

ESSAYS IN INTERNATIONAL FINANCE

No. 43, September 1963

MONETARY POLICY IN AN OPEN
ECONOMY: ITS OBJECTIVES,
INSTRUMENTS, LIMITATIONS, AND
DILEMMAS

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INTERNATIONAL FINANCE SECTION

DEPARTMENT OF ECONOMICS

PRINCETON UNIVERSITY

Princeton, New Jersey

This is the forty-third number in the series ESSAYS IN INTERNATIONAL FINANCE *published from time to time by the International Finance Section of the Department of Economics in Princeton University.*

This essay is based on a Memorandum Submitted to the Canadian Royal Commission on Banking and Finance in August 1962 and is published in this series with the permission of the Royal Commission. The International Finance Section previously published, as ESSAY No. 42, the Memorandum submitted by the late Sir Dennis Robertson, with a foreword containing a description of the mandate of the Royal Commission and of the project of this Section to publish some of the Memoranda of Evidence.

The author of the present essay, Dr. Marius Wilhelm Holtrop, is President of De Nederlandsche Bank. He has also been President of the Bank for International Settlements and Chairman of its Board of Directors since 1958. He was Alternate Governor of the International Monetary Fund from 1947 to 1952, and has been a Governor since then. As an economic theorist, Dr. Holtrop is best known by his important study on "The Velocity of Circulation of Money," and by his valuable contributions to the analysis of monetary problems contained in the annual reports of De Nederlandsche Bank and in several articles in economic journals.

Dr. Holtrop's Memorandum is here presented in a revised and elaborated version: he has eliminated restatements of the original questions asked by the Royal Commission, divided the essay into sections, and added a new first section on the monetary theory behind the approach to monetary problems. In order to indicate that this essay is not a literal reproduction of the Memorandum to the Commission, Dr. Holtrop has given it a new title.

The Section sponsors the essays in this series but takes no further responsibility for the opinions expressed in them. The writers are free to develop their topics as they will. Their ideas may or may not be shared by the editorial committee of the Section or the members of the Department.

The submission of manuscripts for this series is welcomed.

FRITZ MACHLUP, *Director*
International Finance Section

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CONTENTS

I. ON THE MONETARY THEORY BEHIND MONETARY POLICY	7
1. Ultimate aim of monetary policy	7
2. Monetary equilibrium in a closed economy	8
3. . . . and in an open economy	9
4. Induced and autonomous foreign deficit	10
5. Dilemma between internal and external equilibrium	11
II. ON THE OBJECTIVES AND INSTRUMENTS OF MONETARY POLICY	12
1. Objectives of monetary policy	12
2. Essential characteristics of monetary policy	13
3. Instruments of monetary policy and the authorities who control them	14
4. Relationship between monetary policy and other instruments of policy	17
III. ON THE INDICATORS OF DESIRABLE MONETARY ACTION	19
1. General state of business activity	19
2. Balance of payments	21
3. Active operations of the banking system	22
4. Liquidity of the economy	22
IV. ON SOME LIMITATIONS AND DILEMMAS OF MONETARY POLICY	25
1. Limitations of objective and limitations of performance	25
2. Dilemmas due to contradiction of purposes	27
V. ON THE ROLE OF DEBT MANAGEMENT AND DEFICIT FINANCING	30
1. Debt management in the Netherlands	30
2. Debt management and deficit financing in general	32
VI. ON THE ROLE OF CENTRAL-BANK POLICY	34
1. Techniques of central-bank policy in the Netherlands	34
2. Central-bank policy generally	37

VII. ON THE MONETARY SIGNIFICANCE OF "NEAR-BANKS"	39
1. Position of deposit-taking institutions in the Netherlands	39
2. Some observations about "near-banks" elsewhere	40
VIII. ON THE INFLUENCE OF THE INTERNATIONAL PAYMENTS SYSTEM	41
1. Adequacy of international liquidity	41
2. Fixed versus fluctuating exchange rates	43

