-week period ending two business days before the beginning of the calendar quarter for which the SDR interest rate is determined.

⁴ *IMF Survey* (April 6, 1981), pages 98-101.

relative changes in the exchange rates and interest rates of its constituent currencies, its value varies less than any of its individual currencies. Thus, it allows investors and borrowers to hedge against their expenditures or receipts.

For example, a United States corporation may buy all its imported goods and services in dollar terms, but the dollar prices of these goods and services are affected by relative exchange rate changes in the currencies of the exporting countries. By holding a basket currency as an investment, the United States corporation can partially offset the effects of exchange rate changes on its purchases of goods and services to the extent that its expenditure mix corresponds to the currency basket.

Similarly, if a United States corporation sells its products in many different countries, its returns on its sales will be dependent on relative exchange rate movements in the currencies of the countries in whose markets the products are sold. By borrowing a basket currency, the corporation can partially offset these price changes to the extent that its products are sold in the markets whose currencies comprise the basket. This may help a corporation reduce the variability of its profits and show more steady growth. Even if the prices of goods denominated in different currencies moved to offset exchange rate changes, the purchasing power of a basket of currencies would be less variable than that for an individual currency.

Investors and borrowers engaged in foreign currency dealings may also find that doing business in a basket currency is a useful technique for reducing exchange rate and interest rate risk. This may be particularly helpful in periods of exchange rate and interest rate volatility. A basket currency will reduce the risk of substantial exchange rate loss which can accompany an investment in a single currency. At the same time, however, it will minimize the likelihood of substantial gain. Since it is impossible to know ahead of time which currency among a group will perform best, a basket currency may serve as a desirable hedge, reducing the maximum that can be lost in any one transaction.

A comparable argument applies to the total return or effective yield on a basket currency. The effective yield combines the interest rate return with changes in the exchange rate or capital value. An investment in a single currency may produce a better effective yield than a basket currency but, again, this will be known only after the fact. By contrast, a basket currency will lose less than the worst performing single currency and, therefore, again serves to reduce the maximum that can be lost. These considerations suggest that the comparative economic performance

of any currency basket in general, and the SDR in particular, is best looked at in terms which include some measure of variability as well as expected costs and returns.

Although some investors might find a currency basket a useful hedging or risk-reducing device, others believe that they can predict exchange rate changes. These investors will, therefore, try to seek greater profitability by accepting higher risks and concentrating their investments in single currencies. But, even for these investors, a currency basket can provide a useful function as a means to diversify the currency composition of their portfolios. This aspect of a currency basket may be particularly attractive if other investment outlets in the desired currencies are restricted by government regulations.

Finally, a basket currency may also offer advantages to those who prefer not to operate under a very aggressive portfolio management strategy. These might include central banks or quasi-governmental agencies whose managers do not wish to be accused by a finance minister or board of directors of taking undue risk with taxpayers' money.

In considering the advantages and drawbacks of the SDR, it is necessary to distinguish the SDR basket from one which is tailored to the specific needs of the borrower or investor. Clearly, a tailor-made basket could provide a more optimal combination of risk and return for any individual than the SDR basket, but the SDR basket may still have advantages.

For one, unlike a tailor-made basket, the SDR offers borrowers and investors international status as a known instrument. This is particularly important should a holder need to liquidate a basket instrument before its maturity date. In such an instance, a borrower or investor holding a tailor-made basket would likely find it difficult to sell or trade this basket, since doing so would probably require decomposing the basket beforehand and incurring certain transactions costs. A comparable problem would be less likely to arise for the holder of an SDR basket because the SDR is already an identifiable market instrument for which a buyer can presumably be found more easily.

In addition, although the private SDR can have no liquidity or redemption privileges at the IMF, the fact that the IMF sponsors a comparably valued instrument adds international status to the private market SDR. The backing of the IMF for the official SDR is of potential importance in another more tangible respect. The daily publication of an official SDR exchange rate means that a commercial bank providing an SDR-denominated loan or investment to a client can offer the choice of either the bank's own spot exchange rate for the SDR or that of the IMF. The usefulness of

the IMF rate may arise in cases where a number of banks are involved in a transaction, such as in a syndicated credit. The official exchange rate becomes potentially useful because it can allow the participating banks to standardize their valuation of the SDR. This may facilitate the task of the banks in agreeing on other terms, notably the interest rate or spread that will apply. Secondly, the availability of the official exchange rate may tend to avoid or help resolve disputes that may arise between those engaged in private

market transactions in SDR instruments.⁵

A worrisome feature of the SDR which does not affect a tailor-made basket is the possibility that the authority sponsoring the official SDR may decide to alter its valuation. This could upset the calculation that led to the use of the private SDR basket in the first place. While the likelihood of such a change

