

## Money and the Balance of Payments

The title for this paper, "Money and the Balance of Payments," is one of those ambiguous titles that links two concepts together with the word "and," a word consistent with any kind of relationship — including none at all — between the concepts. So perhaps I had better begin by defining my subject more precisely. What I shall be doing is arguing that the balance of payments is a monetary phenomenon, and that it can only be understood by the application of monetary theory. This point may seem obvious, when stated in this form; but it tends to be obscured from public understanding, and the understanding even of most international economic theorists, by two facts.

The first is that people often refer to "the balance of payments," which properly defined is the net flow of international reserves (international money) into or out of the national economy, when they really mean the net balance of international transactions on a subgroup of accounts in the balance of payments. More specifically, people often use the term "balance of payments" to mis-describe the excess or deficiency of exports of goods by comparison with imports of goods — the balance of trade — or the balance of sales and purchases of both goods and services or "invisibles" — the balance on current account. Yet there is no reason why a surplus or deficit in either of these subaccounts should give rise to a cash inflow or outflow on the overall accounts, or indeed should constitute a problem for national policy from any other point of view either. (There is, of course, a fallacious view that dates back over two centuries to "mercantilist" times, that a country should strive for a surplus on its international trade: and fallacious though it is, one still finds it occasionally in official economic thinking.)

The second fact is that, precisely because the balance of payments is a monetary phenomenon, it requires analysis with the tools of

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monetary theory; and these tools are sophisticated, and difficult even for the professional economic theorist to understand. In fact, full understanding of what has to be included in a logically consistent theory of the balance of payments has been achieved by a relatively small number of international monetary theorists, and by them only in the past decade or so. Without an understanding of the relevant monetary theory, and especially of what are technically known as "stock-flow relationships" and "flows resulting from stock readjustment processes" — illustrated, to be concrete and homely, by the idea that when I save some of my income I do so in order to increase my wealth, and that when I have enough wealth I will stop saving — both laymen and professional economists are strongly tempted to try to make do with what they do understand, on the assumption that what they do not understand will somehow "fall into place" or "come out in the wash."

For the layman, the usual resort is to simple arithmetic: "If the balance of payments is running three billion dollars in deficit, and I can see that private foreign investment (or defense expenditure abroad, or aid to less developed countries) is running three billion dollars over its figure of some years back, then it is obvious that all I need to do to balance the balance of payments is to lop three billion off spending on foreign investment (or defense, or aid)." The professional economist — so long as he does not become a government employee — knows better than that: the items in the balance of payments are all interconnected, foreign investment makes exports higher than they otherwise would be, and so forth; and there is no reason to expect that cutting three billion off of any form of capital outflow will cut the same amount — or indeed anything — off the balance-of-payments deficit. But the professional economist, though he knows that everything is connected, is likely to concentrate exclusively on certain kinds of connections, suggested by the theory of relative prices and quantities and resource allocation that is his standard kit of professional tools, namely the prices of a country's imports relative to the prices of its exports, and the interest rates that give the relative prices of future goods in terms of present goods; and to forget about the influence of differences between desired stocks and actual stocks of wealth, including stocks of money, in determining whether the residents of a nation want to use less or more current productive resources than they possess (in the homely phrase often applied in this context, "live beyond their means"), and

whether they want to accumulate more cash by running a balance-of-payments surplus or vice versa.

The difficulty of understanding monetary theory in the proper terms of stock-flow adjustments, and the resulting temptation to the professional economist to rely erroneously on an analysis couched in terms of the influence of monetary factors on real relative prices (especially interest rates) and of real relative prices on flows of expenditure, as being far more congenial to common sense, has in fact been endemic to monetary theory — both the monetary theory of a closed economy, and its extension to an international monetary system — right from the start of formal monetary theory. In fact, the difficulty of monetary theory can be seen as an extra complication of a problem in "real" or "barter" theory that has always given economic theorists trouble — and continues to do so, especially for economists who like to consider themselves radical because they do not understand what allegedly "orthodox" economic theory is really saying, and prefer to create the impression that orthodox economic theory really maintains the kind of stupidity that they themselves would perpetrate if they were "orthodox," given the low level of economic understanding they are capable of.