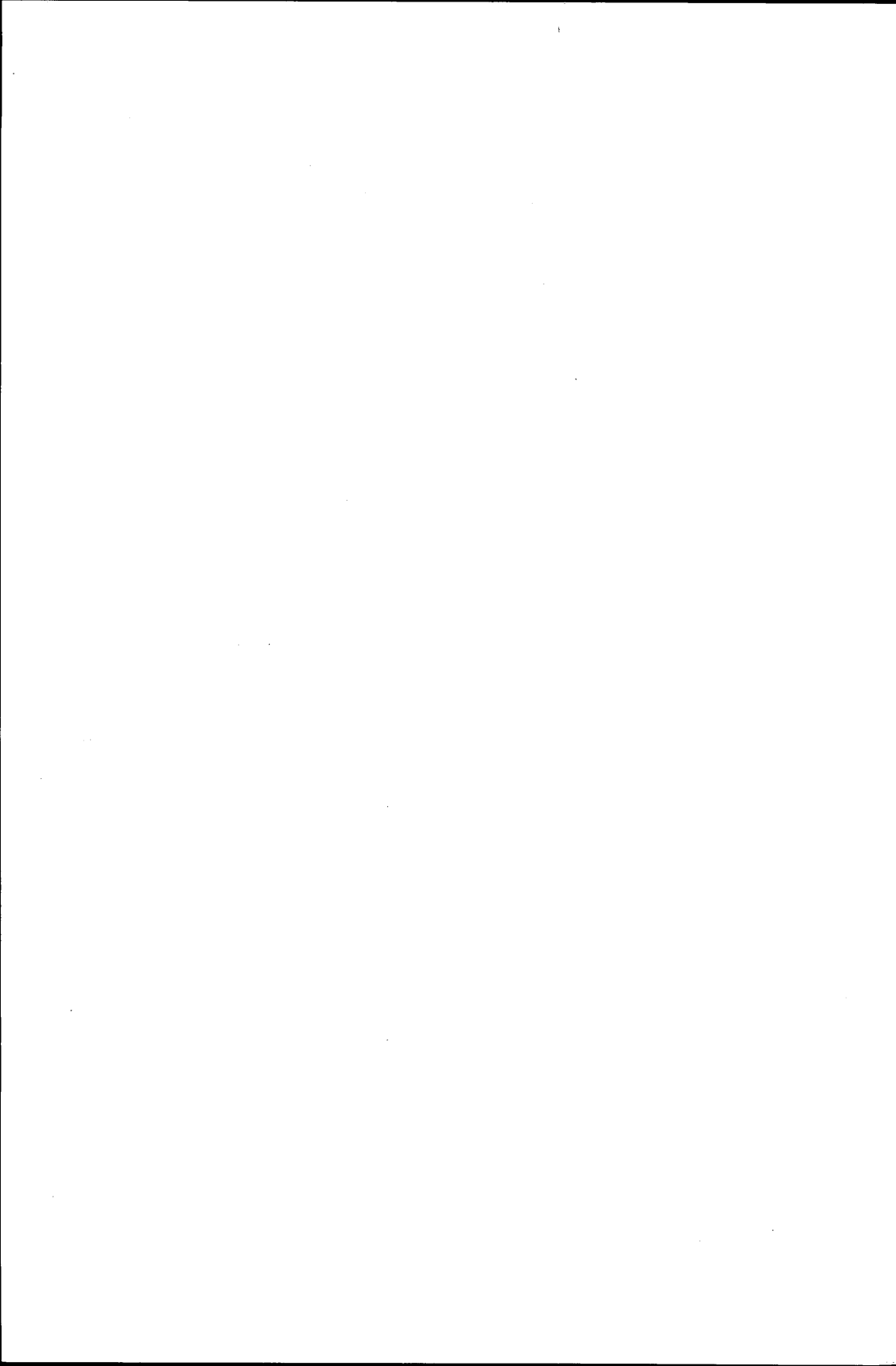
INTRODUCTORY NOTE

The following essay essentially represents a somewhat revised version of the Memorandum of Evidence submitted by the author, in the summer of 1962, to the Canadian Royal Commission on Banking and Finance in reply to a number of questions laid before him. An introductory section on the theoretical background of the author's approach to the monetary problems has been added and in some places the argument has been somewhat elaborated—more especially in sections III and V—but in general the original has been preserved. Consequently the course of the argument continues to bear the imprint of the questions originally put before the author by the Royal Commission.

