

ESSAYS IN INTERNATIONAL FINANCE

No. 124, November 1977

MONEY, BALANCE-OF-PAYMENTS
THEORY, AND THE INTERNATIONAL
MONETARY PROBLEM

HARRY G. JOHNSON



INTERNATIONAL FINANCE SECTION

DEPARTMENT OF ECONOMICS

PRINCETON UNIVERSITY

Princeton, New Jersey

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

This Essay is based upon the David Horowitz Lectures that Harry G. Johnson gave in Israel in 1975. Some weeks before his death on May 8, 1977, Professor Johnson wrote to ask whether the Section would like to publish a revised version of the Lectures. We do so now with a Foreword that was the obituary notice published by the Times of London; it was written by Professor W. M. Corden of the Australian National University.

We are grateful to the Association of Banks in Israel for permission to publish the Horowitz Lectures, to Professor Corden, to the Times of London for permission to publish the obituary notice, to Elizabeth Johnson for reviewing the edited manuscript, and to Professor Jacob A. Frenkel for reading the proofs.

The Section sponsors the essays in this series but takes no further responsibility for the opinions expressed in them. The writers are free to develop their topics as they wish.

PETER B. KENEN, *Director*
International Finance Section

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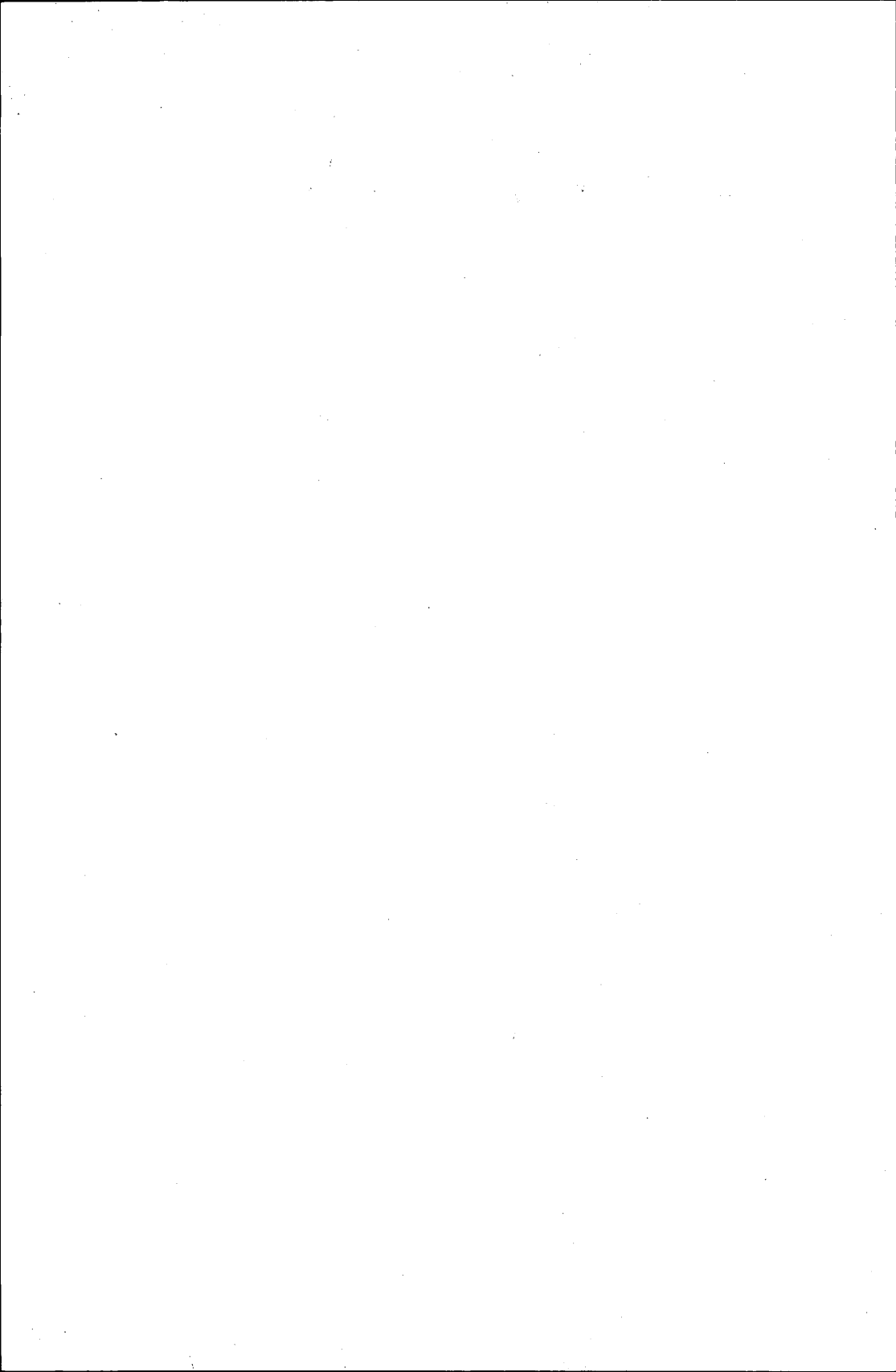
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FOREWORD*

Professor Harry G. Johnson FRCS, FBA, economist, died on May 8 at the age of 53. With his death the profession of economics has lost one of its most distinguished, prolific, widely-read and best-known members.

Harry Gordon Johnson was born in Toronto in 1923 and graduated with honours from the University of Toronto in 1943. After teaching at St. Francis Xavier University, Nova Scotia, he served in the Canadian forces in Europe, and in 1945 spent a formative year in Cambridge, a year when he met Maynard Keynes and encountered the well-known controversialists of the Cambridge Economics Faculty.

After an interlude in Toronto and Harvard (where he subsequently obtained his doctorate) he returned to Cambridge as a Research Fellow of Jesus College, later moving to King's College. From 1956 to 1959 he was Professor of Economic Theory at Manchester, and since 1959 he had been Professor of Economics at the University of Chicago. In addition, from 1966 until 1974 he held a Chair at the London School of Economics, spending about half the year in Chicago and half the year in London. He held numerous other Chairs for limited periods, and acted as stimulant-teacher-researcher in many parts of the world, from month-long special courses in Pakistan to the Irving Fisher Chair at Yale University, and more recently a Chair at the Graduate Institute for International Studies at Geneva.

Harry—as he was known to vast numbers of economists, young and old, all around the world—had a key position in the international economics profession. He was himself dedicatedly anti-establishment—and especially anti-Oxbridge—but was really in himself a sort of one-man Establishment. Numerous young economists whom he thought of good prospects, and especially those who came from peripheral universities, owed jobs, fellowships, invitations to conferences and first publications in journals to him. He was an editor of economic journals—perhaps the best editor since Keynes. He started his editorial career with the *Review of Economic Studies* in 1951 and has been editor or co-editor of *The Manchester School*, *Economica*, the *Journal of International Economics* and, above all, the *Journal of Political Economy*. He edited the last of these from 1960 to 1966 and was co-editor from 1969 until his death. He maintained this famous Chicago journal as probably one of the best-edited and one of the two or three best economic journals in the world.

He was an inveterate conference goer and traveller. Hardly a

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Canadian university did not consider him one of its own on the basis of his visits. And a conference of economists anywhere in the world was hardly complete without Harry—quietly chipping away at his carvings during the conference and then incisively summing-up at the end.

Amidst all this activity, often late into the night, in airports and in the air, even during conferences, he wrote prodigiously. He published over 400 articles, mainly in professional journals. Many of them were subsequently reprinted in collections which have become essential reading for students in these fields, notably *International Trade and Economic Growth* (1958), *Essays in Monetary Economics* (1967), *Aspects of the Theory of Tariffs* (1971) and *Further Essays in Monetary Economics* (1972). Most of these articles were theoretical but he showed his ability to apply sharp analysis to current issues in such works as *The Canadian Quandary* (1963), *World Economy at the Crossroads* (1965), and *Economic Policies Towards Less Developed Countries* (1967).

