

The Problem of International Monetary Reform: Major Questions and Prospective Initial Area of Agreement (*)

Introduction

The exclusion by the Group of Ten of either gold revaluation or flexible exchange rates as acceptable solutions of the international monetary problem implies unanimous agreement on the need to continue the use of reserve media other than gold as a way to feed the world pool of international monetary reserves. These other media could theoretically take either of two forms:

1. *Commodity reserves*, as suggested by Graham, and more recently Kaldor; or
2. *Credit reserves*, in the form of national currencies (involving direct lending by reserve holders to the issuing countries) or of multilateral claims on a lending institution (such as the IMF, the BIS, the IBRD, etc.) conferring the latter lending power, and used in fact by it for such lending and for gold reserves accumulation.

Whatever the merits or demerits of a commodity reserve plan, current discussions are likely to center on a better organization of the *credit reserves* which play such a large, and increasing, role in the present monetary system. Four major questions are raised thereby and will be briefly discussed in turn:

- I. *Overall amounts and stability*: the system should aim ideally at relating changes in credit reserves, for the world as a

(*) Statistical tables on the evolution of world monetary reserves since the First World War are presented in the Appendix. The indications of Table IV and VI, particularly, on the declining role of Western gold production and the overwhelming share of U.S. deficits and dollar IOU's in the process of reserve creation give ample proof of the haphazardness and vulnerability of our present international monetary system and of urgency of fundamental reforms in its functioning.

whole, to non-inflationary requirements of world growth in trade, production and national money volume; it should, at the very least, discourage excessive or abrupt expansion or contraction of the world reserve pool.

2. *Distribution among reserve holders*: the system should preserve the full liquidity and transferability of credit reserves for purposes of international settlements, and give the reserve holders adequate guarantees against devaluation and inconvertibility risks. Only in this manner can credit reserves be made sufficiently safe and attractive to elicit necessary commitments against excessive — and self-defeating — conversions of credit reserves into gold metal or from one currency to another. Full implementation of this principle would, moreover, make it possible to determine the level of official gold sales or purchases in free gold markets with a view to avoiding, or limiting, undesirable price fluctuations.

3. *Distribution among reserve debtors* of the borrowing entailed in the accumulation of credit reserves by reserve holders: this should ideally serve to compensate for destabilizing capital movements — to the extent that they cannot be discouraged otherwise by acceptable policy action — and to support agreed policy aims, such as non-inflationary levels of high employment and rates of growth, assistance to overseas development, etc. These ideal aims may have to be compromised, however, to the extent that automatic formulas — such as suggested by Bernstein or Posthuma — prove more acceptable at this stage than the partial merging of sovereignties involved in collective decisions.

4. *Institution framework for implementation*: while the IMF provides the broadest and most logical framework for multilateral operation and policy decisions, some degree of decentralization will probably prove more acceptable politically. The EEC probably offers the most promising opportunity for close policy coordination among members. The solutions acceptable to it should, however, be susceptible of at least partial generalization as guide lines for agreements among the countries of the so-called Paris Club.

I. Overall Amounts and Stability of Credit Reserves

A. The *minimum and most urgent aim* of consolidating the international monetary system against excessive or abrupt contrac-

tion might best be implemented through an agreement of major reserve holders to continue to hold, *as a group*, an amount of credit reserves roughly equivalent to that now held by them, except for the adjustments and subject to the safeguards discussed under II below.

As of June 30th last, this would mean about \$7.5 billion for the EEC countries (of which \$1.5 billion in IMF gold tranches and \$6 billion in foreign exchange), and about \$6.5 billion (of which

COMPOSITION OF INTERNAL RESERVES
(End of June, 1963)

	In millions of U.S. Dollars				In % of total		
	Total	Gold	IMF Gold Tranches	Foreign Exchange	Gold	IMF Gold Tranches	Foreign Exchange
I. Major Res. Holders	47,914	33,842	3,315	10,757	71	7	22
A. Reserve Centers .	20,275	18,276	1,604	395	90	8	2
1. United States .	17,064	15,829	1,109	126	93	6	1
2. United Kingdom	3,211	2,447	495	269	76	15	8
B. European Community	19,358	11,810	1,483	6,065	61	8	31
1. France	4,693	2,814	436	1,443	60	9	31
2. Germany	7,219	3,753	520	2,946	52	7	41
3. Italy	3,521	2,289	203	1,029	65	6	29
4. Netherlands . .	2,036	1,581	198	257	78	10	13
5. Belgium	1,889	1,373	126	390	73	7	21
C. Other	8,281	3,756	228	4,297	45	3	52
1. Canada	2,701	755	—	1,946	28	—	72
2. Japan	2,082	289	180	1,613	14	9	77
3. Switzerland . .	2,707	2,530	x	177	93	x	7
4. Sweden	791	182	48	562	23	6	71
II. Other Countries in:	19,386	5,514	570	13,303	28	3	69
A. Contin. Europe .	4,699	2,048	175	2,481	44	4	53
B. Latin America .	2,540	1,115	100	1,325	44	4	52
C. Overseas Sterling Area	12,147	1,205	222	9,497	19	2	78
D. Other		1,146	73				
III. All Countries . .	67,300	39,355	3,883	24,060	58	6	36

