# Targets and Techniques of Monetary Policy in Western Europe[1]

## I. Introduction

In recent years a growing number of western European countries have adopted the practice of setting growth targets for the money supply and/or other monetary aggregates. For these countries, of course, the new approach has implied a shift away from reliance upon interest rate objectives as an intermediate target of policy. What is the story lying behind the spreading use of this technique? Have central banks suddenly become converted to the precepts of "monetarism"? Or is it a case of reverse causation — a pragmatic response to the changing economic environment, or what Milton Friedman recently alluded to as the doctrinal influence of "brute experience"?[2]

In the 1960s, under the influence of the new quantity theory, increasing attention was paid to monetary aggregates. However, the use of publicly declared targets has only recently become a widespread phenomenon. One of the first western European countries to declare such a target — around the same time as the United States[3] — was Germany, where in December 1974 the *Bundesbank* announced the desired rate of growth of central-bank money over the next twelve months. About the same time Switzerland adopted a target for the monetary base and $M_1$, while Italy had also begun in 1974 to work to a target for total credit expansion. In Canada the use of targets was initiated in the autumn of 1975. Subsequently, the United Kingdom and France adopted targets for certain aggregates, though under circumstances markedly different from those in most other countries.

---

[1] The author is very grateful for helpful comments and assistance from colleagues at the Bank for International Settlements, in particular from W. H. Bruce Brittain.

[2] MILTON FRIEDMAN, "Nobel lecture: Inflation and Unemployment", *Journal of Political Economy*, Vol. 85, No. 3 (1977), p. 470.

[3] As early as 1971, however, the US monetary authorities had begun to use monetary-aggregate targets for internal purposes.

In the Netherlands the policy objective has been framed in terms of a ratio of $M_2$ to national income, but the authorities see this as being not essentially different from the target approach. Spain has since the early 1970s been setting growth targets for the broad money supply, but these are intended mainly as policy guidance for the commercial banks. One or two countries, though not publicly committed to targets, have apparently been working to normative forecasts of monetary growth. On the other hand, some countries — for instance, Austria, Belgium and Sweden — have continued explicitly to renounce the use of quantitative targets.

## II. Reasons for the Adoption of Published Monetary Targets

The economic upheavals of the early 1970s played a key rôle in prompting the use of quantitative targets. On the most general level, one factor was the transition from fixed exchange parities to managed floating, while another was the emergence of rapid inflation combined with high unemployment.

### A. *The influence of exchange rate considerations*

The inter-connections between exchange rate considerations and attitudes towards the use of monetary targets have been rather diverse, and in this respect three groups of countries may be distinguished. For certain of the leading "strong" currency countries, such as Germany and Switzerland, the advent of floating meant a real opportunity to regain national monetary autonomy. Their central banks, freed of the obligation to intervene in the exchange markets, saw monetary targets as a means of giving a firm indication of their intention to limit monetary expansion as well as of their responsibility for doing so. In these countries, too, the central banks have long had a degree of independence not enjoyed by those elsewhere.

A second group of countries, including the United Kingdom, Italy, France and Spain, consists of those which have experienced recurrent external strains. In these cases the adoption of targets for monetary aggregates was strongly influenced by the need to achieve greater exchange rate stability through a stabilisation of monetary conditions. Usually the specification of a target was only one element in a broader stabilisation programme. Moreover, where external adjustment has been the overriding objective, the principal target has



sometimes been one formulated in terms of domestic credit expansion, in certain cases as part of an international support package.

A third group consists of some relatively small, open economies with mixed exchange rate régimes. Here one can mention Belgium, the Netherlands and Sweden,[4] which have participated in the European "snake" arrangement, as well as Austria, which has informally linked itself closely to it. Except for the Netherlands, which pursues a monetary norm of a special kind, none of these countries uses a monetary target. Among other reasons they feel that their vulnerability to external disturbances, and the possible need to give priority to interest rate adjustments, weighs against a commitment to specific targets and in favour of maintaining fixed exchange rates.

For many central banks monetary targets have in a certain sense become a policy reference point that takes the place of fixed exchange rates. Under floating rates experience has shown that considerable uncertainty attaches to the question of what the appropriate exchange rate should be. By focusing on a monetary target the monetary authorities are in a stronger position to resist pressures to intervene in support of a particular rate. It may also help them to resist any undue tendencies of their own to counteract fundamental exchange-market trends.

