A Suggestion for Solving the International Liquidity Problem

Since it has not yet been possible to explain satisfactorily the facts about the demand for international reserves, the authors propose to modify the facts so they will generate a predictable and operationally stable demand for reserves.

Preamble

Exactly seven years ago, in March 1959, the *Quarterly Review* of the Banca Nazionale del Lavoro published the first of two articles by Professor Robert Triffin and touched off the debate on international liquidity. Since then, a multitude of plans has appeared, a host of conferences has been convened, and high-level negotiations have been begun. A significant consensus has emerged on several of the major issues, but no single plan has been adopted. It is not our purpose to survey the debate or even to review the principal issues. We hope, instead, to furnish a way out of the impasse by offering a fresh approach to the whole problem. It will, at first glance, seem to be a radical plan, but does not really involve any major departure from the principles of economic policy and conduct to which most major governments seemingly subscribe.

It is by now generally agreed that an adequate functioning of the system of international settlements under fixed parities requires that gold be supplemented, or even replaced, by some kind of intangible credit instrument. The main problem blocking adoption of a particular plan is how to determine, and who will control, decisions as to the rate at which total reserves should change over time. The problem is deep rooted, reflecting the difficulties encountered in developing adequate criteria to determine whether a given aggregate amount of reserves is " excessive ", exerting inflationary pressures on the world economy, or instead " inadequate ", exerting pressures toward deflation and unemployment. The widespread concern that an international authority responsible for creating new

reserve instruments would err in the direction of overissue has also created a reluctance to accept a new instrument in competition with gold. These problems have been nicely focused by the concluding remarks in the section on "International Liquidity Arrangements" in the *1966 Annual Report of the Council of Economic Advisers*:

> In any event, it is essential that the negotiations (for the establishment of new international liquidity arrangements) provide for (1) efficient as well as equitable rules for the creation, distribution, and use of new assets; (2) smooth integration of new assets within the existing framework; (3) the appropriate degree of expansion in the over-all volume of international liquidity which will foster sound world economic growth.

The plan outlined below is designed to provide a workable answer to each of these problems. It does so, basically, by requiring that each member country state explicitly its reserve target and undertake, through domestic and international economic policies, to maintain its reserves close to its target. The aggregate of all targets, in turn, provides a basis for determining the aggregate need for reserves. In addition, the plan includes an automatic mechanism which will tend to stabilize the purchasing power of a new international monetary unit. This mechanism would make the new unit quite desirable to hold (i.e., a satisfactory store of value), and suitable as a unit of account for international transactions.

In what follows, it will be convenient to have a compact name for the proposed new international monetary unit. We shall label it the Medium for International Transactions or, in brief, the MIT.

In order to bring out most clearly the basic properties and goals of the proposed system, we find it convenient to describe how the system could be set up and would function, disregarding received institutions and the legacy of the past as embodied in the present distribution and composition of international reserves. This will be done in section I, below, where we assume that the MIT is the sole legal tender for international transactions between central banks. Next, in section II, we show how the system could be modified to permit the continued use of gold, along with the MIT. Finally, in section III, we attempt to deal with some of the issues that will have to be resolved if the participating countries are not prepared to disregard the past. Needless to say, the problems involved in liquidating received positions or integrating them into the new system are

largely political, and would have to be settled at the bargaining table. Hence our contribution *qua economists* must perforce be confined to identifying the major problems involved and outlining the main alternatives.

I. Outline of the Plan and Its Operation. The "Ideal" Version

1. Every member country shall accept a target reserve, expressed in units of MIT's, to guide its relations with the international monetary system. This target, denoted hereafter by T (for target) will be given by an agreed "formula" for each country, which will take into account its foreign trade and some measure of the variability in its balance of payments, based on historical experience.

We shall say more about the formula at the end of this section, once the role of the target reserve has become clear. Suffice it to note here that, given the formula, a country's target reserve will vary over time as its foreign trade and the variability in its balance of payments change over time. We therefore use T_t to denote the target reserve given by the formula, at a particular date t. If trade continues to expand in the future, as it has done in the past, targets will tend to grow over time.