He had a concept of the “economics profession” using a “scientific approach,” steadily advancing knowledge, each little contribution building on the professional heritage. Indeed, “professional” was a key word in his vocabulary. In the early 1970s he sternly lectured economists at various universities who were, in his view, slumping back into the old “non-scientific” ways.

While his writings on monetary theory and on current economic issues were probably the most widely read, his principal original theoretical contributions were in international trade theory. His scholarly care in acknowledging the work of previous authors often gave the impression that he himself was relatively unoriginal and was only building on the work of others, but, among other things, he pioneered the theory of trade and growth, made major contributions to the theory of tariffs, and extended the techniques of trade theory to income distribution analysis.

At the LSE he devoted himself to building up postgraduate education in economics, hoping to restructure courses on United States graduate school lines. He had his battles and did not achieve what he set out to do. He wanted the LSE to become a wholly postgraduate institution. For various reasons he gave up the LSE Chair in 1974. He had developed a marked hostility to what he would describe as the amateurism as well as the penny-pinching in British academic life. In some forthright articles he criticized the British economics profession for its lack of intellectual rigour, the supposed failure of prominent

members to keep up with new theoretical developments in the United States, and its devotion to old-fashioned Keynesianism.

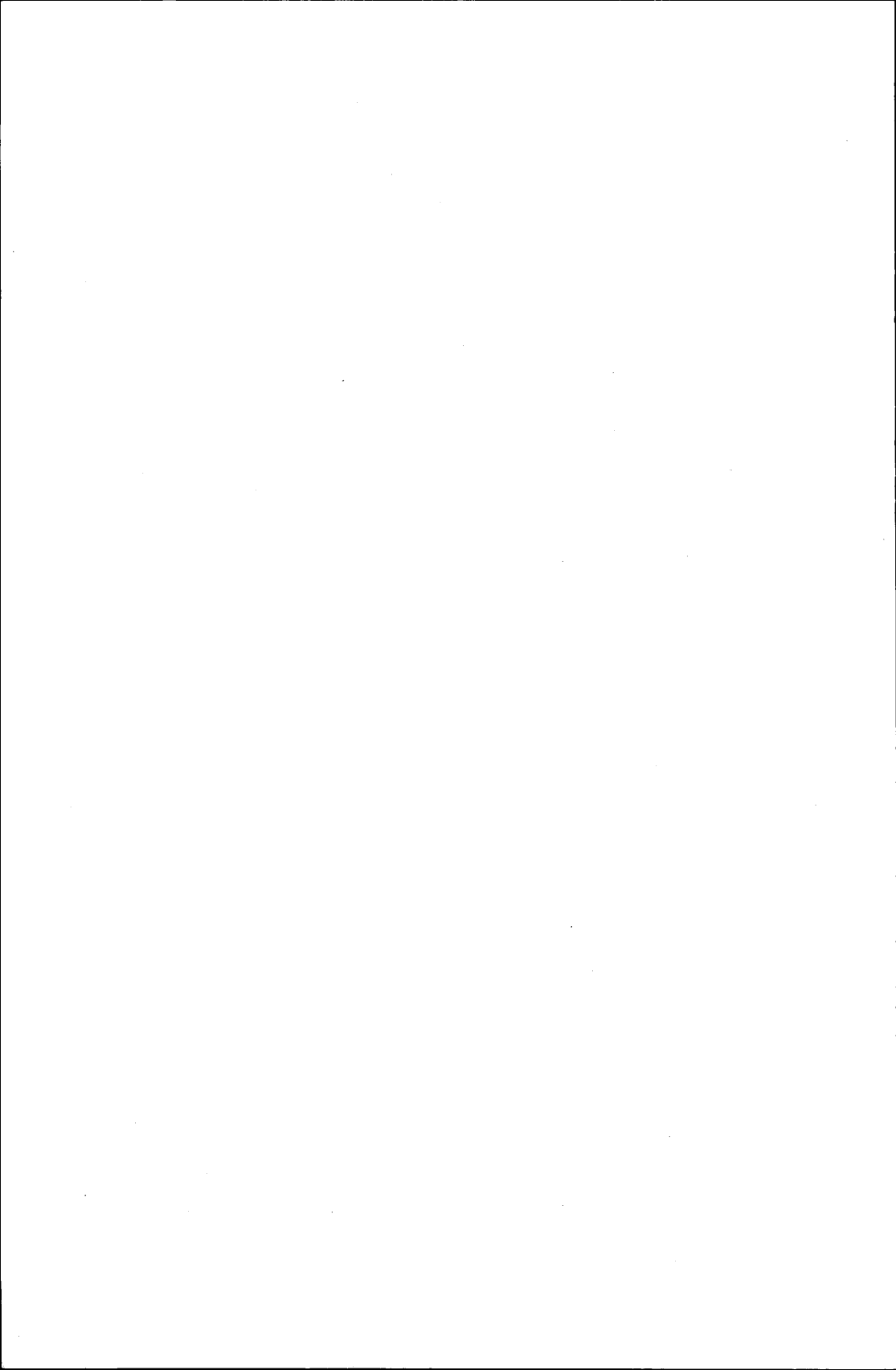
He was a complex character, both fierce in debate and kind in personal relationships. He had a life-long love-hate relationship not only with Britain but also with Canada. He acted like a resident when he was within Canada, freely criticizing everything within sight without the detachment of the visitor. Many Canadian universities offered him positions, yet he would not commit himself to Canada. Essentially he was an internationalist, opposing nationalism, especially the Canadian variety, in all its economic manifestations.

But he opposed Britain's application to join the Common Market, for his sympathies, not surprisingly, were much more Atlantic than European, and some of the economic arguments used by the Common Market advocates were rather too easily destroyed.

In 1974 he suffered a stroke from which he made a good recovery, though it left him mildly handicapped. But his will-power was impressive and it did not take him long to get back to writing and to conference-going. He devoted himself particularly to developing the new monetary theory of the balance of payments.

He leaves a widow, Elizabeth, one of the editors of Keynes's *Collected Papers* and a writer on Keynes, as well as a son and daughter.

W. M. CORDEN



Introduction

This Essay is adapted with small modifications from the David Horowitz Lectures that I delivered in Israel in 1975. I was honored by and grateful for the invitation to give them. My only previous visit to Israel had been ten years earlier, for a Rehovoth Conference graced by an address by Governor Horowitz himself. At that time, he was extremely active in two major world economic-policy debates—the reform of the international monetary system, which already appeared as a necessary task but one that could be tackled with due deliberation by economic statesmen of good will, and the problem of devising new ways to transfer resources for development to the less developed countries, a problem to which world attention had been dramatically called by the First United Nations Conference on Trade and Development in Geneva in 1964. Governor Horowitz, in common with many other international monetary experts, sought to solve the two problems simultaneously by linking reserve creation in some way to development assistance. That general class of proposals, I must admit, did not appeal to me then and has never appealed to me any more strongly since. After years of learning to appreciate the necessity and the difficulty of distinguishing between monetary and real phenomena, I find intellectually obscurantist any analysis or proposition that unwittingly or willfully confuses the creation of money with the liberation of real resources, however noble the intention. The world inflation of recent years bears ample evidence to the dangers of the politically popular belief that desirable real results can be achieved by manipulations of monetary magnitudes and maneuvers with monetary mystique. Nevertheless, I admired the combination of ingenuity and economic statesmanship that distinguished the contributions of Governor Horowitz to the debate—a combination that is in some ways reminiscent of John Maynard Keynes at his best as a policy advisor.

There is a second reason why I was glad to return to Israel: so many Israeli economists have contributed to the development of the two main fields of economic theory I am interested in, monetary theory and international economic theory. In particular, at the time of my previous visit the second edition of Don Patinkin's *Money, Interest and Prices* (1965) was just about to appear—in fact, he showed me an advance copy. His book had only begun to establish the classic position in monetary theory that it has since come to enjoy, and neither of us, I am sure, had any thought that it would become a major source of ideas and techniques for the analysis of a problem it did not deal with

at all, the theory of the balance of payments and the international monetary system. In brief, as I shall show later, Patinkin's work on the integration of money and value theory through the real balance effect, and on the interaction of stock and flow adjustments on the establishment and the stability requirements of full economic equilibrium, provided the key to understanding classical income-expenditure, monetary balance-of-payments theory. That key was necessary for an effective return from the post-Keynesian tradition to the classical tradition of analysis of international disequilibrium problems as monetary phenomena.