### B. *Inflation and unemployment*

The breakdown of the Bretton Woods system of fixed parities, which was followed by a virtual monetary explosion, a flaring-up of world-wide inflation and a sharp rise in energy prices, convinced many countries that new policy approaches were needed. This conviction was reinforced by the developments of 1974 onwards, as the industrial world fell into a deep recession from which it has not yet been able to extricate itself. Emerging from this experience has been a growing disillusionment with conventional policies of fine-tuning, as well as an awareness of the ways in which inflation may be a source of unemployment. Awareness has grown, too, that excessive monetary creation tends to be followed in the medium term by an accelerated rate of inflation.

In addition, viewed in purely operational terms, many western European central banks have come to accept that, with inflation rates

[4] Sweden, an associate member of the "snake," decided in August 1977 to withdraw for the time being.

high and variable, the money supply is a more reliable basis for policy action than interest rates. Not only may nominal interest rates give a false impression of the degree of restraint or ease, but it is also difficult to estimate what the corresponding real rates might actually be. As one central banker has pointed out, "...inflation gives a monetarist — or near-monetarist — tinge to nearly all monetary policy making. This is particularly so when, as has been the almost universal experience so far, inflation rates are highly variable and, therefore, hard to predict." [5]

Against this background, therefore, the adoption of monetary targets has been prompted partly by their potential usefulness in helping a country gradually to get out of a phase of high inflation. A prior commitment to a target rate of increase, it is believed, helps to establish a suitable framework of expectations for an orderly winding-down of inflation. By publicly announcing the target, the signal is given to the economic agents — principally business firms and trade unions — that expectations should be based not on present, but on predetermined future rates of money growth. As time goes on, the targets would be brought down further.

This conceptual approach seems consistent with monetarist doctrine, which maintains that steady, moderate monetary growth would provide a sounder basis for private decision-making. However, the views of western European countries would seem in some respects to extend beyond this. For instance, in seeking to lower the inflation rate, the monetary authorities generally perceive themselves as being faced with less competitive goods and labour markets than exist, say, in the United States. Thus, even in the case of Germany, the authorities have gone to considerable lengths, when setting their target and relating it to nominal GNP, to indicate its possible implications in terms of prices and output, leaving it then to the market participants to bear the consequences of their own actions. According to Bockelmann, "...the really new element in the publication of quantitative targets..." lies in the aim "... to avoid the costly process of learning by bad experience and to facilitate as far as possible adjustment to the course of monetary policy." [6]

[5] Henry C. Wallich, "Innovations in monetary policy", paper presented to the Southern Economic Association, Atlanta, Georgia, 18th November 1976, p. 2, mimeograph.

[6] Horst Bockelmann, "Quantitative targets for monetary policy in Germany", paper prepared for the Seminar of Central Banks and International Institutions organised by the *Banque de France*, April 1977, p. 2.



For a number of countries, moreover, a monetary target represents far more than a commitment of the central bank. Indeed, it may be a target agreed to, negotiated with, or laid down by the central government, and in this sense it may reflect more the expected outcome of a broad policy mix than of central-bank action as such.[7] Many governments have recently found themselves faced with large — in some cases huge — public-sector deficits and have seen monetary targets as a helpful element of self-discipline in reducing these deficits and/or limiting recourse to monetary financing.[8] Another autonomous source of monetary disturbance, more frequent in some countries than others, has been the bargaining power exercised by strong trades unions. In circumstances such as these the proper behaviour of money must be seen to rest on a combination of incomes policy, fiscal policy, public-debt management and monetary policy. Hence the responsibility for money management may be seen to extend well beyond the confines of the central bank itself, and a money target becomes a focus for consistent formulation of the policy mix as a whole. This view has been clearly expressed by Governor Richardson of the Bank of England,

> "I think it must be right to aim publicly for a growth in money supply which will accommodate a realistic rate of economic growth but not accommodate, more than in part, the rate of inflation. [But] Monetary and fiscal policy — and I would add incomes policy — each have their part to play and should form a coherent whole." [9]

With respect to final goals, monetary targetry in all countries may be said to have a medium-term orientation. The object is to bring down the rate of inflation, or to hold it down, while at the same time encouraging a gradual return to high levels of employment.[10] In this sense the use of targets is fully consistent with the

[7] In some cases monetary targets may be indirectly supported by fiscal targets, such as "cash limits" for public expenditure, or limits on the government's borrowing requirement.