2. At the start of the plan, the MIT bank (successor to the present IMF) shall credit each country with a demand deposit equal to the value of the target given by the formula at the opening date. This deposit might be secured by depositing with the MIT bank an equivalent amount of the country's own currency. At regular intervals, say once a year, the target shall be recomputed and each country shall receive from the MIT bank an additional credit to its deposit, equal to the increment in its target during the intervening year. (If the latest target happens to be smaller than the previous year's target, then the country's deposit shall be debited accordingly.)

Thus, at any date, the cumulated total of MIT's credited by the MIT bank to a country will precisely equal its target (subject, however, to the modification proposed in 5 below).

3. (a) Participating countries shall agree to use that MIT as the sole instrument to settle balances arising from international transactions (except as noted under 3 (b) below). Specifically, each country's

central bank shall agree to buy from, and sell to, other central banks, on demand, its national currency against MIT's and *only* against MIT's, at a rate of exchange established by that central bank. As under the present system, however, central banks may be allowed to fix a small percentage spread between their buying and selling prices.

(b) Member central banks shall agree not to hold, directly or indirectly, foreign currencies, except the small amounts required for day-by-day transactions in the foreign exchange markets. Allowable foreign-currency balances could be specified as a percentage of the target reserve, or as an absolute amount (measured in MIT), whichever is larger.

As a result of the transactions described under 3, each country's reserves, as measured by its balance with the MIT bank, will fluctuate over time, even though the worldwide aggregate of MIT deposits, or aggregate reserves, will be precisely equal to the sum of all targets (except as noted under 5 below). Denote by R_t the actual reserve of an individual country at date t. We now introduce the following clause which constitutes the very heart of our plan:

4. Participating countries shall strive to keep their reserves close to their targets at all times, by appropriate domestic and international economic policies.

The relation between the reserve and the target for each country can be conveniently summarized by a single number expressing the excess or deficiency of actual reserves as a percentage of the target itself. This summary measure will be labeled the *measure of imbalance* and denoted by I_t. It is given by the formula:

$$I_t = \left(\frac{R_t - T_t}{T_t} \right) 100$$

The imbalance measure may be positive, reflecting past or current balance of payment surpluses, or negative, reflecting past or current balance of payments deficits.

The obligation laid out in 4 can thus be restated as that of maintaining I_t close to zero at all times. This implies that all countries having an imbalance, whether positive or negative, accept the obligation to help in the adjustment process. The next clause spells out procedures insuring compliance with this basic obligation:

5. (a) Whenever a country's measure of imbalance departs significantly from zero it shall take appropriate policy measures to reduce the imbalance. If, however, the measure of imbalance remains within preassigned limits, henceforth called the *normal range*, the country shall be under no immediate obligation to take any measures.

For the sake of concreteness, we shall take the normal range to be between plus and minus 50 per cent, implying a cumulative surplus or deficit in a country's balance of payments not exceeding 50 per cent of the target reserve. For values of I_t in the normal range, limitations on a country's freedom of action should only be of a negative character: a country should not increase impediments to its foreign trade or to the convertibility of its currency and should not change the MIT par value of its currency. (Circumstances might occasionally warrant exceptions to this rule; a country in the normal range, but with severe unemployment, may desire to devalue in order to prevent a loss of reserves as it expands domestic demand. In such cases, however, the action would require approval by an appropriate supervisory organ of the MIT bank.)

(b) If a country's imbalance falls outside the normal range, through failure to take appropriate measures early, or because such measures have proved ineffective, or for other reasons, the country shall submit to the MIT bank, for its approval, a program of action designed to eliminate the imbalance within a reasonable span of time, account being taken of all the relevant circumstances. The MIT bank shall also be responsible for monitoring the execution of the program and recommending modifications in the light of subsequent developments, as long as the imbalance remains outside the normal range.

The process of adjustment described in clause 5 could be made more effective if, besides avoiding excessive departures from target in any one year, countries agreed to avoid *sustained* imbalances of either sign, even within the normal range. Imbalances maintained over a long period would in fact tend to complicate the process of adjustment for other countries, and might also interfere with the

price stabilization feature of the plan described under 6 below. Ways of making this commitment operational need not be dwelt upon here in detail. In essence, a country would be deemed to have moved outside the *normal range* not only if its current imbalance, I_t, had fallen outside the 50 points band, but also if a moving average of I_t including 2, 3, ...n terms, had fallen outside some agreed upon bands, which would be narrower the larger the value of n.