⁵ Joseph Gold, *Floating Currencies, Gold, and SDRs*, IMF, Pamphlet Series No 19 (1976), page 61

Table 1

Units of Currencies in the Special Drawing Rights Basket

Percentage weight in basket at base period, in parentheses

Currency	Effective January 1, 1981		Effective July 1, 1978		Effective July 1, 1974	
United States dollar	0.54	(42.0)	0.40	(33.0)	0.40	(33.0)
German mark	0.46	(19.0)	0.32	(12.5)	0.38	(12.5)
Japanese yen	34.00	(13.0)	21.00	(7.5)	26.00	(7.5)
French franc	0.74	(13.0)	0.42	(7.5)	0.44	(7.5)
British pound sterling	0.071	(13.0)	0.05	(7.5)	0.045	(9.0)
Italian lira	—	—	52.00	(5.0)	47.00	(6.0)
Dutch guilder	—	—	0.14	(5.0)	0.14	(4.5)
Canadian dollar	—	—	0.07	(5.0)	0.071	(6.0)
Belgian franc	—	—	1.60	(4.0)	1.60	(3.5)
Saudi Arabian riyal	—	—	0.13	(3.0)	—	—
Swedish krona	—	—	0.11	(2.0)	0.13	(2.5)
Iranian rial	—	—	1.70	(2.0)	—	—
Australian dollar	—	—	0.017	(1.5)	0.012	(1.5)
Danish krone	—	—	—	—	0.11	(1.5)
Spanish peseta	—	—	1.50	(1.5)	1.10	(1.5)
Norwegian krone	—	—	0.10	(1.5)	0.099	(1.5)
Austrian schilling	—	—	0.28	(1.5)	0.22	(1.0)
South African rand	—	—	—	—	0.0082	(1.0)

Calculation of the SDR Value

The IMF, which publishes the official value or exchange rate for the SDR daily, and the commercial banks use the same method to calculate the value of the SDR in United States dollar terms. But the result varies depending on the spot exchange rates used. For example, on November 2, 1981, the IMF reported that the exchange value for the official SDR was \$1.1596. This was based on the noon middle market rates in London provided by

the Bank of England. (If the London markets are closed, the IMF obtains its exchange rates from the Federal Reserve Bank of New York; if the New York markets are closed, the Deutsche Bundesbank in Frankfurt provides the rates.) If the commercial banks had used the 10 a.m. middle market interbank rates in New York for the same date, the dollar value of the SDR would have been \$1.1613. This calculation is shown in the following table:

cannot be dismissed, the importance of this issue in the case of the SDR may not be very great. This is so largely because the IMF has no interest in undermining confidence in the official SDR by initiating frequent changes in it. This is why it has specified that the currency composition of the official SDR will be reviewed only at five-year intervals and will be changed only on the basis of established principles. The private holders of SDRs should, therefore, be able to predict fairly accurately when and in which currencies

any changes in the official SDR are likely to be made.

Further, agreements in private SDR instruments can easily include a clause, and typically do, outlining the terms that will apply in the event that the composition of the official SDR is changed. Broadly, parties can decide ahead of time whether to apply the concept of a frozen or a variable SDR. A frozen SDR would fix the valuation rule of the private SDR on a particular date and hold this valuation rule for the life of the agreement. A variable SDR would alter the

Table 1: Units of Currencies in the Special Drawing Rights Basket (continued)

Currency	Units of currency (1)	Spot rate (2)	Dollar value of components (3)	Percentage value (4)
United States dollar	0 540	1 0000	0.5400	46 50
German mark	0.460	2 2173	0 2075	17 87
Japanese yen	34 000	229 9500	0 1479	12 74
French franc	0 740	5 5765	0 1327	11 43
Pound sterling	0 071	1 8755	0 1332	11 47
Total			1.1613	100 00

To see how the percentage weight of each currency changes, even over a short-term period, compare the relative weights two days later. At this time, on November 4, 1981, the exchange value for the official SDR

published by the IMF was \$1.1645. The New York 10 a.m. rates yielded an exchange rate for the SDR of \$1.1641, with the following percentage weights:

Currency	Units of currency (1)	Spot rate (2)	Dollar value of components (3)	Percentage value (4)
United States dollar	0 540	1 0000	0 5400	46 39
German mark	0 460	2 2090	0 2082	17 89
Japanese yen	34 000	227 4500	0 1495	12 84
French franc	0 740	5 5585	0 1331	11 43
Pound sterling	0 071	1 8775	0 1333	11 45
Total			1 1641	100 00

Explanation

(1) The currency components of the basket
 (2) The exchange rates in terms of currency units per United States dollar except for the pound sterling which is expressed as United States dollars per pound sterling. All rates are at the 10 a.m. interbank rates in the New York markets provided by the Federal Reserve Bank of New York.