\$1.8 billion in IMF gold tranches) for the other Paris Club members, including Switzerland (see attached Table). It might be noted that the overall commitment involved for the eleven countries as a group (about \$14 billion) would in fact be somewhat smaller than their IMF quotas *plus* IMF Arrangements to Borrow.

Other countries held, at that time, about \$13.9 billion of credit reserves, but these countries are generally regarded as less likely to convert such holdings into gold metal, or to shift widely their composition from one currency into another. Protection against such contingency might nevertheless be sought at a later stage, if deemed necessary, through agreements with the major reserve debtors regarding the interest rate and exchange guarantees applicable to these holdings.

B. *Longer run objectives* of the proposed reform should also aim, however at adjusting roughly the evolution of future credit reserve levels to the legitimate — non-inflationary — requirements of optimum feasible rates of world economic growth. Such requirements are hardly susceptible of advance guesses and firm guiding lines, and might best be gauged, from time to time, on an *ad hoc* basis, in the light of current indicators of inflationary or deflationary pressures on the world economy.

Some presumptive principles might nevertheless be tentatively agreed upon, subject to later revisions and adaptations. Such an agreement might envisage, for instance, the acceptance by simple, but weighted, majority vote of commitments to add to the holders' credit reserve levels whatever amounts would be necessary to keep the rate of increase of the group's overall reserves — including gold — somewhere between, let us say, 3 and 6 per cent a year. Special majorities (two-thirds or more) would be required to reject the minimum of these two commitments, but also to authorize credit reserve accumulation resulting in an overall reserve growth larger than 6 per cent a year.

Such an agreement among the eleven countries of the Paris Club — always including Switzerland — would cover, as of now, about 70 per cent of all countries' overall reserve levels, and 85 per cent of their gold holdings. It would be premature at this stage to discuss whether, and how, presumptive rules of behavior similar to those negotiated among the Paris Club countries could be extended to other countries through some special IMF agreements.

C. *The short and the long-run objectives* mentioned above would merge somewhat into one another if an attempt were made to consolidate credit reserve holdings against undesirable liquidation into gold metal, through the acceptance of an agreed proportion — or ceiling — between gold reserves and overall reserve levels. Any such proportion initially agreed upon would result *automatically* into later and continuous expansion of the *amount* of credit reserves, at a pace dependent on the actual pace of increase of the monetary gold stock. This need not be an absolute bar to such a solution, however, if one admits as highly probable a substantial shortage of gold reserve increases in relation to the desirable growth of overall reserves. An agreement of the Paris Club countries to hold their combined gold holdings to no more than three fourths, and no less than two thirds, of their overall reserves might be substituted to the presumptive rates of increase of credit reserves suggested under B above, as a reasonable barrier against wide inflationary or deflationary fluctuations in the creation of credit reserves.

This ratio would, of course, be subject to revisions from time to time, in the light of developing inflationary or deflationary pressures on the world economy.

II. Rights and Commitments of Reserve Holders

The reserve holders could hardly accept the *group commitments* suggested under I above, without:

1. knowing how these commitments will be parcelled out between the participating countries;
2. adequate guarantees regarding the liquidity, transferability and safety of their credit reserve claims.

A. *Distribution of Credit Reserve Commitments Among The Participating Countries.*

In view of the wide variation (from 7 per cent in the case of the United States and Switzerland to 86 per cent in the case of Japan) in the ratio of credit reserves to overall reserves among the Paris Club countries, the immediate implementation of a uniform ratio is probably out of the question. A rough harmonization of the present ratios might, however, be approached gradually along the following lines:

1. any future increases in a country's overall reserve levels should be accumulated in gold as long as its gold ratio is lower than the average ratio of the group as a whole, or in credit reserves in the opposite case;

2. any future decreases in a country's overall reserve levels should take the form of a reduction in its credit reserves as long as its ratio of such reserves to its overall reserves is larger than the average ratio for the group as a whole, or in gold in the opposite case;

3. future lending transactions of the IMF should similarly aim at distributing more evenly the ratio of each participating country's gold tranche to its overall reserve level.

