ESSAYS IN INTERNATIONAL FINANCE

No. 41, March 1963

THE PROBLEM OF INTERNATIONAL LIQUIDITY AND THE MULTIPLE-CURRENCY STANDARD

FRIEDRICH A. LUTZ

INTERNATIONAL FINANCE SECTION
DEPARTMENT OF ECONOMICS
PRINCETON UNIVERSITY
Princeton, New Jersey

This is the forty-first number in the series ESSAYS IN INTERNATIONAL FINANCE *published from time to time by the International Finance Section of the Department of Economics in Princeton University. The paper was originally presented as the Frank D. Graham Memorial Lecture in November 1962.*

It is the fourth issue in the various series of the International Finance Section from the pen of Friedrich A. Lutz, who was a member of the Department of Economics at Princeton University for fifteen years. He is now Professor of Economics at the University of Zurich, Switzerland, and has been for several years External Advisor of the Bank for International Settlements. Among his books are THEORY OF INVESTMENT OF THE FIRM *(with Vera C. Lutz) and* ZINSTHEORIE (THEORY OF INTEREST).

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 will. Their ideas may or may not be shared by the editorial committee of the Section or the members of the Department.

The submission of manuscripts for this series is welcomed.

FRITZ MACHLUP, *Director*
International Finance Section

ESSAYS IN INTERNATIONAL FINANCE

No. 41, March 1963

THE PROBLEM OF INTERNATIONAL LIQUIDITY AND THE MULTIPLE-CURRENCY STANDARD

FRIEDRICH A. LUTZ

INTERNATIONAL FINANCE SECTION

DEPARTMENT OF ECONOMICS

PRINCETON UNIVERSITY

Princeton, New Jersey

THE PROBLEM OF INTERNATIONAL LIQUIDITY AND THE MULTIPLE-CURRENCY STANDARD

The Problem

THE many plans that have been devised, in the last few years, for a more or less radical change in our international monetary system owe their existence to the fear of their authors that the international-liquidity reserves will sooner or later become so scarce that the western world will, unless appropriate measures are taken, be forced to follow a deflationary policy—with all the disastrous consequences which such a policy entails.

The argument—by now well known to every economist—is, in a nutshell, this: Gold production adds far less to the monetary gold stock than is required for the latter to keep pace with the expansion of international trade or Gross National Product of the western world. Therefore, the dollar reserves of countries other than the United States must continuously expand in order to make up for the growing deficiency of gold reserves. An increase in dollar reserves, however, would require the United States to run a deficit in its balance of payments. Even if the surplus countries had, up to now, been taking the accretion to their foreign-exchange reserves entirely in the form of dollar balances, they could not be expected to continue doing this once American dollar liabilities rose to an amount several times that of the American gold stock. As it is, the monetary authorities are even at present not willing to accumulate dollar balances to the extent of the whole of their countries' balance-of-payments surpluses, so that such surpluses cause, in part at least, a loss of gold for America. Clearly, then, the United States cannot afford to go on running a deficit indefinitely. But if it does not do so, there is bound sooner or later to be a scarcity of international reserves in the western world.

For the purpose of the present discussion, I accept this diagnosis of the fundamental weakness of the present gold-exchange standard; but I feel I must at least add that I do not think the scarcity of international reserves is a very imminent problem. Nonetheless, it is the economist's job to think in time about possible solutions for the dilemma to which I have referred. This sort of thinking has produced such a galaxy of proposals for fundamental changes in the present set-up, that it may appear to many as a pleasant relief to find somebody advocating changes that do not involve radical departures from what we now have, and do not either require new international institutions or burden existing international institutions with new functions.

Possible Solutions

There are, in principle, only three solutions to the problem of a threatening shortage of international reserves.

The *first* consists in the adoption of a system of freely flexible exchange rates—a very neat solution inasmuch as it removes the problem of the adequacy of international reserves from the scene. However, I shall not discuss this method of dealing with the problem. I have been in the past, and still am, an advocate of flexibility of exchange rates at least within certain rather broad limits. But the resistance of the monetary authorities to flexible rates is, in almost all countries, so strong that this system has no chance of being adopted in the foreseeable future.

The *second* solution is an increase in the gold price. Again, I shall abstain from discussing this solution in detail. But I should like to make one or two remarks about it.