We recommend that the menu of measures open to countries with imbalances be rather broad — as long as they are not discriminatory in nature — broader than the IMF and other international organizations have typically been willing to accept. For a country with a positive imbalance, the acceptable measures might include reflationary measures (if the country also suffers from inadequate aggregate demand or its price level has been declining), fiscal and interest rate encouragements of capital exports and discouragements of capital imports, and revaluation of its currency relative to the MIT. A country with a negative imbalance should be encouraged to rely on deflationary fiscal and monetary measures if confronted with excessive domestic demand and/or rapidly rising prices, but should otherwise be encouraged to provide incentives to capital imports and disincentives to capital exports, to devalue its currency or to apply broad based supplemental import duties and export subsidies, especially if the difficulty appears to be transient. In short, when reviewing a country's policies, the supervisory organ of the MIT bank should be instructed that policies likely to operate at a significant domestic cost — be it rising prices or unemployment — should not be imposed or even encouraged except as measures of last resort. We stress this point in the belief that it is both necessary and appropriate to provide participating countries with considerable freedom of action if they are to accept the curtailment of sovereignty implicit in our plan.

Should a country fail to comply with the provisions of clause 5 (b), penalties might be invoked. In the case of a country with an excess imbalance which declines to submit an acceptable program of corrective measures, the sanction might take the form of an annual fine that recaptured some stated percentage of its balance in excess of the normal range, the percentage itself increasing with the imbalance. (If, for example, the rate of fine is set equal to the excess of I_t over 50 per cent, and that rate is itself applied to I_t in excess of 50 per cent, a country with reserves equal to twice its target, hence an I_t of 100, would lose one-quarter of its surplus reserves in a single year.) The proceeds of the levy could be distributed among the remaining countries in proportion to their targets. In the case of a country with a large negative imbalance, levying of a fine might not prove too satisfactory, since that would reduce further the country's reserves. Appropriate penalties might involve the loss of other prerogatives, such as voting rights and distribution privileges, and in the limit, the blocking of any balances remaining in its MIT account. On the other hand, compliance could be rewarded by providing limited overdraft privileges to pace out difficult adjustment processes.

Since we strongly advocate a freer use of changes in individual parities as a means of adjustment, we should also like to urge that serious consideration be given to the possibility of making them by a series of small steps at frequent intervals — rather than in one discontinuous jump — with each step limited to, say, ½ per cent once a month. If these monthly changes in par values were kept within the customary parity points, there would be little incentive to disequilibrating speculation, and forward markets could ensure a smooth adjustment.

The scheme described so far would already be quite helpful in creating the appropriate quantity of international reserves, determining the distribution among countries of the initial supply and successive increments, and distributing the burden of adjustment between surplus and deficit countries. However, it would not be proof against inflation or deflation. If some countries promoted inflation or deflation, they would place a part of the burden of adjustment on other, "well behaved" countries. Furthermore, there would be no assurance that the purchasing power of the MIT would remain stable over the long run. We propose to handle this problem by the following modification of clause 2:

6. At regular intervals, the statistical office of the MIT bank shall compute an index of prices, in terms of MIT's, of internationally traded commodities and services, with weights reflecting their importance in world trade. (Alternatively, weights reflecting the importance of the commodities and services in world production rather than trade might deserve consideration.) Let P_t denote the standing of this index relative to the base year (the year in which the plan goes into effect). The aggregate amount of reserve credit granted to each country at date t shall then be made equal, not to

T_t as in clause 2, but to T_t/P_t, i.e., to the target expressed in MIT's deflated by the price index.