My two Horowitz Lectures were entitled "Money and the Balance of Payments" and "The International Monetary Problem." That my selection of topics may seem on the one hand an arbitrary linking of two largely unrelated subjects, and on the other hand a choice catering to the widely different interests of two eminent Israeli economists, Governor Horowitz and Don Patinkin, is admitted. But in my own mind the two topics are firmly interwoven: both areas of economic concern illustrate the difficulties that professional economists and policy-makers get into when they forget the fundamental truism that a monetary economy is different from a barter economy because it is monetary, and the corollary that in some broad sense the demand for and supply of money are relevant to what happens to monetary magnitudes in such an economy. One cannot hope to reason effectively about a monetary economy in the terms appropriate to the barter economy of value theory.

Both topic areas exemplify the pitfalls of attempting to analyze a monetary world with the tools of "real" theory. I include under this term theories like sophisticated Keynesianism that attempt to create a simulacrum of a monetary economy by treating money and monetary policy as a determinant of a real quantity or real price in the shape of a real quantity of money or "liquidity" or a rate of interest. Notable examples are the "Yale School's" "portfolio balance" approach and the alternative liquidity approach presented in recent writings of J. R. Hicks. My own experience as both a pure theorist and a minor participant in over fifteen years of discussion of the international monetary system and its possible reform has led me increasingly to ask myself, as a social scientist: Why do policy-makers and their professional economic advisors, who should know better, consistently retreat into "real" analyses of and solutions for monetary problems? I can offer only a brief sketch of an answer here: The "real" world is familiar, and identical with the "monetary" world as long as the price level is reasonably stable; everyone lives his normal life in a partial-equilibrium

context in which money price changes are also real price changes. The "money" world of monetary macro-equilibrium and disequilibrium is by contrast unfamiliar and strange. Few people indeed possess either a systemic concept of the economy as a whole, as distinct from their own small corner of it, or the imagination to recognize what seem like "real" changes with "real" causes as being in reality monetary changes with monetary causes. Hence they do "what comes (intellectually) naturally," treating unemployment as due to business pessimism, automation, inadequate training of the labor force, and so on, and inflation as due to the monopoly power and greediness of big business or big labor, or to excessive and wasteful public spending on warfare or welfare, according to political taste.

Money and the Balance of Payments

The new, so-called "monetary approach" to the theory of the balance of payments has been developing and gaining popularity in recent years as an alternative to the "elasticity approach," the "absorption approach," and various other Keynesian approaches which may be termed "the foreign-income multiplier approach" and "the Meade-Tinbergen-Keynesian economic-policy approach." (The meaning of these approaches will be explained more fully later.)

At the outset, it is important to note that the monetary approach is new only in the context of balance-of-payments theory as it has developed since the 1930s, when the collapse of the liberal international economic order based on the gold-standard system was accompanied by the Keynesian revolution in economic theory. The monetary approach actually represents a return to the classical tradition of international monetary theory established by the work of David Hume, summarized in the classical price-specie flow mechanism of adjustment to international monetary disequilibria, and foreshadowed in the work of Isaac Gervaise (1720). This tradition has dominated international economics for most of the two centuries during which economics has existed as a scientific system of thought. It is important to emphasize this point, because the development of the monetary approach to the balance of payments has been confused in many so-called minds with something called "monetarism," which is one side of an argument about domestic macroeconomic policy management that has been conducted mainly in the United States, though with a subsequent and derivative manifestation in the United Kingdom. The argument is between those who place their faith in fiscal policy, following the Hansenian American version of the Keynesian revolution,

and those who emphasize the necessity of proper monetary policy for the stabilization of the economy, led but by no means dragooned by Milton Friedman.

The issue has been further confused by the fact that Robert Mundell and I, as the two most visible exponents of the new approach, were associated with the University of Chicago during the crucial period when the approach was developed and hence are easily identified by the unthinking as lesser lights in the contemporary "Chicago School" led by Milton Friedman. Yet we are Canadians by birth and citizenship, did our graduate work at M.I.T. and Harvard respectively, and were strongly influenced in our early professional years by the balance-of-payments theorizing of James Meade of the London School of Economics. Mundell worked out his central ideas at the Johns Hopkins Bologna Center and the International Monetary Fund before he joined the Chicago department. Most of my own work on the subject was done during my periods at the London School of Economics, in response to international monetary developments as seen from—more accurately, not understood by—the United Kingdom. Unfortunately, however, the description of scientific activity as a debate between risible and reasonable schools of thought and the assignment of skeptics about prevailing orthodoxy to a ludicrous school through guilt by association, however tenuous geographically and intellectually, has become a hallmark of post-Keynesian discussion of monetary economics. The ability to do so with fluency and plausibility has been assumed by many to be more than adequate to justify the earning of a Ph.D. at public expense.

In order to explain the nature of the new approach, I find it convenient to begin with a brief history of the development of balance-of-payments theory, an *excursus* that will allow me to make some incidental digressions on the inherent difficulty of monetary theory and the shackles imposed on free theoretical inquiry in economics by the limitations of the tools—particularly the mathematical tools—of theoretical analysis.

Hume's price-specie flow analysis was developed as an answer to the mercantilist contention that the path to augmentation of national wealth and power lay in the development and maintenance of a balance-of-payments surplus through measures to increase exports and decrease imports ("a policy of import substitution," in the modern phrase) so as to produce a continuing inflow of precious metals ("treasure") into the country. Hume's analysis demonstrated that such a policy would inevitably be self-defeating, since the accumulation of money stocks would satiate the demand for them and any ex-

cess stocks would “leak out” through a balance-of-payments deficit. (Remember that, in an open system, actual stocks of real balances are adjusted to desired levels not by price inflation or deflation, as in a Patinkinian closed economy, but by outflow or inflow of nominal money through the balance of payments.)¹ In illustrating this proposition, Hume showed that the expansion of issue of paper-currency substitutes for precious metals would lead merely to an outflow of precious metals. The parallel in the contemporary monetary approach is the proposition that excessive expansion of “domestic credit” by a country’s banking system will lead to a balance-of-payments deficit under fixed exchange rates and a loss of international reserves. A corollary of Hume’s analysis is the assertion that there is a “natural distribution” of the world money or reserve stock among the member countries of the world system toward which the actual distribution will gravitate. (Note the parallel with the Archibald and Lipsey [1958] critique of Patinkin’s first-edition analysis of the effects of a disproportionately distributed increase in nominal money.)

Hume’s analysis was related to the economic world of his time, but such is the propensity of economists to live with archaic old facts rather than open their eyes to new facts that the work of Hume and his immediate successors left a permanent mark on balance-of-payments theory. The most important and pervasive point of influence was his concentration on the trade account—exports and imports of goods—as the locus of adjustment to international monetary disturbances. This concentration has remained a valid point of complaint by practical men against academic balance-of-payments theory, especially as it has been carried over to, and accentuated in, the post-Keynesian “elasticities,” multiplier, and policy approaches to the balance of payments. A second influence, which—apart from some work by Ohlin in the 1920s (see, e.g., Ohlin, 1929)—has only in the last four years begun to be questioned, was the assumption incorporated in the phrase “price-specie flow mechanism” that the domestic price level of a country possessing excess money stocks must rise relative to other countries’ price levels before trade flows are affected and a balance-of-payments deficit emerges. This view assumes limited holdings of commodity stocks and long lags in transportation and in the dissemination of information about markets, assumptions appropriate to Hume’s time but a decreasingly realistic approximation for contemporary integrated world markets. Furthermore, Hume’s

¹ This proposition cleared monetary phenomena from policy discussion and permitted the advocacy of free trade as the way to maximize output from national resources.

account predated the development of large-scale commercial banking subject to control by a central bank. By this century, however, the theory had been extended by the addition of the standard textbook analysis of the role of bank-rate adjustments in stimulating short-term capital movements as substitutes for actual specie movements.

