

ESSAYS IN INTERNATIONAL FINANCE

No. 116, May 1976

WORLD AFLOAT:
NATIONAL POLICIES RULING THE WAVES

WEIR M. BROWN



INTERNATIONAL FINANCE SECTION

DEPARTMENT OF ECONOMICS

PRINCETON UNIVERSITY

Princeton, New Jersey

This is the one hundred and sixteenth number in the series ESSAYS IN INTERNATIONAL FINANCE, *published from time to time by the International Finance Section of the Department of Economics of Princeton University.*

The author, Weir M. Brown, is presently Inspector General for International Finance in the U.S. Treasury. He was formerly Deputy Chief of the U.S. Mission to the Organization for Economic Cooperation and Development, Paris, and from 1972 to 1974 Acting Chief of that Mission. Recently, he was for a short time George A. Miller Visiting Professor at the University of Illinois. Previous publications include a paper in the series of Princeton Studies in International Finance. The present Essay, which was undertaken in 1975 while the author was a Federal Executive Fellow at The Brookings Institution, does not necessarily reflect the views of either that Institution or the Department of the Treasury.

The Section sponsors the essays in this series but takes no further responsibility for the opinions expressed in them. The writers are free to develop their topics as they wish. Their ideas may or may not be shared by the editorial committee of the Section or the members of the Department.

PETER B. KENEN, *Director*
International Finance Section

ESSAYS IN INTERNATIONAL FINANCE

No. 116, May 1976

WORLD AFLOAT:
NATIONAL POLICIES RULING THE WAVES

WEIR M. BROWN



INTERNATIONAL FINANCE SECTION

DEPARTMENT OF ECONOMICS

PRINCETON UNIVERSITY

Princeton, New Jersey

Copyright © 1976, by International Finance Section
Department of Economics, Princeton University

Library of Congress Cataloging in Publication Data

Brown, Weir Messick, 1914-

World afloat, national policies ruling the waves.

(Essays in international finance ; no. 116 ISSN 0071-124X)

1. International finance. 2. Monetary policy. 3. Foreign
exchange problem. I. Title. II. Series: Princeton University. International
Finance Section. Essays in international finance ; no. 116.
HG136.P7 no. 116 [HG3881] [332.4'5] 76-9833

Printed in the United States of America by Princeton University Press
at Princeton, New Jersey

World Afloat: National Policies Ruling the Waves

Introduction

Since March 1973, the world's trade and payments have been conducted under an international monetary regime that differs in important respects from the system envisaged in 1944 at Bretton Woods and the one largely followed in succeeding years. Furthermore, the current regime does not fully correspond to the conceptions of any of the major protagonists in the running (sometimes walking) dialogue about the proper image of a "reformed" monetary system, nor has it been fully codified in any internationally agreed form of accord.

The aim of this essay is to examine one major area or aspect of the *de facto* international monetary system: the role currently being played by official monetary reserves and the practices adopted by national authorities in the industrial countries to manage their external monetary policies in a world of fluctuating rather than fixed exchange rates. The primary object of the examination is to characterize the existing situation with respect to these matters rather than to ask what it should or will be.

Most observers of the present monetary scene focus their attention principally on fluctuating exchange rates themselves, and these are certainly the most highly visible feature of the current arrangements. The movements of individual exchange rates have been extensively measured, both bilaterally and in trade-weighted indexes, and the behavior of the foreign-exchange markets since the first quarter of 1973 has been compared with that of the immediately preceding years. A preponderant majority of the recent assessments is favorable toward the experience with floating rates. Even the *Annual Report* of the International Monetary Fund (1975) reflects the majority view in stating, "On the whole, exchange rate flexibility appears to have enabled the world economy to surmount a succession of disturbing events, and to accommodate divergent trends in costs and prices in national economies with less disruption

The period under review in this essay is limited mainly to the span from early 1973 to November 1975.

The author thanks those who assisted him with information or advice at various stages, notably Raymond Bertrand, Charles A. Cooper, J.C.R. Dow, Otmar Emminger, Lawrence B. Krause, J. R. Lademann, Walter S. Salant, and Thomas D. Willett.

of trade and payments than a system of par values would have been able to do" (p. 33).

The use of official reserves and other instruments of external monetary policy—an aspect of the present system that has received relatively little attention—has shown fewer changes than had been expected in consequence of the shift to fluctuating exchange rates. This appearance of general continuity applies to the evolution of the aggregate reserve holdings for all countries combined. In the course of 1974, aggregate official reserves rose by \$36 billion, a growth rate of almost 20 per cent, and in the first half of 1975 they grew at an annual rate of about 9 per cent. These rates of increase correspond generally to those prevailing in the previous five years.

In addition, the composition of the total reserve stock remained unaltered during the past two years. About 90 per cent of the increase in official reserve assets has taken the form of foreign-currency holdings, and the remaining tenth results from larger reserve positions in the IMF. Total country reserves of gold and SDRs were virtually unchanged.

Aggregate official reserves did show a change, however, in geographical distribution or, more exactly, in distribution among types of country. The major oil-exporting countries as a group garnered seven-eighths of the total addition to aggregate reserves in 1974. Although some expansion in the holdings of the oil-exporting countries had already begun in the immediately preceding years, the 1974-75 jump, while not equalling the full amount of their balance-of-payments surpluses, was dramatic.

Before moving on to comment on the external monetary policies of the leading governmental authorities, we can profitably draw some observations from the data on the global aggregates. The period covered by the present *de facto* international monetary regime, especially the interval between the end of 1973 and mid-1975, has witnessed a substantial growth in the total stock of official reserves, of an order comparable to reserve accumulation in preceding years. This occurred despite the fact that economic activity in most industrial countries was stagnant or declining during 1974-75, in contrast to the generally expansionary trend of the preceding years. The period was also characterized by radical shifts in balance-of-payments positions on current account, involving in the main an enormous disequilibrating shift in current-account payments from oil-importing countries, developed and developing, to oil-exporting countries.

Reserve holdings of the industrial countries as a group had been growing in 1970-72 at a pace sufficient to keep ahead of the rise in world prices. From the end of 1972 to the end of 1974, however, the real value of re-

serves (using an index of the industrial countries' export prices as a deflator) fell by about 23 per cent. One should not place too much reliance on reserve figures expressed in constant prices, owing to the formidable technical and conceptual obstacles to such a construction, especially when computed from series as highly aggregated as those for industrial countries as a group. Yet some notion of real reserves should be borne in mind in times of rapidly changing prices and balance-of-payments relations.

To repeat, almost all the net increase (in current prices) of world stocks of reserves was registered by the oil-exporting countries in 1974, and these countries accumulated almost \$33 billion without causing a reduction in the reserves of the rest of the world. These two facts have been noted in financial circles, sometimes in terms that betray a certain mingling of guarded satisfaction or relief (that other countries' reserves were not depleted), of mystified admiration that the system was able in some quasi-automatic manner to produce the balance-of-payments financing required, and of anxiety that the system might not duplicate that performance again and that, were it to do so under expansionary conditions, the growth in official liquidity might not, in contrast to 1974, be relatively noninflationary (see Deutsche Bundesbank, 1975b, pp. 53-54, and IMF, 1975, pp. 38-39).

The "anxious" ingredient in these mixed feelings has led recently to demands for implementation of the Committee of Twenty proposal for more active multilateral surveillance of international liquidity. It is not clear whether those who call for greater cooperative control of liquidity creation view the 1974-75 experience as a repetition of the process made familiar in 1965-72, whereby the accumulation of dollar assets by foreign monetary authorities reflected directly the financing of U.S. payments deficits, or whether they perceive the presence of an additional process in 1974-75. The \$36 billion increase in global monetary reserves during 1974, although mainly in the form of foreign-exchange holdings, including dollars, was not the approximate counterpart of the U.S. balance-of-payments position. In earlier years, by contrast, official reserve transactions associated with U.S. deficits accounted for a very high proportion of the increase in other countries' official holdings of foreign exchange (all currencies).

During 1974, the U.S. balance on goods and services (apart from oil) moved, with some fluctuations, toward equilibrium. In 1975 the current account strengthened much further and the basic balance began to show a surplus also. Thus, while the currency reserves of all countries increased by \$31.5 billion in 1974, an amount almost equal to the rise in 1971, only

26 per cent of this growth resulted from U.S. reserve transactions, as compared with more than 80 per cent in both 1970 and 1971. These strange results are explained in large part by the monetary policies followed by some of the major industrial nations, as will be demonstrated below.

The situation of the typical oil-importing industrial country during 1974-75 was characterized in the monetary field by a significant deficit (or sharply decreased surplus) in its international balance on current account and by sharp fluctuations, sometimes within a few weeks' time, in the market value of its currency. Such a country required a means of financing its current-account deficit as well as its official interventions in the foreign-exchange market, insofar as it chose to influence the market rate of its currency. In some countries, a large part of the current-account deficit was covered by a net capital inflow. Sometimes the inflow resulted mainly from external factors; in other cases, it was the coincidental consequence of domestic tight-money policies aimed at combatting inflation.

In countries with a deficit on both current account and private capital account, however, the external payments imbalance had to be financed in some manner that required decisions (active or passive) in the field of reserve policy and general economic management. Some of the smaller industrial countries (e.g., Sweden) followed a relatively traditional course in drawing upon existing reserves. Others which possessed large monetary reserves and have relatively high ratios of foreign trade to gross national product (e.g., Belgium, the Netherlands, and Germany) were confident that their currencies would ride fairly smoothly in the foreign-exchange market, but thought it highly important for their trade-oriented economies to establish a common floating arrangement, within agreed margins, with their close trading partners. Since these countries did not expect to sustain large reserve losses or significant changes in currency relationships with their neighbors, or even with the dollar, they found it congenial to conform generally to the broad rules for floating that had been proposed by the Committee of Twenty (except, of course, for the basic deviation inherent in the close linkage with partner currencies, as in the European "snake").

As for the United States, its reserve strategy during the period under review reflected considerations similar to those of the Benelux-German-Austrian group, but with some evident differences. The United States did not organize its own "snake," and its foreign trade is still a small (though increased) percentage of GNP. For this reason, the United States could be relatively stoical about fluctuations in dollar exchange rates within the range that seemed likely to occur. Although its stock of owned

reserve assets was low relative to the size of its economy and to the potential size of its net external imbalances, the United States expected that capital inflows and outflows would about balance themselves during this period. Furthermore, the United States authorities did not attach importance to the level of reserves under a regime of floating exchange rates, and assumed that, if the overall accounts did produce a surplus or deficit despite movements in exchange rates, the imbalance could be financed by a decline or rise in dollar liabilities to foreign official institutions.

Some of the larger countries that were facing major and prolonged adjustment problems not confined to the oil crisis (e.g., Italy and the United Kingdom) were reluctant to commit their limited reserves to support the exchange rates; they shied away from the risks and engagements involved in a joint float. Yet they were also unwilling to allow market pressures on the floating market to force their currencies below certain limits.