[8] And, where a central bank is able to exercise a degree of independence, such a target may at times be viewed as a means by which pressure can be exerted on the government to improve its financial position.

[9] Speech to the Bankers and Merchants of the City of London, 21st October 1976.

[10] In the Swiss case, for example, "The monetary target... can be viewed as a compromise between the wish to provide on the one hand as abundant a money supply as possible for reasons connected with recession, unemployment, exchange rates and interest rates, and the desire, on the other hand, to avoid a new wave of inflation." Speech by F. Leutwiler, Basle, 19th January 1976.

medium-term strategy adopted by the OECD countries and described in the so-called scenario for 1980.[11] It might be added that in its 46th Annual Report the Bank for International Settlements lent its voice in support of monetary targets,[12] and more recently a similar recommendation was put forward in the so-called McCracken Report.[13]

Within the context of the European Community, some countries have seen monetary targets as a promising instrument for harmonisation of monetary conditions among the member states. Already in late 1973 the EC Economic and Finance Ministers had agreed that over the coming year member countries should seek gradually to reduce the growth of money plus quasi-money to a figure corresponding to the growth of real GNP plus the target rate of increase of prices. In 1976 the EC Commission in its Annual Report recommended, for the first time, money targets as a means of fostering a convergence of economic conditions within the Community, but these were subsequently deleted from the Commission's guidelines for economic policy in 1977.[14] Presumably, with economic conditions then very uncertain, and with some countries still dubious about the value of targets, no general acceptance of target commitments was possible. At the present time, the co-ordination of monetary policy would appear to be based on individual countries' own choice of intermediate objectives or targets.

To sum up, my own impression is that the use of monetary targets has in practice been influenced more by the force of events than by the new monetarism. But the basis for this view is considered further in the sections below.

---

11 OECD, "A growth scenario to 1980", 1976.

12 Bank for International Settlements, *Forty-sixth Annual Report*. "...It might well be helpful if more countries were to commit themselves publicly to a target for the growth of one or several of their monetary aggregates... First, it might impose a constraint on government policy — especially on the monetary financing of the public sector. Secondly, it might also have a dampening effect on inflationary expectations by conveying to the public, as well as to labour and management, that the authorities were committing themselves fully to the objective of mastering inflation." (p. 133).

13 OECD, "Towards full employment and price stability", June 1977. "...Governments, in setting out their objectives for growth and employment, should make it as clear as possible that they are not prepared — and in the end not able — to accommodate, by way of demand management policy, high rates of inflation... In general, ...the public announcement of targets for the rate of growth of the money supply may provide one of the best ways of giving concrete expression to this inescapable fact. In present circumstances the aim should be to reduce these targets progressively over time as inflation is brought down to acceptably low levels." (p. 193).

14 *The Times*, 23rd November 1976.



## III. Target Fixing and Results: Some International Comparisons

The mode of quantifying monetary targets differs considerably from country to country. The accompanying graphs and tables give a broad picture of target fixing since 1974 and of actual monetary outcomes. For comparative purposes, data for the United States and Canada are also presented. In practice, the procedures adopted in the United States are more flexible than in other countries. Targets are set four quarters ahead for three different definitions of money, with each target being fixed as a range rather than a unique figure, and with each being subject to change each successive quarter.[15] In Canada, too, a range is set, but only for one target, $M_1$, one reason being that the behaviour of other aggregates depends partly on institutional aspects of interest rate behaviour outside the control of the central bank. In the United States the growth of $M_2$ and $M_3$ has tended to move close to the upper limits, but that of $M_1$ has, until recently, been much more moderate.

In western Europe there are almost as many different targets as there are countries using them — a reflection, among other things, of widely differing institutional conditions. In the monetarist sense of the term, no country uses the "monetary base" as an intermediate target, though Switzerland uses it as an operational target in seeking to control $M_1$ and it has long had operational significance also in Italy. In the German case central-bank money is not the same as the monetary base — it excludes excess reserves — and it should rather be viewed as a weighted average of Germany's $M_3$. In general, therefore, the intermediate targets range from $M_1$ (Canada, Switzerland and the United States) to total credit (Italy).

As to the choice of targets, the authorities generally tend to see this as a question of the trade-off between the controllability of the aggregate, on the one hand, and the closeness of its relationship to gross national product, on the other. It would be convenient, of course, if one could find a stable money demand function which at the same time was sufficiently interest-elastic to permit control via induced changes in interest rates.