First of all, I feel pretty sure that the raising of the gold price by the United States would not lead to any change in exchange rates, since the European countries would follow suit. It would, therefore, not contribute to an improvement in the American balance of payments. But this does not mean that the measure would not make sense. If the price of gold were raised sufficiently, the United States could, with the consent of foreign monetary authorities, convert the latters' entire dollar balances—inclusive of the amount that might in the future be turned over to these authorities by commercial banks—into gold. If this happened the dollar would cease to be a part of international reserves. And if, with luck, gold production in the west (plus, possibly, sales of gold by Russia) were to rise high enough to cause the rate of growth of the monetary gold stock to match that of, say, international trade, it would not be necessary to use the dollar for reserve purposes even in the future. Now, since the monetary authorities consider gold the final and therefore most desirable international-reserve medium, and since gold is the only medium that constitutes *net* international reserves—that is, reserves not matched by corresponding liabilities, as is the case with dollar balances—surely we should admit that this second solution is not as stupid as many economists would have us believe.

If nevertheless I do not advocate a rise in the gold price, it is mainly for two reasons.

The first is the scramble for gold, and the confusion in the foreign-exchange markets, which will occur as soon as there is serious discussion of a move to a higher gold price. The intention to change the gold price cannot under present conditions be kept secret.

The second reason is the inflationary danger which the large increase in reserves of all countries with substantial gold stocks would entail. This danger need not arise in the case of the United States if its dollar liabilities were converted into gold so that its reserves increased very little or not at all. Elsewhere, however, the danger of inflation would undoubtedly be quite serious, because the balance of payments would, for a time, cease to act as a brake against inflationary policies, while at the same time the book profits obtained from the devaluation might tempt the authorities to engage in deficit-financing which would in those circumstances be costless. Although the exercise of monetary discipline on the part of the countries concerned could undoubtedly prevent such inflationary consequences, I am not optimistic enough to believe that this is what would in practice occur. And if they were not prevented, the stimulating effect on gold production, which is a necessary part of the whole scheme, would sooner or later cease to make itself felt. The upward revaluation of gold might then have to be repeated. For reasons which are rather obvious, recurrent increases in the gold price would, however, make the gold or the gold-exchange standard unworkable.

The *third* solution consists in widening the foreign borrowing potential of countries by making provisions for countries with surpluses in their balances of payments to lend to those with deficits. Strictly speaking, it need not be the countries with current surpluses that do the lending; it may be done by other countries possessing large international reserves, accumulated out of past surpluses. Nevertheless, I shall for simplicity's sake consider the lending countries as identical with countries having current balance-of-payments surpluses. The principle is best made clear by an extreme example:

Suppose an international institution were created similar to the defunct European Payments Union, but on a worldwide basis. All the surplus countries would "deposit" their surpluses with this institution, while all the deficit countries would run into debt with it to the extent of their deficits. Since the sum of the deficits always equals the sum of the surpluses, no balance-of-payments crisis and no shortage of international reserves could ever develop. This "system of unlimited credit" would, of course, be excessively inflationary, since each country would have an interest in drawing on the resources of other countries by running a deficit, and no country would be obliged to keep a strict watch on its balance-of-payments position. I do not, of course, advocate this system;

I only mention it because it shows better than any other how the shortage of international reserves can be overcome by international borrowing and lending.

Now, all the plans that have been devised to solve our problem—except, of course, that of flexible rates and that of a rise in the gold price—are variations on this theme of increasing the borrowing potential of member countries by inducing or forcing those in strong foreign-exchange positions to lend to those in weak ones. This is so, whether the I.M.F. arranges for standby credits, or whether a world bank à la Triffin is set up with the power to create an international currency, or whether, à la Maudling, the I.M.F. acts as a depository for the currencies which surplus countries do not wish to hold.

In case the I.M.F. widens the borrowing potential in the way described, it is immediately evident that the solution of our problem consists in the readiness of the countries with strong foreign-exchange positions to lend to those with weak ones. If a world bank à la Triffin is created, this is perhaps less obvious, but nevertheless true. If this world bank grants a credit to country A by creating a bancor deposit in its favor, and country A then turns this deposit over, in payment for its deficit, to country B, which then keeps the deposit, it is of course country B which is really giving the credit to country A. Or suppose that, under the Maudling scheme, a participant in the Mutual Currency Account decides not to convert the currency of another participant into dollars and then into gold, but deposits it—after notification of the debtor—with the Account in exchange for a deposit in some currency unit of fixed value in terms of gold. What really happens here is that the depositing country lends to the country whose currency is deposited in the Account.

From what has just been said it should be clear that the borrowing capacity of a country ought to be regarded as part of its international reserves. The I.M.F. is following this principle when it adds a country's gross I.M.F. position, i.e. its drawing potential, to its foreign-exchange and gold reserves. But this is not sufficient. Consider the case of the United States. The willingness of other countries to lend to the United States by accumulating dollar balances is certainly an essential part of that country's international liquidity. Without it, the United States would have lost gold much more rapidly than it has and would therefore have been forced long before now to bring its balance of payments into order. And the fear that this willingness may not last indefinitely surely contributes to the feeling that the international-liquidity position of this country is deteriorating.