Emphasis must be placed, however, on the fact that the policies followed by countries in 1974-75 made extensive use of measures that acted as supplements or alternatives to the use of their owned monetary reserves. These measures divide into those which mobilized additional financial resources to augment official reserves and those which reduced the amount of the imbalance (surplus or deficit) to be financed. The latter category includes the foreign-exchange and capital restrictions imposed by some countries, including several important industrial nations. Although the Federal Republic of Germany withdrew in 1974 most of the special capital-import limitations it had introduced in 1971-73 and the United States chose the beginning of 1974 to dismantle the disincentives and limits on capital export that had existed since 1963, several other countries moved in the opposite direction. France strengthened and extended its controls on outward capital movements, the United Kingdom tightened up on capital export and re-imposed drastic limits on tourist expenditures abroad, and Japan and Italy increased controls to differing degrees on capital outflow. Switzerland experienced a strong inflow of funds for investment or security reasons that contributed to the upward pressure on the Swiss franc and was not discouraged by the prolonged appreciation of the franc. The Swiss authorities re-imposed controls and disincentives, some of them at severe penalty levels, against many types of financial inflow.

In contrast to capital movements, merchandise trade was maintained relatively free of restrictive measures in the main industrial countries, partly as the result of commitments newly made in the OECD and IMF to avoid beggar-thy-neighbor trade policies. The avoidance of trade re-

restrictions by the European Community members was perhaps even more directly attributable to the fact that some of their currencies were not floating against each other but were mutually pegged; furthermore, their trade within the Community is a substantial share of the members' total commerce, and members may not restrict it.

From the beginning of the oil crisis, oil-importing countries could foresee that their balances on current account would deteriorate significantly. As noted above, a number of them decided to augment their official monetary reserves by recourse to borrowing abroad in order to finance anticipated deficits. In addition to the smaller developed countries and the many less developed nations that sought foreign credits, the list included such leading industrial nations as the United Kingdom, France, and Italy. Some of the borrowing was accomplished by industrial firms or by domestic banks, which, with official inspiration or blessing, borrowed abroad for the purpose of investing or relending the foreign currencies at home. The governments of these industrial nations also borrowed extensively on their own account.

Except for Italy and a few small countries that sought credits from central banks or governmental authorities, and apart from the credits drawn from the International Monetary Fund, most of the funds borrowed by governments were obtained from private financial sources in the international markets. While the total amount so mobilized is not measurable with exactness, the aggregate for the industrial countries was certainly substantial. Building upon relatively firm figures for Italy, the United Kingdom, and France, total official borrowing by industrial countries may be estimated at roughly \$15-\$17 billion in 1974.

Certain consequences of this resort to official and officially inspired private borrowing abroad can be discerned. Despite the fact that OECD member countries sustained a striking \$36 billion deterioration in their combined current-account balance from 1973 to 1974, the monetary reserves of those countries nevertheless showed a slight increase for 1974. Part of the drop in their current-account position was offset by increased net inflows of capital from the nonindustrial world, but borrowing also sustained the reserves of industrial nations. It must be recognized that the bulk of the amount borrowed officially was obtained from private banking institutions, either in international monetary centers or in the Eurocurrency markets. The additions to reserves which central banks of debtor countries obtained in that manner, therefore, did not involve transfers of reserve assets from other countries' official institutions but rather shifts from the banking sector. Since the proceeds of these credits became

available (without having been purchased in the foreign-exchange markets) for settling deficits and conducting intervention operations, their use reduced the degree of exchange-rate depreciation which the borrowing countries' currencies would have sustained in their absence.

Of the global increase in countries' official reserves in 1974, nine-tenths was in the form of foreign exchange, it was noted above, rather than other reserve assets. Similarly, a high proportion of the credits extended to governmental borrowers was issued in foreign currencies by the creditor banks, including those operating in the Eurocurrency markets. This process of transmediation between the banking sector and official monetary authorities largely explains the observations above that the growth of total reserves in 1974-75 did not result to any great extent from deficits on the part of "reserve currency" countries, as it had in 1969-73, and that it was traceable in large part to the external financial policies of industrial countries generally.

The practices followed by national authorities since March 1973 throw some light also on their preferred choices among different reserve assets. As mentioned before, the composition of countries' reserves among the four categories has remained virtually unchanged, with SDRs accounting for about 5 per cent and currencies and gold continuing to constitute the bulk of owned reserve holdings. As for borrowed reserves, it has been noted that these acquisitions were obtained in national currencies, largely from the banking sector. Even in their borrowings from the regular facilities of the IMF, member countries in 1974 took 99 per cent of their drawings in currencies and 1 per cent in SDRs (IMF, 1975, Table I.7). Gold has not been purchased by the major financial powers for several years; they have not bought it from the private market as a matter of principle and have not bought it from each other as a matter of practice. The SDR, sometimes called "paper gold," has thus far emulated metallic gold in the relative infrequency with which it has been used for official settlements.

These facts stand in contrast to the joint or individual statements issued periodically on both sides of the Atlantic about the desirability of reducing the reserve status of both gold and national currencies. Predecessors of the SDR—gold, sterling, and the dollar—possessed a transferable status in private market channels as well as in direct official transactions. Without attempting here to identify all the factors determining present country preferences for one reserve asset or another, it will suffice to observe that maintenance of market and official usability is one of the many difficult technical and policy problems involved in devising a satisfactory substitution plan.

The Evolution of Reserve Holdings

The term "international monetary system" is a short-hand means of referring to the financial complex that connects the several national monetary areas at any given period. In all periods, this complex tends to be a strange *collage* of different materials and media of the financial arts. It consists of stationary and moving parts, of institutional arrangements, of agreed rules or tacit understandings defining the scope for independent conduct by national monetary authorities and providing for some degree of consultation or cooperation. In more specific language, the main components of any international monetary system include the exchange-rate relationships among the various currencies, the processes through which those relationships are altered, the mechanisms of effecting international transfers, and the means by which international imbalances (surpluses and deficits) are financed during times of instability. Under the dynamic conditions in which the monetary system operates, the reserve assets held by the national authorities in the major countries have, until now at least, played an active operating role or a standby function, assisting the authorities concerned to carry out their domestic and external economic policies.

The functioning of reserves and other instruments of policy to finance the balance of payments under floating rather than fixed rates demands an examination. One arrives at this imperative from either of two pertinent directions: (1) In the late 1960s, the years that led up to their decision to call for reform of the then-prevailing monetary order, both the academic community and the major financial powers devoted extensive attention to the question of how to assure an adequate *growth* of reserves for official purposes. (2) In academic and official discussions about possible alterations of the system, the advocates of fluctuating exchange rates argued that floating rates would *reduce* the need for reserves.¹ How, then, have the quantities of reserves in fact evolved? What has happened to the distribution of reserves among individual countries? What has happened to their composition? What do reserve movements indicate concerning the behavior of the monetary system? What related policies are currently followed by the monetary authorities?

In order to provide the factual background, I have assembled data on the level of official reserve holdings, as well as on the geographic distribution and types of reserve assets held. For the most part, the focus will be

¹ The extensive literature on the adequacy of official monetary reserves or liquidity and on alternative proposals for dealing with the perceived problem of how to increase the supply of reserves is impressively documented by Williamson (1973).

For references to the expectations about the effect of fluctuating rates on the need for reserves, see Machlup (1973); Marris (1970); and Mikesell and Goldstein (1975).

upon the gross reserves owned by the respective national monetary authorities, with only selected references to their net positions and even fewer to the foreign claims and liabilities of the private sector. This conforms to the accepted practice, which owes much to the discussions in the 1960s, of defining the official monetary reserves (or external liquidity) of a country as those resources that are readily available to its monetary authorities for the purpose of financing temporary deficits in its balance of payments and influencing its market rate of exchange.² Because of their wide use and general acceptance, the data series of the IMF have been employed. Thus, a country's total international reserves comprise the four categories recognized by the IMF—official holdings of gold, SDRs, foreign exchange, and a country's reserve position in the Fund.³

The world total of international monetary reserves held by the authorities in individual countries at the end of 1965 amounted to \$71 billion (Table 1). This was barely 30 per cent greater than in 1955, despite a decade of very rapid expansion of real gross national product, an even higher growth rate of merchandise trade, and the restoration of a substantial degree of currency convertibility (for nonresidents) in the industrial countries. In 1970, however, global reserve stocks, which had been rising at moderate annual rates of 2 to 4 per cent during the 1960s, began to rise at a sharply accelerated rate. There followed a period of sustained high increases. In little more than two years, the volume of reserve holdings climbed by 92 per cent, from \$93.6 billion at the end of 1970 to \$159 billion in December 1972 and to about \$180 billion in March 1973. Reserves increased more gradually through the rest of 1973, but they surged upward again in 1974 to reach \$220 billion by the close of the year and \$230 billion in June 1975.⁴

The "world total" of official reserves, of course, is an aggregate which has only limited meaning for most purposes and which is the sum of differing movements in the holdings of individual countries or groups. Reserve holdings of Japan and the countries of industrial Europe rose markedly throughout the period from 1970 through the first quarter of 1973, a movement that reflected the imbalance in international payments which prevailed during the period between those countries jointly, and

² For more extended discussions of the issues involved in wider or narrower definitions, see, for example, Machlup (1962) and Brown (1964, pp. 2-6).

³ See the introductory pages of the IMF monthly, *International Financial Statistics*, for further explanation.

⁴ In Table 1 and other tables, the data are presented in terms of U.S. dollars rather than SDRs, since published data expressed in SDRs are not available for all categories. Advantages of series in SDRs as against those in dollars are about equal, and the decision was therefore made on grounds of convenience.