---

15 In practice, at least until recently, most weight seems to have been given to $M_1$. At each FOMC meeting the Committee sets so-called "tolerance ranges" for $M_1$ and $M_2$ based on average growth rates over moving two-month periods. These ranges are fairly wide, reflecting the high degree of uncertainty associated with short-run movements in the aggregates.

PUBLISHED MONETARY TARGETS
AND ACTUAL RATES OF MONETARY EXPANSION

| Country | Monetary aggregate | Target period | Target | Actual result |
|---|---|---|---|---|
| | | | absolute or percentage increase | |
| Canada | $M_1$ | II/1975 - II/1976 | 10 - 15 | 12.0 [1] |
| | | February-April 1976 - II/1977 | 8 - 12 | 8.6 |
| | | II/1977 - II/1978 | 7 - 11 | . |
| France | $M_2$ | 12 months to December 1976 | . | 12.8 |
| | | 12 months to December 1977 | 12.5 [2] | . |
| | | 12 months to December 1978 | 12 | . |
| Germany | Central-bank money | IV/1974 - IV/1975 | 8 | 9.5 |
| | | 1975 average - 1976 average | 8 | 9.2 |
| | | 1976 average - 1977 average | 8 | . |
| | | 1977 average - 1978 average | 8 | . |
| Italy | Total credit expansion | March 1974 - March 1975 | Lit. 21,800 billion [2] | 21,600 |
| | | March 1975 - March 1976 | Lit. 24,700 billion [2] | 35,220 |
| | | December 1975 - December 1976 | Lit. 29,500 billion [2] | 33,280 |
| | | December 1976 - December 1977 | Lit. 30,600 billion [2 3] | . |
| | | March 1977 - March 1978 | Lit. 30,000 billion [2] | . |
| Nether-lands | $M_2$/Net national income | End of 1976 | . | 41.0 |
| | | 1977-80 [4] | 37.0 | . |
| Spain | $M_3$ | January - June 1975 | 18 [4] | 21.7 |
| | | July - December 1975 | 14 | 21.8 |
| | | January - July 1976 | 16 - 17 | 21.8 |
| | | August 1976 | 20 | 21.8 |
| | | September - December 1976 | 21 | 21.9 |
| | | January - July 1977 | 20 | 21.9 |
| | | August - December 1977 | 20 - 17 [4] | . |
| | | January - December 1978 | 17 [2] | . |
| Switzer-land | Monetary base | December 1974 - December 1975 | 6 | 6.2 |
| | | 1975 average - 1976 average | 6 | 3.8 |
| | $M_1$ | December 1974 - December 1975 | 6 | 5.9 |
| | | 1975 average - 1976 average | 6 | 8.0 |
| | | 1976 average - 1977 average | 5 | . |
| | | 1977 average - 1978 average | 5 | . |
| United Kingdom | Domestic credit expansion | 12 months to mid-April 1977 | £ 9.0 billion [2] | £ 4.2 billion |
| | | 12 months to mid-April 1978 | £ 7.7 billion [2] | . |
| | | 15 months to mid-June 1978 | £ 7.7 billion [2] | . |
| | Sterling money supply ($M_3$) | 12 months to mid-April 1977 | 9 - 13 [5] | 7.5 |
| | | 12 months to mid-April 1978 | 9 - 13 [5] | . |
| United States | $M_1$ | I/1975 - I/1976 | 5.0 - 7.5 | 4.9 |
| | | I/1976 - I/1977 | 4.5 - 7.0 | 6.1 |
| | | I/1977 - I/1978 | 4.5 - 6.5 | . |
| | | II/1977 - II/1978 | 4.0 - 6.5 | . |
| | | III/1977 - III/1978 | 4.0 - 6.5 | . |
| | $M_2$ | I/1975 - I/1976 | 8.5 - 10.5 | 9.5 |
| | | I/1976 - I/1977 | 7.5 - 10.0 | 10.8 |
| | | I/1977 - I/1978 | 7.0 - 9.5 | . |
| | | II/1977 - II/1978 | 7.0 - 9.5 | . |
| | | III/1977 - III/1978 | 6.5 - 9.0 | . |
| | $M_3$ | I/1975 - I/1976 | 10.0 - 12.0 | 12.2 |
| | | I/1976 - I/1977 | 9.0 - 12.0 | 12.6 |
| | | I/1977 - I/1978 | 8.5 - 11.0 | . |
| | | II/1977 - II/1978 | 8.5 - 11.0 | . |
| | | III/1977 - III/1978 | 8.0 - 10.5 | . |

[1] Rate of expansion from II/1975 to February-April 1976, a period chosen to avoid the influence of postal strikes.
[2] Upper limit.
[3] The upper limit was revised to Lit. 32,000 billion, in September 1977.
[4] Progressive decline.
[5] Range stated to be consistent with the target for DCE.