The difficulty can be put very simply. The fact that the laborer in the field contributes by the sweat of his brow to the production of the crop "should," to use a favorite phrase of my one-time colleague Lionel Robbins in lecturing to his classes, "be obvious even to the weakest intellects among you." But what is the contribution of the land itself, or the seed-corn, both of which are as available at the end of the crop-year as they were at the beginning, and lose no sweat in the interval between? The simple and superficial answer is "nothing at all: the owner merely extorts some of the worker's output by virtue of his right of ownership." The economic theoretic explanation, developed first in the Ricardian theory of rent, was that productive land is scarce, and yields a surplus above the labor cost of working it, which accrues to the landlord. That explanation was fairly convincing, since everyone could see that good land is scarce, and that the scarcity is "an act of God" in either a real or a figurative sense. But what about capital equipment, which is a produced means of production and not a part of the environment and hence nonreproducible. Why should capital (in this narrow sense) yield a return above depreciation and replacement? The classical and traditional answer is that capital is scarce, because its

production requires resources that could otherwise be used for producing current consumption, and people will not forego current consumption merely for the same amount of consumption deferred into the future; instead they will require an increment of future consumption to compensate for the deferment. That answer has never satisfied the radicals, partly because they seem incapable of understanding that the compensation is for past abstention from consumption, or for refraining from running down the equipment in order temporarily to increase consumption above income, and that the need for the compensation is not visible in any obvious suffering by those who now own the capital and can live — sometimes obscenely luxuriously — off the income while keeping the capital intact. Partly, however, there are genuinely debatable issues about the ethical basis of the ownership of capital acquired by individual saving and abstention from consumption, and even more about the ethical basis of the ownership of capital acquired by inheritance or by gambling. But these issues are quite unrelated to the fact that capital is scarce, and commands a price for its services to production — specifically, that because of its scarcity it yields a surplus above its own depreciation.

It is obviously difficult to understand the productive contribution of stocks of capital equipment; but at least one can see the part that capital equipment plays in the productive process, even if it is merely a structure like a barn that just stands there. It is much more difficult to understand the productive role of money as a stock, since money does nothing except circulate around, and it has no value in itself, but only value to the extent that it can be passed to other people in exchange for something else more tangibly useful. And it is not really very satisfying simply to assert, as the more common version of the quantity theory of money does — the version using the velocity of circulation *à la* Irving Fisher rather than Walras' and the Cambridge school's desired ratio of money to income — that there is some sort of objective and basically technological relationship between the flow of income to be circulated and the stock of money required to circulate it. It is not satisfactory, because a technological relationship (a) is a constraint on behavior not observed in practice, (b) strictly speaking leaves no room for adjustment behavior — unless one tells a descriptive story that violates the assumed technological character of the relationship.

Some of the more profound neoclassical monetary theorists,

notably Walras and Marshall, understood the stock-flow relationship involved in money-holding, and its essence as economic choice-behavior; but their exposition was not embedded in a general theory of stock-flow relationships, and hence was hard to grasp. Other able neoclassical theorists, most noticeably Wicksell and later Keynes, were led by dissatisfaction with the standard version of the quantity theory to develop a more plausible and apparently sensible theory, often referred to as "the income-expenditure approach," which achieved its apparent common-sense quality by depicting monetary phenomena as influencing the rate of interest, as the price rewarding thrift (saving) and constituting the cost of increasing productivity (investment), hence influencing the relative magnitudes of saving and investment, and hence creating an inflationary excess demand for total output or a deflationary excess supply. Characteristically in this line of theory, excess demand or supply were assumed to determine the movement of money prices, output being assumed to be kept at full employment through the automatic competitive mechanism of the market. Keynes's *General Theory*, and the resulting "Keynesian Revolution," however, shifted the focus, and the analysis of equilibrating response to monetary disturbance, from variations in money prices with constant output to variations in output and employment with constant money prices (or, more accurately, constant money wages with money prices pegged to money wages through the marginal productivity theory relationship).