TABLE 1
TOTAL RESERVE ASSETS OF NATIONAL MONETARY AUTHORITIES, 1965-75
(*dollar figures in billions*)

Country or Area	Dec. 1965	Dec. 1970	Dec. 1971	Dec. 1972	June 1973	Dec. 1973	June 1974	Dec. 1974	June 1975
1. All countries	\$71.0	\$93.6	\$131.5	\$159.4	\$184.0	\$183.9	\$199.8	\$220.4	\$230.4
Per cent of total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
1a. Change from prec. period	+3.0%	+18.4% ^a	+40.5%	+21.2%		+15.4% ^b		+19.4% ^b	+9.1% ^b
2. Industrial countries	\$53.8	\$65.8	\$ 94.2	\$105.8	\$120.4	\$115.5	\$114.4	\$119.9	\$123.4
Per cent of total	75.7%	70.3%	71.6%	66.4%	65.4%	62.8%	57.3%	54.4%	53.6%
3. United States	\$15.5	\$14.5	\$ 13.2	\$ 13.2	\$ 14.4	\$ 14.4	\$ 14.9	\$ 16.1	\$ 16.5
Per cent of total	21.8%	15.5%	10.0%	8.3%	7.8%	7.8%	7.5%	7.3%	7.2%
4. Japan	\$ 2.2	\$ 4.8	\$ 15.4	\$ 18.4	\$ 15.2	\$ 12.2	\$ 13.4	\$ 13.5	\$ 14.6
Per cent of total	3.1%	5.1%	11.7%	11.5%	8.3%	6.6%	6.7%	6.1%	6.3%
5. Germany	\$ 7.4	\$13.6	\$ 18.7	\$ 23.8	\$ 32.3	\$ 33.2	\$ 34.2	\$ 32.4	\$ 32.6
Per cent of total	10.4%	14.5%	14.2%	14.9%	17.6%	18.1%	17.1%	14.7%	14.1%
6. France	\$ 6.3	\$ 5.0	\$ 8.3	\$ 10.0	\$ 11.6	\$ 8.5	\$ 8.2	\$ 8.9	\$ 10.5
7. Italy	\$ 4.8	\$ 5.4	\$ 6.8	\$ 6.1	\$ 6.0	\$ 6.4	\$ 5.3	\$ 6.9	\$ 6.7
8. Switzerland	\$ 3.2	\$ 5.1	\$ 7.0	\$ 7.6	\$ 8.7	\$ 8.5	\$ 8.4	\$ 9.0	\$ 8.7
9. United Kingdom	\$ 3.0	\$ 2.8	\$ 6.6	\$ 5.6	\$ 7.0	\$ 6.5	\$ 6.7	\$ 6.9	\$ 6.4
10. Less-dev. areas		\$18.9	\$ 23.9	\$ 32.2	\$ 40.0	\$ 43.9	\$ 62.8	\$ 78.9	\$ 88.3
Per cent of total		20.2%	18.2%	20.2%	21.7%	23.9%	31.4%	35.8%	37.5%
11. Oil-exporting countries		\$ 5.2	\$ 8.7	\$ 11.2	\$ 13.0	\$ 14.9	\$ 30.4	\$ 48.0	\$ 55.7
Per cent of total		5.6%	6.6%	7.0%	7.1%	8.1%	15.2%	21.8%	24.2%

^a Change from 1969.

^b Percentage change figures from preceding December for 1973 and 1974. June 1975 figure at annual rate.

SOURCE: IMF, *International Financial Statistics*, October 1975 and earlier issues.

the United States and United Kingdom. In contrast, Canada, the United Kingdom, and the United States (after a large drop in early 1971) registered some fluctuations around generally stable reserve levels from 1971 onward. In a few other countries where expansionary factors were strong, such as Brazil, Spain, Turkey, and Australia, reserve holdings shared the 1970-73 growth of the Europeans. Many of the nonindustrialized developing countries, however, whether in Europe, Africa, Latin America, or Asia, experienced little or no growth in official reserves. Dramatic exceptions were the oil-exporting countries of the OPEC group. Some of the larger oil exporters, such as Libya, Saudi Arabia, and Iran, had started to register a strong growth of reserves well before the major concerted jumps in oil prices of late 1973, but in 1974 the oil nations' reserves increased by a further 221 per cent.

To put the matter another way, two main developments in the last five years strongly influenced reserve trends. One of these was the disequilibrium prevailing until 1973 in payments and currency alignments among the major trading powers, a disequilibrium characterized by recurring weakness in sterling and deterioration in the U.S. balance of payments as compared with the surpluses of Japan and Western Europe. This situation, reinforced by speculative currency movements, caused a large build-up from 1970 to early 1973 in the reserve holdings of the surplus countries. After that time, reserves shifts *among* the major industrial countries dropped off markedly, and total reserves of those countries as a group resumed a much lower rate of growth, amounting to less than 4 per cent in 1974. Indeed, the growth in world reserves during the eighteen months from mid-1973 until the end of 1974 was almost entirely concentrated in official holdings of the less-developed areas. The upsurge in LDC reserve levels, which was the second major characteristic of the early 1970s, reflected the strength of raw commodity prices, especially the quadrupling of petroleum prices. It also was favored by the flow of private and government capital to some LDCs.

Reserve holdings of the industrial countries as a group were rising rapidly enough in 1970-72 to keep ahead of the rise in world prices. From the end of 1972 until the end of 1974, however, the value of their reserves in constant prices fell by about 23 per cent (Table 2). One should be careful not to place too much importance on reserve figures expressed in "constant prices." Bear in mind the shortness of the period and its highly inflationary character, the difficulty of finding an acceptable price series for deflating reserve holdings, and, most important, the dubious relevance to the question of the "need" for reserves of *any* series on foreign-trade prices or on the total value of imports. All these objections apply *a fortiori*

when one is dealing with statistical series as highly aggregated as those for the industrial countries as a group.⁵ Table 2 is introduced only to give a reminder, in passing, that there is some concept of real reserve levels which should be borne in mind, especially when one is examining the positions of individual countries in times of rapidly changing prices and balance-of-payments relations.

TABLE 2
INTERNATIONAL RESERVES OF NATIONAL GOVERNMENTS
IN RELATION TO EXPORT PRICE INDEX, 1960-74
(dollar figures in billions)

Year End	Total Reserves in Current Dollars		Export Price Index (1970=100)		Total Reserves in Constant Dollars	
	All Countries (1)	Industrial Countries (2)	World (3)	Industrial Countries (4)	World ^a (5)	Industrial Countries ^b (6)
1960	\$ 60.5	\$ 47.1	86	86	\$ 70.3	\$54.8
1965	71.0	53.8	90	90	78.9	59.8
1970	93.6	65.8	100	100	93.6	65.8
1971	131.5	94.2	105	105	125.2	89.7
1972	159.4	105.8	114	114	139.8	92.8
1973	183.9	115.5	142	137	134.2	84.3
1974	220.4	119.9	206	171	128.9	70.1

^a Column (1) divided by column (4).

^b Column (2) divided by column (4).

SOURCE: IMF, *International Financial Statistics*, August 1975, for columns (3) and (4).

Of special interest are the reserve histories of the largest industrial countries, as reflected in data for the so-called "Group of Ten." When that group of leading nations met in 1960-61 to negotiate the General Agreement to Borrow (GAB) with the IMF and to form shortly thereafter a continuing body, they constituted the key financial powers of the capitalist world by most standards of measurement—by the volume of their trade, capital market operations, foreign-aid disbursements, and international reserve holdings. The members of this grouping (plus Switzerland) accounted in 1965 for 72 per cent of the world total of official monetary reserves, as against 28 per cent for the approximately 120 other nations,

⁵ See Brown (1964, esp. pp. 6-9), which examines the practice of relating a country's reserve level to the value of its imports.

In this essay, Table 2 employs an index of export prices of industrial countries, calculated by the IMF, to deflate the series of reserves for both "industrial countries" and "all countries."

and at the close of 1970 the Group still held about 67 per cent of world reserves (Table 3). Nevertheless, payments imbalances *within* the Ten in the late 1960s had produced large-scale shifts in individual reserve holdings and considerably raised the Group's total, and, in the intervening period, the position of these countries relative to all others altered substantially. From early 1973 onward, moreover, the absolute volume remained virtually constant, but the percentage of the global total was declining. This trend was heavily accelerated by the effect of greatly increased oil revenues in raising the reserve levels of OPEC countries. By end of December 1974, the reserve holdings of the Group of Ten represented less than 52 per cent of the world total.

TABLE 3
INTERNATIONAL RESERVES OF GROUP OF TEN MEMBERS
RELATIVE TO ALL COUNTRIES, 1960-74
(*dollar figures in billions*)

	Dec. 1960	Dec. 1965	Dec. 1970	Dec. 1974
1. Total reserves, all countries	\$60.510	\$71.030	\$93.626	\$220.357
2. Industrial countries	\$47.100	\$53.759	\$65.806	\$119.908
3. Per cent of line 1	77.8%	75.7%	70.3%	54.4%
4. Group of Ten	\$45.802	\$51.391	\$62.758	\$113.614
5. Per cent of line 1	75.7%	72.4%	67.0%	51.5%
6. All other countries outside Group of Ten	24.3%	27.6%	33.0%	48.5%

SOURCE: IMF, *International Financial Statistics*, October 1975 and earlier issues.

The growth pattern of total official monetary reserves in recent years, given above for all countries together and for various country groups, needs to be supplemented by a breakdown of the figures among the four categories of reserve assets. A new form of reserve asset, Special Drawing Rights (SDRs), was officially accepted by the Governors of the IMF and introduced into the system in three allocations commencing in January 1970. Furthermore, the other major types of reserve assets have all grown at different rates, with the result that the composition of official reserves differed perceptibly by 1971 from what it was in the 1960s. This transformation, however, has not so far produced a mix of reserve assets that conforms to the composition foreseen by some plans for reform of the monetary system.

Data are presented in Table 4 on total reserve holdings broken down into the four standard categories employed in statistics of the IMF. In the early 1960s, the gold reserves of the monetary authorities amounted to

TABLE 4
DISTRIBUTION OF INTERNATIONAL RESERVES
AMONG ASSET CATEGORIES, 1965-75
(dollar figures in billions)

	Dec. 1965	Dec. 1970	Dec. 1971	Dec. 1972	Dec. 1973	Dec. 1974	June 1975
A. Amounts:							
Gold	\$41.9	\$37.2	\$ 39.2	\$ 38.9	\$ 43.2	\$ 43.8	\$ 44.2
SDRs	—	3.1	6.4	9.4	10.6	10.8	10.9
Reserve position in IMF	5.4	7.7	6.9	6.9	7.4	10.8	12.7
Foreign exchange	23.8	45.6	79.1	104.2	122.7	154.9	162.5
Total reserves	\$71.0	\$93.6	\$131.5	\$159.4	\$183.9	\$220.4	\$230.4
Yearly per cent change	^a	+18.5%	+41.0%	+21.6%	+15.4%	+19.8%	+ 9.1% ^b
B. Percentage distribution of Section A:							
Gold	59.0%	39.7%	29.8%	24.4%	23.5%	19.9%	19.2%
SDRs	0	3.3	4.9	5.9	5.8	4.9	4.7
Reserve position in IMF	7.6	8.2	5.2	4.3	4.0	4.9	5.5
Foreign exchange	33.5	48.7	60.2	65.4	66.7	70.3	70.5
Total reserves	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

^a Changes in the four years 1966, 1967, 1968, 1969 were 2.3, 2.3, 4.1, and 1.1 per cent respectively.

^b At annual rate.

SOURCE: IMF, *International Financial Statistics*. Percentages, computed by the author, may not add to 100.0 because of rounding.

about twice the volume of foreign exchange. Both assets grew somewhat in those years, but gold was advancing at only half the rate of foreign-exchange reserves (Triffin, 1960, pp. 47-50, 35-37, and Witteveen, 1975, p. 314). Indeed, the fact that gold was entering the international monetary system at a low and uneven rate was one of the main arguments advanced throughout the 1960s by those who advocated the creation of an additional reserve asset. At the end of 1965, gold and foreign currencies accounted for 59 per cent and 33.5 per cent, respectively, of total country reserves. During the course of 1970, mounting levels of foreign exchange surpassed gold holdings, which had grown only erratically and had even registered net declines in 1966, 1967, and 1968.⁶ From 1970 to the present,

⁶ The net fall in official gold holdings of the monetary authorities in the late 1960s was due in part to the policy then being followed of intervening in the private gold market in London to keep the market price from departing substantially from the official price. Given the limited quantity of gold coming onto the market and the

gold reserves showed a remarkable constancy in physical terms and in terms of SDRs, with a small rise in dollar terms reflecting the currency realignments of 1971-73. At the same time, reserves held in the form of national currencies continued their climb, rising about three and one-half times from December 1970 to December 1974.