Now it is important to realize that if a country makes use of this borrowing potential, the effects will be different according to which of two types of lending is involved. One type does not entail the creation of any international reserves for the lender, the other type does. And I suggest that a good way of grouping these plans is according to whether they provide merely for an increase in the borrowing potentials of deficit countries by inducing other countries to lend to them, or whether they go further than this and provide for a type of lending which creates reserves for the lender. To the first group belong such measures as the raising of I.M.F. quotas and the granting of standby credits by countries in strong foreign-exchange positions, as was done at the 1960 meeting of the I.M.F. in Vienna. The Maudling plan and the extreme scheme outlined previously—the system of unlimited credit—also belong to this group. The second group comprises the Triffin and a number of similar plans. In the Triffin plan the emphasis is clearly not so much on the increase in the borrowing potential of the participating countries as on the creation of more units of international currency, consequent upon the borrowing countries' making use of this potential.

Looked at from the point of view of the above classification, the situation under the present gold-exchange standard is this: Through the I.M.F. the borrowing potential of all participating countries has been increased; and when any country borrows, the corresponding lending by other countries is of the "neutral" type, which does not create reserves for the lenders. The United States, however, has in addition a borrowing potential which others do not have. It consists in the willingness of other countries to acquire dollar balances; and the acquisition of such balances is representative of the second type of lending, namely, that which creates international reserves for the lender.

It is worth noting that those who have devised schemes to meet the danger of a future shortage of international reserves by expanding these reserves, rather than by merely widening each country's borrowing potential, do not wish to see an expansion of such reserves in the form of an accumulation of dollar balances such as might occur under the system we have at present. The reason is, as I pointed out before, that such an accumulation is, as a rule, accompanied by some loss of gold by America and leads in any case to a reduction in the United States' ratio of gold to short-term liabilities. Thus, as long as the present gold-exchange standard exists and the American deficit continues, the "conservatives" are usually at one with the "reformers" in holding—paradoxically it may seem—that surplus countries should lend in a form that does not increase international reserves as a way of meeting the threatening shortage of such reserves. And pressure is brought to bear on countries with strong foreign-exchange positions to "lend more," as the phrase goes. We may notice that in public discussions the acquisition of dollar balances is hardly ever considered lending. What those who ask for "more lending" really mean is that the surplus countries should lend in a manner which does not create dollar reserves; that is, they should either lend long to the United States or they should lend—whether long or short makes no difference here—to third countries. In both cases the surplus in the balance of payments of the lending countries and the deficit in the American balances of payments would be correspondingly reduced, compared with what they would have been if no such lending had taken place.

Now, this method of equilibrating balances of payments through "neutral" lending—or lending that does not create reserves—by the surplus countries, which in its extreme form is equivalent to the "unlimited-credit system" outlined before, is not any more sensible than the method of persuading, or compelling, surplus countries to lend to deficit countries in a manner that does create reserves.

The theory underlying both methods has its roots in mercantilism. It regards the countries with balance-of-payments surpluses as "natural" capital exporters, implying that such surpluses are a sign of wealth. People, who in any other context would have ridiculed the mercantilist view, are apt to talk in this fashion. The theory sounds especially strange coming, as it often does, from those who think of an accumulation of dollar balances not as "lending to the United States" but simply and solely as "addition to foreign-exchange reserves." There are, however, others who do recognize that the acquisition of dollar balances reflects an excess of domestic savings over domestic investment and is a form of lending; and some of them are, I think, inclined to argue that there can be no harm in requesting a country which already has such an excess and is lending to change the form of this lending.

We should beware of accepting this point of view. For, while a surplus in the balance of payments does, it is true, signify an *ex post* excess of domestic savings over domestic investment, it does not necessarily signify an *ex ante* excess. An indication that the two things do not always coincide is the fact that interest rates are frequently higher in the surplus (lending) countries than in the deficit (borrowing) countries. Surely the explanation of the surpluses has to run in terms of the cost levels in the surplus countries being too low relatively to the cost levels in the others. And in such circumstances the right course of action is for the surplus countries to get rid of their surpluses not by long-term lending, but by measures which raise their imports and reduce their exports (and for the deficit countries to cooperate if possible by acting the other way round). This seems to me to be the proper cure for balance-of-payments troubles, and not the "unlimited-credit system."