The systematic application of such rules would tend to bring gradually an ever greater degree of uniformity in the present composition of national reserve levels. The process could be accelerated, if deemed necessary and negotiable, through the adoption of a maximum time schedule to arrive at an acceptable degree of uniformity among the participating countries.

The uniformity principle might, at first, be strongly objected to by the major reserve countries, accustomed to holding most or all of their reserves in gold only. The rationale of such behavior, however, lies essentially in the short-term liabilities owed by these reserve center countries to other reserve holders, under the gold exchange or key currencies standard. The consolidation envisaged under I above would remove the danger of sudden and massive liquidation of such balances and constitute the *quid pro quo* for the acceptance by the United States and the United Kingdom of a gradual approach to a more uniform composition of reserves.

If immediate agreement along these lines proved nevertheless unnegotiable, the EEC countries could explore the following alternative proposal for shorter-run implementation:

1. their holdings of short-term dollar and sterling claims would be converted into longer term reserve certificates, subject only to gradual amortization at a *maximum* rate of X per cent a year;

2. they could, however, request anticipated repayment of such certificates by the debtor countries:

- (a) up to the amount of any future increase in these countries' overall reserves; or,

(b) to the extent of any future decline in the overall reserves of the EEC countries as a group; repayment being, in this case, distributed between the debtor countries *pro rata* of their outstanding certificate indebtedness to the EEC as a group;

3. thirdly, reserve certificates would be transferable — upon simple demand — from any EEC countries where overall reserves have declined to any EEC countries where overall reserves have increased, up to the smaller of the following amounts:

(a) the extent of fluctuations in each country's overall reserve levels;

(b) the amounts conducive to a greater harmonization in the respective countries' ratio of certificates to overall reserves;

4. if deemed desirable to take account of future sharp reversals in payments trends, and to implement in this case the reciprocity feature favored by Roosa, Posthuma and Giscard d'Estaing, the EEC countries might subordinate this proposal to the acceptance of a reciprocal, contingent, commitment by the debtors of reserve certificates, to accumulate EEC currencies in the future up to an equivalent amount, in the event of large EEC deficits towards them.

B. *Liquidity, Transferability, Exchange Guarantees and Guarantees Against Default.*

The suggestions made under A above would automatically ensure the full liquidity and transferability of credit reserves for the settlement of international payments imbalance, even though limiting their right of conversion into gold metal.

Two questions remain to be dealt with. The first is that of exchange guarantees, and the second that of guarantees against default by the debtor.

1. *Exchange Guarantees.*

A full gold or gold-exchange guarantee on all credit reserves hardly seems negotiable now, even though it might prove later far less risky — and therefore far more acceptable — to the reserve debtors, once the satisfactory functioning of the proposed reforms has definitely restored to central banks full control over the future evolution of the world's gold price — as distinguished from fluctuations between national exchange rates.

Guarantees in the creditor's own currency would probably be more acceptable, but:

(a) might prove onerous to the debtors in the event of an upward revaluation of the creditor's currency;

(b) might interfere with the free transferability of credit reserves.

A unit of account — in terms of whichever currencies remain stablest in the future, as was implied in the EPU unit of account — might well express the most desirable and negotiable form of exchange guarantees applicable to the credit reserves held by central banks.

If the application of a unit of account guarantee to all outstanding credit reserves proved unnegotiable at this stage, a compromise between reserve currency debtors and reserve currency holders might be to apply the unit of account guarantee only to future accumulations or transfers of reserve currencies resulting from the proposed agreement. This would leave untouched the status of outstanding reserve balances — until the time of transfers — and, of course, of all claims and debts arising from IMF transactions.

This reformulation might, however, make it difficult for some large currency reserve holders to renounce their present legal right to gold conversion. An alternative solution of the problem — designed both to meet such objections and to remove other difficulties associated with the EPU unit type of definition — would be to apply the unit of account guarantee to all currency reserves, but to define it on the basis of the average gold parity of all participating currencies, each of them being weighted — in such average — *pro rata* of the currency reserve holdings of each participating country.

Further exploration of the many facets of this problem would be well beyond the scope of the present paper, and might be futile anyway in an area where the actual range of feasible choice is most likely to be determined primarily by the cooperative spirit and bargaining strength of the negotiators.

2. *Guarantees against default.*

The risks of default on internationally negotiated commitments of this sort are far less than is sometimes imagined or claimed by the opponents to such agreements. (The EPU Agreement was widely

opposed on this ground, but none of the freely predicted defaults ever materialized.)

Further reassurance to creditors might take various forms, such as:

- (a) a solidary guarantee of all participants;
- (b) a commitment of all participants to channel into a special escrow account all official payments due to a country in default;
- (c) a geographical distribution of IMF gold assets in approximate proportion to countries' net claims, insofar as requested and feasible.