The classical Humean tradition of international monetary analysis, like so much else of value in the classical and neoclassical traditions of monetary theory, was swept aside and, at least transiently, completely suppressed in the wake of the Great Depression and the Keynesian revolution. I attribute the fragility of that tradition, and its vulnerability to attack by what purported to be "common sense," to the inherent difficulty of monetary theory. "Real" theory began with the notion that value is created by the expenditure of human effort over time, a notion that raises no real questions of understanding or ethical justification. But it ran into problems once it became necessary to explain the productive role of material capital and the existence of a return on it, problems that still and needlessly confuse, or are confused by, the present-day Cambridge successors of the English classical tradition. But real capital at least requires sacrifice to accumulate, and it contributes in tangible form to total output. Money, on the other hand, is a stock that ultimately requires confidence, not tangible effort, to create, appears to have no inherent usefulness in its medium-of-exchange function, and yields no explicit return identifiable with an easily measurable contribution to production. Hence it requires a great deal of sophistication to treat money as a stock requiring application of stock-flow adjustment mechanisms. It is not surprising that even great monetary theorists like Wicksell and Keynes have found it more congenial to treat monetary adjustments proximately in terms of income-expenditure flow relationships motivated by the fixing of a disequilibrium relative price (the interest rate) through monetary policy, while politicians and the public prefer to attribute balance-of-payments deficits to prices being too high, businessmen and workers too lazy, or governments too spendthrift with the taxpayers' money.

Be that as it may, the classical approach to international monetary equilibrium and disequilibrium and balance-of-payments problems was swept away in the 1930s in favor of a succession of alternative approaches that attempted to treat balance-of-payments equilibria and disequilibria as flow equilibria. The implicit or explicit assumption on which these approaches were based was that flow trade deficits or surpluses (or, in some cases, surpluses or deficits on the balance of trade and services) entailed corresponding outward or inward flows of international reserves. This brief description, incidentally, encapsu-

lates the two main objections to these approaches made on behalf of the monetary approach. The first, which is one of those blindingly obvious elementary tautological points that economists are carefully trained to disregard in the process of formal model building, is that (in a fixed-exchange-rate system) an excess demand for money can be supplied *either* by the acquisition of international money through a balance-of-payments surplus *or* through the creation of money against domestic credit by the domestic monetary authority. This point has pervasive implications for international economic policy; they can be summarized in the proposition that no policy for improving the balance of payments can be successful unless supported by an appropriate restriction of domestic credit. The second objection, which requires sophisticated understanding of the basics of stock-flow relationships and adjustments subsumed in Patinkin's "real balance effect," is that a balance-of-payments deficit or surplus represents a transient stock-adjustment process evoked by an initial inequality of desired and actual money stocks. It cannot be treated as a continuing flow equilibrium. It is worth noting in passing that Keynes never made that mistake—he dealt entirely with a closed economy and a full stock and flow equilibrium in the goods, money, and bonds market. It was entirely a creation of others, who committed the error of analyzing a disaggregated monetary economy as if overall stock-flow equilibrium was enough and continuing net cash flows between its national parts would leave other flow equilibria unchanged.

The first popular successor to the traditional framework of analysis, one that still prevails in official and public policy discussions, was the so-called "elasticities approach," attributable to a classic essay by Joan Robinson (1950), though traceable to early work by the eccentric Bickerdike. That approach was pre-Keynesian, in the direct tradition of Marshallian partial-equilibrium analysis, which ignored repercussions of changes in production and expenditure in one sector on the equilibrium of the rest of the economy. Specifically, the approach regarded exports and imports as separate small sectors whose equilibria were determined by sector demand-and-supply functions in terms of domestic money prices (proxying for relative prices of traded goods in terms of domestic nontraded goods in general) as affected by the exchange rate applicable to conversion of domestic into foreign prices and vice versa.

The elasticities approach had the advantage of apparently shedding light, mistakenly it now appears, on two questions of contemporary concern apart from the effect of exchange-rate changes on the balance of payments itself: the effect on domestic employment, where im-

provement in the balance of payments *in domestic currency* (as distinct from foreign) increases demand for domestic output and the amount of employment, and the effect on the terms of trade, assumed to constitute an index of economic welfare. (In the latter connection, Robinson and others attempted to establish a presumption where none can exist, to the effect that the terms of trade will tend to move against the devaluing country.)

The approach had three major drawbacks, however. First, it expressed the criteria for a devaluation to improve the trade balance in terms of separate elasticities for exports and for imports, in an unfamiliar formula making improvement depend in the simplest case on whether the demand elasticities summed to more or less than unity. This formulation concealed the point that the question was one of market stability and concentrated attention on empirical guesswork as to what the magnitudes of the elasticities were likely to be in particular cases. Second, the analysis involved both the minor inelegance of ignoring cross-elasticity relations among exports and imports and the major theoretical error of ignoring the multiplier implications of the increase in demand for domestic output that was the counterpart of an improvement in the balance of payments. (This was *not*, it should be recognized, an error committed by Robinson, who clearly stated the multiplier implications, but an important error in popular interpretation of her analysis.) In consequence of this error, less skilled theorists took the elasticities formulation as the total of the analysis. In the early postwar controversy over elasticity pessimism versus elasticity optimism, they ignored the question of availability of unemployed domestic resources to supply the devaluation-induced increase in demand and attempted to cram this consideration into the determination of the likely magnitudes of the elasticities themselves. Finally, as already mentioned, the model identified an excess flow demand for money with an excess flow demand for international reserves, thereby treating balance-of-payments disequilibria as continuing flow phenomena and ignoring the importance of domestic monetary policy in determining the effect of the presumed cash-flow demand on the flow of international reserves.

In the 1930s, the international-economics application of Keynesian theory proper was primarily concerned with the international extension of the multiplier concept. Initially, there was a controversy over whether the trade balance or total exports should be used as the multiplicand, and whether the marginal propensity to save or the sum of the marginal propensities to save and to import should be used as the multiplier. The controversy about the multiplicand was soon re-

solved, correctly, in favor of total exports. Later work by Metzler (1942) and Machlup (1943) was concerned with the question of whether quantity adjustments through the multiplier could fully replace the classical relative-price adjustments, the answer being in the negative so long as both countries in the world system had positive marginal propensities to save internationally.

A fully consistent multiplier analysis of the effects of devaluation, however, had to wait until the postwar period. The analysis was simplified by assuming perfectly elastic supplies of exports and imports and no nontraded goods, so that devaluation involved essentially a change in the real relative price of the two goods. This relative price change triggered multiplier expansion and contraction of income depending on whether the demand elasticities summed to more or less than unity *and* whether or not both marginal propensities to save internationally were positive. The two requirements appeared multiplicatively in the overall formula for the effects of a devaluation, and the concept of the marginal propensity to save disguised the fact that what was really represented was a bastard stock-flow concept of a marginal propensity to accumulate international reserves. It was thus easy to interpret the concept as making the effect of a devaluation depend essentially on the standard stability criterion that the sum of the price elasticities of import demand be greater than unity, the result of the devaluation, if successful, being a continuing inflow of international reserves (domestic credit policy being ignored).

Meanwhile, the fact that the immediate postwar situation was one of inflationary pressure rather than mass unemployment led most policy economists to attempt to torture the elasticities approach into conformity with inflationary conditions. Alexander (1952) responded by producing the rival "absorption approach" to devaluation. Alexander's essential contribution was to observe that, for a devaluation undertaken *by itself* under full-employment conditions, the resulting extra inflationary pressure would make the elasticities of export and import demand and supply irrelevant and the effect of the devaluation in reducing the deficit depend on the consequences of the inflation itself in reducing aggregate domestic demand for output. These consequences were of two kinds: Keynesian effects, of theoretically doubtful reliability, working via various kinds of income redistribution, and the monetary-theoretic effect of inflation in reducing real balances.