One last point before I proceed to the more constructive part of this discussion. Once we realize the importance of a country's borrowing potential as part of its international liquidity, we cannot attach much significance to the customary calculation of the international-liquidity reserves of the western world which equates them to the sum of the various countries' gold stocks plus the dollar balances of countries other than the United States plus the sterling balances of the outer sterling area. For such a calculation makes no allowance for the borrowing potential of the various countries. It is, as I said before, not sufficient just to add their drawing rights on the I.M.F. On the other hand, there is no way of knowing the sum total of all the borrowing potentials. Moreover, we cannot ignore the fact that an increase in the dollar balances of foreign countries may reduce the remaining borrowing potential of the United States, or, that is, the willingness of foreign countries to accumulate further dollar balances, in which case international liquidity, for the world as a whole, has not risen to the extent indicated by the usual statistical measure. The point I am now making is not, it should be noticed, the same as the point made by many other critics of such statistics, namely that these statistics neglect the fact that dollar and sterling balances are matched by corresponding liabilities of the United States and Great Britain, and therefore fail to give a true picture of net international liquidity which, they argue, should be taken as equivalent to the monetary gold stock alone.

Now if we do not accept, as a solution to the problem of international liquidity, the principle that countries should be compelled to lend, either in a way that creates reserves or in a way that does not, and if we are also of the opinion that the present system cannot last indefinitely, what way out is there?

The Multiple-Currency Standard

In a series of lectures delivered in May 1961, in Amsterdam,* I proposed that the western countries now holding dollar balances should in the future keep their international reserves not exclusively in one country's currency but in many, and that the United States too should follow a policy of holding other countries' currencies in addition to gold. Not every country, of course, would be eligible to serve as a key-currency country. No central bank would, I imagine, be prepared to hold the

* Published under the title *The Problem of International Equilibrium*, by the North-Holland Publishing Company (Amsterdam, 1962).

currencies of South American countries. The new key-currency countries would doubtless have to be chosen mostly from Western Europe.

The policy of holding reserves in a number of currencies rather than only one or two is acquiring a growing number of advocates, some of them in influential circles. Under Secretary of the Treasury Roosa supports the idea; the London *Economist* favors it; and it is also part of the plan which Dr. Posthuma, one of the Directors of the Netherlands Central Bank, suggested a few months ago. Indeed there is little doubt that this is the direction in which the western world is gradually moving. It was the United States that made the first move in this direction, following some experiments which the monetary authorities had carried out in the foreign-exchange market with *borrowed* foreign currencies and which had convinced them of the desirability of acquiring, and holding, balances on their own account, once the country's balance-of-payments situation permitted it. From our present standpoint, the most important aspect of those foreign-exchange operations—some carried out by the Treasury and others by the Federal Reserve System—is that they may prove to be a stepping-stone on the way to the general adoption of the multiple-currency standard. But they merit attention also for their own sake, since they illustrate one of the advantages of holding balances in a number of different foreign currencies. However, since Mr. Charles A. Coombs of the New York Federal Reserve Bank has given a good account of them in the October issue of the Bulletin of the New York Federal Reserve Bank, I need not discuss them in great detail here. I shall illustrate the Treasury's operations by reference to its dealings in German marks following the appreciation of that currency.

After the revaluation of the mark in March 1961, anticipations of a second revaluation caused a speculative flow of funds from the United States to Germany. The funds came from three distinct sources: (1) from people buying marks with the intention of shifting back into dollars after the expected second revaluation of the mark had taken place; (2) from Americans who had future commitments in marks; and (3) from Germans who had dollars coming to them in the future and borrowed dollars now in order to change them into marks. It is not surprising that in this situation the premium on forward marks rose far above its normal level as determined by the difference between the short-term interest rates. It is in this forward market that the United States Treasury intervened with sales of marks, which the Bundesbank stood ready to supply. Through these sales it succeeded in sharply reducing the premium on the mark, thus making shifts of funds to Germany less attractive for all those who wanted to combine the purchase of spot marks with a sale of forward marks, as well as for Americans with mark commitments, and Germans with dollar receivables, who now found it preferable to buy forward marks instead of spot marks. In this way, the short-term capital flow from the United States to Germany in those crucial months was reduced; and—a further welcome effect—the gold loss which usually accompanies the acquisition of dollars by foreign central banks was kept smaller than it would otherwise have been.