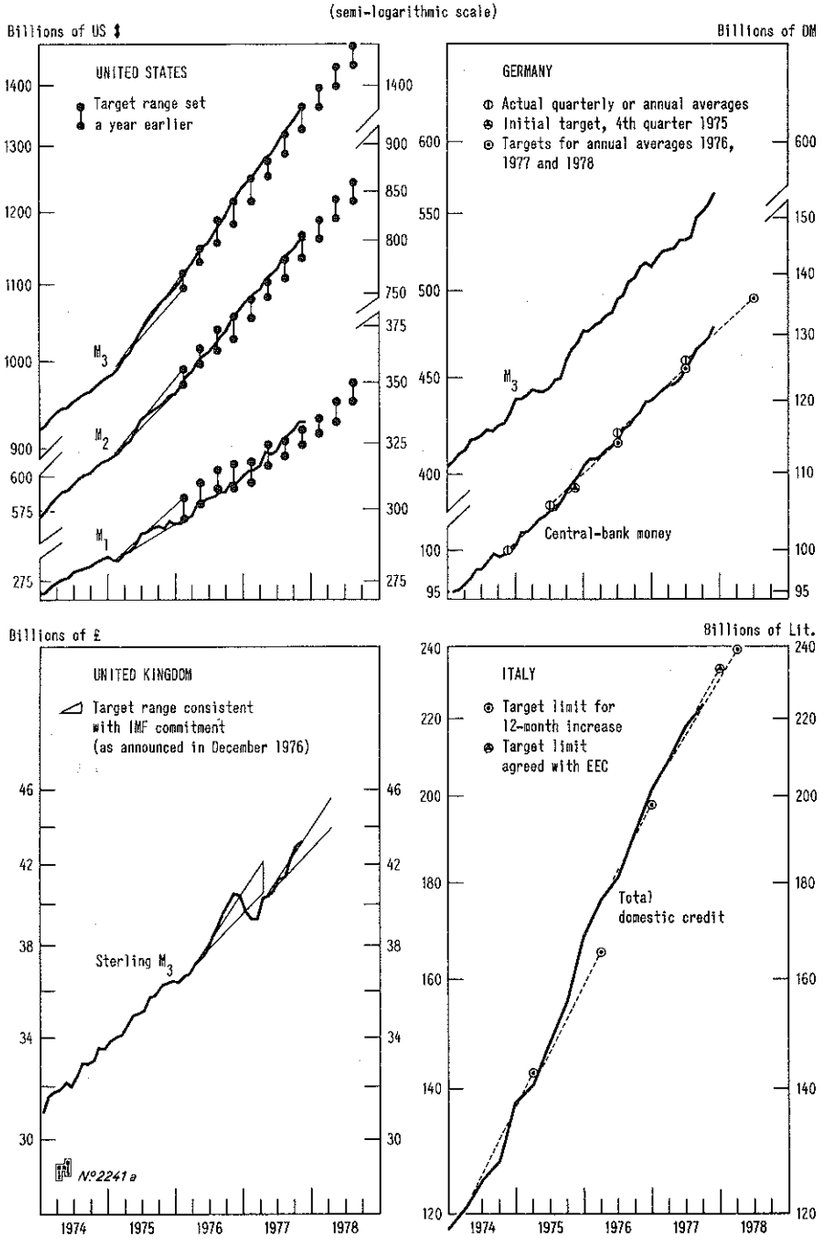
In practice, the choice of a target in western European countries has not been a very clear-cut matter. Apart from the difficulty under recent conditions of identifying the most stable aggregate, pragmatic considerations of control seem to have played an important rôle. In some countries the authorities have been able to rely mainly on the manipulation of interest rates to hit their targets, whereas in others control has depended partly on the use of quantitative credit limitations. Moreover, the choice has been influenced in some cases by how quickly the target statistic becomes available or by the relevance of the statistic to a broader framework of analysis and forecasting. Finally, countries having external adjustment problems have found it appropriate — or necessary — temporarily to put emphasis on a DCE target instead of a money-stock one. In short, the targets now in use appear to be rather experimental or provisional.