It is hoped that publication in the present form may be helpful in familiarizing the general reader with some of the problems and some of the dilemmas of monetary policy, as these present themselves to one who, as a central bank president, actually has to play a part in monetary management.

M.W.H.

Amsterdam, March 1963



I. ON THE MONETARY THEORY BEHIND MONETARY POLICY

1. *Ultimate aim of monetary policy*

Monetary policy is the art of managing money. Money must be managed because its very use introduces a potential threat to the stability of the economic system. For the use of money enables economic subjects to create a time lag between their acts of supplying goods and services to the market and their acts of purchasing goods and services from the market. Consequently, in a given time period, total spontaneous supply and total spontaneous demand may not be equivalent, as they would necessarily be in a barter economy. The fact that money, received for services rendered, may indefinitely be hoarded, or at a later moment again dishoarded, and the fact that newly created money may be injected into the flow of spending, thus reflecting a demand for goods and services not matched by a commensurate supply, means that the use of money creates the possibility of disturbances in the regular circuit flow of demand and supply. The ultimate aim of monetary policy should be to cancel out such disturbances if and when they occur, thus assuring a steady flow of total demand that will continually absorb the steady flow of total supply. Under conditions of perfect competition, this is bound to be accompanied by the full utilization of available productive resources.

Monetary policy, however, cannot adopt the control of the flow of total demand as its immediate objective, because of the impossibility of directly observing the totality of the acts of spontaneous hoarding—that is, of spontaneous accumulation of cash or, in a somewhat wider sense, of liquidity—and of spontaneous dishoarding for which it is supposed to compensate. If such observation were possible, the sole objective of monetary policy could be defined as one of regulating the activities of the banking system and the financing of government in such a way that the net creation of money (or liquidity) in a given period of time will be equal to net spontaneous hoarding of money (or liquidity) in that same period. Since, however, direct observation of the totality of spontaneous hoarding and dishoarding is not possible, the monetary managers can only be guided by observing the net effects on the economy of the total of monetary impulses, that is, of net spontaneous hoarding (or dishoarding), on the one hand, and of net liquidity creation (or contraction), on the other.

2. Monetary equilibrium in a closed economy

In a closed economy (one with no foreign trade), an excess of spontaneous hoarding (negative monetary impulses) will necessarily lead to a fall in total money income. Under conditions of perfect competition, this fall in national income may be assumed to translate itself into a fall in the level of prices and incomes, without a fall in the volume of production. In reality, where perfect competition does not exist, and least of all in the sphere of income formation, the volume of production will be affected in a downward direction. A new equilibrium will only be established (that is, the downward movement of national income will only come to a stop) when the fall of income, which may be assumed to be accompanied by a proportionate fall in cash or liquidity requirements, has generated a sufficient amount of induced dishoarding to match the initial spontaneous hoarding that started the monetary disturbance. Contrarily, an excess of liquidity creation by credit expansion or deficit financing, or an excess of spontaneous dishoarding, will show up in a rise of total income, that is, in a rise of the level of prices and incomes, and—provided unused productive resources are available—in an increase of productive activity. This rise of income will come to a stop when it has generated an amount of induced hoarding—satisfying the increased liquidity requirements that normally accompany a rise of income—sufficient to match and absorb the initial excess of liquidity creation or of dishoarding.