The result of the Keynesian Revolution was to convert what still claimed to be monetary theory into real theory: with money wages fixed, variations in the nominal quantity of money meant variations in the real quantity of money, which in turn affected the relative price of real money in terms of other real assets — the interest rate — with equilibrium being restored by a change in the quantity of real money demanded, the change being partly induced by the effect of the change in the interest rate on the quantity of real money demanded for liquidity or asset purposes at a given level of output and employment, and partly induced by the effect of the change in the interest rate in inducing a change in investment, output and employment, and therefore a change in the transactions demand for real money.

As Keynes developed it — as the theory of a closed monetary economy with fixed or only slowly changing money wages — the *General Theory* focussed on simultaneous equilibrium of stocks (via

equilibrium between liquidity preference and the exogenously given stock of money) and of flows (the equilibration of saving and investment through multiplier changes in income.) This was its truly revolutionary contribution, from the standpoint of monetary theory — though that contribution was temporarily outweighed by its revolutionary insistence that changes in output, not in money prices, were the equilibrating mechanism for the relevant short run, together with Keynes's emphasis on the less-than-unitary marginal propensity to consume as the key concept in explaining why changes in output played an equilibrating role. Because he dealt with a closed economy, characterized by simultaneous stock and flow equilibrium (specifically, equilibrium in the Marshallian short-run sense, since the analysis abstracted from the growth of the economy) Keynes cannot be held responsible for the errors made by his disciples and followers in extending his analysis to an open economy or world system characterized by balance-of-payments disequilibria, and specifically in treating stock disequilibria as flow equilibria. To be more concrete, Keynes cannot fairly be blamed for his followers' error of treating the international flows of money that constitute balance-of-payments deficits and surpluses as permanent flows determined by national incomes, relative prices, and relative interest rates, incorrectly, rather than as temporary reflections of a process of adjustment of actual to desired stocks of assets. Keynes can, however, fairly be blamed for the habit of assuming that monetary phenomena can be assimilated to real phenomena, and particularly the assumption that exchange rate changes can be considered as effectively changing the real relative price of a country's export goods in terms of its import goods. The persistent assumption that monetary phenomena can be adequately analyzed in terms of a "real" system is, of course, the crux of the "monetarist" critique of Keynesian economics.

Leaving to one side the question of how far Keynes was to blame for it all, it is undeniable that the events of the early 1930s, of which the collapse of the international monetary system — the gold standard — was the one that concerned practical economists and policy-makers and the Keynesian Revolution was the one that concerned monetary theorists, led to a basic change in the theoretical approach to balance-of-payments problems, a change which has only gradually and relatively recently been seen to have been a switch off the main track of theoretical international monetary development onto a sidetrack gradually disappearing into nowhere. Perhaps it

would be fairer and more accurate to say that while a few of the crew have managed to steer the locomotive through the confusion of the switching yard and back onto the main track, most of the railway cars, and the passengers inside them, have been bumped off into various sidings and dead ends.

The various stages of this development of international monetary and balance-of-payments theory, from the departure from classical international monetary theory to the recent return to the mainstream of the classical tradition (epitomized in David Hume's "price-specie flow mechanism") can be expressed fairly conveniently in terms of five "approaches" to balance-of-payments theory and specifically to the theory of devaluation or of the effects of exchange rate changes. These are "the elasticities approach," "the Keynesian multiplier approach," "the absorption approach," "the Meade-Tinbergen balance-of-payments policy approach," and "the monetary approach to the balance of payments." These approaches differ in various ways: the "elasticities" approach uses Marshallian partial equilibrium analysis, the others use some type of general equilibrium approach; the elasticity, Keynesian, and absorption approaches, and in most expositions the monetary approach, analyse devaluation as a policy adopted by itself, whereas the policy approach assumes two objectives (internal and external balance) requiring the use of devaluation in combination with a policy for controlling aggregate demand; and the absorption and monetary approaches explicitly introduce the monetary consequences of devaluation whereas the other three assume implicitly or explicitly that the monetary consequences follow from but do not interact with the "real" (relative price and income) consequences of devaluation.