In percentage terms, foreign exchange held by the monetary authorities increased from 33.5 per cent of total official reserves in 1965 to 70 per cent in 1974, while gold fell from 59 to 20 per cent during that period.

As for other categories of reserves, the quantity of SDRs in the hands of IMF member countries was in largest part determined by the three successive annual allocations in 1970-72, plus the effect of currency realignments on the value of SDRs expressed in dollars. Reserve positions in the IMF showed little change after 1971 for most member countries, except in the past year for the United States and the oil-producing states. The increase in their positions accounted for most of the recent rise, reflecting the inclination of the IMF in 1974 to encourage countries wishing to make currency drawings for reserve replenishment to utilize OPEC currencies as well as dollars.⁷

Of greatest magnitude, of course, are reserve holdings in foreign exchange, which increased substantially in the 1970s both in absolute and in relative amounts. The processes by which reserve accumulation occurred, especially in currency form, are fairly straightforward and have been mentioned in earlier pages. They reflected partly the reserve shift resulting from the balance-of-payments disequilibrium among the major industrial countries. One might have expected, on this basis, that high reserve accumulations would be shown by Japan and the industrial countries of Europe and would take the form of dollar or sterling balances. To a large extent this was the case. In the four years following 1970, holdings of dollars by foreign monetary authorities rose by somewhat more than \$50 billion, and sterling balances rose by about \$3 billion. More than two-thirds of the increase in dollar and sterling reserve holdings took place in 1971 and 1972, however. Moreover, dollar balances of European official institutions showed virtually no rise at all in 1974. In contrast, the growth already mentioned in the reserve assets of the oil-producing countries and of a few other developing countries accounted for most of the 1974 change in dollar balances.

strong demand for it for industrial and speculative purposes in that period, the attempt to stabilize the London gold price resulted only in a net drain of official gold reserves from the monetary system, and intervention was discontinued by agreement in 1968.

⁷ During the past four years, the combined total of SDR holdings and IMF reserve positions remained in the range of 9.8 to 10.2 per cent of total reserves.

At the same time that holdings of traditional "reserve currencies" were evolving as described, an important movement was occurring in balances held in other currencies. Data compiled for a limited period by the IMF make it possible to keep track of the "difference" between member countries' total holdings of foreign exchange and their holdings of dollars and sterling. This residual or "difference" represents in the main official reserves of foreign exchange held in all other currencies. The series was discontinued after 1974 and no breakdown was available in any case comparable to the series measuring sterling and dollar liabilities, but we do know that total official holdings of other currencies quadrupled from \$14 billion at the end of 1970 to more than \$60 billion four years later. It may be surmised that a large proportion of these holdings comprised Eurodollar and other Eurocurrency balances, and that a smaller portion also was held in German marks, yen, and other strong currencies, even though some of the host countries concerned discouraged such accumulation.⁸

Reserve holdings by monetary authorities in currencies other than dollars and pounds are not, of course, a wholly new phenomenon. Such holdings were comparatively small in the 1960s, however, and did not exceed 5 per cent of all officially held foreign exchange until 1966. By 1974, the corresponding figure was in the 40 per cent range.

Little detailed information is available concerning the identity of countries that hold foreign-exchange reserves in forms other than balances in the United Kingdom and United States. A significant portion of these nondollar, nonsterling balances seems to have belonged to monetary authorities of countries outside the Group of Ten—mainly developing countries, including oil-exporting nations. One evidence of this is that the eighteen members of the European Monetary Agreement owned rather small amounts of each other's national currencies, despite the existence of a maintenance-of-value guarantee in the EMA until its liquidation in December 1972. In addition, the Group of Ten had reached an internal agreement not to increase their official holdings in the Eurocurrency market (Bank for International Settlements, 1973, p. 155; and Parrish, 1975, p. 24), and there was even a certain sentiment for reducing such placements.

Reserve Use and Intervention

Data of the kind given above are useful in delineating changes in the relative growth of the different categories of reserve assets, as well as in the geographic distribution of total official monetary reserves among

⁸ For what may be a more reliable, if one-time, estimate see the special tabulation in IMF (1975, p. 39).

broad groups of countries. Only by passing beyond these aggregates, however, can the attempt be made to determine the functional manner in which official reserves are being utilized and their place in the current conduct of the international monetary system. Judgments on these questions can be sought only by looking at the reserves held by individual countries. What functions do official monetary reserves perform for the holder? Are these operational functions, as they relate to the country's overall domestic and external economic policy, different in nature or execution under the present system than they were under the Bretton Woods system?

Reserve assets have provided a source from which the individual country's monetary authority can cover a temporary deficit in the balance of payments (or into which it can deposit the proceeds of a temporary surplus) and the means for intervening in the foreign-exchange market to influence the market rate for the country's currency. Under the system prevailing until 1973, these two functions were closely related and might be said to be two manifestations of the same function, especially for economies other than reserve-currency countries. For example, any deficit in a country's external payments that persisted for a time could be expected to put pressure on its currency in the exchange market, since deposit-money banks held only working balances in foreign currencies, and there was only a small margin of permissible rate fluctuation around the par value. The central bank or other monetary authority was obliged to use reserve assets for intervening in the market to maintain the exchange rate and to finance, incidentally, a portion of the payments deficit that was depressing it.

Under a regime of freely floating exchange rates, the role or requirement for reserves would seem to be different, at least in degree. Downward pressure on a country's currency would not require intervention by selling an intervention currency from reserves (or would not permit it, if the floating commitment was interpreted strictly). Market pressure, thus unobstructed, would depress the exchange value of the currency to the point at which the supply of the currency and the demand for it were equated in the international exchange market; i.e., the market would be cleared. Under perfect competition, this adjustment would be accomplished by an immediate expansion in exports of goods and services in response to the falling rate and a contraction in imports such that the external accounts return to and remain in balance. Adjustments in the markets for foreign exchange and for real resources both being perfect and simultaneous, there would be no necessity for the monetary authority to utilize (or even possess) a stock of official reserves.

The conditions surrounding the present exchange-rate regime differ

from these hypothetical conditions in two major respects. First, the authorities of many countries do not consider it desirable to permit rates to float without limit. Although the range they regard as acceptable is considerable compared with the margins prescribed under the fixed-rate regime, the monetary authorities often have the ability and inclination to moderate movements in market exchange rates by various means, including conventional, direct market purchases or sales from reserves. The second difference between actual and hypothetical conditions is that not all international monetary transactions involve purchases or sales of typical, tradeable commodities, and even those which do represent these classic types are not perfectly or promptly elastic in the response of their demand and supply to price changes caused by movements in the exchange rate. Adjustments in the market for real resources will be induced in the long run as a result of lasting changes in currency relationships, but the process is not instantaneous. During the period of adaptation, deficits or surpluses will thus appear in the country's balance of payments in the same manner as under a fixed-rate regime, though presumably in lesser amounts. These imbalances have to be financed through changes in official monetary reserves or movements of liquid private capital.

Against this background, let us examine what has happened in a few major countries in the last few years with regard to official reserves and their relation to the balance of payments and other related phenomena. Table 5 presents data for the United States on yearly changes in gross as well as net official reserves for the past ten years, together with some of the pertinent figures on the balance of payments. While no single table or set of tables can cover all the significant factors that relate reserve movements to the balance of payments over a span of years, the figures in this table and Table 6 highlight some of the factors.

Political and confidence forces affecting some major European countries reduced temporarily their surplus positions on trade and long-term capital account and generated an increased flow of speculative funds to the United States in 1968 and 1969. These developments produced both a short-lived rise in U.S. official reserves and a fall in U.S. liabilities owed to foreign official institutions. Net official reserve transactions registered an improvement of \$2.6 billion in 1969. In the following year, however, the underlying American deficit of the 1960s reasserted itself. Not only was there a \$14.8 billion turnaround in the net flow of liquid capital, but the drop in U.S. gross reserves and the rise in foreign authorities' dollar holdings swamped the 1969 improvement. This condition continued in 1971, when the net outflow of private liquid capital was even higher than in 1970, U.S. reserve assets fell heavily again, and liabilities to foreign

TABLE 5
 COMPARISON OF U.S. RESERVE MOVEMENTS WITH SELECTED
 BALANCE-OF-PAYMENTS DATA, 1965-74
 (dollar figures in billions)

Year	Change in U.S. Net Reserves ^a			Liquid Private Capital Flows, Net (4)	Payments Balances		Ratio of Net Reserve Transfers to	
	Gross Reserves (1)	Liabilities to Official Institutions (2)	Net Official Reserve Transfers (3)		Basic Balance (5)	Net Liquidity Balance (6)	Basic Balance (7)	Net Liquidity Balance (8)
1965	\$1.222	\$ 0.040	\$ 1.262	\$ 1.188	-\$ 1.829	-\$ 2.478	0.69	0.51
1966	0.568	— 0.930	— 0.362	2.370	— 2.110	— 2.151	—0.17	—0.17
1967	0.052	— 3.298	— 3.350	1.265	— 3.723	— 4.683	0.90	0.72
1968	— 0.880	— 0.854	— 1.734	3.252	— 1.935	— 1.611	—0.90	—1.08
1969	— 1.254	— 1.342	— 2.596	8.820	— 3.637	— 6.081	—0.71	—0.43
1970	2.477	7.777	10.254	— 6.000	— 3.038	— 3.851	3.38	2.66
1971	2.320	26.876	29.196	— 7.763	— 9.374	— 21.966	3.11	1.33
1972	— 0.984	10.875	9.891	3.542	— 9.843	— 12.747	1.00	0.78
1973	— 1.227	5.284	4.057	2.302	— 1.026	— 7.606	3.95	0.53
1974	— 1.505	9.760	8.255	10.268	— 10.580	— 19.236	0.78	0.43

^a As in *Survey of Current Business* practice, a minus sign means an increase of U.S. reserves or decrease of U.S. liabilities to foreign official institutions.

SOURCES: Columns (1) and (2), *Treasury Bulletin*, April 1975, pp. 86-87. Columns (4), (5), (6), *Survey of Current Business*, March 1975, pp. 24 ff., and earlier issues.

monetary authorities jumped by almost \$27 billion. Both the basic balance and the net liquidity balance reached record levels in 1971.