The success of these operations encouraged the authorities to undertake others. Early in 1962 the Federal Open Market Committee authorized open-market transactions in foreign currencies. On the basis of this authorization the Special Manager of the Open Market Account for foreign-currency operations negotiated a series of swap arrangements with foreign central banks. These are arrangements providing for reciprocal credit facilities between the Federal Reserve System and foreign central banks, allowing each partner to draw on the currency of the other up to a certain amount over a period ranging from three to six months. At the end of the specified term, the transactions are reversed at the same rate of exchange as that at which the original swap was arranged. This is a practice which amounts to giving a guarantee against the risk of an alteration in the exchange rate. The currencies which, through these swap arrangements, are put at the disposal of the Federal Reserve System can be used for making a variety of exchange operations aimed at influencing short-term capital flows. For instance, the use that was made of the swap arrangements with the Swiss National Bank and the Bank for International Settlements (B.I.S.)—involving a rather complicated technical procedure—resulted in dollars (treasury bills) being held by the Swiss commercial banks and the B.I.S., instead of by the Swiss National Bank, which would have converted them into gold. It meant that the United States was spared a loss of gold, and that the Swiss National Bank was able to mop up some of the excess liquidity of the Swiss commercial-banking system.

Even more interesting, from my present point of view, than the actual operations carried out on the basis of the authorization given to the Special Manager of the Open Market Account to deal in foreign currencies is the statement, contained in this authorization, that one of its aims is "in the long run to provide a means whereby reciprocal holdings of foreign currencies may contribute to meeting needs for international liquidity as required in terms of the expanding world economy." In this statement, the adoption of the "multiple-currency standard" is envisaged as the means of overcoming the threatening shortage of international reserves. And it is this—the most important—aspect of this standard to which we must now turn.

Suppose the multiple-currency standard had existed for some time past and the balances held by monetary authorities in the various key-currency countries had reached an amount that was equal to the sum of the dollar and sterling balances held by these authorities at present. The officially held dollar balances amounted in September 1962 to $11.7 billion and the officially held sterling balances to $6.8 billion. The total of $18.5 billion was roughly equal to the gold stock of the two countries combined ($18.8 billion). If we include the non-official holdings of dollar and sterling balances, the short-term foreign liabilities of the two countries ($29.4 billion) amounted to 157 percent of their gold stock. For the United Kingdom alone the ratio of official foreign holdings to gold was 244 percent and of total foreign holdings to gold 353 percent. The corresponding ratios for the United States were 73 percent and 123 percent. Let us now suppose that the key-currency countries consisted of the United States, the United Kingdom, France, Western Germany, Italy, the Netherlands, and Switzerland. The total gold stock of these seven countries amounted in September 1962 to $31.3 billion. Balances of $18.5 billion (total of the officially held dollar and sterling balances) or of $29.4 billion (total of all dollar and sterling balances) thus amount to 60 and 95 percent respectively of the combined gold stock of these countries. It is evident then that if these balances were spread over the seven countries, none of them would need to be in the position in which the United Kingdom (and also the United States, if all foreign-held dollar balances are taken into account) is at present of having short-term foreign liabilities bigger than the gold stock or, that is, having negative net reserves. Assuming it to be true that a rise in the ratio of foreign liabilities to the gold stock to the point where the former are a multiple of the latter undermines confidence in a key currency, it is surely an advantage of the multiple-currency standard that it keeps this ratio down.

The purpose of the above calculations is merely to illustrate a principle. I am, of course, aware that the ratio of foreign dollar balances to the American gold stock cannot be lowered by the owners of existing balances trying to buy other currencies with them. The only way in which the ratio can in fact be brought down is by America's making appropriate use of a future surplus in her balance of payments. In this country as in others the new policy would have to be applied to the foreign-exchange reserves acquired in the future. For example, countries which in the future had balance-of-payments surpluses at a time when the United States itself was, let us suppose, approximately in balance-of-payments equilibrium, should not insist on gaining dollars or gold at the expense of the dollar and gold holdings of the deficit countries; they should instead be ready to acquire balances in any of the deficit countries that were members of the widened key-currency group. By so doing they would be adding to the total of international reserves instead of, as under the present system, merely shifting the existing reserves around. Similarly, if the United States itself moved into a surplus position, this need not entail any decline in the dollar balances or gold stock of other countries, were the United States prepared to hold foreign currencies and thus add to the total of international reserves. It is true that the United States might prefer to take the opportunity of reducing its dollar liabilities, and hence improving the ratio of the gold stock to them. Under the present system, this course would mean reducing the total of international reserves. But under the multiple-currency standard it need not mean this. For, so long as some other countries besides the United States had surpluses, these countries could build up balances in third countries, thus causing the decline in dollar balances to be offset by a simultaneous increase in other key-currency balances. In this way, America's ratio of foreign liabilities to gold could fall while other countries' ratios were rising. Indeed, these ratios might, in the longer run, be evened up as between the various key-currency countries.