III. Distribution of Implied Credits among Debtors

A. *Direct holding of credit reserves in the form of national currencies* unavoidably entail corresponding extensions of credit to the countries the currencies of which are being held as reserves by others. How should such credits be distributed?

1. The immediate consolidation objective discussed above as most urgent in the short-run suggests that the initial distribution be closely patterned upon outstanding currency holdings, inherited from long years of operation of the gold-exchange standard, and which could not be massively modified overnight without catastrophic consequences for the international monetary system itself. The bulk of such initial holdings would therefore presumably be in the form of U.S. dollars and pounds sterling, and their amounts should be varied only gradually, in accordance with the guide lines suggested above (under I and II), and below.

2. Once the system is in operation, however, additional accumulations of currency reserves should ideally be decided jointly by all participating countries in the light of agreed objectives, such as:

- (a) *compensating* for undesirable movements of private capital insofar as they cannot or should not be *prevented* by other policy actions;
- (b) supporting internationally acceptable and desirable national policies — such as non-inflationary growth rates, fair participation in joint defense and development financing burdens, trade liberalization, etc. — and helping to reconcile them, whenever feasible, with exchange rate stability.

Agreement on such criteria for international lending should not be impossible since they have indeed served repeatedly as guide lines in the past for similar stabilization interventions by the IMF, EPU, EMA, etc. The exact provisions and techniques of contemplated loans and investments, however, would have to be adjusted to the nature of the lending resources used in their financing, i.e. the continuous growth, over the years to come, of the desirable world pool of credit reserves.

3. Strong objections continue to be raised, however, against the premature "surrenders of national sovereignty to supra-national institutions" which many people read into such jointly agreed decisions. I personally entertain serious doubts, however, about the ultimate desirability and negotiability of alternative "automatic" formulas, such as those advanced by Professor Posthuma and E. M. Bernstein and which would embody in fact far greater surrenders of sovereignty by the lenders than would be involved in the multilateral decisions proposed above. I particularly doubt the long term willingness of creditors to extend indefinitely large credits — under either of those formulas — to a country whose policies are deemed by them to be inflationary and responsible for the deficits which such credits would help finance and perpetuate.

4. In any case, the actual choice between the alternative solutions outlined above (under 2 and 3) can only be clarified in the course of the negotiating process itself. Some compromise solution may possibly emerge, combining *presumptive* automatism — à la Posthuma or Bernstein — with a right of dissent by majority vote, in which case actual decisions would have to be reached through joint consultations and agreements, as suggested under 2.

B. *The Holding of Credit Reserves in the Form of Claims on a Multilateral Lending Institution* such as the IMF, the BIS, the IBRD, etc. may serve to institutionalize, streamline and simplify both the decision-making process discussed above and the operating techniques available for its implementation. These advantages are likely to become more apparent as experience demonstrates the need for a more explicit and less haphazard organization of a credit reserve system.

The shift in the composition of credit reserves from national currencies to multilateral deposits has been modestly initiated by the IMF, in which so-called gold tranches now total up about

16 per cent of national currency reserves, for the world as a whole, but close to 25 per cent for the European Economic Community countries, and to 33 per cent for the eleven Paris Club countries. Further progress along these lines is highly to be desired, but will be slowed down, or even limited, by the following considerations:

1. the reluctance of the large reserve holders, particularly in continental Europe, to accept IMF voting procedures having only a very distant relation to their relative contribution to the Fund's actual lending power;

2. the development of further monetary integration in the EEC, involving at some stage the use of an EEC multilateral reserve fund for transactions among member countries (as distinct from transactions between the EEC itself and the rest of the world, for which IMF should remain the major instrument);

3. a natural attachment to customary, well-known channels of reserve accumulation, reinforced by the difficulty of setting up new multilateral institutions — such as a European Reserve Fund — or of using existing ones — such as the IMF itself, the BIS, the IBRD, etc. — for new purposes alien to past traditions and procedures.

In any case, the reforms to be adopted at this stage should at least keep the door wide open to later possible evolution away from direct holdings of *national* currencies as *international* reserves, and toward a growing concentration of credit reserves with international and regional monetary institutions.

IV. Institutional Framework

1. The EEC should first develop a common approach along the above lines toward the problems now explored by the Group of Ten and by the IMF.