By 1973, after two realignments of exchange rates among the principal countries, the U.S. trade account improved enough to produce the smallest deficit on the basic balance in many years, and in 1974 there would have been a large merchandise-trade surplus if oil prices had not quadrupled. Liquid private capital transactions had returned to a net inflow in 1972 and, together with the much stronger showing on items in the basic balance, had permitted a reduction in U.S. official reserve transactions in 1973. Liabilities to foreign official institutions increased (mainly in the first quarter of 1973) by \$5 billion, a large amount by comparison with the 1960s but far lower than in 1970-72. The dollar value of U.S. official reserve assets rose by \$1 billion in each of the years 1972 and 1973. These increases, however, represented valuation changes resulting from devaluations of the dollar, whereas the 1974 addition reflected real increases, mainly in the U.S. reserve position in the Fund resulting from expanded IMF operations. The year 1974 also saw a big addition to U.S. liabilities to foreign official institutions, predominantly those of oil-producing countries, and an approximately equivalent net inflow of privately owned liquid capital.

Table 5 also provides a comparison between the volume of reserve movements and the international payments imbalances of the United States. The ten years 1965 through 1974 were characterized by persistent deficits in the American external accounts, the correction of which was in the process of accomplishment during the final two years of the period. The contribution of net official reserve settlements to the financing of these deficits varied between the net reserve increase of about \$2.6 billion in 1969 and the net decrease of \$29 billion in 1971. The basic balance (balance on current account and long-term capital) also fluctuated in amount during the period but was in chronic deficit, ranging from a deficit of more than \$9 billion in 1971-72 to near balance in 1973. The ratio of net official reserve transactions to the basic balance fluctuated very widely, yet if the currency-crisis years 1970-71 are excluded, the yearly changes in net official reserves amounted to between 70 and 100 per cent of the basic balance in six of the remaining eight years. Excluding 1970-71, moreover, the ratio between net reserve transactions and the "net liquidity balance"⁹ varied between 43 and 78 per cent in six of the other eight years.

It is apparent that, for the United States, the volume of net official reserve transactions, which had seemed large during the period of chronic

⁹ In the U.S. Department of Commerce terminology, the net liquidity balance is the balance on current account and long-term capital, plus net nonliquid short-term private capital flows, allocations of SDRs, and net errors and omissions.

deficits in the 1960s, became much larger in the 1970s. The smallest figure recorded in the last five years (for 1973) was bigger than the largest one recorded in the previous five years, 1965-69. Preliminary data for the first half of 1975 suggest a continuation of the characteristics noted above for 1974—sizable shifts (plus or minus) in the various summary measures of the U.S. international accounts accompanied by substantial changes in the net official reserve position of the United States.

Another contrast to be noted between the two five-year periods is in the relative roles played by changes in U.S. reserve-asset holdings and changes in liabilities to foreign official institutions. In the late 1960s, the financing of U.S. deficits (and the two official-settlement surpluses in 1968-69) was shared roughly equally between these two series. In the most recent five years, on the other hand, the yearly change in liabilities to foreign monetary authorities ranged from three to eight times the yearly change in U.S. gross reserve holdings, although both types of reserve transaction increased in volume.¹⁰ Furthermore, the volume and composition of officially owned monetary reserve assets have evolved differently for the United States than for the world generally. It was noted earlier that aggregate world reserves (holdings of all countries, excluding international financial institutions) rose continuously during the past ten to fifteen years, with an unusually great addition in the early 1970s. In marked contrast, U.S. official reserve assets fluctuated around a steadily declining trend in the late 1960s, and the low point (measured in dollars) was reached in 1971. The increases since that time were the result partly of revaluation changes after the currency realignments and partly of the modest rise in the American reserve position in the IMF during 1974, stemming from Fund lending operations. Owing to the reduced holdings of foreign currencies by the U.S. authorities and the comparatively stationary figures for total U.S. reserves, the percentage distribution among categories continues to show the United States with a high proportion of its reserves in gold and with a somewhat greater percentage in claims on the Fund than most major countries.

The role played by recent changes in U.S. official monetary reserves can be better understood if they are viewed in a context broadened to include other major elements at work in the monetary system. In recognition of the interaction between reserve changes and the exchange-market value of the dollar during conditions of floating rates, Table 6 brings to-

¹⁰ A tabulation of these same data on a quarterly rather than annual basis exhibits, of course, more fluctuations in any given series on reserve transactions or payments balances, and it also produces wider variations in the relationships *between* the external accounts and their financing. Since the lead-lag association between the two series is far from constant, a quarterly breakdown of the data is less usable and instructive than the annual data, although quarterly figures are informative at some turning points.

TABLE 6

COMPARATIVE MOVEMENTS OF U.S. OFFICIAL RESERVE ASSETS, LIABILITIES
TO FOREIGN MONETARY AUTHORITIES, AND EXCHANGE-MARKET
INTERVENTION IN PERIODS OF RISING OR FALLING DOLLAR RATES, 1973-75

A. Dollar Exchange Rate for Currency: Actual and Per Cent Change from Preceding Date						
	May 7, 1973	July 6, 1973	Jan. 7, 1974	May 10, 1974	Sept. 6, 1974	Feb. 28, 1975
Germany:						
Actual	35.06¢	44.30¢	34.70¢	41.38¢	37.44¢	43.93¢
Per cent change		26.4%	-21.7%	19.3%	-9.5%	17.3%
Sweden:						
Actual	22.11¢	25.23¢	20.65¢	23.61¢	22.30¢	25.72¢
Per cent change		14.1%	-18.2%	14.3%	-5.5%	15.3%
Switzerland:						
Actual	30.76¢	37.20¢	29.21¢	34.83¢	33.14¢	41.63¢
Per cent change		20.9%	-21.5%	19.2%	-4.8%	25.6%
France:						
Actual	21.92¢	26.13¢	20.12¢	20.67¢	20.72¢	24.01¢
Per cent change		19.2%	-23.0%	2.7%	0.3%	15.9%
United Kingdom:						
Actual	249.15¢	256.00¢	222.80¢	243.05¢	231.09¢	243.05¢
Per cent change		2.8%	-13.0%	9.1%	-4.9%	5.2%
Japan (100 yen):						
Actual	37.68¢	38.25¢	33.33¢	36.03¢	33.05¢	34.92¢
Per cent change		1.5%	-12.9%	8.1%	-8.3%	5.7%
Italy (100 lire):						
Actual	16.94¢	17.36¢	15.82¢	16.03¢	15.10¢	15.93¢
Per cent change		2.5%	- 8.9%	1.4%	-5.8%	5.5%
B. U.S. Official Reserve Assets, Liabilities to Foreign Official Institutions, and Market Intervention Operations during Corresponding Period						
	Apr. 30, 1973	June 30, 1973	Dec. 31, 1973	Apr. 30, 1974	Aug. 31, 1974	Feb. 28, 1975
1. U.S. official reserves	\$14.3	\$14.3	\$14.4	\$14.6	\$15.5	\$16.1
2. % change from prec. date		0	+0.2%	+1.8%	+5.6%	+ 4.3%
3. U.S. liabilities to off. institutions	\$70.8	\$70.7	\$66.8	\$67.2	\$71.1	\$78.7
4. % change from prec. date		-0.1%	-5.5%	-0.5%	+5.7%	+10.7%
5. U.S. liabilities, European off. institutions	\$45.6	\$47.0	\$45.7	\$42.6	\$42.3	\$44.8
6. % change from prec. date		+3.0%	-2.7%	-6.7%	-0.8%	+ 5.9%
7. U.S. net intervention operations	—	—	-\$0.6	+\$0.4	-\$0.3	+\$1.1
8. Change in U.S. net reserves: total		+\$0.1	+\$3.9	-\$0.1	-\$3.1	-\$6.9
9. Change in U.S. net reserves: with Europe		-\$1.4	+\$1.3	+\$3.3	+\$1.2	-\$1.8

SOURCES: A. Bernstein (1975). B. Lines 1, 3, and 5: *Treasury Bulletin*, May 1974 and April 1975, Tables IFS-1, IFS-2, and IFS-3, except for April and June 1973, which (like the figure for December 1973) reflect the increase of \$1.4 billion resulting from a change in par value of the dollar that became official only on Oct. 18, 1973, but had been implicit since the rate changes of February 1973. Line 7 estimated from figures published periodically by the Federal Reserve System.

gether some material on these variables during different significant periods in 1973-75. The periods chosen for this purpose conform as closely as possible to the intervals of rise or fall in dollar exchange rates against other major currencies, as presented by Bernstein (1975). To the data on the changes in exchange rates, I have added material showing, for the periods in question, the movements in U.S. reserve assets and liabilities and the net amounts of U.S. exchange-market intervention. The data commence with 1973, since that marks both the beginning of the situation in which all major currencies were floating and the resumption of U.S. market interventions.

In the period April-June 1973, following some further parity adjustments by major industrial countries and their decision to permit their currencies to float, U.S. reserve holdings remained virtually unchanged, and the same was true of total liabilities to foreign official institutions. Since the flow of speculative and other short-term capital into the strong European currencies did not immediately halt, however, European central banks acquired an additional \$1.4 billion in official claims. The U.S. authorities did not intervene in the market in that interval, the European authorities whose currencies had been strongest were relatively inactive, and there was even some net selling of dollars by others. Between May 7 and July 6, 1973, the dollar depreciated by 14 to 26 per cent vis-à-vis the European currencies operating jointly in "the snake" or in close coordination with it, and by 1 to 3 per cent vis-à-vis the currencies floating independently (United Kingdom, Japan, Italy).

From their high point of early July 1973, foreign currencies began a decline against the dollar which was to last about six months, and by January 7, 1974, the currencies in the European common float were back to or below their levels before the previous rise; sterling, the yen, and the lira had fallen substantially more. During that second half of 1973, the American balance on current account was strengthening, and total liabilities to foreign official institutions fell about \$4 billion, of which about \$1¼ billion were in liabilities to Europe.

It was in July 1973 that the U.S. monetary authorities, who in August 1971 had suspended the use for intervention purposes of the existing network of currency-swap arrangements with other central banks, resumed activities under these arrangements in coordination with other leading governments. Currencies drawn under the swap agreements were employed for operations in the foreign-exchange market. Although the mechanical details differ from one situation to another, this was the general practice: When a foreign currency was to be sold in the market for the purpose of maintaining orderly market conditions, the U.S. authorities

obtained that currency under a swap agreement with the corresponding foreign central bank and sold it on the same day; the transaction was reflected in an equivalent increase of U.S. liabilities to the foreign institution and a decrease in U.S. liabilities to private holders. At some selected later time, the U.S. authorities generally intervened to purchase foreign currency with dollars in order to repay the swap and thereby reverse the earlier transactions.

It is estimated that during the seven months from July 1973 through January 1974, U.S. interventions resulted in net purchases of foreign currencies which, under the process just described, acted to reduce U.S. official liabilities by about \$635 million, mostly to European governments. Without discussing each of the successive periods tabulated, mention should still be made of the one commencing in early September 1974 and ending in February-March 1975. The dollar was chronically weak in that period, owing largely to very active capital flows in all directions associated with U.S. trade credits, the removal of U.S. measures restraining capital export, the arrival and recycling of "petrodollars," and the rapid fall in U.S. interest rates relative to those in other major centers. The dollar fell 15 to 20 per cent against the currencies of the common float and by 5 per cent against other industrial-nation currencies. Net U.S. official sales of foreign currencies during the six months ending in February 1975 were about \$1.1 billion, not to mention the corresponding market operations by foreign authorities. Some of the latter intervened on the same side of the market as the United States, but others with special rate objectives related to their own currency problems operated differently.