(3) The United States dollar equivalents of the currency amounts in column 1 at the exchange rates in column 2, that is, column 1 divided by column 2, except for the pound sterling, for which the amounts in the two columns are multiplied.

(4) The resulting percentage weights which change daily, based on changes in the spot exchange rates.

valuation rule of the private SDR in accordance with any changes made in the official instrument over the term of the agreement

As a final consideration, the transactions costs or expenses involved in the use of the private SDR may differ from those involved in a tailor-made basket. For example, the borrower of a syndicated credit denominated in SDRs would be likely to incur lower transactions costs than a borrower who would have to float five separate credits in order to obtain the same currency structure of its liabilities. The transactions costs for SDR instruments would also likely be less than those for tailor-made baskets to the extent that the SDR became a better known instrument and standardized procedures for transactions in it began to develop.

The emergence of the private or commercial SDR

A private market in SDR-denominated instruments first emerged in 1975. At that time, some banks began to accept time deposits denominated in SDRs and some borrowers began to issue debt in the long-term capital markets denominated in SDRs. It was not until 1981, however, that these markets really began to develop. Probably the most important impetus to their development was the decision by the IMF to simplify the valuation basket of the official SDR from sixteen to five currencies beginning January 1, 1981. This decision not only served to facilitate public understanding of the SDR, but more importantly it meant that the commercial banks, which make markets in SDRs by holding and issuing obligations denominated in them, could for the first time fully hedge their exchange rate exposure in doing so.

Although the change in valuation was probably the most direct spur to the emergence of the private SDR, the sharp depreciation of the dollar in 1977-78 heightened the concerns of substantial dollar holders, many of whom began to seek ways to diversify the currency composition of their portfolios. In addition, the shift in United States monetary policy in October 1979, together with the United States commitment to reduce inflation, led to more variable and historically high United States interest rates. These developments, too, stimulated private market interest in the SDR as a hedging and risk-reducing mechanism.

Because the SDR is a form of foreign currency and because banks seek to control closely open or uncovered positions in foreign currency, banks would like to be able to cover themselves if they are to make markets in SDR-denominated instruments. One way banks can hedge their exposure in the case of an SDR-denominated deposit is to find a willing borrower of SDR in the amount of the deposit. Because of the diffi-

culty in matching assets and liabilities so closely, a more likely course for the banks is to enter into transactions in the forward foreign exchange markets. In these transactions, banks buy the currencies comprising the SDR for delivery on the date the SDR liability matures, usually in one, three, or six months. Alternatively, banks can buy the currencies comprising the SDR basket in the spot market and invest them for the maturity of the liability.

To hedge their exchange rate risk fully, however, banks are dependent on well-developed forward exchange markets for each of the currencies involved. The problem was that, prior to 1981, not all the currencies in the sixteen-currency SDR basket possessed well-developed forward markets, although each was actively traded on some spot exchange markets. As a practical result, only a few banks offered SDR-denominated deposits and those that did tended to limit the amounts they would accept. Often these amounts would be on the order of SDR 3 to 5 million. In addition, some banks found it necessary to offer a somewhat lower yield on their liabilities in SDRs than on those in single currencies to protect themselves against that portion of the exchange rate risk they were unable to hedge. For their part, those investors who were willing to make SDR-denominated deposits accepted the lower yield as the price for increasing the diversity and reducing the risk of their overall portfolio. But investors got very little reduction of risk in exchange for the lower return, compared with holding a portfolio of a few major currencies.

This problem was eliminated when the five-currency basket was introduced. All five currencies in the SDR are actively traded in spot and forward exchange markets. All possess well-developed money markets. This means that, in the absence of regulation (or other arbitrage imperfections), covered interest rate parity should hold for the forward rates on each of the currencies and an interest rate close to the average interest rate obtainable on the five currencies could be offered by banks.⁶

If interest rate parity holds, banks can entirely cover their exchange rate exposure through the forward exchange markets. Consequently, they need not hold SDR-denominated assets to offset their SDR-denominated liabilities. They can buy the currencies in the SDR basket forward and simultaneously sell

⁶ Covered interest rate parity means that the interest rate differential with respect to a reference currency equals the annualized percentage difference between the spot and the forward exchange rate against that currency. If, for example, the six-month interest rate on the dollar in the Eurocurrency market were 10 percent and that for the German mark 4 percent, the 6 percent differential would be the annualized forward premium of the German mark in terms of the United States dollar. The actual six-month premium would be half that, or 3 percent.

forward the currencies in which their assets are denominated. Thus, provided active forward markets exist for each of the currencies, banks with SDR-denominated liabilities can hold any currencies and cover their exposure in the forward markets to achieve a competitive return.