The absorption analysis, while important in shifting attention from microeconomic elasticities to the macroeconomic balance of aggregate demand and supply, was itself defective in two important re-

spects and is best regarded as constituting a halfway house to a correct analysis. The first important defect lay in taking devaluation *by itself* as a policy for analysis, under circumstances in which a combination of devaluation *and* deflationary macroeconomic policy is clearly required. The second defect was that the absorption approach still concentrates on expenditure flows, not recognizing that a continuing deficit will eventually correct itself without devaluation by reducing the economy's real balances, unless real balances are continually renewed by domestic credit expansion to offset the effects of reserve losses. In such a case, devaluation will not improve the balance of payments by deflating real balances.

The fourth, and most theoretically satisfactory, stage of post-Keynesian development of Keynesian balance-of-payments theory came almost simultaneously with the publication in 1951 of James Meade's *The Theory of International Economic Policy*, Volume I, *The Balance of Payments*. Meade shifted the whole theory from the "positive" analysis of the effects of individual policies on the balance of payments to the "normative" analysis of the combination of policies the authorities must follow if they wish to implement policy objectives with respect to both domestic employment and the balance of payments ("internal balance" and "external balance," in Meade's terminology). (Tinbergen's [1952] contribution, incidentally, was to show that the government must have as many independent policy instruments as it has objectives.)

Basically, Meade's analysis showed that the authorities must have fiscal or monetary policy to control aggregate domestic expenditure, and devaluation or controls over international trade and payments to control the allocation of domestic and foreign expenditure between domestic and foreign output. Note that, insofar as the authorities maintained exact balance-of-payments equilibrium, actual and desired money holdings would balance and there would be no inconsistency with monetary-theoretic requirements. Inconsistency could arise only from the implication that if government policy erred, the result would be a continuing flow-equilibrium deficit or surplus whose elimination would require a change in governmental economic policy.

The final stage of development of Keynesian balance-of-payments theory came with the apparent foreclosure of the possibility of using exchange-rate change or trade and payments controls as policies for affecting the allocation of domestic and foreign demand between domestic and foreign output. Mundell (1962) pointed out that the need for as many policy instruments as policy objectives could be met

by recognizing that fiscal and monetary expansion have effects in the same direction on the current account but in opposite directions on the capital account of the balance of payments. This policy model—the so-called “theory of fiscal-monetary policy mix” (Mundell, 1962)—also involved no monetary-theoretic inconsistency in cases of preservation of balance-of-payments equilibrium. It was correctly criticized, however, for treating as continuing flow phenomena what are properly regarded as securities-portfolio stock adjustments in response to changes in international interest-rate differentials, and for neglecting the consequences of such portfolio adjustments on the services-account component of the current account. (Moreover, as a practical policy suggestion for the United States, it turned out to be a resounding failure to the extent that it was tried.)

The alternative “monetary approach” to the balance of payments starts from the proposition that balance-of-payments disequilibrium involves an inflow or outflow of international money and hence must be treated as a monetary phenomenon requiring the application of the tools and concepts of monetary theory (Frenkel and Johnson, eds., 1976). This approach, as mentioned earlier, involves two major changes in theoretical orientation and formulation. The first is the simple tautological point that domestic money can *either* be created or destroyed by domestic monetary policy operating on the volume of domestic credit extended by the banking system *or* be imported or exported by running a surplus or deficit on accounts of the balance of payments other than the money account. (The phrasing here is carefully chosen, for a reason that will appear shortly.) This change implies, most fundamentally, that balance-of-payments theory, analysis, and policy prescription must necessarily include exact specification of domestic monetary policy. The second and more subtle change is that international money flows are a consequence of stock disequilibria—differences between desired and actual stocks of international money—and as such are inherently transitory and self-correcting. This is, of course, nothing more than a contemporary restatement of the Humean price-specie flow mechanism, but one refined by modern understanding of the nature of money as a stock yielding either utility to consumers or productive services to producers and by recognition of the possibility that adjustment of desired to actual stocks of international money may occur through either the trade account (surpluses or deficits on exports relative to imports of goods and services) or the capital account (international capital flows of various descriptions) or both. In other words, the monetary approach frees balance-of-payments theory from its traditional concentration on bal-

ance-of-payments adjustment through changes in the trade balance (the modern equivalent of which is concern with the "basic balance" or combined balance on goods, services, and long-term capital accounts, the last account being assumed for some reason to be more predictable and amenable to economic explanation and policy influence than movements in the money and short-term capital accounts).

The monetary approach also has the attraction of clarifying the role of movements in the terms of trade—the prices of imports relative to the prices of exports—in the process of international adjustment. Prevailing theory has strongly implied that the purpose of devaluation is precisely to produce an adverse movement in the terms of trade (thereby making the devaluing government appear to be deliberately choosing to impose a national loss) and has further tended to suggest that the reduction of material welfare consequent on devaluation can be avoided by alternative interventionist balance-of-payments policies. By contrast, the monetary approach indicates that terms-of-trade changes, which in principle may go in either direction, are either a transient feature of a monetary stock-adjustment process or a necessary concomitant of movement from an unsustainable deficit situation (in which a country is "living beyond its income" with the help of distress monetary transfers from the rest of the world) to a sustainable position of balance-of-payments equilibrium.

Recognition of this point has led monetary balance-of-payments theorists to transfer their analytical interest away from models stressing imperfect substitution between foreign and domestic tradeable goods and the role of elasticities of demand for such goods in producing terms-of-trade changes that may go either way. They are concerned instead with models stressing the distinction between traded international and nontraded domestic goods, whose relative prices must change in a particular way as domestic expenditure varies relative to income in the process of international monetary stock adjustment. (For an early example of such a model, see Salter, 1959.) This clarification of the role of elasticities and relative price changes in the process of international adjustment is worth emphasizing. The concentration of analysis by monetary balance-of-payment theorists on the so-called "small country" assumption—that the country under analysis is so small that all goods prices and interest rates can be treated as internationally fixed—has often been mistakenly interpreted to mean that the monetary approach is confined to the analysis of such trivial cases. In fact, the procedure has been prompted by the opposite purpose of clearing secondary and essentially trivial analytical complications out of the way of understanding the essentials.

Insofar as theoretical development in international economics is promoted by the observed failure of existing theories to fit the facts of experience rather than by the refinement of professional standards of theoretical elegance and the instinct of scientific workmanship, the development of the monetary approach to balance-of-payments theory can be attributed to two recent historical events. The first is the failure of the prevalent elasticity approach to account for a mounting accumulation of awkward failures of prescription and prediction with respect to devaluations and revaluations and other balance-of-payments policies, most notably the initial failure of the British devaluation of 1967 and its short-lived success after the British authorities turned temporarily to tight control of domestic credit expansion. The other is the failure of Keynesian theory to explain and account for the world inflation that has been going on since 1965 or so, a phenomenon that is easily explainable on classical Humean lines by the generation of an excessive rate of growth of the world money supply initiated by U. S. monetary policy.

Correspondingly, the ultimate test of the monetary approach is its superiority in empirical explanation of balance-of-payments phenomena. Work on the empirical testing of the theory has been proceeding apace behind the scenes, though constantly impeded by the unfortunate institutional fact of life that the reputations of young economists can be made much more quickly and definitively by elegant and comprehensive mathematical theorizing than by the empirical testing of hypotheses. The main positive findings so far (see Frenkel and Johnson, eds., 1976) have provided underpinning for the proposition that balance-of-payments improvement is inversely connected with domestic credit expansion. The most robust specific proposition is that, contrary to Keynesian predictions, the fastest-growing countries will have the strongest (the surplus) balance-of-payments positions, because their demand for money will tend to grow faster than the supply of domestic credit. Empirical testing has, however, run into two major difficulties: First, there is a dangerous temptation to test and confirm the monetary approach spuriously, by verifying statistically the tautology that an increase in domestic money must be provided either by domestic credit creation or by reserve acquisition. Second, in devising a proper test of the theory, which involves testing the existence and stability of the domestic demand for money, one runs into all the problems previously encountered in domestically oriented research on the quantity theory of money, most noticeably the interdependence of demand and supply of money, lags in the adjustment of actual to desired quantities on both sides, and the division

of the effects of monetary changes between price changes and output changes.