What is better — a single-figure target or a range? If the principal aim is to condition market expectations by imparting as much certainty as possible concerning the authorities' policy intentions, a single figure — or, at most, a very narrow range — would recommend itself. Most of the authors of the McCracken Report believe that the target approach "... should be pursued in a pragmatic and moderately flexible way... some countries may favour an internally established or publicly announced upper and lower limit, rather than a fixed point, for the permissible rate of monetary expansion".[16] While a fairly wide range is used in the United States and Canada, the only western European country doing so is the United Kingdom.[17] France, Germany, Spain and Switzerland all use single-figure targets. The same is also true of Italy, where the target may be regarded more as a ceiling than as a specific objective to be achieved. Of course, it is easier to miss single-figure targets, and such misses could in time weaken the credibility of the target.

How frequently should monetary targets be adjusted? Again, if weight is given to the importance of market expectations, the target should normally be changed as little as possible. In western Europe practice differs from that in the United States. As a rule the target is laid down only once a year, usually around the autumn when budgets are being formulated for the coming year and, in some countries,

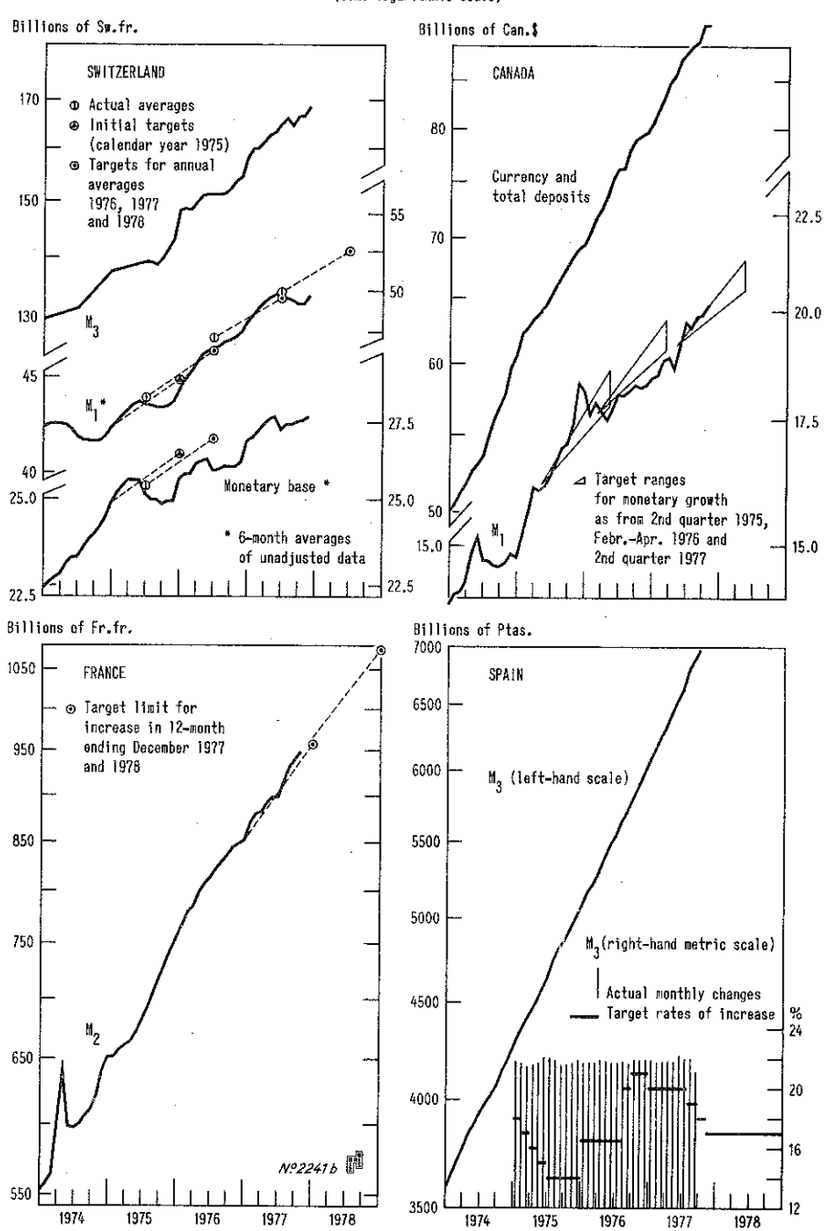
16 OECD, *op. cit.*, p. 194. This Report added, however, that the range might gradually be narrowed as time goes on and more experience is acquired in its use.
17 One possible disadvantage of a range is that the upper limit may come effectively to be regarded as the target.