In calculating their interest rates, banks have adopted two methods for SDR instruments to date. In one approach, the SDR-denominated loan is priced on the basis of the United States dollar forward funding cost for six-month periods. This involves using the Eurodollar deposit rate and the premium or discount on the forward foreign exchange needed to cover the nondollar components of the loan. In the view of its proponents, this calculation provides a true market interest rate and therefore best covers exchange rate risk.

The alternative approach used thus far bases the interest rate on the weighted average of the offer rates in the Eurocurrency markets (LIBOR) for each of the SDR currencies quoted by five reference banks. The highest and lowest quotations for each currency are eliminated and the remaining three are averaged. The weights for each currency are calculated by using the dollar exchange rate quoted by the IMF to establish the dollar value of the SDR. In the view of its proponents, this method offers a relatively easier calculation than the first.

If interest rate parity holds exactly, the two rates will be equal. In practice, some market participants have found that the actual differences between the two methods are small, less than $\frac{1}{8}$ percent.

Overview of the markets in SDRs and their growth during 1981

The new markets in SDR instruments which have been developed thus far have to a large extent paralleled those already developed in the Euromarkets for individual currencies. Most of the practices and procedures which have been adopted for the SDR are similar to their Euromarket counterparts as well. Some refinements have, of course, been required to deal with the multiple-currency nature of the SDR and the fact that the valuation basis of the official SDR can be changed. The innovations that have taken place in 1981 have been concentrated in transactions and instruments which involve commercial banks. Before considering the nature of these markets and the innovations that have created them, it is helpful to present an overview of the SDR markets and their estimated growth since the beginning of 1981 (Table 2).

Commercial bank deposits. There are no firm figures on the magnitude of the deposit market in SDRs. At

the start of 1981, the market was estimated to be on the order of SDR 3 billion. A substantial portion of the growth took place the year earlier through the investments of a major international company. By the end of the year, some market specialists estimated that deposits ranged from roughly SDR 5 to 7 billion.

Syndicated credits. A market in syndicated credits rose from a base of zero to about SDR 1,185 million during 1981. A total of seven borrowers raised funds through this instrument. Three were sovereign borrowers—Sweden, the Ivory Coast, and Ireland. Two were electric utilities, one a state utility in Venezuela and the other a private utility in Spain. The sixth was a Mexican state financing agency and the seventh an African regional development bank.

Certificates of deposit. A market in SDR CDs was opened in June 1980 when Chemical Bank issued the first one through its London branch in the amount of SDR 50 million. Most SDR CDs are issued privately by the banks at the request of individual borrowers. By some market estimates, a total of SDR 400-500 million was outstanding at the end of the third quarter of 1981. Two known publicized issues took place in 1981. Both were by Japanese banks in the amount of SDR 20 million each.

Floating rate certificates of deposit. Four identified issues of SDR floating rate CDs were placed during 1981. Three were by Japanese banks, the fourth by the second largest bank in Kuwait. The size of each issue was relatively small, SDR 10 to 15 million. A total of SDR 55 million was raised. The maturities for these instruments are longer than those for straight CDs, about two to three years compared with three months.

Eurobonds. The market in SDR-denominated Eurobonds displayed virtually all its growth prior to 1981. Between 1975 and 1980, eight issues were floated, six by Scandinavian borrowers. The total amount issued was about SDR 273 million, less than $\frac{1}{2}$ percent of all Eurobonds floated over this period. Only one SDR Eurobond was issued in 1981. This was for the Nordic Investment Bank for SDR 20 million.

Floating rate notes. The market for SDR floating rate notes grew from zero at the outset of the year to roughly SDR 280 million by the year-end. Four known issues were floated, two by Italian state agencies, one by a French multinational company, and one by the Spanish state railway. These instruments carry a shorter maturity than Eurobonds and differ chiefly in that they do not bear a fixed coupon or interest rate.

Table 2

Identified Public Placements of SDR Instruments in 1981

Amount in millions of special drawing rights

Instrument	Borrower	Manager	Amount	Maturity	Yield*	Date
Syndicated credit	Sweden	Morgan Guaranty	500	5 years	3/8-1/2	Q I
	Ivory Coast	Chase Manhattan	43	8 years	1 1/2	Q I
	Ireland	National Westminster	75	10 years	3/8-1/2	Q II
	Cadafet†	Chemical	47	6 years	3/8	Q III
	Fenosat†	Orion Royal	100	8 years	3/8-3/4	Q III
	Nafinsa†	Chemical	220	8 years	3/8	Q IV
	African Development Bank	Chase Manhattan	200	8 years	1/2-5/8	Q IV
Certificate of deposit	Sumitomo Bank	Chemical	20	3 months	3/8	Q I
	Sanwa Bank	Chemical	20	3 months	3/8	Q I
Floating rate certificate of deposit	Dai-ichi Kangyo Bank	Morgan Stanley	15	2 years	3/8	Q I
	Gulf Bank	Chase Manhattan	15	3 years	3/4	Q I
	Fuji Bank	Credit Suisse First Boston	15	3 years	3/4	Q II
	Sumitomo Bank	Chemical/Sumitomo Finance	10	3 years	3/4	Q III
Eurobond	Nordic Investment Bank	Orion Royal	20	5 years	11 5	Q I
Floating rate note	ENEL†	Dillon Read	100	5 years	3/4	Q I
	Pechiney Ugine Kuhlmann†	Banque de l'Indochine et de Suez/Kredietbank	50	7 years	3/4	Q II
	Ferrovie dello Stato†	Dillon Read	80	4 years	3/4	Q III
	Renfe†	Orion Royal	50	8 years	3/4	Q IV