Similarly, but to varying degrees, in each of the five periods of rising or falling market exchange rates for the dollar, the pressures acting on the rate were also producing a fall or rise in the U.S. net reserve position. For purposes of comparing changes in the exchange rates with U.S. net reserve changes, the series on changes in liabilities to European official institutions (line B.6 in Table 6) seems more relevant than the one on changes in world-wide liabilities (line B.4).¹¹ Market intervention by the American authorities accounted for part, and occasionally a significant share, of the reserve movements from July 1973 onward. The net reserve transactions, which reflected interventions to promote orderly market conditions, were not dissimilar in size to those of many past periods. These transactions, however, did not prevent swings in the dollar amounting to as much as 15 to 25 per cent in bilateral rate relations to other major cur-

¹¹ Data are published on dollar liabilities to official institutions in Europe and other continents, but not to individual countries.

rencies in four of the five periods.¹² Yet the sizable fluctuations in exchange rates did not obviate large-scale and sometimes rapidly reversed reserve transactions.

Changes in U.S. official reserves and other aspects of U.S. foreign-exchange policy have now been examined with some care, with special attention to the period commencing in 1973. For the same period, characterized by fluctuating exchange rates and other features at least apparently different from the regime of Bretton Woods, the corresponding external monetary practices and policies of other countries can be described in similar but briefer fashion.

With regard to its balance of payments and reserve developments during the 1960s and at the beginning of the 1970s, the Federal Republic of Germany often seemed to constitute the principal surplus country mirroring U.S. deficits. For this reason, somewhat more attention will be paid to German reserve developments and policies than to those of other countries. Following a temporary drop in German reserve assets during 1969, large reserve accumulations resumed in each of the four years 1970-73. Despite some increases in other asset categories, by far the greatest part of the reserve growth was in foreign-currency holdings, preponderantly U.S. dollars.

The increment to German official reserves in 1973, a year that began with further currency disturbances and a new rate adjustment, was the largest annual increase yet recorded. Developments in 1974, however, followed a different pattern. The total reserve level at the end of 1974 was actually lower than at December 1973 by about \$750 million, a rather small change in comparison with the \$5-\$10 billion annual changes in immediately preceding years. The decline found its reflection in balance-of-payments performance. For one thing, German exports expanded sharply in 1974 in response to the higher demand for goods by oil-producing countries, the needs of oil-consuming industrial nations that were investing in domestic energy sources, and the temporarily more comfortable cash position of raw-material producing countries. The German trade surplus was 40 per cent higher in 1974 than the very high figure for the preceding year, and the balance on current account, at DM 24 billion, exceeded all previous records.

¹² Figures on these changes in bilateral exchange rates do not tell the whole story about the effects of floating rates on intercountry relationships. Trade-weighted averages can be very useful with regard to merchandise trade. However, these trade-weighted series have drawbacks of their own, especially for measuring effects on capital movements or on trade in third-country markets.

The counterpart to this heavy surplus on trade and other current payments was a remarkable shift in private capital flows. Net private capital transactions turned from a net inflow of DM 14.7 billion in 1973 to a net outflow of DM 24.5 billion in 1974. Within this aggregate there were major shifts in all the main types of private capital, except for direct investment. The most noteworthy changes were the DM 19 billion net increase in trade credits extended by German enterprises and the large rise in long-term loans to foreigners, which far outbalanced the increase during late 1974 in borrowing abroad by German industry. Although German capital transactions were large and multidirectional, like those of the United States, and varied from quarter to quarter, there was a clear overall result for 1974 as a whole. Net capital movements were influenced more than usual by developments in exports and other current-account items, with the consequence that the massive current surplus was offset by an approximately equal volume of net private lending and investment. Owing to the sluggish rate of domestic economic activity, German banks had loanable funds, and German enterprises were offering favorable credit terms to foreign buyers. Government loans abroad, such as large credits to Italy bilaterally and through the European Community, also expanded considerably. This state lending had the happy coincidence of assisting deficit countries while helping to offset the German trade surplus, but it was not connected to the latter.

The German monetary authorities have exhibited, on the whole, an attitude of satisfaction toward the developments affecting their international reserve position and have recognized that the functioning of the world monetary system withstood very well the severe strains placed on it in 1974. There has even been an occasional tendency to generalize from Germany's own recent experience to that of other countries and other periods.¹³ Basically, however, the Federal Republic's authorities accurately perceived that Germany's ability to finance its record current-account surplus without a major change in net reserves and without what they regard as substantial exchange-market intervention was in part attributable to special conditions in 1974, notably the differential rates of inflation, economic activity, interest rates, and liquidity that prevailed

¹³ For example: "Within the present foreign exchange system . . . the banks have to some extent taken over the role that, in the case of fixed exchange rates, was mostly played by the central bank, namely to take in the foreign exchange earned by non-banks . . . and to invest abroad. As long as the central bank refrains from intervention . . . the increase in net external assets that derives from current surpluses takes place—in contrast to former years—outside the central bank" (Deutsche Bundesbank, 1975a, pp. 29-30); ". . . under the system of predominantly flexible exchange rates strong forces are working in the direction of 'quasi-automatic' equilibrium in the overall balance of payments" (Deutsche Bundesbank, 1975b, p. 30).

among countries. The first three months of 1975 saw a strong rise in German reserves, but by late July that increase had disappeared again.

The variations *within* 1974 in German reserve transactions and official intervention illustrate how arbitrary a measure is the twelve-month calendar year. The Bundesbank has pointed out that its official foreign-exchange transactions (including interventions on exchange markets) yielded net sales of only DM 1.9 billion for 1974 as a whole, yet gross reserve movements were at times so large as to affect domestic monetary conditions. The net volume of official intervention by Germany has indeed been smaller, both in absolute monetary amount and as a percentage of total reserve transactions, than in some earlier periods of fixed exchange rates, but it has not been insignificant. In the first two months of 1975, net intervention in the spot markets of Frankfurt and New York accounted for about two-thirds of the growth in German monetary reserves;¹⁴ about half these operations were probably in Frankfurt. Naturally, this percentage is distinctly smaller than it was in the periods of currency crisis a few years earlier, when interventions must have accounted for three-fourths of reserve accumulations by the central bank. Nevertheless, it represents a rate of intervention activity closer to that which occurred under the fixed-rate regime than might have been expected from a country whose economy and payments position were strong and whose authorities tended to stress the policy implications stemming from the new, flexible-rate regime.

In the other leading industrial nations traditionally regarded as reserve-holding countries, the main developments of 1974-75 may be summarized as follows: Taken together, the industrialized countries in 1974 had the smallest reserve accumulation in many years. Apart from Germany and the United States, the industrial countries' reserve assets grew by about \$3.5 billion. This comparatively modest growth rate was displayed by most of the individual countries. Moreover, there were no significant changes in the composition of the assets held by official institutions. In the first six months of 1975, the same group of nations (the industrial countries minus the United States and Germany) added more than \$2.7 billion to their reserves.

The similar direction in the nominal reserve changes registered by most advanced countries may seem surprising, since balance-of-payments developments in 1974 were far from identical for individual countries. The balances on current account for all OECD countries combined did shift sharply, from a surplus of \$2.5 billion in 1973 to an unprecedented

¹⁴ Deutsche Bundesbank (1975a, p. 12). In 1974, the ratio between net intervention and net reserve changes was probably lower for the year as a whole, but not for particular periods.

deficit of about \$34 billion in 1974, largely in consequence of the jump in oil prices. That combined figure, however, was shared diversely, with individual countries' current-account balances stretching all the way from the United Kingdom's \$9 billion deficit to Germany's \$9 billion surplus. Some of the smaller OECD countries drew on their monetary reserves to meet part of their deficits. But, taken as a group, the industrial countries did not finance their deficits by tapping their gross reserve assets, which indeed registered modest gains in many instances, even in such problem cases as Italy and the United Kingdom.

What did occur to provide the financing for the oil-induced deterioration in current account positions was mainly a combination of (1) capital inflows of a self-generated nature and (2) borrowing abroad induced by the authorities or contracted by the authorities themselves. The first category included capital flows received from oil-producing countries, directly or indirectly, plus financial movements associated with trade flows and interest-rate or confidence considerations. The second category included borrowing by private enterprises which contracted debts abroad at government invitation and borrowing by domestic banks specifically for the purpose of relending the foreign currencies to industry at home.¹⁵ Funds borrowed directly by the governments of industrial nations were obtained predominantly from private financial sources in international markets. Italy and a few small countries, however, borrowed from central banks or governments abroad.

Some of the large industrial countries whose currencies were under recurring downward pressure in the exchange markets have used significant amounts of their owned and borrowed reserves to support their currencies. This was notably the case for Italy, Japan, and the United Kingdom in 1974, but the first two countries reduced or reversed their interventions in 1975. Two other important countries were concerned in 1975 to reduce the market values of their currencies and steadily made purchases of foreign exchange. One of them (France) has added substantially to its reserve holdings; the other (Switzerland) has offset what otherwise would have been a drain on its reserve position.

Concluding Observations

The main point at which the subject of balance-of-payments financing comes face-to-face with that of exchange-rate policy is, of course, the practice of official intervention in the exchange market. The interactions between rate changes and reserve changes, and the policy decisions taken

¹⁵ In France, for example, this type of bank intermediation amounted to F 4.2 billion in 1974 (Banque de France, 1975, p. 33).

regarding them by a country's monetary authorities, are a major determinant of how the existing regime functions in fact and how much novelty it has. Viewed in this large monetary framework, it is plain that we have had a mixed system during the past two years. As countries' balances of payments were strongly affected by inflation, commodity-shortage situations, domestic recession, and the effects of high oil prices on imports and capital flows, governments took various steps to limit the size of their overall external payments balances (see pp. 5-7). National monetary authorities did not hesitate to intervene in the exchange market to influence rates whenever developments within the domestic economy or in its external position seemed to make intervention the preferred solution economically or politically. Both owned and borrowed reserve assets were used on occasion for this purpose.

It is difficult, though obviously desirable, to evaluate the volume and significance of official intervention, as compared with other aspects of current international monetary policy or with the role of intervention under other monetary regimes. For evident reasons, monetary authorities do not usually state their intentions in advance, except in broad terms not easy to interpret. The few countries that do release some intervention data *ex post* have not always done so regularly or by currency. The availability of information in this field has not changed materially between the fixed-rate regime and the present one.