This would involve:

(a) In the short-run the acceptance of a commitment to hold *jointly* an agreed amount — or proportion — of their total reserves in a form other than gold metal (credit reserves), but fully liquid and transferable in international settlements, and guaranteed, in some form, against unilateral devaluation or inconvertibility decisions by the debtors. Gold tranches on the IMF would, of course, form part of such credit reserves, the remainder taking the form of reserve

certificates for which each country would exchange the bulk of its outstanding reserves in national currencies. Reserve certificates would be transferable among EEC members to finance reserve gains or losses, as long as such transfers tend to equalize their ratio of gold to overall reserves. They could also be cashed — in advance of maturity — with the debtors insofar as necessary to finance deficits of the EEC countries as a group with the rest of the world. Finally, such certificates might either be held directly by each participating central bank, or deposited with the BIS acting as Agent for them in the transactions outlined above.

(b) In the longer-run, the amounts and/or proportions mentioned under (a) above would be readjusted from time to time, after consultation with other major reserve holders, in order to help in the adjustment of overall liquidity levels to non-inflationary rates of growth of the international economy.

2. An agreement along these lines could be broadened from the Six to the Eleven, and possibly to a few other large reserve holders:

(a) either right away, if feasible;

(b) or, gradually — particularly as far as the major reserve centers are concerned.

3. Complementary arrangements for other countries should be negotiated primarily, and operated, through the IMF. They would be substantially different in many respects, and will not be discussed here.

4. Future additions to credit reserves should gradually shift from direct national currency holdings to international deposits with world-wide, and/or regional monetary institutions. The present IMF gold tranches are paving the way toward such an evolution.

The new lending resources resulting from prospective agreements among major reserve holders might be held in large part with the IMF, acting as Agent for the participating countries, which could retain a larger influence on their use and management than exercised by them over other normal Fund's resources under the voting provisions of the Articles of Agreement. Exact rules might be inspired by those of the General Arrangements to Borrow of the Paris Club, but with somewhat greater flexibility than accepted on that occasion.

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STATISTICAL APPENDIX

COMPOSITION AND DISTRIBUTION OF GROSS INTERNATIONAL
MONETARY RESERVES, 1913-1962 (*)
(in millions of U.S. Dollars)

TABLE I

End of	1913	1928	1933 (1)	1933 (2)	1937	1949	1957	1962
I. Gold	4,110	9,850	11,380	19,265	25,285	33,500	37,305	39,230
A. World	4,110	9,850	11,380	19,265	25,290	35,005	38,765	41,430
B. International Institutions (-)	—	—	—	—	-5	-1,505	-1,460	-2,200
II. IMF Gold Tranches	—	—	—	—	—	1,660	2,315	3,795
III. Reserve Currencies	700	3,160	1,115(3)	1,115(3)	2,370	11,710	17,745	22,545
A. U.S. Dollars (4)	—	600	60	60	430	3,200	8,705	12,925
B. Pounds Sterling (5)	—	—	—	—	—	6,420	6,420	6,220
C. Other and Discrepancies	700	2,560	1,055	1,055	1,940	2,090	2,620	3,400
Total	4,810	13,010	12,495	20,385	27,655	46,870	57,365	65,570
I. Paris Club	3,430	9,845	10,290	17,190	23,445	33,900	40,150	47,130
A. Reserve Centers	1,455	4,495	4,940	8,365	16,930	27,775	27,205	20,530
1. United States	1,290	3,745	4,010	6,795	12,790	26,025	24,830	17,220
2. United Kingdom	165	750	930	1,570	4,140	1,750	2,375	3,310
B. European Community	1,570	4,365	4,435	7,375	4,730	2,765	8,125	18,355
C. Other Countries (6)	410	985	910	1,450	1,785	3,360	4,820	8,240
II. Other Countries in:	1,375	3,170	2,205	3,195	4,215	12,970	17,215	18,440
A. Western Europe (7)	550	955	765	1,210	1,325	1,740	2,870	5,000
B. Latin America	425	1,160	430	685	915	2,775	3,865	2,375
C. Non-European Sterling Area	350	695	735	920	1,355	5,685	6,935	7,250
D. Other (7)	55	355	285	375	620	2,770	3,545	3,815

(*) Notes and Sources: see p. 102.

TABLE II
SOURCES AND DISTRIBUTION OF GROSS RESERVE INCREASES, 1914-1962 (*)
(in millions of U.S. Dollars)