* The certificates of deposit are often priced over the three-month London Interbank Offer Rate (LIBOR), whereas the syndicated credits and floating rate notes are usually priced over the six-month LIBOR. The Eurobond yield is equal to the total yield.

† The following borrowers are identified more fully.

Cadafet: Compania Anonima de Administracion y Fomento Electrico, Venezuelan state electric utility,

Fenosat: Fuerzas Electricas del Noroeste, S A, Spanish private-sector electric utility,

Nafinsa: Nacional Financiera, Mexican state financing agency,

ENEL: Ente Nazionale per l'Energia Elettrica, Italian state electric utility,

Pechiney Ugine Kuhlmann: French multinational company,

Ferrovie dello Stato: Italian state railway company,

Renfe: Red Nacional de los Ferrocarriles Espanoles, Spanish state railway company

Nature of the markets and their participants

In examining the nature of the SDR markets and the innovations that have created them, it is useful to distinguish among the participants. These may be grouped into nonbank investors, nonbank borrowers, and commercial banks. Each group will be discussed separately.

Nonbank investors. The commercial banks introduced three main innovations in early 1981 which were designed to stimulate investor interest in SDR-denominated assets. The first was a decision in March by the Brussels branch of Morgan Guaranty to make available demand deposits or current accounts in SDRs. For the first time, holders of SDR deposits were offered the means to debit and credit each others' accounts directly, without having first to convert the SDR into its component parts.

The second innovation was the decision by the two primary European clearing institutions, Euroclear and Cedel, to adapt their systems to accept assets denominated in SDRs, notably Eurobonds and floating rate notes. By this means, secondary markets could develop in these instruments which would increase their liquidity and attraction to potential investors.

The third innovation was an agreement in January by seven leading banks in London to provide a secondary market in SDR CDs and floating rate CDs. The banks were Barclays, Chemical, Citibank, Hongkong and Shanghai, Midland, National Westminster, and Standard and Chartered. Using practices already in existence for United States dollar CDs as their guide, the banks further agreed to try to standardize the procedures for transactions in SDR CDs.

Like CDs denominated in dollars, therefore, those in SDRs require minimum deposits of 1 million. This minimum is considerably less than the SDR 3 to 5 million which typically was required for SDR time deposits. Moreover, the SDR CD has the additional attraction of being negotiable. The interest rate on the SDR CD is marginally lower than that obtained on SDR deposits, by about $\frac{1}{8}$ percent. This is the concession given by the customer for the benefit of negotiability.

Although trading practices in dollar and SDR CDs are roughly comparable, some differences have been introduced for the SDR. The major difference is that for primary issues and redemptions of SDR CDs, the currency of payment is the United States dollar and the exchange rate is that designated by the IMF. By contrast, in the secondary market, nondollar currencies may be used as the means of payment and transactions may occur at any exchange rate agreed to by the participants.

There was a short spurt of nonbank investor interest in SDR assets in the first quarter of 1981, which tapered off substantially thereafter. The strength of the dollar on the exchange markets and high dollar interest rates reduced the incentive to diversify away from dollars and the attraction of SDR assets as investments. During the first quarter of 1981, for example, the SDR depreciated by about 6.5 percent against the dollar, while the interest rate differential in favor of the dollar averaged about 330 basis points. By the end of December, the SDR had depreciated by about 8.8 percent against the dollar, while the interest rate differential had narrowed to about 90 basis points.

Although investors did not show much interest in SDR assets under such conditions of dollar strength, an examination of the economic performance of the SDR, compared with some of the other major currencies during 1981, suggests that the SDR would have offered dollar-based investors some of the advantages already outlined (Table 3).⁷

For one, the effective yield of the SDR in 1981, on an *ex post* basis, was exceeded only by that of the dollar and the Swiss franc. Had investors been able to predict accurately the performance of these two currencies, they would have gained more than on an SDR investment. But, in the absence of perfect foresight, the SDR would have been an effective hedge of exchange rate risk, particularly for those investors seeking a diversified currency portfolio.