I have, however, dealt with these approaches formally, in writings addressed to professional audiences and published in more and less accessible places. For the present audience, I think it may be more illuminating and interesting to focus on what the different approaches have to say about a certain proposition commonly held and relied on in policy-making circles. The proposition can be put in the following terms:

*Proposition:* Devaluation will improve a country's balance of payments because by making exports cheaper to foreigners than before it increases sales of them, and by making imports relatively more expensive to domestic residents it decreases the quantity demanded and therefore the expenditure of foreign currency on

them. Unfortunately, devaluation of the currency involves turning the devaluing country's terms of trade against it; but the welfare loss involved is the price that has to be paid for improving the balance of payments by devaluation.

What does the "elasticity approach" have to tell us about this proposition? The elasticity approach defines the balance of payments as being equivalent to the balance of trade (or sometimes the balance on current account) by excluding international capital flows except for international flows of money. The first step is to recognize that for consistency the balance of trade has to be defined in terms of values of exports and imports in terms of one of the currencies: for balance-of-payments analysis the foreign currency is obviously indicated, though if we are interested in trade as a determinant of domestic employment the domestic currency is indicated. It is immediately evident that the first part of the Proposition we are discussing is wrong, because it involves valuing exports in terms of domestic currency and imports in terms of foreign currency. If we value trade consistently in terms of foreign currency, expenditure on imports must decrease, because the domestic currency price of imports but not the foreign currency price is increased, while the quantity must fall; but the foreign price of exports must fall, and this fall in price may not be compensated for by an increase in the volume of exports. In fact, the foreign currency value of exports may fall by more than the foreign currency value of imports falls, and the balance of payments worsen. The necessary condition for this to happen, assuming trade initially balanced, is that the sum of the elasticities of demand for imports on the two sides of international exchange is less than unity. This is usually described as "the Marshall-Lerner criterion for stability of the foreign exchange market," but this is a misnomer, because we are talking about a price for foreign exchange that is not a free-market price but a price pegged by the government, which is shifted to a higher level by devaluation.

The second part of the Proposition is also wrong, because it involves the same error of measuring alternatively in terms of two different currencies. The initial effect of devaluation, in the elasticity analysis, is to raise the domestic currency price of exports above cost of production; equilibrium is restored by a fall in the foreign and domestic demand price, and a rise in the domestic and foreign supply price, as quantities demanded and supplied increase — and

similarly, the domestic currency supply price of imports is raised above the domestic currency demand price, equilibrium being restored by a decline in the domestic and foreign currency prices of imports as quantities demanded and supplied fall. In general, domestic currency prices of both exports and imports rise, and foreign currency prices of both exports and imports fall, as a result of the devaluation. The relative extents of the rise in terms of domestic currency and fall in terms of foreign currency, for exports as compared with imports, depend on the magnitudes of the elasticities of demand for and supply of imports and exports. If the price of exports in domestic currency rises more, or in foreign currency falls less, than the price of imports in the same currency, the terms of trade (real price of exports in terms of imports) improve, and vice versa. But, and this is the important point, there is no way of establishing any plausible presumption that the terms of trade will turn against rather than in favor of the country whose currency is devalued.

The elasticity approach therefore demonstrates that both parts of the Proposition under discussion are wrong, because they both confuse measurement in domestic currency and measurement in foreign currency. But is the elasticity approach itself correct? And if not, is the result to restore, or conversely to cast further doubt on, the original Proposition? The answer is that the elasticity approach is incorrect, or perhaps, more kindly put, relies on implicit assumptions that run counter to common sense; but these errors or questionable assumptions further undermine the original Proposition. In developing this point, I shall discuss in the context of the "elasticity approach" only the defects that are peculiar to it, deferring discussion of the other defects until after I have discussed the other approaches to which they also apply.