It follows that, in a closed economy, the only state in which the level of prices and incomes will not be affected by monetary disturbances is the state in which net liquidity creation equals net spontaneous hoarding, that is the state of what may be called "monetary equilibrium." It is in this state only that the goal of stability of the value of money can be attained. Whether that stability is defined as stability of the level of prices or as stability of the level of incomes is a matter of choice. The general preference is for the first definition. This means that the gradual rise in labor productivity which results from technological and organizational development must be allowed to translate itself into a commensurate rise in the level of wages. It also means that the volume of hoarding that will necessarily accompany such a rise in the wage level, in order to provide for the additional cash or liquidity requirements, is to be considered part of the spontaneous hoarding for which monetary policy must compensate by sufficient liquidity creation. It finally means that monetary policy, in a closed economy, may safely consider the stability of the price level as the indicator that most truly shows whether the desired state of monetary equilibrium is actually attained. As a secondary

criterion it may use the volume of employment, the movement of which, however, will only be indicative of disturbances of a monetary nature when it is in the same direction as the movement of prices.

That the movement of prices, in a closed economy, is for all practical purposes a sure indication of monetary disturbance—whereas the movement of employment would be so only if it coincided with the movement of prices—can be explained as follows. The general price level can rise for nonmonetary reasons only when there is a general scarcity of goods. This is a phenomenon that may still occur in a predominantly agricultural economy, and it would be a mistake to interpret such a phenomenon as a monetary disturbance and try to combat it by deflationary monetary policies. In predominantly industrial economies, with their prevailing trend of ever-increasing productivity, a general scarcity of goods will only occur in cases of catastrophe, such as war. In such an economy a general rise (or drop) of the price level is almost sure to indicate causes of a monetary nature, unless accompanied by stability of employment and stability of the level of incomes. In that case the drop in prices may be the result of increased productivity, not accompanied by an increase in the income level.

The movement of employment may be taken to confirm the monetary causation of a movement of prices if it goes in the same direction—that is, rising prices with rising employment or falling prices with falling employment. If, however, in a closed economy, unemployment tends to increase, while at the same time prices and incomes tend to rise, it is most unlikely that monetary causes are at work. We must then rather suspect that imperfect competition in the labor market has led to too high a wage level to be consistent with full employment. Combatting such unemployment with expansionary monetary policies would not mean trying to maintain monetary equilibrium. It would mean employing the monetary technique of generating demand inflation in order to restore full employment in the face of monopolistic wage developments. Such a policy might be successful, but it would unavoidably lead to a certain measure of price inflation.

3. . . . and in an open economy

We have been thinking so far of monetary phenomena in a closed economy. The complication now has to be faced that monetary policy actually does not work in a closed economy, but only in open economies. This means in economies which, to a smaller or larger extent, are linked with the outside world through international trade. Because of the general adoption of a system of fixed rates of exchange, maintained

by the joint action of monetary authorities of the participating countries, international trade has important reverberations in the monetary field. For the monetary authorities, by their willingness to buy freely any excess of foreign exchange that might be earned in foreign trade, and to supply freely any amount of foreign exchange that might be demanded, have created a situation in which in external trade, as in internal trade, total supply and demand of foreign exchange need no longer match. Consequently, any excess of exports of goods and services over imports not matched by a commensurate export of capital, and any excess of imports over exports not neutralized by the import of capital, have become monetary phenomena with the same impact on the economy as net liquidity creation and net spontaneous hoarding, where excess exports or imports are of an autonomous character, and with the same absorbing effect as any induced dishoarding or hoarding, where excess exports or imports are the result of internal monetary disturbances.

Thus, in an open economy, foreign trade and international capital movements, by bringing about balance-of-payments surpluses or deficits, add another variable to the monetary equation. The state of internal monetary equilibrium, the attainment of which was taken to be the ultimate aim of monetary policy, must, for the open economy, be redefined as the situation in which net spontaneous hoarding is matched by the sum of net internal liquidity creation and of autonomous balance-of-payments surplus.*

4. *Induced and autonomous foreign deficit*

A further word should be said, perhaps, about the difference between an induced and an autonomous balance-of-payments surplus or deficit. It must be clear that in an open economy any internal monetary disturbance will have a balance-of-payments effect, generally proportionate to the marginal import quota. Any spontaneous dishoarding, or any excess of liquidity creation, will necessarily affect import demand as well as home demand without directly influencing exports. It will thus lead to a larger external deficit or to a smaller external surplus and to a drop in monetary circulation. This loss of liquidity will perform exactly the same function of absorbing part of the effect of the initial inflationary impulse as the induced hoarding that occurs simultaneously in reaction to the rise in national income.