Second, the SDR displayed less variability in its purchasing power against the dollar than any single currency in 1981. Therefore, for those United States corporations whose imports broadly came from countries whose currencies are contained in the SDR basket, the SDR would have been a useful investment instrument during 1981 in preserving relative stability in the prices the corporations had to pay for their imported goods. The same conclusions would not hold for the German corporation for whom investments in French francs and Swiss francs would have preserved relative price stability more effectively than the SDR.

Nonbank borrowers. For nonbank borrowers, innovation during 1981 centered on making available in SDRs

⁷ In comparing the economic performance of the SDR with the other major currencies over both the recent period and the past six years, the valuation basket of the SDR was assumed to be the same as its current one. The interest rates applied were comparably weighted as if the SDR had existed in its current form over the longer term. Variability is measured as the standard deviation of the changes in the effective yields, using three different currencies as the reference currency: the dollar, the German mark, and the SDR. The reference currency is important because there is no variability for it. This biases the results in favor of it.

Table 3

Effective Yields on Reserve Assets

January-December 1981 (Cumulative)

One-month Eurodeposits	Interest	Exchange rate gain	Dollar yield Total	Variability of nominal yield* from perspective of		
				United States resident (US\$ basis)	German resident (DM basis)	World resident (SDR basis)
United States dollar	16.8	0	16.8	0.1	4.6	1.9
German mark	11.6	-12.8	-2.6	3.6	0.1	2.5
Swiss franc	8.6	-1.2	7.3	4.8	2.4	3.8
Japanese yen	7.4	-7.7	-0.8	3.5	4.3	2.8
British pound	13.9	-20.1	-8.9	3.7	4.2	2.9
French franc	18.4	-20.8	-6.3	3.5	1.4	2.4
SDRs	14.5	-8.7	4.6	1.7	2.6	0.1

* Variability measured as month-to-month standard deviation of changes in total yield.

Second quarter 1975-fourth quarter 1981 (Cumulative; at annual rates)

Three-month Eurodeposits	Interest	Exchange rate gain	Dollar yield Total	Variability of nominal yield† from perspective of		
				United States resident (US\$ basis)	German resident (DM basis)	World resident (SDR basis)
United States dollar	10.0	0	10.0	2.0	8.4	4.6
German mark	6.1	0.6	6.7	8.4	1.1	4.9
Swiss franc	3.5	5.2	9.0	11.6	6.2	8.4
Japanese yen	6.7	4.4	11.4	9.5	8.9	7.0
British pound	12.5	-3.4	8.7	8.1	6.8	5.6
French franc	11.8	-4.4	6.8	8.0	3.5	4.7
SDRs	9.4	-0.4	8.9	4.0	5.2	1.6

† Variability measured as quarter-to-quarter standard deviation of changes in total yield.

two instruments which were already well established in the Euromarkets. These were the syndicated credit and the floating rate note.

The Kingdom of Sweden became the first borrower of an SDR-denominated syndicated credit in early January, when it decided to raise a substantial portion of funds in SDRs as part of a joint dollar/SDR credit. Initially, the sum was set at SDR 200 million but was increased to SDR 500 million because of market interest. Six borrowers followed Sweden's initiative during 1981, but all raised considerably smaller amounts of funds. All the SDR borrowers to date appear to have been offered spreads which are in line with those offered to comparable borrowers in single currencies. For public-sector borrowers in

the industrial countries, for example, Bank of England findings show average spreads dipping below ½ percent over LIBOR in the first quarter, rising slightly above this in the second quarter. The split spreads charged to both the Kingdom of Sweden and Ireland of ¾ and ½ percent are consistent with these trends. Similarly, the 1½ percent spread which the Ivory Coast agreed to pay for its funds was in line with the spreads paid by more frequent borrowers in the Euromarkets this year. These ranged from 1½ percent to 2 percent during the first half of 1981.⁸

The procedures for issuing syndicated credits and floating rate notes are generally similar to those

⁸ Bank of England, "International Financial Developments", *Quarterly Bulletin* (September 1981), page 343

which apply to issues denominated in a single currency. Nevertheless, the multicurrency nature of the SDR has required the introduction of a number of important technical innovations. In addition to the ways in which the interest rate is calculated, which has been discussed, other innovations have required the need to consider (1) the currency that will be used in the event that changes are made in the SDR basket or that one or more of the SDR currencies become unavailable, (2) the currency in which the payment of interest and principal will take place, and (3) foreign exchange constraints.

(1) All the SDR loan agreements to date contain safeguard clauses specifying what will happen in the event that the IMF changes the composition of the official SDR—or ceases to use the SDR entirely—or that one or more of the currencies in the SDR basket become unavailable. For example, borrowers and lenders will have to agree whether to (a) apply the new or old definition of the SDR for the remainder of the loan, (b) prepay the loan and renegotiate its terms, (c) switch to a dollar-denominated loan, or (d) repay the loan on the basis of the original or frozen SDR basket. The ways of dealing with the various contingencies appear to have been subject to individual negotiation thus far.