Period	1914-62	1914-28	1929-33	1934-37	1938-49	1950-57	1958-62
I. Gold	37,325	5,745	9,415	6,025	9,715	3,760	2,670
A. Physical Increases	26,445	3,165	1,120	6,025	9,715	3,760	2,670
1. Western Sources	24,465	3,165	1,120	5,695	9,855	3,120	1,515
(a) Production	36,050	5,600	2,115	3,675	11,575	7,210	5,870
(b) Private Absorption (-)	-11,585	-2,435	-1,000	+2,020	-1,720	-4,090	-4,350
2. USSR Sales	1,980	—	—	330	-140	640	1,150
B. Coin Withdrawal	2,990	2,580	410	—	—	—	—
C. Dollar Devaluation	7,890	—	7,885	—	—	—	—
II. International Institutions	1,595	—	—	-5	155	700	740
A. Gold Accumulation (-)	-2,200	—	—	-5	-1,500	45	-745
B. IMF Gold Tranches	3,795	—	—	—	1,660	655	1,480
III. Reserve Currencies	21,845	2,460	-2,045	1,255	9,340	6,035	4,800
A. U.S. Dollars	12,925	600	-540	370	2,770	5,505	4,220
B. Pounds Sterling	—	—	—	—	4,480	—	-200
C. Other and Discrepancies	8,920	1,860	-1,505	885	2,090	530	780
Total	60,765	8,205	7,375	7,275	19,210	10,496	8,205
I. Paris Club	43,700	6,410	7,345	6,255	10,455	6,250	6,980
A. Reserve Centers	19,075	3,040	3,870	8,565	10,845	-570	-6,675
1. United States	15,930	2,455	3,050	5,995	13,235	-1,190	-7,610
2. United Kingdom	3,145	585	825	2,570	-2,390	620	935
B. European Community	16,790	2,795	3,010	-2,645	-1,965	5,360	10,230
C. Other Countries	7,835	575	465	335	1,575	1,460	3,420
II. Other Countries in:	17,065	1,790	25	1,020	8,755	4,245	1,225
A. Western Europe	4,450	405	255	115	415	1,130	2,130
B. Latin America	1,950	735	-475	230	1,860	1,090	-1,490
C. Non-European Sterling Area	6,905	345	225	430	4,330	1,250	320
D. Other	3,760	300	20	240	2,150	775	270

(*) Notes and Sources: see p. 102.

NOTES AND SOURCES (TABLE I)

(1) Gold valued at \$20.67 per ounce.

(2) Gold valued at \$35 per ounce.

(3) Rough estimate calculated from *League of Nations* publications, on basis of old pound parity (\$4.8665) around which the pound was fluctuating again in the latter part of 1933.

(4) Estimated at about nil in 1913; and from 1957 on basis of April 1963 *Federal Reserve Bulletin* (p. 423) and *Survey of Current Business* (for breakdown of "notes and bonds" between "official" and "private"), but including in 1962 \$251 million of non-marketable securities.

(5) Residual estimates until 1949; rough estimates for 1949 and 1957, including downward adjustment of previously published estimates (of *Bank of England Bulletin*) to improve comparability with new 1962 gross estimates.

(6) Canada, Japan, Switzerland and Sweden.

(7) Including slight discrepancies between reported countries totals and area or world estimates.

SOURCES: These can only be regarded as rough estimates (particularly for earlier years) calculated from a variety of sources, such as:

1. *International Financial Statistics* (November 1963 and Supplement to 1963-64 Issues), starting in 1937, with personal estimates of missing data, and excluding throughout claims of EPU (to avoid misleading impression of sudden contraction of foreign exchange reserves at the end of 1958).

2. For earlier years *International Reserves and Liquidity* (IMF, 1958), Federal Reserve Board and League of Nations publications, supplemented for most of 1913 foreign exchange reserves by A. I. BLOOMFIELD's estimates in *Short-Term Capital Movements Under the Pre-1914 Gold Standard* (Princeton, 1963).

These estimates exclude throughout Communist countries' reserves, unreported in recent years (approximately \$1,145 million in 1913, \$525 million in 1928, \$695 million in 1933 in old dollars, and \$1,130 million in the same year in the new dollars).

Minor discrepancies in the totals arise from the rounding of estimates to the closest \$5 million. Even this conveys an unjustified impression of precision in these estimates, most of which are certainly subject to much larger errors.

NOTES AND SOURCES (TABLE II)

1. Western Production excludes throughout USSR, Rumania and China for which estimates have been unavailable since the Second World War. Estimates are derived from Table 159 of *Banking and Monetary Statistics* (Board of Governors of the Federal Reserve System, 1943, pp. 542-543), *International Financial Statistics*, and OSCAR L. ALTMAN, "A Note on Gold Production and Additions to International Gold Reserves", (IMF *Staff Papers*, April 1958, p. 259). 2. Estimates of USSR sales are taken from the *Federal Reserve Bulletin* (September 1954, p. 938) and the annual *Reports* of the BIS. 3. Private absorption is estimated residually and includes until 1934 the impact of USSR sales. 4. For other sources and notes see Table I.