In this section, I have dealt with the application of monetary theory to the theory of the balance of payments, criticizing the successive stages of development of balance-of-payments theory since the early 1930s for their attempt to analyze the monetary phenomena of balance-of-payments surpluses and deficits with theoretical constructs designed to deal with a "real" or "barter" system. I outlined a new "monetary" approach to these problems—actually a restatement of the main tradition of international monetary theory going back to David Hume's formulation of the price-specie flow mechanism but improved by the incorporation of modern concepts of stock-flow adjustments in monetary equilibration processes. The fundamentals of the monetary approach involve two central points: the tautology that changes in the domestic money supply may be brought about either through changes in the volume of domestic credit or through international exchanges of international reserve money for goods or securities, and the proposition that a balance-of-payments deficit or surplus is a monetary phenomenon representing a process of adjustment of actual to desired stocks of money and cannot therefore be appropriately treated as a continuing flow phenomenon representable as the residual of inflows and outflows of expenditure on goods (and possibly securities) governed by incomes and relative prices (and possibly relative interest rates).

The International Monetary Problem

I turn now from pure theory to the application of the monetary approach to a practical problem in international economic policy, the international monetary problem. The problem, in simple terms, is that the international monetary system of fixed but "flexible" exchange rates, created at Bretton Woods after the international monetary collapse of the 1930s and centered on the International Monetary Fund, itself collapsed in February-March 1973 into a regime of "dirty" or "managed" floating exchange rates. At the time, the official international monetary experts were still arguing in a rather leisurely fashion about the precise institutional changes required and negotiable to strengthen the International Monetary Fund system against certain weaknesses that had become increasingly evident from the early 1960s on.

What have we learned from the experience of collapse and its aftermath, and where do we go from here? I find it useful, in examining

these questions, to concentrate on the international monetary system as a monetary *system*, that is, a system governing monetary relationships among the constituent national members of the international economy, and to visualize in a very long historical perspective the problems of an international monetary system based on the concept of fixed rates of exchange among national currencies. That means starting, though very briefly, with the traditional nineteenth-century gold standard—even though to speak of such a “traditional” system is in part mythological, since one of the safety valves of the nineteenth-century system was that, for most of the period, nations had a choice between the gold and the silver standards. They opted gradually for the gold standard at their own convenience, the United States coming firmly onto gold only in 1900. (By the same token, immediately after World War I, the international experts of the League of Nations saw as one of the chief problems of reestablishing the gold standard in a world of many more independent nations the danger of a shortage of gold relative to the demand for it, and set themselves to propagandizing, largely unsuccessfully, for the adoption of the gold-reserve standard.)

The gold standard, in common with any other fixed-exchange-rate system based either on a produced commodity or on an international credit instrument bearing a zero or uncommercially low rate of return, is subject to two major and interacting difficulties. The first is to provide for a rate of growth of the international-reserve-base money of the system approximately equal or closely related to the growth of demand for international reserves at stable prices. With a stable reserve growth at such a rate, broadly full-employment growth of the world economy can occur at a stable, or only mildly rising or falling, world price level. Without it, the fixed-rate system provides, for its member countries, not monetary stability but the obligation to experience roughly the same degree of price inflation or deflation as all the other members experience. The second difficulty arises from the fact that money derives its function not from its inherent value or characteristics but from confidence in its usability in exchange. Consequently, so long as the base money involves a functionally unnecessary investment of real resources or commitment to hold liquid assets in a zero or low-yielding form, there will be natural economic pressures to find higher-yielding substitutes for the holding of actual base money. This can be done with apparent safety so long as confidence is maintained in the ultimate convertibility of base-money substitutes into base money itself. The result of the process, however, is on the one hand greatly to complicate the problem of determining the rate of

expansion of world base money appropriate to the maintenance of reasonable price stability, and on the other hand to make the system vulnerable to waves of excessive confidence and loss of confidence in the convertibility of base-money substitutes into base money itself.

These two difficulties, it may be noticed in passing, are precisely analogous to the problems encountered in the historical evolution of national central banking. Those problems resulted in the conception of the central bank as having two not entirely consistent or easily combinable functions, that of controlling the growth of the money supply in the interests of monetary stability, and that of serving as lender of last resort to the commercial banking system in times of liquidity crisis. The solution in principle to the inconsistency was that in a liquidity crisis the central bank should lend *without stint* but lend *at a penalty rate*, in Bagehot's famous phrase, so that excess money created in a crisis would be returned to the central bank as soon as possible and not remain to overhang the market.

The nineteenth-century gold standard solved these problems surprisingly well, thereby maintaining an international monetary climate conducive to liberal policies of international trade and investment and peaceful world economic growth. But the gold-reserve standard re-established after World War I very quickly fell victim to a collapse of confidence in national currency substitutes for nonexistent gold. The loss of confidence was triggered by the failure of the U.S. Federal Reserve System to prevent a collapse of the American money supply and was complicated by intra-European national rivalries and American isolationism, which prevented the salvaging of the system by international monetary cooperation. The international monetary system could have been rescued in three relatively painless alternative ways: coordinated national policies of domestic monetary expansion; international agreement to raise the national-currency prices of gold; and the invention by international agreement of a new international credit-reserve asset to replace gold. Failing the requisite willingness to solve the problem in one of these ways by international cooperation and invention, the only remaining alternative was the painful and socially disastrous one of lowering the national-money and gold prices of commodities through savage deflation and its accompanying mass unemployment. (In fact, the 1930s ended with exchange rates among national currencies more or less what they had been at the beginning, but with the national-currency prices some 75 per cent higher and national unemployment levels far higher on the average than the pre-World War I norm.)

The fundamental source of the international monetary collapse was only imperfectly understood at the time. In accordance with what I said in the preceding section about the strong temptations for both "practical" men and professional economists to retreat into the finding of "real" explanations and the proposal of "real" remedies for monetary problems, the monetary causation was increasingly dismissed or disregarded in favor of real explanations and remedies. Thus, the results of a failure of governmental monetary management were transmuted into evidence of the instability of capitalism and its alleged inherent tendencies to depression, and the failure to resort to expansionary monetary policy as evidence that monetary policy was powerless to make capitalism behave properly. The apotheosis of these ideas found expression in the American Hansenian version of Keynesianism, with its faith in the reality of "secular stagnation" and its emphasis on fiscal policy as the only effective tool available for macroeconomic management.

In the narrower context of international monetary organization, the experience gave rise to a number of ideas that constituted the ethos of opinion about the problems that were intended to be solved by the Bretton Woods system. Chief among these were the following: belief in the inherent "deflationary bias" of the gold standard, against which national full-employment policies had to be protected by the freedom to devalue in cases of "fundamental disequilibrium"; fear of a chronic shortage of international liquidity, to be made good by international provision of credit substitutes for gold—a fear that dominated International Monetary Fund thinking well into the 1970s, in spite of accelerating world inflation, and is still evident in the Fund's concern with providing additional short-term credit for consumer-country victims of the oil-price escalation; belief in the need to exercise surveillance to prevent "competitive devaluation," together with "elasticity pessimism," both derived from misinterpretation of a situation in which general devaluation was required to raise the price of gold as one in which devaluation was required to correct individual deviant behavior in an international monetary system in overall equilibrium; and belief that the chief threat to the stability of the system was another great depression in the United States economy.

The related set of preconceptions and problem orientations naturally meant that official opinion was unprepared when the chief problem of the system eventually turned out to be world inflation rather than world depression. The 1930s problem was turned on its head: excessive liquidity, excessive willingness to accept U.S. dollars as

credit substitutes for gold or Special Drawing Rights, "unfair" competition meaning reluctance to revalue rather than eagerness to devalue, and a chronic U.S. deficit as the engine of world inflation.