Under this clause, an increase in prices above the base year level, $P_t - P_o$, will cause the total of actual MIT reserves to fall short of the total of targets by a factor $(P_t - P_o)/P_t$. (If, for example, prices have risen 10 per cent, P_t would equal 1.1, and the aggregate of reserves outstanding would be below the aggregate of all targets by $\frac{.1}{1.1} \simeq$ 10 per cent.) Thus, even though some individual countries could still be above their targets, the typical member would be under more pressure to deflate than to inflate, and thus to take measures tending to reduce P_t. It should be remembered, however, that this pressure to deflate could always be met by reducing the MIT parity of a national currency. If, in particular, prices had risen so much as to cause a very large short fall in aggregate reserves and thereby to impose excessive deflationary pressure, some or all countries could agree to a simultaneous devaluation of their currencies in relation to the MIT. This would preserve the purchasing power of the MIT while avoiding disruptive domestic deflationary pressures.

Variations of clause 6 are possible and might be desirable. In particular, it could be decided that P_t should rise at some pre-agreed rate, say 1 per cent per year, to allow for the usual downward bias of most price indices through failure to reflect quality improvements. In this case, the amount of reserve credit granted to each country would be given by $T_t/\left[\frac{P_t}{(1.01)^t}\right]$.

As countries might try to avoid the obligation to make adjustments by bilateral borrowing or lending of currencies against MIT's, the following clause would seem appropriate:

7. Any loan from one central bank to another shall be treated as part of the reserve of the lender and will be deducted from the reserve of the borrower, for the purpose of calculating the imbalance index I_t.

It should be apparent from the description of the plan that the basic function of the target reserve is to determine the range within which a country may allow its reserves to fluctuate, without incurring a mandatory obligation to take corrective steps. It follows that

this range, and correspondingly, the target for a given country should be determined primarily by the extent to which a country's reserves may be expected to fluctuate because of random disturbances that do not reflect a "fundamental disequilibrium" and are likely to reverse themselves automatically or with minor corrective action. For this reason, the target should be based primarily on the variability of a country's actual reserve, as recorded in historical experience. Thus, it might be based initially on some multiple of the standard deviation of actual reserves over, say, the previous decade; or better yet, on a standard deviation in which the observations are weighted, with larger weights given to the recent observations. Once the plan is in force, the deviations might be computed not from the mean of actual reserves but from the target. The formula determining a country's target will also have to recognize special factors affecting that country. If, for example, the dollar and the pound are still used as "vehicle" currencies — and we would expect this to be so — this fact will have to be recognized in the formulae for the United States and the United Kingdom.

In any case, our suggestions regarding the formula for computing T_t are meant to be tentative. We believe that they are on the right track, as there is some evidence that central banks are already making policy with implicit reserve targets in mind and that these targets have been related to short-run variability in the balance of payments (1). But the final adoption of a formula will require extensive technical studies; and in the final analysis, will involve international bargaining, with unavoidable political overtones. We wish only to stress that the problems involved are by no means insoluble, and are indeed of the same general nature and complexity as those which have already been faced and solved in setting IMF quotas.

II. Modifications of the System to Permit the Continued Use of Gold As a Reserve Instrument

The ideal version of the plan outlined above clearly implies the demonetization of gold (and of official dollar and sterling balances). Present gold stocks and reserve-currency balances could be retained

(1) Cf., for instance, KENEN, P. B. and YUDIN, E. B., "The Demand for International Reserves", *The Review of Economics and Statistics*, August 1965, pp. 242-50.

by the participating countries as contingent reserves which would be remonetized if, for some reason, it was decided to liquidate the new plan and return to the *status quo ante*.

We believe that this ideal version of our plan is the most desirable and effective one, provided the world is ready to implement its repeated pious statements about international cooperation. But out of respect for a tradition sacred to some and in order to ease the transition, we indicate below how the various clauses of our plan could be modified to allow the continued use of gold, together with the MIT, as a reserve medium.

In order to segregate the functioning of the system from the transitional problems arising in the liquidation of past arrangements, we shall here assume that, at the start of the new plan, gold holdings are distributed among countries in proportion to their initial targets, or else that countries with disproportionate gold holdings agree to receive a commensurately smaller amount of credit from the MIT bank (and that, if any country's holdings actually exceed its target, it will agree to sterilize the surplus gold for the duration of the plan).