TABLE III

COMPOSITION AND DISTRIBUTION OF GROSS INTERNATIONAL MONETARY RESERVES, 1913-1962
(in % of yearly totals)

End of	1913	1928	1933(1)	1933(2)	1937	1949	1957	1962
I. Gold	85.4	75.7	91.1	94.5	91.4	71.5	65.0	59.8
A. World	85.4	75.7	91.1	94.5	91.4	74.7	67.6	63.2
B. International Institutions (-)	—	—	—	—	—	-3.2	-2.5	-3.4
II. IMF Gold Tranches	—	—	—	—	—	3.5	4.0	5.8
III. Reserve Currencies	14.6	24.3	8.9	5.5	8.6	25.0	30.9	34.4
A. U.S. Dollars	—	4.6	0.5	0.3	1.6	6.8	15.2	19.7
B. Pounds Sterling	—	—	—	—	—	13.7	11.2	9.5
C. Other and Discrepancies	14.6	19.7	8.4	5.2	7.0	4.5	4.6	5.2
Total	100	100	100	100	100	100	100	100
I. Paris Club	71.3	75.7	82.4	84.3	84.8	72.3	70.0	71.9
A. Reserve Centers	30.2	34.6	39.5	41.0	61.2	59.3	47.4	31.3
1. United States	26.8	28.8	32.1	33.3	46.2	55.5	43.3	26.3
2. United Kingdom	3.4	5.8	7.4	7.7	15.0	3.7	4.1	5.0
B. European Community	32.6	33.6	35.5	36.2	17.1	5.9	14.2	28.0
C. Other Countries	8.5	7.6	7.3	7.1	6.5	7.2	8.4	12.6
II. Other Countries in:	28.6	24.4	17.6	15.7	15.2	27.7	30.0	28.1
A. Western Europe	11.4	7.3	6.1	5.9	4.8	3.7	5.0	7.6
B. Latin America	8.8	8.9	3.4	3.4	3.3	5.9	6.7	3.6
C. Non-European Sterling Area	7.3	5.3	5.9	4.5	4.9	12.1	12.1	11.1
D. Other	1.1	2.7	2.3	1.8	2.2	5.9	6.2	5.8

NOTES: (1) Gold valued at \$20.67 an ounce.

(2) Gold valued at \$35 an ounce.

SOURCES: See Table I.

TABLE IV

 SOURCES AND DISTRIBUTION OF GROSS RESERVE INCREASES, 1914-1962
 (in % of yearly totals)

Period	1914-62	1914-28	1929-33	1934-37	1938-49	1950-57	1958-62
I. Gold	61.4	70.0	127.7	82.8	50.6	35.8	32.5
A. Physical Increases	43.5	38.6	15.2	82.8	50.6	35.8	32.5
1. Western Sources	40.3	38.6	15.2	78.3	51.3	29.7	18.5
(a) Production	59.3	68.3	28.7	50.5	60.3	68.7	71.5
(b) Private Absorption (-)	-19.1	-29.7	-13.6	+27.7	-9.0	-39.0	-53.1
2. USSR Sales	3.3	—	—	4.5	-0.7	6.1	14.0
B. Coin Withdrawal	4.9	31.4	5.6	—	—	—	—
C. Dollar Devaluation	13.0	—	107.0	—	—	—	—
II. International Institutions	2.6	—	—	-0.1	0.8	6.7	9.0
A. Gold Accumulation (-)	-3.6	—	—	-0.1	-7.8	+0.4	-9.1
B. IMF Gold Tranches	6.2	—	—	—	8.6	6.2	18.0
III. Reserve Currencies	36.0	30.0	-27.7	17.3	48.6	57.5	58.5
A. U.S. Dollars	21.3	7.3	-7.3	5.1	14.4	52.0	52.0
B. Pounds Sterling	14.7	22.7	-20.4	12.2	23.3	—	-2.4
C. Other and Discrepancies	—	—	—	—	10.9	5.5	9.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
I. Paris Club	71.9	78.2	99.7	86.0	54.4	59.6	85.1
A. Reserve Centers	31.4	37.1	52.5	117.7	56.5	-5.4	-81.4
1. United States	26.2	29.9	41.4	82.4	68.9	-11.3	-92.7
2. United Kingdom	5.2	7.1	11.2	35.3	-12.4	5.9	11.4
B. European Community	27.6	34.1	40.8	-36.4	-10.2	51.1	125.8
C. Other Countries	12.9	7.0	6.3	4.6	8.2	13.9	41.7
II. Other Countries in:	28.1	21.8	0.3	14.0	45.6	40.4	14.9
A. Western Europe	7.3	4.9	3.5	1.6	2.2	10.8	26.0
B. Latin America	3.2	9.0	-6.4	3.2	9.7	10.4	-18.1
C. Non-European Sterling Area	11.4	4.2	3.1	5.9	22.5	11.9	3.9
D. Other	6.2	3.7	0.3	3.3	11.2	7.4	3.3

Sources: See Table II.