An autonomous increase in imports, or a drop in exports, on the

* Balance-of-payments surplus, in this connection, is to be defined as national liquidity surplus, that is, total balance-of-payments surplus on current and capital account exclusive of external transactions of the money-creating institutions.

other hand, due for example to shifts in demand, will create a balance-of-payments deficit that has the same impact on the economy as a credit contraction or as a bout of spontaneous hoarding. Such an autonomous deficit, therefore, has the character of a spontaneous monetary impulse.

It is certainly not always easy to determine whether or to what extent an actual surplus or deficit is autonomous or induced. Yet, this may be recognized by the accompanying circumstances. An autonomous surplus will occur in an inflationary atmosphere which cannot be attributed to any internal excess of credit creation, as the latter would lead to deficit, not surplus; it will be accompanied by a tendency to rising prices and overemployment. An induced surplus, on the other hand, will occur in a deflationary atmosphere, accompanied by recession and underemployment. The reverse, of course, is true for autonomous and induced deficits.

Thus, monetary policy finds in the balance-of-payments position an additional indicator, the movement of which, in relation with concurrent internal developments, will clarify the state of internal monetary equilibrium.

5. Dilemma between internal and external equilibrium

An open economy and a fixed rate of exchange, together with the possibility of autonomous surpluses and deficits, create for monetary policy a completely new situation, in which it can no longer strive exclusively to maintain internal monetary equilibrium. As has already been observed, it is the monetary authorities who are held responsible for exchange parity; it is they who manage exchange reserves. It is consequently they, who have to follow, within their field of action, such policies as protecting reserves against depletion, and who have to help, because of national as well as international responsibilities, in preventing the unrestricted accumulation of reserves.

It appears, however, that monetary policies directed towards protecting reserves against an autonomous foreign deficit are, generally, inconsistent with monetary policies directed towards maintaining internal monetary equilibrium. Since, as has already been observed, in an open economy monetary equilibrium is a state in which net spontaneous hoarding must be equal to the sum of net internal liquidity creation and autonomous foreign surplus, it follows that, in order to maintain internal monetary equilibrium, a spontaneous foreign deficit would have to be matched by internal liquidity creation of the same magnitude. Obviously such a policy, while maintaining monetary equilibrium, would

likewise perpetuate the deficit and lead to exhaustion of reserves. If monetary policy, therefore, wants to defend reserves against an autonomous foreign deficit, it must to some extent abandon trying to maintain internal monetary equilibrium. If it sticks to maintaining internal monetary equilibrium, it cannot completely stop the loss of reserves. It is here that monetary policy meets its most agonizing dilemma.

It must be concluded that an autonomous foreign deficit, for all practical purposes, cannot be eliminated by purely monetary measures without prejudice to internal monetary equilibrium. Ultimately other policy measures apt to affect international trade and capital movements in the desired direction—be they in the field of income policy, tax policy, trade policy, or other—or developments in the outside world working in the right direction—such as cost and price increases in reaction to a persistent balance-of-payments surplus—will have to play their part in restoring international equilibrium conditions.

An induced foreign deficit, on the other hand, will completely disappear when internal monetary equilibrium is reestablished; it therefore can be fully controlled by monetary policies alone. It follows that the identification of the autonomous or the induced character of a foreign deficit or surplus is of the utmost consequence for the proper handling of monetary policy.

II. ON THE OBJECTIVES AND INSTRUMENTS OF MONETARY POLICY

I. *Objectives of monetary policy*

Approaching the problem from a practical instead of a theoretical point of view, I am inclined to say that the primary objective of monetary policy can best be formulated as that of maintaining, under conditions of reasonably full employment, the internal and external value of the monetary unit, or, in other words, stability of the price level and stability of the exchange rate.

The twofold objective, thus stated, implies one of the important dilemmas of monetary policy: the possibility of authorities having to choose between giving priority to either part of the objective.