(2) There does not appear to be a consensus among borrowers about which currency or currencies to use in repaying interest and principal. Most have specified that the dollar will be the payment currency. But one known borrower, France's Pechiney Ugine Kuhlmann, opted for the SDR. In practice, repaying in dollars means applying the SDR value to the dollar on the dates the payments are due. Repaying in SDRs means directly transferring the SDR from the borrower's to the creditor's bank account through specified paying banks. This eliminates foreign currency transactions costs.

(3) Some borrowers have faced foreign exchange constraints in dealing in SDRs. This was so for the French company, Pechiney Ugine Kuhlmann. Because the French franc is included in the SDR, Pechiney had to obtain official authorization to purchase and transfer abroad the foreign exchange needed to pay the principal and interest on its floating rate notes.

Although a borrower would have done better by borrowing in German marks, Swiss francs, or Japanese yen than in SDRs during 1981, in the absence of knowing ahead of time which currencies would perform relatively best, the SDR would have offered an effective hedge against exchange rate risk. Again, however, the chief attraction of the SDR to the dollar-based borrower was its small variability in purchasing power against the dollar.

There was some interest in SDR-denominated loans in 1981, largely on the part of state or quasi-governmental agencies. But borrower interest in SDR syndicated credits and floating rate notes has not been substantial. Total borrowing in these instruments has comprised less than 1 percent of the markets in these instruments to date. Moreover, the range of borrowers has been narrow. Only two have been from the private sector, Spain's Fenosa and France's Pechiney, and only one has been a nonoil-developing country, the Ivory Coast. Two of the three issuers of floating rate notes were Italian state agencies, ENEL and Ferrovie dello Stato; two of the seven issuers of syndicated credits, Mexico's Nafinsa and Venezuela's Cadafe, were from countries which were among the most active borrowers in the Eurocurrency markets in 1981.

It may be premature to try to explain the relative lack of borrower interest in the SDR thus far. Some market specialists seem to think that it is largely a question of time, education, and experience. When borrowers become more familiar with the mechanics of the SDR, they may well find that its stability, hedging, and diversification features make it a potentially useful complement to their funding needs.

Commercial banks. Commercial banks have been central to the development of the private markets in SDRs. Most notably, in addition to the innovations already highlighted, they have begun to create an interbank market in SDR assets and liabilities. This market received a boost in March when Morgan Guaranty began to offer its customers demand deposits in SDRs through its Brussels branch. Other banks in London reportedly offer these accounts as well.

The significance of demand deposit accounts in SDRs is that they enable their holders to borrow, lend, receive, and make payments in SDR-denominated units directly. This eliminates the need to convert the asset into its component parts to execute a transfer. The creation of this market opens the way to allowing the SDR to function not only as a unit of account and a store of value but also as a means of payment.

Some technical adjustments have been made to enable banks to offer these accounts. Broadly, the adjustments cover the ways in which the banks will deal with any changes in the composition of the SDR basket. The bank's response will vary depending on whether the account is a time or a demand deposit. If it is a time deposit, the bank might not alter the account until maturity, at which time it would renew the account only on the basis of the new SDR. If it is a demand deposit, the bank might cease to debit and credit the account as soon as the change were

effective. It might open a new account at this time on the basis of the new SDR, unless otherwise agreed. Under either account, any exchange rate gains or losses realized in the process of changing the account would accrue to the depositor.

One problem which the banks face in developing the interbank market in SDRs is that they use both the IMF official exchange rate and a spot exchange rate for the SDR in their transactions. The IMF valuation is attractive because it standardizes the SDR exchange rate among banks. This enables the banks to transfer deposits among themselves without incurring the foreign exchange risks which arise from the use of different spot rates to calculate the exchange value of the SDR. The disadvantage of the IMF valuation is that it is set only once a day at noon. Therefore, if the banks use this method in transactions which are concluded at other times in the day, they must either estimate the future official exchange rate or use the previous official rate and adjust the interest rate to allow for exchange rate changes.

While banks are gaining experience in dealing in SDRs, they remain confronted with a number of uncertainties. For one, until they can find a way to make interbank transfers efficiently, the expansion of the SDR markets is likely to be inhibited. Second, for the SDR markets to flourish, the banks require more lending opportunities than they have had to date. Their deposit base in SDRs has grown, but the difficulty in finding borrowers has served to constrain the growth of the SDR markets.

The increased involvement in the markets of prime name borrowers and investors would significantly contribute to the growth of these markets. In addition, a decision by the IMF to raise funds in the private markets in SDRs would clearly stimulate bank lending in SDRs. The denomination of commercial transactions in SDRs, such as the pricing of oil or air fares, would also spur the development of these markets.