TABLE V

 RATIOS OF GROSS INTERNATIONAL RESERVES TO IMPORTS
 AND TO MONEY SUPPLY, 1937-1962
 (in %)

	Reserves as % of Imports				Reserves as % of Money Supply			
	1937	1949	1957	1962	1937	1949	1957	1962
I. Reserve Centers	195.2	172.9	104.9	67.6	44.6	22.1	16.8	11.6
1. United States	358.0	345.0	169.8	96.9	43.2	23.4	18.0	11.4
2. United Kingdom	81.2	20.6	21.0	26.3	49.6	12.1	10.0	12.6
II. European Community	81.9	25.7	32.6	51.3	19.8	13.9	20.0	27.8
1. France	163.1	17.6	10.4	53.9	24.1	7.5	3.8	15.3
2. Germany	3.2	8.8	55.5	56.7	0.6	5.8	47.3	48.0
3. Italy	28.9	37.4	36.9	60.2	11.2	15.7	16.1	22.2
4. Netherlands	106.2	23.0	22.6	36.4	69.8	22.7	38.9	53.8
5. Belgium	280.7	54.2	29.5	38.5	48.3	31.4	25.5	34.4
III. Other Paris Club Countries	58.8	57.5	32.4	45.4	39.2	36.1	25.5	25.6
1. Canada	21.3	41.5	31.1	40.0	19.2	33.3	34.3	38.3
2. Japan	26.0	(22.1)	12.2	35.9	16.7	(10.6)	6.7	11.8
3. Switzerland	187.0	191.8	95.7	95.1	73.9	65.6	53.7	50.4
4. Sweden	94.8	23.0	20.2	25.7	75.2	21.7	25.2	28.6
IV. Eleven Countries' Total	134.1	103.3	61.1	55.9	35.3	21.9	18.2	17.1

SOURCES AND NOTES:

Underlying estimates of international reserves, imports, money supply and exchange rates have been taken, with few exceptions, from *International Reserve Statistics* (November 1963 and Supplement to 1963-64 issues).

Money Supply estimates for 1937 (and sometimes 1949) are not always strictly comparable with those of recent years. The only significant breaks to be noted, however, are in the United Kingdom series (for which revised data start in 1951) and in the German series for which the 1937 estimate is that reported in the 1956 *Annual Report* of the BIS (p. 197) for the year 1938.

See also Table I for other sources and notes.

TABLE VI

SOURCES OF GROSS RESERVE INCREASES OF COUNTRIES
OTHER THAN THE UNITED STATES, 1950-1962

	In millions of U.S. Dollars			In % of Total		
	1950-62	1950-57	1958-62	1950-62	1950-57	1958-62
I. <i>Decline in U.S. Net Reserves</i>	19,330	6,895	12,430	70.3	59.0	78.6
A. Gold Losses	8,505	1,705	6,800	30.9	14.6	43.0
B. Reduction of Net Claim on IMF	1,195	- 315	1,510	4.3	- 2.7	9.5
C. Growth (-) of U.S. Foreign Cur- rency Reserves	- 100	—	- 100	- 0.4	—	- 0.6
D. Debt Increase to Foreign Monetary Authorities	9,725	5,505	4,220	35.4	47.1	26.7
II. <i>Increase of World Monetary Gold Stock</i>	6,425	3,760	2,665	23.4	32.2	16.9
A. From Western Sources	4,635	3,120	1,515	16.9	26.7	9.6
B. From USSR Sales	1,790	640	1,150	6.5	5.5	7.3
III. <i>Net Impact of IMF Transactions</i>	640	500	140	2.3	4.3	0.9
A. IMF (1) Gold Accumulation (-)	- 695	45	- 745	- 2.5	0.4	- 4.7
B. IMF Gold Convertible Investments (-)	- 800	- 200	- 600	- 2.9	- 1.7	- 3.8
C. Gold Tranches on IMF	2,135	655	1,480	7.8	5.6	9.4
IV. <i>Increase in Reserve Currency Balances other than Reported Official Dollar Holdings (2)</i>	1,110	530	580	4.0	4.5	3.7
V. <i>Total</i>	27,505	11,690	15,815	100	100	100
VI. <i>Average Yearly Growth Rate of Total Reserves (in %)</i>	+ 6.7%	+ 5.7%	+ 8.3%			
VII. <i>Average Yearly Decline (-) in U.S. Net Reserves (in %)</i>	- 16%	- 5%	- 36%			

NOTES: 1. Including small fluctuations in EPU, European Fund, and BIS Gold.
2. Including unidentifiable Euro-dollar holdings that should be classified under I D.

SOURCES AND NOTES: See Tables I and II.