In clause 2, the first sentence can then be replaced by the following:

2′. At the start of the plan, the MIT bank shall announce a buying price for gold in terms of MIT (which will not be changed thereafter, unless a qualified majority of members concur) and shall commit itself to buy (but not sell) gold for MIT's at that price. At the start of the plan, the MIT bank shall credit each member country with a demand deposit such that the sum of this deposit and the gold holdings of the country shall equal the initial target.

Clause 3 (a) can be modified as follows:

3 (a)′. Participating countries shall agree to use gold and MIT's as the sole and equivalent instruments to settle balances arising from international transactions (except as noted under 3 (b) below). Specifically, each country's central bank shall agree to buy from, and sell to, other central banks, on demand, its national currency against gold or MIT's at a rate of exchange established by that central bank. The bank paying out reserves shall have the option of paying in gold or MIT's. Participating banks shall also agree to report all transfers

of gold to and from other central banks. They shall further agree to sell gold only to each other or the MIT bank.

In clause 4, the first sentence can be modified as follows:

4′. The reserve of each country, to which reference is made in clauses 4 to 6, shall be deemed to consist of its deposit balances with the MIT bank plus its registered gold reserve. The registered gold reserve shall consist of gold held at the start of the plan plus *net* gold purchases from other central banks, as reported to the MIT bank, less gold sales to the MIT bank.

This clause, together with 3′, implies that gold can continue to perform its monetary function, but excludes the possibility of monetizing additional gold from privately held stocks or from new production. If further monetization of gold were desired — an aim which, in our view, has little merit — the following could be added to clause 4′:

4″. A central bank wishing to acquire gold from parties other than participating central banks, and wishing to include such acquisitions in its reserve, shall be allowed to do so by reporting such purchases to the MIT bank and agreeing that the MIT value of such purchases will be deducted from its deposit with the bank.

This clause insures that, at any date, the aggregate reserves of member countries, valued in MIT's, will precisely equal the intended amount described in clause 6. (Note that individual countries could be allowed to hold small stocks of gold for the purpose of buying and selling their own currency from their nationals and from non-participating countries. These balances, however, would not be included in the computation of reserves for the purpose of the plan.)

III. Some Remarks and Suggestions on the Problems of Transition

As noted in the Preamble, the problems of transition to the new system are fundamentally political, and are common to those raised by most other plans for improving the international monetary mechanism. In consequence, we shall not presume to provide solutions but will, rather, limit ourselves to outlining the basic alternatives from which countries will finally have to choose.

Alternative A: *The "Ideal Solution"*

Under this approach, countries would agree to try out the "ideal version" of the plan for some stated period, say five years. For the duration of the trial period, they would retain their present holdings of gold and reserve currencies, but would *not* include them in their reserves, which would then consist entirely of MIT's. The IMF would be liquidated and provisions would be made for amortizing credit-tranche drawings. Member countries would acquire their initial deposits at the MIT bank (and subsequent increases) by subscribing entirely in national currency. If the plan were liquidated on or before the termination of the trial period, each country would remonetize its pre-plan reserves of gold, dollars and sterling — on which the United States and United Kingdom would have given an MIT and/or gold guarantee in the interim. A member's balance with the MIT bank not exceeding the target would be liquidated in the country's own currency. The remaining reserves would be liquidated by distribution of the bank's remaining currency holdings (those of countries below target at the terminal date) in proportion to each country's remaining MIT claim. The disposition of these currencies, after their distribution, would have to be negotiated. There are, however, ample precedents, as in the liquidation provisions of the EPU. If, on the other hand, a qualified majority agreed to continue the plan beyond the trial period, a set of provisions would go into force providing for the gradual amortization of reserve-currency balances (presumably in gold).

This method of transition would be equally applicable to the alternate version of the plan described in II above; countries would then have the option of including in their reserves any gold in their possession after their subscriptions, on condition that the deposit initially received from the MIT bank would then be reduced by a corresponding amount.