Actually, simultaneous realization of stability of prices and stability of exchange rates is possible only under conditions of neutrality in the outside world, and even then may run into snags. If these conditions of neutrality do not exist and if a country has to face inflationary or deflationary pressures coming from abroad, monetary authorities cannot,

in the long run, avoid choosing between internal and external stability. There is no a priori rule as to which of the two should prevail.

Another potential dilemma of monetary policy lies hidden in the presupposition of the existence of reasonably full employment.

If such a situation does not exist, this may have been caused by failure or deficiency of monetary policies in the past. If so, it is likely that a positive monetary policy can restore full employment without prejudice to its primary objective. It is also possible, however, that the situation of underemployment is due to external causes, or to internal developments in other than the monetary field. In such a case, using monetary policy to try to restore full employment may very well lead to a clash with the primary objective of price and exchange stability.

It is for this reason that I do not think the attainment and maintenance of full employment should be included among the primary objectives of monetary policy, even though they must, of course, be considered among the foremost objectives of economic policy generally. The inclusion of full employment as a primary objective tends to create the illusion that monetary policy is the proper instrument to combat any and all types of underemployment. This is not so. Only underemployment caused by a general decline of demand, or a lagging of demand in proportion to growing resources, can be successfully fought with monetary measures.

2. Essential characteristics of monetary policy

Monetary policy consists essentially in exerting an influence on the present and future volume of total national expenditure by controlling the internal creation of liquidity, that is, the creation of money (primary liquidity) and of near-money (secondary liquidity).

Monetary policy may also exert some influence in the same field by manipulation of the rate of interest, so as to influence the net import or export of capital. The latter activity is most likely to be successful when directed to the manipulation of the short-term rate, thus exerting an influence on the movement of short-term capital. The main objective, though, may then be to increase or decrease foreign-exchange reserves rather than influence the volume of national expenditure.

In order to prevent an inflationary excess of total expenditure—which would lead to overemployment, an upward pressure on prices, and a balance-of-payments deficit, in the long run endangering exchange stability—as well as a deflationary deficiency of total expenditure—which would lead to underemployment, a downward pressure on prices,

and a balance-of-payments surplus—monetary policy must strive to maintain the flow of total expenditure at an optimum level.

To fulfill equilibrium conditions this level should be such that the part of total expenditure spent *abroad* will equal foreign demand in the home market, plus net capital imports, and that the part spent *internally* will just manage to buy sustainable output at current prices, less exports. Thus price stability, balance-of-payments equilibrium and therefore exchange stability, and full employment will simultaneously be assured.

The several dilemmas with which monetary policy may be faced result from the fact that not the same level of total expenditure may satisfy all the conditions just set forth.

The level of total expenditure, the domestic part of which will just buy sustainable output less exports, may induce a level of imports that exceeds the total of exports and net capital imports (or the amount of exports less net capital exports, as the case may be) and thus lead to a balance-of-payments deficit. The lower level of total expenditure needed to reduce imports to the sum of exports plus net capital imports may not satisfy the condition of full employment. Increasing the level of exports may require a lower level of cost than can be induced by monetary policy. Increasing net capital imports may be possible by increasing interest rates but may, in the long run, create balance-of-payments difficulties by the burden of debt service.

Thus we must conclude that, though it is easy to define the ideal set of equilibrium conditions, reality will force monetary policy, even strictly within the limits of its own objectives, to aim at compromise.

3. *Instruments of monetary policy and the authorities who control them*

The techniques available to monetary policy toward maintaining the conditions of full internal and external equilibrium described above consist in

(a) regulating quantitatively the creation of money, and to a certain extent also of near-money, with the purpose of directly influencing the volume of total expenditure; and

(b) manipulating the level of interest rates, or the relationship between short-term and long-term rates, particularly by working on the short-term rate, with the purpose of

(1) influencing the public's and the business community's propensity to spend, with the purpose of thus indirectly influencing the volume of total expenditure;

(2) influencing ways of financing, both active and passive—that is, the choices between borrowing long term or short term, and