For a while, however, the Bretton Woods system worked well in providing a monetary framework for sustained economic growth and a trend toward a more liberal international trade and payments system. One must be careful, however, not to exaggerate how well it worked, and for how long. The European currencies became convertible only at the end of 1958, and tensions over the U.S. dollar glut and the adjustment of exchange rates began very soon thereafter. The system was buoyed up for a long time after the war's end by the belief that the United States had a disproportionate share of the world's gold and should, if anything, encourage a balance-of-payments deficit to relieve the postwar "dollar shortage" and redistribute the gold. Nevertheless, in the mid-1960s the view was gradually accepted that the reserve-currency position of the United States posed a special problem, and that the solution was gradual replacement of the dollar as international money by the creation and steady augmentation of new genuinely international credit-reserve assets in the form of Special Drawing Rights.

What forestalled this expected leisurely and deliberate progress toward a new fixed-exchange-rate system based on international credit reserves was the decision of President Johnson in 1965 to escalate the war in Vietnam *without* introducing the substantial increase in taxes required to finance that escalation. The result was necessarily inflation, which was compounded by later inflationary mistakes of American monetary policy. Owing to the fixed-exchange-rate system and the dominance of the United States as reserve-currency country and leading trading and investing country, the inflation permeated the world economy.

The period of inflation with fixed exchange rates raises two major problems for analysis. The first problem is why the major countries, primarily the European countries, were unable to cope with the American inflation. The international monetary system did, after all, permit exchange-rate changes in both directions, and it would have been possible in principle to confine most or all of the inflationary pressure to the United States by a series of revaluations of other countries' currencies against the dollar. This procedure would have been more disturbing than the adoption of floating rates against the dollar, since it would have amounted to a speeded-up version of the crawling peg. Nevertheless, there had been enough discussion of the need for smaller and more frequent changes in the adjustable pegs after the

1967 devaluation of sterling to permit not-too-startling innovations. The main reasons why European countries did not cope were two: (1) They had got used to the idea of the dollar as a currency with a fairly stable real purchasing power, in relation to which they could adjust their currency values to take account of more or less inflationary domestic price trends than those of their major trading partners. American inflation deprived the system of this cornerstone of stability and made it necessary for the European countries to learn to cooperate in concerted revaluations against the dollar and American inflation. This they were unwilling and unable to do. (2) The franc-mark realignment of 1969 dashed the hopes of the Common Market establishment that the Common Agricultural Policy of the EEC would make it impossible ever again to change the exchange rates of member countries against each other. The establishment reacted by pressing for the creation of a common European currency directly, rather than implicitly as an uncovenanted implication of the Common Agricultural Policy.

As a start, the "snake in the tunnel" concept narrowed the fluctuations of European currency rates in relation to each other, by comparison with fluctuations against the dollar. Given enough cooperation, the snake might eventually have produced a situation in which the European currencies could be revalued in common against the dollar, thus turning American inflation back onto the United States. But its main actual result was to freeze the exchange values of the European currencies and prevent individual action against world inflation. In the end, it was the United States, worried by its mounting balance-of-payments deficit and especially the adverse trend of its merchandise-trade balance, and not the Common Market countries that forced a revaluation of other currencies in terms of the dollar (or, if one prefers, a devaluation of the dollar) in 1971. The Smithsonian Agreement to this effect lasted barely long enough to let President Nixon win reelection. Thereafter, in 1973, an American decision to devalue by another 10 per cent precipitated the collapse of the fixed-exchange-rate system into a regime of "dirty floating."

The second problem concerning this period is why governments, and official and academic economists, were so determined to deny the existence of a world inflation sparked by U.S. inflation and communicated by the fixed-rate system. The requisite analysis was certainly obvious enough, in conformity with time-tested theory, and not entirely unknown from previous history, especially the well-known case of the effects of Spain's imports of precious metals from conquered Latin America. Yet all the official economists in Europe known to me

rushed to present alleged statistical disproof of the contention that I and various European colleagues advanced that the fundamental problem was a world inflation.

The reasons appear, at this juncture, to lie in two basic defects of Keynesian monetary theory (or, perhaps better, vulgar post-Keynesian macroeconomic policy theory), which those convinced of the rectitude of their position regard as a source of invincible strength against alternative "classical" monetary analysis. First, the *General Theory* provides no theory whatsoever about what determines money wages and changes in them. Consequently, when it comes to this question anything goes, and what goes best for the policy-maker accustomed to keep his brains sharp by reading the headlines and occasionally an editorial in his morning newspaper is a mishmash of *ad hoc* sociological analysis of union behavior, ending in the conclusion that what is required is an incomes policy. Second, Keynesian theory, like income-expenditure theories in general, insists that monetary influences must affect aggregate output and prices through certain channels defined by the theory itself; if the influence cannot be seen moving in the specified channels, it does not exist. Thus, for a closed economy or one treated as closed, Keynesian theory asserts that monetary policy operates by influencing direct fixed investment. This remains an article of faith even though econometrics has been remarkably unsuccessful in finding such an influence and there is a growing body of evidence that monetary-policy changes have a fairly reliable influence on consumption expenditure (in typical "Keynesian," not sharply inflationary, circumstances). For an open economy, Keynesian theory similarly insists that world inflation must be communicated either through an inflow of reserves or through a sharp increase in the export surplus. Yet elementary monetary theory indicates that the money supply may increase either through reserve inflow or through domestic credit expansion designed to avert unwanted reserve inflow and that, through arbitrage, the prices of exports of closely substitutable goods will tend to stay in alignment in the various supplier countries rather than be forced up by a prior increase in demand.

There is a third and related problem: Why did the very official sources that denied the reality of world inflation during the closing stages of the fixed-exchange-rate system (when it was a necessary implication of the fixed-rate system) turn around within a few months of the switch to a floating-rate system (which made participation of foreign inflation in principle unnecessary) to the position that there was indeed a world inflation whose manifestation in domestic inflation

they were powerless to influence? It strains credulity—though not all the way to the breaking point—to hypothesize that it is a professional obligation of official economists to assert the exact opposite of prevailing economic truth in order to give maximum scope for ingenious policy recommendations. But another hypothesis seems plausible. Having tried unsuccessfully to hold back the tide of world inflation by sweeping vainly at it with the domestic brooms of fiscal, monetary, and incomes policy, only to see inflation become an endemic problem arrestable solely by thoroughgoing deflation and unemployment, governments and their economists found it easiest to blame the problem they had created for themselves on a foreign cause they could not be expected to overcome.

Leaving that issue aside, the floating-rate system, “dirty” or “managed” as it has been, especially in its early stages, has in my judgment worked very well. Contrary to the dire predictions of the adherents, defenders, and beneficiaries of fixed rates, and in accordance with the theoretical expectations of exponents of floating rates, the floating-rate system has not led to the fragmentation of the world economy and the cessation of growth of international trade and investment. Early fears of such fragmentation, and particularly of the proliferation of controls over international capital movements, were connected with the initial European effort to maintain a common float against the dollar and the belief of the French, since abandoned by them along with the common float, that this required a system of fixed rates for current-account transactions and a floating rate for capital-account transactions. Well before the oil crisis, the efficacy of the floating-rate system had removed any urgency about fundamental international monetary reform, and the onslaught of the oil crisis produced the spectacle—unfortunately temporary—of former fixed-rate diehards congratulating the world on its wisdom in having opted for a floating-rate system.

Since those halcyon days of winter 1973-74, however, the fixed-rate adherents and the commercial-banking and financial community have once again begun to find grave fault with the floating-rate system. They are not as yet anywhere near the point of recommending a return to fixed rates but only of recommending international cooperation and coordination in smoothing exchange-rate movements. Their criticisms are of two kinds, narrowly technical and broadly policy-evaluative.

The technical criticisms concern chiefly the magnitude of the exchange-rate movements that have occurred, which are judged to have been excessive and erratic in relation to the adjustment neces-

sary, and the failure of forward markets to develop for more than a few currencies, which greatly hampers the safe conduct of international financial business.