The elasticity approach, in common with the Marshallian partial equilibrium approach from which it springs, necessarily assumes that, aside from the good under discussion — the two goods, exports and imports, in the balance-of-payments theory application — there exists a large mass of goods in general. Otherwise, there could not be separate prices for exports and imports, that can each be treated as a real price influencing quantities demanded and supplied. (There might, of course, be two goods and "money" of some kind, the goods having separate prices in terms of money.) One formulation of criticism of the elasticities approach is that the cross price effects that in general must exist in the consumption and the production

of the three goods are arbitrarily assumed to be zero, the demand and supply of a traded good depending only on its own price, i.e. its real price in terms of the mass of non-traded goods. This form of criticism, however, is more clearly expressed in Keynesian terms, in the statement that the approach ignores the influence of demand on income and back again on demand. Suppose, for example, that the devaluation is successful in the double sense of increasing export earnings and reducing import expenditure. One would expect that the extra export earnings would increase incomes in the export industry, and hence the home demand for importable goods, exportable goods, and non-traded goods; and that extra demand for the latter two types of goods would further increase income and hence demand for imports; similarly, one would expect that expenditure diverted away from imports would be matched by increased expenditure on exportables and non-tradeables, thereby generating increases in incomes and therefore in demands. The unanswered questions, which are simply buried by the Marshallian partial equilibrium approach, are, first, "where does the extra output demanded come from?"; and, second, "why doesn't the expansion of income and therefore demand go on and on until the initial improvement in the trade balance is exactly offset by reductions in exports and increases in imports induced by the cumulative expansion of income kicked off by the initial improvement?"

The answers to these two questions are provided by Keynesian multiplier analysis, in the setting of the 1930s experience of mass unemployment. The expansion of production required to meet the extra demand for domestic output created by successful devaluation is provided by re-employing some of the unemployed; and the extra income generated by increased employment does not increase demand enough to wipe out the initial improvement in the balance of payments, because part of the increased income is not spent on goods but saved. Thus the multiplier effect of the initial improvement in the trade balance brought by successful devaluation, in increasing demand and employment, and so reducing exports and increasing imports, reduces but does not fully cancel out the initial improvement in the payments balance. Note that the Keynesian model of the effects of devaluation alters the interpretation of the elasticity criterion, *sum-of-the-import-demand-elasticities-minus-one*, used in the elasticities approach. On the elasticities approach, fulfillment of the criterion guarantees successful devaluation; on the

Keynesian approach, the elasticity criterion assures a successful primary or "impact" effect of devaluation; but the total effect depends on the adverse multiplier effect not fully offsetting the impact effect, and this requires that the marginal propensity to save must be positive in both countries. The full criterion for successful devaluation, assuming that the Keynesian equilibrium is stable, involves in other words the product of the elasticity criterion and the two countries' marginal propensities to save. But since the marginal propensity to save was assumed axiomatically to be positive, it was easy though mistaken to assume that fulfillment of the elasticity criterion was all that was necessary for successful devaluation, and to ignore both the condition of positive marginal propensities to save, and the assumption of unlimited supplies of unemployed labor necessary to permit devaluation to change relative real prices of goods and equilibration to be brought about through variations in income and employment, i.e., quantities instead of prices.

The crucial role in the analysis of the assumption of general unemployment became evident gradually with the swing from 1930s mass unemployment to postwar II conditions of inflationary excess demand for goods and labor; but, as is customary with our profession — and other academic specialists — economists initially reacted by attempting to redefine the elasticities of the Marshallian analysis to fit inflationary conditions. One result was the emergence of a school of "elasticity pessimists," who convinced themselves that the elasticities were too low for devaluation to be successful. At the extreme of this school were the radicals, who maintained that, contrary to "orthodox economics" — which actually the elasticities approach was far from being, having been developed in the 1930s as an alternative to the historically traditional monetary-theoretic approach of the quantity theory and the price-specie-flow mechanism — balance-of-payments deficits should be tackled by means of import restrictions and exchange controls. This prescription, incidentally, makes exactly the same pre-Keynesian mistake as our reference policy Proposition and the elasticity approach — namely, it ignores the strong probability that expenditure diverted away from imports will lead to increased demand for home goods, increased income (either in real terms or in monetary terms), and increased demand for exportables and permitted imports. The only argument possible for it is that controls may avoid a worsening of the terms of trade that would occur with devaluation; but the worsening of the terms of

trade is not an inevitable consequence of devaluation, as demonstrated earlier; and in any case there is a degree of import restriction beyond which further import restriction damages economic welfare more than would a deterioration of the terms of trade.