To avoid a possible misunderstanding, I must stress that I am not advocating that countries which have surpluses in their balances of payments should *necessarily* accumulate balances in key currencies other than the dollar. I am not in favor of compelling some countries to lend to others against their will. If, for instance, a surplus of German marks came into the foreign-exchange markets, and no country wanted to hold additional marks, the mark would fall to the point where the German authorities had to support it by selling foreign exchange. But the foreign exchange they thus sold need not be dollars. It might just as well consist of other key currencies in their possession. In any case, however, it is Germany's balances abroad that would decline, and not other countries' balances in Germany that would increase. And this decline in her international reserves would be a salutary warning that other countries were not willing to finance her deficit.

The Question of the Gold Guarantee

In the case that the multiple-currency standard were adopted, it would be desirable and, I think, necessary for all the key-currency countries to declare themselves ready to sell gold on request to foreign monetary authorities at a fixed price. In other words, central banks holding balances in foreign countries should be given direct access to gold in those countries instead of having to acquire first dollars and then gold, and the new key-currency countries should be in exactly the same position regarding gold sales as the United States was under the old system and would continue to be under the new.

This point may seem rather an obvious one. What is not so clear is whether the key-currency countries ought to give a guarantee against the exchange risk which foreign monetary authorities run when holding their currencies. The London *Economist* has repeatedly expressed the view that, without such guarantees, no country would be willing to hold balances in the new key-currency countries. This argument would, however, lose much of its force once those countries undertook to surrender gold on request in the same way as the United States. Balances in any of the new key currencies would then be on the same footing as dollar balances; and there is no reason why countries should be less willing to hold one rather than the other.

Nevertheless, the question of the gold guarantee deserves closer examination. (I assume that this guarantee would apply only in the case where the foreign-exchange rates for the dollar were lowered, and not where the dollar price of gold was raised while exchange rates remained constant.)

The best way of approaching the problem is to make sure what such a guarantee really implies. Suppose that the United States had given one in the past, and that it now contemplated devaluing the dollar in terms of foreign currencies, and raising the gold price correspondingly. Let us further assume that the other countries did not raise the gold price in their own currencies, so as in effect to counteract the American devaluation, but accepted the latter. (This reaction would, incidentally, be a more likely one if there were a gold guarantee than if there were not.) The United States would then have to add to the dollar balances held by the monetary authorities of other countries an amount of dollars corresponding to the degree of devaluation. For example, if the dollar were devalued by one-quarter, it would have to raise the existing dollar balances by one-third. In the case where the ratio of the gold stock to the original liabilities to foreign monetary authorities was unity or above, the profit obtained from the revaluation of the gold stock would suffice to provide the required sum. If the ratio were less than unity, the profit would not suffice; and the remainder of the funds needed would have to be raised by the Treasury, at the cost, most likely, of an increase in the public debt. If the devaluation had the desired effect of causing the United States' balance of payments to become positive, other countries would draw on their increased dollar balances to cover the deficits in their own balances of payments. By thus using up at once, or in the future, part, or all, of their additional balances, they could obtain a corresponding amount of goods as a free gift from the United States. This gift, if all of it were taken, would at present amount, in the case of a 10 percent devaluation, to roughly $1.2 billion and, in the case of a 20 percent devaluation, to double that sum. In other words, gold guarantees render devaluations very costly affairs. For this reason, they might well lead to a freezing of the exchange rates at the levels which they happened to have when the guarantees were introduced. Advocating gold guarantees may thus be tantamount in practice to advocating absolute rigidity of exchange rates.

In the absence of such gold guarantees, the London *Economist* asserts, no country (outside the sterling area) would be willing to hold balances in countries other than the United States. And this view seems to be shared by others. The essence of Professor Posthuma's proposal is that an understanding should be reached under which surplus countries would be obligated to take only a certain percentage—60 is the figure mentioned—of their surplus in gold and the rest in key currencies. The proposal thus compels countries to hold balances in addition to gold, but it does not make any specific contribution toward a solution of the problem we are now considering, namely how the countries could be induced to hold balances in currencies other than dollars.

It would run against the general philosophy of my essay if I were to suggest a scheme that would compel countries to hold currencies which they do not want to hold. And I do not think that such compulsion is necessary. We should remember that the custom of holding only dollar balances as reserves originated at a time when the dollar was rightly considered as the only major currency that was safe. The dollar does not occupy this position at present, and if other key-currency countries besides the United States obligated themselves to surrender gold on request, dollar balances would no longer have an advantage over balances in other key-currency countries. In fact, the larger the dollar balances become in relation to the American gold stock, the more desirable must it appear to begin to hold balances in countries where this ratio is still zero, or at least small. The desire to spread the risk by distributing balances between several countries should be sufficient motive for adopting the multiple-currency standard. And if the United States were to lead the way by acquiring foreign balances as soon as it moved into a surplus position in its balance of payments, I feel sure that the present habit among countries outside the sterling area of using only dollars as reserves could, and would, be broken.