Alternative B: *Redistribution of Existing Gold Reserves by Mutual Lending and Borrowing*

The essential feature of Alternative A is that a country whose present reserve holdings are large relative to its target would not benefit from its past accumulations for the duration of the plan. Alternative B provides for a limited reflection of pre-plan payments

experience. Each country would make a gold subscription to the MIT bank amounting to a portion of its target equal to the ratio of all member countries' gold reserves to all members' targets, the remaining subscription being paid for in the country's own currency. Thus all gold would be transferred to the MIT bank. Countries having insufficient gold to make this gold subscription could purchase the required gold from the United States and the United Kingdom in exchange for dollars or sterling, respectively (although this might require transitional assistance to the United Kingdom). If some countries still had a deficiency of gold, and therefore other countries had exactly offsetting surpluses, the MIT bank could arrange to borrow the surplus and lend it to the deficit countries, at some agreed interest, and with provisions for gradual amortization of principal and interest in MIT's. Provisions would also be made for the payment of interest on any remaining dollar and sterling balances and for their gradual amortization in MIT's. Once again, amortization of the principal could be delayed until the end of a trial period.

Clearly, alternative B could also be adapted to the continued use of gold along with MIT's, as under version II of the plan, by allowing member banks to buy back gold from the MIT bank, against their MIT deposit, up to an amount not exceeding their gold subscription (minus any debt arising from the borrowing described in the previous paragraph).

Alternative C: *Version II of the Plan with Initial Conditions Reflecting the Full Legacy of the Past*

Once the initial target has been set in the specified fashion, each country would receive a proportion of its target in MIT's equal to the excess of aggregate targets over aggregate pre-plan reserves, divided by aggregate targets. Pre-plan reserves are here defined to include gold and reserve currencies, plus gold-tranche and super gold-tranche positions in the IMF.

At the start of the plan, then, the reserves of each country would consist of this initial MIT balance plus pre-plan reserves less debts to the IMF (credit tranche drawings). At this point, reserve-currency balances would be turned over to the MIT bank in exchange for an equivalent MIT deposit, while gold reserves could either be kept or exchanged for MIT's. As a result, a country might enter the

plan with reserves different from its target, i.e., with an inherited imbalance, positive or negative, which could be outside the normal range in many instances. Such a country would have then to take immediate remedial action. This beginning might be deemed undesirable and inequitable. In order to spread out the adjustments required of such a country, it would therefore be agreed that a country with reserves different from its target would be assigned an interim target for the purpose of computing the measure of imbalance. Its interim target would be equal to its actual MIT *plus* gold reserve at the starting point, and would be changed by equal annual increments over a transition period of, say, five years, so that at the end of the transition period the interim target would come to coincide with the formula, or true, target. The United States and the United Kingdom would pay interest on currency balances transferred to the MIT bank and these balances might be retired gradually.

IV. Concluding Remarks

The several variants of our basic plan, outlined above, have much in common with other schemes which have been proposed to ensure an " adequate " supply of international reserves. In fact, formulation II of the plan is but an expanded version of the so-called " composite reserve unit " proposal in which *all* member countries would share in the creation of the reserve unit *in proportion to their targets*. The essential *new* features of our proposal, which could be readily grafted onto most other schemes, can be summarized as follows:

1. It provides a way of establishing the appropriate amount of total international reserves outstanding at any date, and the contribution of member countries to their creation, which is both fair and sound, being directly and operationally linked to the adjustment process.

2. The plan places the burden of adjustment evenly on the deficit and surplus countries, thus avoiding either inflationary or deflationary biases.

3. The rules for determining targets and credits granted ensure that the new MIT will tend to keep a constant purchasing power in terms of a broad spectrum of internationally traded commodities.

The existence of a stable unit, in turn, should make it easier for countries to change their parities, for contracts could be made directly in MIT. Indeed, one can foresee the time when prices in international trade would be directly quoted in MIT, although executed in a specific currency. Forward contracts could be directly denominated in MIT's. More generally, the MIT would become the natural medium for denominating international (and possibly even national) fixed money contracts, such as long term loans and bonds. Indeed, participating countries might be required not to outlaw the " MIT clause ", at least in international contracts, because such contracts might be very attractive.

At the same time, adoption of the plan, at least in version II, requires very little institutional change over and beyond what most countries seem already willing to entertain. The only additional demand it makes on member countries is that they be willing to codify and abide by certain norms of international monetary cooperation to which they have, for a long time, claimed to subscribe. Basic among these is the principle that the reserve position ought not be a tool of international politics.

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