A second outcome was the Alexander "absorption approach." This approach (the novel part of it) argued that devaluation effected by itself under conditions of inflationary demand and "over-full" employment would not change the relative prices of exports in relation to home goods, but instead would produce an inflationary rise in prices cancelling out the initial relative price effects of devaluation. Any improvement in the balance of payments would depend on the inflation itself deflating the aggregate demand for goods from full-employment production and incomes. Such deflationary consequences could come through two alternative routes: the Keynesian route of income redistribution from workers to capitalists, or from taxpayers to government, and a consequent increase in saving — a route that may not work, either because the redistribution of income through inflation does not take place, or because the assumed differences in saving propensities do not exist; and the quantity theory of money route of a reduction on the real value of existing money balances through the inflationary rise in prices.

The "absorption approach" contains both the embryo of the later "monetary approach" and another ground for criticism of the reference Proposition: if a currency is devalued under inflationary or near-full-employment conditions, the result will likely be a general rise in prices, not the change in the relative prices of exports and imports by comparison with domestic goods that the argument assumes; and any favorable effect will be a monetary side-effect of the inflation that offsets the relative price effects of the devaluation, *not* a real effect of changes in relative prices operating through traditional elasticities of demand and supply.

The "absorption approach," however, is seriously defective, in the sense that it assumes that the government of the devaluing country does not understand the inflationary effect of devaluation, or understands it but does nothing about it. An intelligent government, presuming for the sake of analysis that such a government is a possibility, at least as an "ideal type," should be presumed to accompany devaluation by a policy of domestic deflation gauged as closely as possible to offsetting the inflationary effects of an initially-

successful devaluation. This assumption, suitably generalized, is the foundation of the Meade-Tinbergen model or theory of economic policy in an open economy; in simplest form, the Meade version of the theory stresses that if a country has two objectives — taken as full-employment-without-inflation, or "internal stability," and a balanced balance of payments, or "external stability" — it needs to use two independent policy instruments in coordination — a policy to control the level of aggregate demand (fiscal or monetary policy) and a policy to control the division of domestic and foreign demand between domestic and foreign output (exchange rate policy, though possibly import and export controls and interventions instead).

The Meade-Tinbergen policy model of devaluation indicates yet another criticism of our reference policy Proposition: its failure to recognize the need for, and to specify, policies to offset the aggregate demand effects of successful devaluation and prevent these effects from leading to nullification of the effects of devaluation through offsetting domestic inflation. The Meade-Tinbergen model overcomes this criticism, which applies also to the elasticities approach and the Keynesian multiplier approach under full employment conditions, and in a somewhat different way to the "absorption approach." But the Meade-Tinbergen model, as well as its predecessors, is subject to a final criticism based on the "monetary approach," to the extent that it envisages a continuing deficit or surplus in the balance of payments and a continuing outflow or inflow of international reserves.

Actually, there are two criticisms of the reference Proposition, and of the four successive approaches to devaluation theory I have described, which derive directly from consideration of the balance of payments surplus or deficit as a flow of international money (or reserves) between countries. The first, of great practical importance but not so theoretically fundamental as the second, is that there are two successive differences between the point reached by the Proposition and the various models, namely that successful devaluation leads to a net (algebraic) increase in the excess of export receipts over import expenditures, and the conclusion that successful devaluation improves the balance of payments. The first difference is that an increase in the excess of sales of current output over expenditures on current output (or of export earnings over import expenditures) is not necessarily matched by an accumulation of money balances; it may instead be matched by an accumulation of securities, with no accumulation of cash. The second difference is that an accumulation

of money is not necessarily an accumulation of *foreign* money (or international reserves); the extra money demanded may be provided by the domestic monetary authority, through domestic credit creation. To cut a long argument short, and merely state its conclusion, a balance-of-payments deficit can occur only if the domestic monetary authority allows domestic credit to expand faster than the public wants to expand its money holdings, with the result that the public gets rid of the otherwise excessive balances through a balance-of-payments deficit and a reduction in the international reserves backing the domestic money supply — in other words, domestic credit substitutes for international reserves in the backing of the money supply. Conversely, a devaluation can only improve a country's balance of payments if a tight monetary policy forces the public to accumulate the extra money it wants by acquiring international reserves through the balance of payments.