The fear that the system might lead to shifts of official balances between countries whenever rumors were afloat of an impending change in the exchange rate of a key currency is not, I think, warranted. Cooperation between central banks, and the "esprit de corps" among them, is so highly developed that they may be relied upon to keep quiet in such situations rather than add to the pressure on the country concerned. We have, at present, before us an example of such "cooperation" with the Federal Reserve System: foreign central banks are holding back from raising the ratio of their gold to dollar holdings when they receive additional dollars, and still more from converting existing dollar balances into gold. Two further points should be noticed. First, even if cooperation among the central banks were to break down on some particular occasion with respect to one key-currency country among many, the impact on the foreign-exchange and gold markets would be much smaller than if the same thing happened with respect to a country that was the only one in which foreign balances were held. Secondly, the fact that a country is a depository of foreign balances makes for monetary discipline in that country and may thence render rumors of impending currency revaluations less frequent than they have been in the past.

Conclusions

A summary of the main advantages of the multiple-currency standard should focus on the following points:

(1) The multiple-currency standard would remove the dilemma from which my discussion started, namely that international-currency reserves must grow at a certain pace, but can do so only at the cost of a deficit in the American balance of payments.

(2) Since in the new key-currency countries the piling up of reserves would start from scratch, the ratio to their gold stock of their short-term liabilities towards the monetary authorities of foreign countries would not become alarmingly high for a long time to come. In other words, there would be room for a continuous growth in international reserves until a time so far distant in the future that no reasonable man would think it necessary to make preparations for it now.

(3) The holding by one country of balances in others allows it to engage in operations in the spot and forward markets in foreign exchange in order to influence short-term capital movements, without its having to make special arrangements with foreign central banks for borrowing foreign currencies.

(4) The introduction of the multiple-currency standard neither re-

quires the creation of new international institutions nor the assumption of new functions by the existing ones.

(5) The multiple-currency standard does not compel countries to lend in order to equilibrate balances of payments. If under it countries accumulate balances in others, this takes place of their free will.

(6) It makes for monetary discipline instead of encouraging monetary laxity.

The advantages of the multiple-currency standard are indeed many. What it cannot, of course, do is to content those who expect from international currency reforms that they should permit countries with deficits in their balances of payments to continue in that position indefinitely. Neither the multiple-currency standard nor any other system, with the exception of what I have called the "system of unlimited credit," can achieve this miracle. Nor is it desirable that it should.

PUBLICATIONS OF THE INTERNATIONAL FINANCE SECTION

The International Finance Section publishes at irregular intervals papers in three series: ESSAYS IN INTERNATIONAL FINANCE, PRINCETON STUDIES IN INTERNATIONAL FINANCE, and SPECIAL PAPERS IN INTERNATIONAL ECONOMICS. All three of these may be ordered directly from the Section.

Single copies of the ESSAYS are distributed without charge to all interested persons, both here and abroad. Additional copies of any one issue may be obtained from the Section at a charge of $0.25 a copy, payable in advance. Institutions of education or research will be supplied up to five copies free of charge.

For the STUDIES and SPECIAL PAPERS there will be a charge of $1.00 a copy. This charge will be waived on single copies requested by persons residing abroad and on copies distributed to college and university libraries here and abroad.

Standing requests to receive new ESSAYS as they are issued and notices of the publication of new STUDIES and SPECIAL PAPERS will be honored. Because of frequent changes of address and the resulting waste, students will not be placed on the permanent mailing list.

The following is a complete list of the publications of the International Finance Section. The issues of the three series that are still available from the Section are marked by asterisks. Those marked by daggers are out of stock at the International Finance Section but may be obtained from University Microfilms, Inc., 313 N. First Street, Ann Arbor, Michigan.

ESSAYS IN INTERNATIONAL FINANCE

† 1. Friedrich A. Lutz, International Monetary Mechanisms: The Keynes and White Proposals. (July 1943)

† 2. Frank D. Graham, Fundamentals of International Monetary Policy. (Autumn 1943)

† 3. Richard A. Lester, International Aspects of Wartime Monetary Experience. (Aug. 1944)

† 4. Ragnar Nurkse, Conditions of International Monetary Equilibrium. (Spring 1945)

† 5. Howard S. Ellis, Bilateralism and the Future of International Trade. (Summer 1945)