These facts are known about official intervention in the years since March 1973: Several large industrial countries (Italy, the United Kingdom, Japan) entered the market frequently to support the exchange rates for their currencies. Various continental countries were sometimes very active in supporting the dollar, most notably between September 1974 and March 1975. A significant volume of intervention has often been conducted to keep the currencies in or associated with the joint European float (the "snake") within the agreed, rather tight limits. The United States resumed intervening in mid-1973, in volumes not dissimilar to the rather modest degree of market operations typical of the United States in the past. Many industrial countries, after a relatively calm second quarter in 1975, felt impelled to intervene frequently and heavily in the third quarter.

One close observer of the foreign-exchange market has estimated that gross official intervention by the authorities of the major trading currencies totaled about \$50 billion during the period from April 1973 to mid-1975.¹⁶ In the absence of anything more than impressionistic notions about past periods, one can surmise that this number is roughly comparable to

¹⁶ Estimate cited orally by Alfred Hayes in his Per Jacobsson Foundation lecture, "Emerging Arrangements in International Payments," Aug. 31, 1975.

the volume of gross intervention in the past, and may even exceed intervention in some previous periods. (Even during the dollar crisis of 1971, interventions by other industrial countries probably were mostly one-directional purchases of dollars, and their combined currency holdings increased by only \$25 billion between December 31, 1970, and December 31, 1971.)¹⁷

If, as seems indicated by the inadequate data, the volume of intervention has remained high during the present *de facto* monetary regime, despite the absence of the previous obligation to defend par values, what are the motives of the authorities? The experience thus far registered in 1973-75 seems to answer that recent exchange-rate fluctuations may have exerted a *form* of pressure on a country's monetary system and domestic economy different in some cases from that sustained under the fixed-rate system, but that the strength of the pressure has been comparable. For example, when in the past a central bank had been obliged to buy (sell) foreign currency for a sustained period in a large amount in order to maintain the home currency's rate within the prescribed margins, the impact was felt as an increase (decrease) in the domestic money supply. Under current conditions, the pressure sometimes takes the form of raising the cost-of-living index in depreciating-currency countries or of creating unemployment in appreciating-currency countries by raising the prices of their exports to foreign customers.¹⁸ The large volume of intervention carried out by major trading countries, sometimes employing borrowed funds, appears to indicate that governments and central banks have considered (1) that the rate prevailing at a given moment did not accurately reflect underlying real economic forces, or (2) that the market rate was imposing price and income effects on the home economy to

¹⁷ In a twelve-month period within the years 1970 and 1971 different from the calendar year mentioned above, estimates have been made of the algebraic sum of the monthly intervention operations by each of eight non-U.S. industrial countries. The net total for the eight countries was about \$16.5 billion for twelve months. In view of the fact that only 10 of the 96 national monthly items were negative, it seems probable that the sum of the monthly algebraic totals for the speculative period in question would yield a figure not substantially below the sum of daily or weekly totals, which is not the case in periods less dominated by a single speculative trend [cf. remarks made by the Deutsche Bundesbank (1975b, pp. 60-61) about the volume of its gross short-term interventions during 1974 as compared with the yearly net total].

¹⁸ In an address on May 6, 1975, J. R. Lademann of the Swiss National Bank took notice of the latter when he stated: "Thereby a problem re-rose which many people thought Switzerland had got rid of by passing over to floating rates, namely the dependence of domestic monetary policy upon foreign influences. The dilemma resulting from unwanted heavy inflows . . . reappeared now simply in another form."

which it was not economically and politically feasible to adapt in the short run.¹⁹

The extensive recourse to exchange-market intervention has in manner and degree gone distinctly beyond the rather neutral prescription of smoothing operations limited to maintaining orderly markets that had been recommended to the monetary authorities by the Committee of Twenty in its rules for floating. It has constituted one more manifestation of the active conduct of individual external monetary policies by national authorities. These policies have involved the use of owned reserves, resort to official borrowing (or lending) abroad, the imposition of capital export restrictions and capital import inducements, intervention in the foreign-exchange market, and (especially in 1975) adoption of new par values. Their employment is not evidence of any inordinate, perverse, or even new behavior on the part of national authorities. It does seem to indicate that, even under a fluctuating-rate regime, governments remain alert to and sensitive about changes in the market rates for their currencies and the level of their reserves. As noted in the *Annual Report* of the IMF (1975, p. 37) "In present circumstances . . . the choice between allowing exchange rates to vary in accordance with market pressures and the financing of imbalances arises continuously rather than merely from time to time, as it did under the par value system."

Hirsch (1973, p. 1) has pointed out that the case made in advance by some economists and officials for adopting a fluctuating-exchange-rate regime "represents in part the felt need to 'disintegrate' the international economy somewhat at the financial level, to loosen the links between domestic economies and create more leeway for pursuit of differing domestic economic policies." The limited experience to date under fluctuating rates has not resulted in any extensive loosening or creation of domestic leeway. The monetary authorities of any given country, while possessing greater freedom than formerly to permit the currency to float to a new level, do not appear to consider that the present regime isolates the economy from the pressures of world economic currents or that it liberates them as policy-makers from taking external factors into account. This is particularly true of economies with a high foreign-trade ratio, those with significant capital movements, or those, as Lademann points out in connection with Switzerland, which are small. These categories would embrace most of the industrial countries. But the Secretary of the Treasury of the largest

¹⁹ To compare this behavior with a more abstract formulation of the relationship joining the domestic economy, the balance of payments, and the exchange rate, see Bernstein (1975).

economy has also declared that "nations have been subject to a more immediate and direct 'discipline' than before, in that they have been compelled to face rather quickly the external consequences of any unsound domestic policies" (Simon, 1975).

Despite their continued exposure to economic currents from abroad, an exposure which is both observable and acknowledged, the monetary authorities continue to exhibit a disposition to resist high automaticity in the monetary system itself and to avoid new obligations of a mandatory nature to make prescribed responses to given monetary stimuli or indicators. In short, the international monetary policy followed by the individual government remains largely voluntary or autonomous. This implies that the quality of "stickiness" in the effective functioning of the balance-of-payments adjustment process remains a problem, though perhaps somewhat diminished.

In pursuing a voluntary or autonomous external monetary policy, the typical industrial nation proceeds on the basis of what it deems to be appropriate or feasible in its individual situation, with respect both to defining (or at least conceptualizing) the "right" exchange rate for its currency and to deciding whether and how to "manage" the economy's external position. Its choices are made within a range of discretion that is presently determined by economic and market considerations and by domestic political imperatives, rather than by the prescriptions of international monetary agreements or institutions. Many of the rules of the IMF are in abeyance, and the indicators sketched out for guiding countries during the recent period have not attracted widespread adherence. It is too early to judge which was more determining and significant, the waiving of the rules (on exchange rates) or the ruling (by national monetary policies) of the waves which result therefrom. Both are important facts of current economic life, and successful handling of the present difficult international payments situation will require achieving the right degree of tension or balance between the two. This problem of choosing the right external policy mix is exacerbated if not dominated by the large disequilibrating effects, economic as well as financial, of quadrupled oil prices (cf. Fleming, 1974, pp. 13-17).

In short, under current circumstances, countries' external monetary policies have evidenced an element of improvisation. This may reflect a diminished discernibility of reference points, despite the intercountry links and elements of systemic continuity mentioned above. No country's external policy, moreover, necessarily corresponds to the policy objectives of its trading partners.

The autonomous nature of external monetary management does not mean that the policies chosen nationally are irresponsible. Indeed, they

are fashioned by governments that profess the need for international cooperation and consultation, and even engage in these practices to a degree not greatly different from before 1973. The point made here is rather that the current regime has exhibited thus far a strong resemblance to or continuity with the par-value system.

References

- Bank for International Settlements, *Forty-Third Annual Report*, Basle, Switzerland, June 1973.
- Banque de France, *Compte Rendu, Exercice 1974*, Paris, 1975.
- Bernstein, E. M., "Two Years of Fluctuating Exchange Rates," paper presented at University of Chicago, School of Business, April 15-16, 1975.
- Brown, Weir M., *The External Liquidity of an Advanced Country*, Princeton Studies in International Finance No. 14, Princeton, N.J., 1964.
- Deutsche Bundesbank, *Monthly Report*, March 1975a.
- , *Report of the Deutsche Bundesbank for the Year 1974*, Frankfurt, 1975b.
- Fleming, J. Marcus, *Reflections on the International Monetary Reform*, Essays in International Finance No. 107, Princeton, N.J., 1974.
- Hirsch, Fred, *An SDR Standard: Impetus, Elements, and Impediments*, Essays in International Finance No. 99, Princeton, N.J., 1973.
- International Monetary Fund, *Annual Report 1975*, Washington, 1975.
- Machlup, Fritz, "Liquidité Nationale et Internationale," *Bulletin d'Information et de Documentation*, Brussels, Banque Nationale de Belgique, 1962.
- , "Exchange Rate Flexibility," *Banca Nazionale del Lavoro Quarterly Review*, 106 (September 1973), pp. 3-25.
- Marris, Stephen, *The Birgenstock Communiqué: A Critical Examination of the Case for Limited Flexibility of Exchange Rates*, Essays in International Finance No. 80, Princeton, N.J., 1970.
- Mikesell, Raymond F., and Henry N. Goldstein, *Rules for a Floating-Rate Regime*, Essays in International Finance No. 109, Princeton, N.J., 1975.
- Parrish, Evelyn M., "The U.S. Balance of Payments Developments: Fourth Quarter and Year 1974," *Survey of Current Business*, 55 (March 1975), pp. 24-47.
- Simon, William E., Statement before the Joint Economic Subcommittee on International Economics and the House Banking, Currency, and Housing Subcommittee on International Trade, Investment, and Monetary Policy, July 21, 1975.
- Triffin, Robert, *Gold and the Dollar Crisis*, New Haven, Yale University Press, 1960.
- Williamson, John, "International Liquidity: A Survey," *Economic Journal*, 83 (September 1973), pp. 685-746.
- Witteveen, H. Johannes, "The Control of International Liquidity," *IMF Survey* (Oct. 28, 1975), pp. 313-317.

PUBLICATIONS OF THE INTERNATIONAL FINANCE SECTION

Notice to Contributors

The International Finance Section publishes at irregular intervals papers in four series: **ESSAYS IN INTERNATIONAL FINANCE**, **PRINCETON STUDIES IN INTERNATIONAL FINANCE**, **SPECIAL PAPERS IN INTERNATIONAL ECONOMICS**, and **REPRINTS IN INTERNATIONAL FINANCE**. **ESSAYS** and **STUDIES** are confined to subjects in international finance. **SPECIAL PAPERS** are confined to surveys of the literature suitable for courses in colleges and universities. An **ESSAY** should be a lucid exposition of a theme, accessible not only to the professional economist but to other interested readers. It should therefore avoid technical terms, should eschew mathematics and statistical tables (except when essential for an understanding of the text), and should rarely have footnotes. Most important, it should have a certain grace of style and rhythm in its language.

This does not mean that a **STUDY** or **SPECIAL PAPER** may be awkward and clumsy, but it may be more technical. It may include statistics and algebra, and may have many footnotes. **STUDIES** and **SPECIAL PAPERS** may also be longer than **ESSAYS**; indeed, these two series are meant to accommodate manuscripts too long for journal articles and too short for books.