Assessment and outlook

The arguments in theory and the results in practice suggest that the SDR can offer private market participants an attractive investment and borrowing instrument. Yet nonbank investor and borrower interest has been modest to date. If this notion of private SDR markets holds up so well to theoretical and practical examination, what then accounts for the moderate interest? A related question is whether the official community has a role to play in developing these markets and, if so, what this role might be.

Clearly, the private markets in SDR instruments only just began to develop in 1981. This fact alone means that the markets face start-up problems. Some

of the problems are essentially technical in nature. They can probably be solved with experience and ought not to be of concern. Other problems are potentially more durable. These are of concern.

For one, while the strength of the dollar on the exchange markets and high dollar interest rates for much of 1981 quelled the demand for other currencies on the part of large dollar holders, the attractiveness of the SDR as an investment and borrowing instrument cannot hinge on the fortunes of the dollar alone. On the contrary, if the SDR is to take its place as a viable currency option for private market participants, its attractiveness must also be perceived in terms which relate to its risk-reducing, stability, and diversification features.

Second, for the SDR to hold its own in the private markets as a currency basket, it must additionally be perceived as having a net advantage over a tailor-made basket. If private market participants remain convinced that they can best serve their needs by designing their own currency baskets, there may be little hope for the SDR.

It is conceivable, however, that the SDR may provide that net advantage. Even if the SDR cannot perform better than the tailor-made basket in maximizing the trade-off between risk and return and preserving purchasing power, there may be economies of scale and reductions of transactions costs to doing business in SDRs. For this to be true, business in SDR instruments has to cumulate. This process requires time. Growth is likely to be slow because the advantages are not fully realized until there is a lot of business being done. How long it will take for a critical mass to develop and for the SDR markets to become self-sustaining is impossible to predict.

Of more immediate concern is to consider what might be the attitude of the official community toward the development of these markets. For the official community to lend its support, it must be convinced that the markets offer a net positive advantage.

To the extent that the official community views the SDR markets as a means for private participants to circumvent government regulations and acquire currencies which are otherwise difficult to obtain, it might be inclined to try to thwart their development. On the other hand, to the extent that it views the SDR markets as an indirect approach to currency diversification which presents less of a threat to domestic policy and international stability than explicit currency diversification, it may be more tolerant of the markets and willing to promote their development.

More positively, the official community might agree that the SDR markets have a useful role to play in reducing the ongoing vulnerability of the exchange

markets to shifts among different currencies. Because the SDR offers private market participants a diversified instrument, the SDR may reduce the incentive to manage a portfolio actively on the exchange markets after a transitional period. This would tend to promote exchange market stability to the extent that currency management were oriented toward short-term considerations rather than longer term fundamental developments. But to the extent that the SDR encouraged those to diversify who would otherwise not be disposed to doing so and to manage actively a portfolio of home currency and SDRs, further development of SDR markets would tend to hinder exchange market stability. The attitude of United States residents will be particularly interesting to watch in this regard.

Nonetheless, it is unlikely that the attractions of holding a diversified portfolio in times of exchange market uncertainty will be ignored for long by investors in the United States or elsewhere. Thus, if the stable portfolio composition of the SDR is attractive, development of private SDR markets would contribute to stability in the exchange markets.

As the authority sponsoring the official SDR, the IMF is best situated within the official community to encourage the use of the private SDR. Furthermore, it possesses a number of means to do so.

For example, the members of the IMF could decide to allow the IMF to borrow from the private markets in SDRs. The presence of the IMF in the SDR markets might inspire other major international institutions and private corporations to follow suit. This would do much

toward enhancing the quality of borrowers in the SDR markets and contributing to their depth and breadth.

Another option available to the IMF is to encourage its member countries to borrow in SDRs in the international credit and capital markets to meet their funding needs. It would be relatively easier to encourage such borrowing if the member were receiving assistance from the IMF under a stabilization program. But, even in its regular consultations, the IMF could promote this course of action. In addition, the IMF could provide the exchange rate for the SDR more frequently than once a day. This would help develop the interbank market in SDR assets.

Currently, the SDR is used in a variety of additional ways which do not involve banks. For example, one major company uses the SDR in intercompany pricing. The Suez Canal applies the SDR as its reference unit in imposing its charges. The SDR is also used as a unit of account by many international and regional organizations, such as the Arab Monetary Fund, the Economic Community of West African States, and the Nordic Investment Bank.

With time, it is likely that the markets will find still further uses for the SDR. The fact that the private markets in SDR instruments did not grow substantially in 1981 ought not, therefore, to be cause for their dismissal. What seems more important is that market participants are gaining experience in using these instruments. When the time comes for them to draw on the comparative advantage of these markets, they will then be in a position to do so.

Dorothy Meadow Sobol