† 6. Arthur I. Bloomfield, The British Balance-of-Payments Problem. (Autumn 1945)
† 7. Frank A. Southard, Jr., Some European Currency and Exchange Experiences. (Summer 1946)
† 8. Miroslav A. Kriz, Postwar International Lending. (Spring 1947)
† 9. Friedrich A. Lutz, The Marshall Plan and European Economic Policy. (Spring 1948)
† 10. Frank D. Graham, The Cause and Cure of "Dollar Shortage." (Jan. 1949)
† 11. Horst Mendershausen, Dollar Shortage and Oil Surplus in 1949-1950. (Nov. 1950)
† 12. Sir Arthur Salter, Foreign Investment. (Feb. 1951)
† 13. Sir Roy Harrod, The Pound Sterling. (Feb. 1952)
† 14. S. Herbert Frankel, Some Conceptual Aspects of International Economic Development of Underdeveloped Territories. (May 1952)
† 15. Miroslav A. Kriz, The Price of Gold. (July 1952)
† 16. William Diebold, Jr., The End of the I.T.O. (Oct. 1952)
† 17. Sir Douglas Copland, Problems of the Sterling Area: With Special Reference to Australia. (Sept. 1953)
† 18. Raymond F. Mikesell, The Emerging Pattern of International Payments. (April 1954)
† 19. D. Gale Johnson, Agricultural Price Policy and International Trade. (June 1954)
† 20. Ida Greaves, "The Colonial Sterling Balances." (Sept. 1954)
† 21. Raymond Vernon, America's Foreign Trade Policy and the GATT. (Oct. 1954)
† 22. Roger Auboin, The Bank for International Settlements, 1930-1955. (May 1955)
† 23. Wytze Gorter, United States Merchant Marine Policies: Some International Implications. (June 1955)
† 24. Thomas C. Schelling, International Cost-Sharing Arrangements. (Sept. 1955)
† 25. James E. Meade, The Belgium-Luxembourg Economic Union, 1921-1939. (March 1956)
† 26. Samuel I. Katz, Two Approaches to the Exchange-Rate Problem. The United Kingdom and Canada. (Aug. 1956)
† 27. A. R. Conan, The Changing Pattern of International Investment in Selected Sterling Countries. (Dec. 1956)
† 28. Fred H. Klopstock, The International Status of the Dollar. (May 1957)
† 29. Raymond Vernon, Trade Policy in Crisis. (March 1958)
† 30. Sir Roy Harrod, The Pound Sterling, 1951-1958. (Aug. 1958)
† 31. Randall Hinshaw, Toward European Convertibility. (Nov. 1958)
† 32. Francis H. Schott, The Evolution of Latin American Exchange-Rate Policies since World War II. (Jan. 1959)

† 33. Alec Cairncross, The International Bank for Reconstruction and Development. (March 1959)
† 34. Miroslav A. Kriz, Gold in World Monetary Affairs Today. (June 1959)
* 35. Sir Donald MacDougall, The Dollar Problem: A Reappraisal. (Nov. 1960)
† 36. Brian Tew, The International Monetary Fund: Its Present Role and Future Prospects. (March 1961)
* 37. Samuel I. Katz, Sterling Speculation and European Convertibility: 1955-1958. (Oct. 1961)
* 38. Boris C. Swerling, Current Issues in International Commodity Policy. (June 1962)
* 39. Pieter Lieftinck, Recent Trends in International Monetary Policies. (Sept. 1962)
* 40. Jerome L. Stein, The Nature and Efficiency of the Foreign Exchange Market. (Oct. 1962)
* 41. Friedrich A. Lutz, The Problem of International Liquidity and the Multiple-Currency Standard. (March 1963)

SPECIAL PAPERS IN INTERNATIONAL ECONOMICS

* 1. Gottfried Haberler, A Survey of International Trade Theory. (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)

PRINCETON STUDIES IN INTERNATIONAL FINANCE

† 1. Friedrich A. and Vera C. Lutz, Monetary and Foreign Exchange Policy in Italy. (Jan. 1950)
† 2. Eugene A. Schlesinger, Multiple Exchange Rates and Economic Development. (May 1952)
† 3. Arthur I. Bloomfield, Speculative and Flight Movements of Capital in Postwar International Finance. (Feb. 1954)
† 4. Merlyn N. Trued and Raymond F. Mikesell, Postwar Bilateral Payments Agreements. (April 1955)
† 5. Derek Curtis Bok, The First Three Years of the Schuman Plan. (Dec. 1955)
† 6. James E. Meade, Negotiations for Benelux: An Annotated Chronicle, 1943-1956. (March 1957)
† 7. H. H. Liesner, The Import Dependence of Britain and Western Germany: A Comparative Study. (Dec. 1957)
† 8. Raymond F. Mikesell and Jack N. Behrman, Financing Free World Trade with the Sino-Soviet Bloc. (Sept. 1958)
* 9. Marina von Neumann Whitman, The United States Investment Guaranty Program and Private Foreign Investment. (Dec. 1959)