To facilitate prompt evaluation, please submit three copies of your manuscript. Retain one copy for your files. The manuscript should be typed on one side of 8½ by 11 strong white paper. All material should be double-spaced—text, excerpts, footnotes, tables, references, and figure legends. More complete guidance appears in the Section's style guide; prospective contributors are urged to send for it before preparing their manuscripts.

How to Obtain Publications

A mailing list is maintained for free distribution of all publications as they are issued to college, university, and public libraries and nongovernmental, nonprofit research institutions.

Individuals and organizations—including governmental organizations that do not qualify for free distribution—can obtain **ESSAYS** and **REPRINTS** as issued and announcements of new **STUDIES** and **SPECIAL PAPERS** by paying an annual fee of \$5 to cover the period July 1 through June 30. Alternatively, for an annual contribution of at least \$25 to the publication program of the International Finance Section they can receive all publications automatically—**SPECIAL PAPERS** and **STUDIES** as well as **ESSAYS** and **REPRINTS**.

ESSAYS and **REPRINTS** ordered from the Section are \$1 per copy, and **STUDIES** and **SPECIAL PAPERS** are \$1.50. (These charges are waived on orders from persons or organizations in countries whose foreign-exchange regulations prohibit such remittances.) In London, the Economists' Bookshop will usually have Section publications in stock. No mail orders are accepted, however.

All manuscripts, correspondence, and orders should be addressed to:

International Finance Section
P.O. Box 644
Princeton, New Jersey 08540

Subscribers should notify the Section promptly of a change of address, giving the old address as well as the new one.

List of Publications

The following is a list of the recent publications of the International Finance Section. Essays Nos. 1 through 60, Studies Nos. 1 through 10, and the issues of the four series marked by asterisks are no longer available from the Section. They may be obtained in Xerographic and microfilm editions from Xerox University Microfilms, 300 N. Zeeb Road, Ann Arbor, Michigan 48106, or University Microfilms Ltd., St. John's Road, Tylers Green, Penn Buckinghamshire, England. Xerographic editions are priced at \$6 and microfilm editions at \$5.¹

ESSAYS IN INTERNATIONAL FINANCE

90. John Williamson, *The Choice of a Pivot for Parties*. (Nov. 1971)
91. Fritz Machlup, *The Book Value of Monetary Gold*. (Dec. 1971)
92. Samuel I. Katz, *The Case for the Par-Value System, 1972*. (March 1972)
93. W. M. Corden, *Monetary Integration*. (April 1972)
94. Alexandre Kafka, *The IMF: The Second Coming?* (July 1972)
- * 95. Tom de Vries, *An Agenda for Monetary Reform*. (Sept. 1972)
- * 96. Michael V. Posner, *The World Monetary System: A Minimal Reform Program*. (Oct. 1972)
97. Robert M. Dunn, Jr., *Exchange-Rate Rigidity, Investment Distortions, and the Failure of Bretton Woods*. (Feb. 1973)
- * 98. James C. Ingram, *The Case for European Monetary Integration*. (April 1973)
99. Fred Hirsch, *An SDR Standard: Impetus, Elements, and Impediments*. (June 1973)
100. Y. S. Park, *The Link between Special Drawing Rights and Development Finance*. (Sept. 1973)
101. Robert Z. Aliber, *National Preferences and the Scope for International Monetary Reform*. (Nov. 1973)
102. Constantine Michalopoulos, *Payments Arrangements for Less Developed Countries: The Role of Foreign Assistance*. (Nov. 1973)
103. John H. Makin, *Capital Flows and Exchange-Rate Flexibility in the Post Bretton Woods Era*. (Feb. 1974)
104. Helmut W. Mayer, *The Anatomy of Official Exchange-Rate Intervention Systems*. (May 1974)
105. F. Boyer de la Giroday, *Myths and Reality in the Development of International Monetary Affairs*. (June 1974)
106. Ronald I. McKinnon, *A New Tripartite Monetary Agreement or a Limping Dollar Standard?* (Oct. 1974)
107. J. Marcus Fleming, *Reflections on the International Monetary Reform*. (Dec. 1974)
108. Carlos Díaz-Alejandro, *Less Developed Countries and the Post-1971 International Financial System*. (April 1975)
109. Raymond F. Mikesell and Henry N. Goldstein, *Rules for a Floating-Rate Regime*. (April 1975)
110. Constantine Michalopoulos, *Financing Needs of Developing Countries: Proposals for International Action*. (June 1975)
111. Gerald A. Pollack, *Are the Oil-Payments Deficits Manageable?* (June 1975)
112. Wilfred Ethier and Arthur I. Bloomfield, *Managing the Managed Float*. (Oct. 1975)

¹ Essays 62, 67, 71, 73, 75, and 88; Studies 12, 14, and 15; and Reprints 4, 6, 7, 8, 9, and 10 are still available from the Section. For a complete list of publications issued by the Section, write to the Section or consult the publications list in Essay 91 or earlier.

113. Thomas D. Willett, *The Oil-Transfer Problem and International Economic Stability*. (Dec. 1975)
114. Joseph Aschheim and Y. S. Park, *Artificial Currency Units: The Formation of Functional Currency Areas*. (April 1976)
115. Edward M. Bernstein et al., *Reflections on Jamaica*. (April 1976)
116. Weir M. Brown, *World Afloat: National Policies Ruling the Waves*. (May 1976)

PRINCETON STUDIES IN INTERNATIONAL FINANCE

16. Ronald I. McKinnon and Wallace E. Oates, *The Implications of International Economic Integration for Monetary, Fiscal, and Exchange-Rate Policy*. (March 1966)
17. Egon Sohmen, *The Theory of Forward Exchange*. (Aug. 1966)
18. Benjamin J. Cohen, *Adjustment Costs and the Distribution of New Reserves*. (Oct. 1966)
19. Marina von Neumann Whitman, *International and Interregional Payments Adjustment: A Synthetic View*. (Feb. 1967)
20. Fred R. Glahe, *An Empirical Study of the Foreign-Exchange Market: Test of a Theory*. (June 1967)
21. Arthur I. Bloomfield, *Patterns of Fluctuation in International Investment before 1914*. (Dec. 1968)
22. Samuel I. Katz, *External Surpluses, Capital Flows, and Credit Policy in the European Economic Community*. (Feb. 1969)
23. Hans Aufricht, *The Fund Agreement: Living Law and Emerging Practice*. (June 1969)
24. Peter H. Lindert, *Key Currencies and Gold, 1900-1913*. (Aug. 1969)
25. Ralph C. Bryant and Patric H. Hendershott, *Financial Capital Flows in the Balance of Payments of the United States: An Exploratory Empirical Study*. (June 1970)
26. Klaus Friedrich, *A Quantitative Framework for the Euro-Dollar System*. (Oct. 1970)
27. M. June Flanders, *The Demand for International Reserves*. (April 1971)
28. Arnold Coltery, *International Adjustment, Open Economies, and the Quantity Theory of Money*. (June 1971)
29. Robert W. Oliver, *Early Plans for a World Bank*. (Sept. 1971)
30. Thomas L. Hutchison and Richard C. Porter, *The Cost of Tying Aid: A Method and Some Colombian Estimates*. (March 1972)
31. The German Council of Economic Experts, *Towards a New Basis for International Monetary Policy*. (Oct. 1972)
32. Stanley W. Black, *International Money Markets and Flexible Exchange Rates*. (March 1973)
33. Stephen V. O. Clarke, *The Reconstruction of the International Monetary System: The Attempts of 1922 and 1933*. (Nov. 1973)
- * 34. Richard D. Marston, *American Monetary Policy and the Structure of the Eurodollar Market*. (March 1974)
35. F. Steb Hipple, *The Disturbances Approach to the Demand for International Reserves*. (May 1974)
36. Charles P. Kindleberger, *The Formation of Financial Centers: A Study in Comparative Economic History*. (Nov. 1974)
37. Margaret L. Greene, *Waiting Time: A Factor in Export Demand for Manufactures*. (April 1975)

SPECIAL PAPERS IN INTERNATIONAL ECONOMICS

1. Gottfried Haberler, *A Survey of International Trade Theory*. (Sept. 1955; Revised edition, July 1961)

- * 2. Oskar Morgenstern, *The Validity of International Gold Movement Statistics*. (Nov. 1955)
- * 3. Fritz Machlup, *Plans for Reform of the International Monetary System*. (Aug. 1962; Revised edition, March 1964)
- * 4. Egon Sohmen, *International Monetary Problems and the Foreign Exchanges*. (April 1963)
- * 5. Walther Lederer, *The Balance on Foreign Transactions: Problems of Definition and Measurement*. (Sept. 1963)
- * 6. George N. Halm, *The "Band" Proposal: The Limits of Permissible Exchange Rate Variations*. (Jan. 1965)
- * 7. W. M. Corden, *Recent Developments in the Theory of International Trade*. (March 1965)
- 8. Jagdish Bhagwati, *The Theory and Practice of Commercial Policy: Departures from Unified Exchange Rates*. (Jan. 1968)
- 9. Marina von Neumann Whitman, *Policies for Internal and External Balance*. (Dec. 1970)
- 10. Richard E. Caves, *International Trade, International Investment, and Imperfect Markets*. (Nov. 1974)

REPRINTS IN INTERNATIONAL FINANCE

- 11. Fritz Machlup, *The Transfer Gap of the United States*. [Reprinted from *Banca Nazionale del Lavoro Quarterly Review*, No. 86 (Sept. 1968)]
- 12. Fritz Machlup, *Speculations on Gold Speculations*. [Reprinted from *American Economic Review, Papers and Proceedings*, Vol. 56 (May 1969)]
- 13. Benjamin J. Cohen, *Sterling and the City*. [Reprinted from *The Banker*, Vol. 120 (Feb. 1970)]
- 14. Fritz Machlup, *On Terms, Concepts, Theories and Strategies in the Discussion of Greater Flexibility of Exchange Rates*. [Reprinted from *Banca Nazionale del Lavoro Quarterly Review*, No. 92 (March 1970)]
- 15. Benjamin J. Cohen, *The Benefits and Costs of Sterling*. [Reprinted from *Euromoney*, Vol. 1, Nos. 4 and 11 (Sept. 1969 and April 1970)]
- * 16. Fritz Machlup, *Euro-Dollar Creation: A Mystery Story*. [Reprinted from *Banca Nazionale del Lavoro Quarterly Review*, No. 94 (Sept. 1970)]
- * 17. Stanley W. Black, *An Econometric Study of Euro-Dollar Borrowing by New York Banks and the Rate of Interest on Euro-Dollars*. [Reprinted from *Journal of Finance*, Vol. 26 (March 1971)]
- 18. Peter B. Kenen, *Floats, Glides and Indicators: A Comparison of Methods for Changing Exchange Rates*. [Reprinted from *Journal of International Economics*, Vol. 5 (May 1975)]