With respect to the first criticism, I must confess that I have always been astounded by the confidence with which "practical" men pass judgments about how much movement of a market price is sufficient to restore equilibrium. If the market consistently overshoots, one would expect vast profits to be made by currency speculation. But a number of bankers who have tried it have had their fingers badly and most embarrassingly burnt. This is perfectly predictable from the results of economic research on forward exchange markets, using techniques taken over from analysis of the behavior of stock-market prices. These results show that, despite the frequent appearance of apparent purposive patterns, changes in the movement of foreign-exchange rates in a free market are a "random walk." One must also note that foreign-exchange markets, like stock markets, capitalize expected future price movements into current prices, so that prices may be expected to move more sharply in response to new information than consideration of current demands and supplies alone would lead one to expect. (To put this point another way, "practical" men are as guilty as the balance-of-payments theorists they criticize of assuming that international adjustment occurs only through the current account.) In addition, one suspects that there is an important degree of optical illusion in bankers' discussions of the magnitudes of exchange-rate changes. Financial attention tends to concentrate on the rates between currencies that are important in international finance, but these are not necessarily the exchange-rate relationships relevant to international trade and direct investment. Thus, for the United States the rates of the Canadian dollar and Japanese yen are far more important than the rate of the Swiss franc, and the Canadian dollar has remained within a few cents of parity with the American dollar since 1970, while the yen rate has been fairly stable since 1973.

The second technical criticism, concerning the failure of forward facilities to develop on the expected scale, also raises some questions about what one can reasonably expect. To be brief and colloquial, it would obviously be pleasant for me if someone were to operate an all-night bar on the corner of my street, so that I could get a drink if ever I needed one, but I cannot reasonably expect anyone to open such a bar solely on the expectation of having me for a customer. Forward facilities in foreign exchange will develop only if there is enough volume of business to yield a reasonably predictable profit. It would not surprise me, given all the other risks to which private trade

and investment are subject in the inflationary and oil-uncertain mid-1970s, if the establishment of futures markets in a broad range of currencies commanded a very low priority.

The policy-evaluative criticism of the floating-rate system is that the world has had more inflation, not less, since floating rates became the system of international monetary relationships. But floating-rate exponents have never argued that floating rates will guarantee more price stability than fixed rates. The original argument, which goes back to the 1930s depression, was that only with floating rates could a country pursue an independent employment and price-stabilization policy. Actually, in that period countries did not in fact employ floating rates at all boldly for that purpose. Recently, the argument for floating rates has been modified, quite logically, into the proposition that only with floating rates can a country pursue an independent price-stabilization policy *if it so desires*. Whether it chooses to do so or, on the contrary, chooses to permit more inflation than would have been consistent with fixed rates is a matter for its own political choice.

Given the head of steam that inflation was permitted to develop under the fixed-rate system, and particularly the unusual degree of synchronization of the up-phases of national business cycles and the consequent pressure of world demand on food prices in 1972-73, it is not surprising that countries should have opted to let inflation rip. There is, in fact, a dangerous parallelism of irrational interpretation building up in this connection: just as the defenders of fixed rates used to attribute the depression and the constriction of world trade of the 1930s to the 1930s floating-rate regime—which relieved the worst of the horror—instead of blaming the predecessor fixed-rate regime that produced them, so those currently hankering after a return to fixed rates are building toward laying the blame for world inflation on the 1970s floating-rate regime, rather than on the predecessor fixed-rate regime that made floating rates necessary.

In any case, it is far too early to conclude that the floating-rate regime is more inflationary than the predecessor fixed-rate regime. The present world recession may succeed in breaking inflationary expectations and restoring rough price stability if contractionary monetary policies are not reversed too sharply and expansively. And the U.S. determination to fight inflation probably owes something to the effects of devaluation and downward flotation of the dollar in bottling up American inflation within the U.S. economy.

Time alone will tell. Meanwhile, it is certain that the world will not return to the fixed-rate system for a long time ahead, if ever. This raises some interesting problems for national economies and their

policy-makers as to the best way of living with the floating-rate regime.

My own country, Canada, has chosen in my view the worst possible strategy—to stay virtually pegged to the American dollar while letting the energy-resources boom give the economy a still more inflationary impetus than pegging to the U.S. dollar and the U.S. inflation alone would have done.

In an earlier run of the Horowitz Lectures, my Chicago colleague Milton Friedman surprised some of his audience and, later, of his readers by recommending that Israel should abolish its central bank and instead peg irrevocably to the U.S. dollar. I agree entirely with Friedman's argument that a small country anxious to promote economic development should eliminate the temptations to inflation inherent in central banking by joining irrevocably to a larger currency area, but I do not find it self-evident that the U.S. dollar is the proper currency to peg to. For a country significantly involved in trade with a number of countries, pegging to the currency of the most rapidly inflating country or to the currency depreciating most rapidly in terms of other major currencies (which may not be the same thing) automatically guarantees the most rapid possible rate of domestic inflation. The only relevant argument for doing so—and it is a nonargument—is that a country heavily dependent on another for imported capital and unilateral transfers should peg to the currency of the investing country in order to encourage investor confidence and maintain the domestic-currency value of foreign gifts. The second objective makes no economic sense whatever—the real value of foreign gifts is what they can buy abroad—and the first makes no sense when the relevant risk is created by the irresponsibility of the investing country's financial management and not by that of the recipient country. To be concrete, if Israel as a small country finds it preferable to peg the Israeli pound to a larger foreign country's currency rather than to float independently, the question of whether to peg, say, to the German mark rather than the U.S. dollar should at least be looked at seriously.

I have said that, in my judgment, the regime of floating exchange rates is going to be with us for a long time. This raises the obvious question of whether eventually the world monetary system will return to a regime of fixed rates—or, more likely, “flexible” or “adjustably pegged” rates. My own hunch is that it will. One reason is historical: Britain after the Napoleonic War, the European countries after each of the two world wars, the United States after its period of floating (1860-79), not to speak of lesser countries practicing currency flotation for shorter or longer periods, all returned sooner or later to

fixed exchange rates. As an incidental point, worth meditating on and relevant in the event of another major war, note that, in contrast to a more distant past, the advent of World War II led countries to peg the exchange rates of previously floating currencies, presumably to fix the unit of calculation for the external transactions of the controlled war economy. The other reason for my expectation is theoretical. The case for floating exchange rates is always carefully framed to distinguish between exchange rates that are free to move in response to market forces and exchange rates that oscillate significantly over time. The point is that, under stable economic conditions and with stable national economic policies, rates free to move will actually change little and slowly over time. Such a situation of relative stability must come about, if only transiently, at some point in the future. With rates stable, it will seem a trivial step, well worth the additional benefits, to move from *de facto* to *de jure* fixity of exchange rates.

That possibility makes it more, not less, necessary to keep fresh the memory of the intensive debates that were proceeding up until early 1974, after the outbreak of the oil crisis, about the main lines that a reform of the international monetary system (conceived as a fixed-rate system) should take. There are, specifically, three problems that are likely to be more difficult to get to grips with in the light of floating-rate and oil-crisis experience than they already were in the last phase of the International Monetary Fund system: the conditions under which exchange-rate changes in both directions should be sanctioned and indeed internationally required (recall what I said earlier about the financial community's feeling that exchange-rate trends in the past two years have been uncomfortably severe and erratic); the future of the dollar as a nationally created and controlled international reserve currency substitutable for and against Special Drawing Rights under ill-defined and amorphous conditions; and the possible world central-banking role of the International Monetary Fund. The prime function of a world central bank should be to provide stable growth of the international money base of the world financial system. But the International Monetary Fund has two serious distractions from this primary objective. Because of its historical origins in 1930s depression thinking, it is psychologically dominated by the presumption that the main danger to be guarded against is a shortage of international liquidity. And owing to its character, being at least partially a democratically responsible world institution and obliged to develop and maintain popular support among the numerical majority of its constituents, it tends to concern itself with the lender-of-last-resort function of the ultimate source of international credit, to the neglect of the

money-supply-control function and of Bagehot's dictum that lending of last resort should be conducted *at a penalty rate*. It must obviously be demoralizing for a central-banking institution to be empowered, by virtue of low conventional lending rates in a period of rapid inflation, to lend at last resort at a negative real cost of borrowing to the borrower and to be under political pressure to ration credit on the basis of the borrower's need for real resources.

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