The second, and theoretically more fundamental, criticism is that what the public demands is a stock of money, not a flow of increases in the stock of money period by period — more accurately, this is true if we follow Keynesian analysis in abstracting from the process of economic growth over time, and the associated increase in wealth and in the stock of money demanded that goes with growth. It follows that balance-of-payments deficits or surpluses are by their nature transient and self-correcting, requiring no deliberate policy to correct them, and allowing no policy for maintaining a deficit or surplus as a permanent feature of international economic relations — again in the usual theoretical short-run context that abstracts from growth. The reason is simply that deficits reduce the money stocks whose excessive size underlies the deficit, and surpluses build up the money stocks whose deficiency underlies the surplus. The qualification necessary in this context is only that in the short or medium run there may be a limited possibility of a country maintaining a deficit over a sequence of periods by running down its reserves, or a surplus over a sequence of periods by sterilizing the monetary consequences of balance-of-payments surpluses by offsetting sales of domestic securities in the open market. But this possibility of slippage is inherently limited by the reduction in the central bank's holdings of international reserves in the first case, and its holdings of domestic assets in the second case, towards zero as a result of the policy of attempting to maintain a continuing imbalance between desired and actual money stocks. It should be added, perhaps, that in the

alternative context of a growing domestic and world economy, disequilibria between desired and actual money stocks leading to balance-of-payments deficits or surpluses can be continually recreated by differences between the rates of growth of demand for money and the banking system's holdings of domestic assets (domestic credit); but even in the growth context, "permanent" deficit and surplus positions require continuing differences in one or both of the countries' rates of real economic growth and income-elasticities of demand for money.

Let me conclude this paper by attempting to dispel the impression that my presentation has been concerned with an abstract and arid theoretical subject, only remotely relevant to the practical world of balance-of-payments problems and policy, by stating or restating very briefly some of the more startling conclusions to which the recognition of the balance of payments as a monetary phenomenon requiring monetary-theoretic analysis leads. I have already explained that devaluation is only capable of improving the balance of payments temporarily, and then only if it is backed up by a restrictive monetary policy. Consequently, we should not be surprised that much of the evidence about devaluations seems to suggest that they often do not work — the wrong theory of devaluation leads to looking for the wrong evidence and misinterpreting it when you find it. More strongly, since the effect of devaluation is essentially a deflation of the money supply by inflation of prices, which deflation could be achieved more directly by deflation of the quantity of money by monetary policy, there is some justification for treating devaluation as a last-resort policy, because of the economically disturbing side-effects of the associated inflation, rather than treating it as the *sine qua non* of freedom of domestic policy action. Turning from devaluation to the alternative method of controlling the balance of payments favored by governments — which is not monetary deflation but the application of direct controls over and impediments to international transactions — the monetary approach implies that such methods will have no effect at all on the overall balance of payments, except to the extent that (a) controls increase the demand for money by raising domestic prices (b) the extra money is not provided by domestic monetary expansion. The extremely practical relevance of this point, incidentally, is demonstrated by the fact that for an almost unbroken period of about fifteen years — from 1957 to 1973 — the United States Administration tried to improve the



U.S. balance of payments by the imposition of ever-more-ingenious interferences with freedom of international trade and payments — and failed consistently to make a significant dent in the chronic U.S. deficit.

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BIBLIOGRAPHICAL NOTE

The major contributions to the development of the monetary approach to the balance of payments, together with references to and discussion of others, may be found in Jacob A. Frenkel and Harry G. Johnson (eds.), *The Monetary Approach to the Balance of Payments* (London: George Allen & Unwin, and Toronto: The University of Toronto Press, 1976).