MONETARY TARGETS AND THE GROWTH OF MONEY
(semi-logarithmic scale)






MONETARY TARGETS AND THE GROWTH OF MONEY
(semi-logarithmic scale)



prior to the onset of a new round of wage negotiations. One exception is the United Kingdom, where the appropriate time for a reassessment of monetary targets is around budget time in the spring. Germany, and perhaps to some extent Switzerland[18], appears to attach importance to a stable rate of money growth and though the targets have changed in certain respects the numbers have remained remarkably constant. The attitudes of other countries, however, seem less consonant with the monetarist prescription. One reason is that, having started further from an equilibrium position, they see a need gradually to adjust their target downwards. Another is the weight that governments may wish to give to short-term objectives.[19]

What instruments, or monetary techniques, are used to achieve monetary targets? In the broad sense, as already mentioned, some countries see money growth as being determined to a large extent by the overall policy mix. Hence the behaviour of money will reflect the impact not only of fiscal and incomes policies but also exchange rate and exchange control policies. But in the narrow sense, with the control instruments in question being those at the disposal of the central bank, basically two techniques, or a combination of them, are employed, one being interest rates, the other quantitative controls.

The use of interest rates as the key instrument variable to achieve quantitative monetary targets is, of course, in no way paradoxical, provided that the monetary authorities are ready to permit interest rates for central-bank credit to fluctuate widely enough to be consistent with the monetary target.[20] Interest rates simply become a means to an end rather than an end in themselves. Not only in the United States and Canada, but also in various European countries, central-bank policies designed to influence short-term interest rates may be aimed at influencing the demand for monetary base. But,

[18] The Swiss National Bank has stressed that the targeted growth of the money supply is a rate quoted for guidance, which is constantly being re-examined and would, if necessary, be revised upwards or downwards. In practice, however, the changes have been small.

[19] L. PRICE, "Monetary objectives and instruments in the United Kingdom", Seminar of Central Banks and International Institutions organised by the *Banque de France*, April 1977. "The monetarist answer (that ultimately changes in monetary growth will succeed only in changing the inflation rate) seems insufficient as governments do care about what happens in the short run as well as the long run." (p. 14).

[20] The dangers inherent in the short-term instrumental use of interest rates are threefold: (i) an incorrect estimate of the interest elasticity of the monetary base demand function, (ii) an inaccurate forecast of economic activity, and (iii) the neglect of possible changes in regulations or practices relating to the banks.



in contrast to the United States, in European countries public-debt management and/or open-market operations have tended to be used more flexibly in the medium and long-term markets partly with a view to controlling money growth. Here one may cite such countries as Belgium, Germany, the Netherlands, Sweden, Switzerland and the United Kingdom, though the techniques involved and the primary objectives have been quite diverse. On occasion, as recently in the case of the Netherlands and Germany, a low-interest rate policy may be pursued as a means of encouraging capital outflows.

Some countries, however, find it necessary or desirable to have recourse to quantitative credit controls in limiting monetary growth. Following a sharp rise in credit to the private sector, the Netherlands recently reverted to this technique, partly with the aim of minimising interest-induced capital inflows. In the context of the Italian stabilisation efforts, the Bank of Italy has also applied quantitative credit ceilings over the past two years. For a number of years France has set credit norms under its "encadrement du crédit" arrangements which help to keep money growth within bounds. In Denmark the credit ceiling in force applies to unused credit lines and has served partly to encourage capital inflows. In the United Kingdom the supplementary deposit scheme, though recently suspended, has at times helped to limit credit expansion; it involves a heavy penalty for the growth of "eligible" liabilities beyond certain limits.

## IV. Problems of Targeting

Experience with monetary targeting in western Europe has been of limited duration. On the one hand, it is taking place in an essentially new environment — that of floating exchange rates. On the other hand, it has been confined largely to a period of deep recession — one in which fighting inflation created by previous monetary excesses was still a problem. In various cases the authorities have indicated that targeting has been undertaken on a provisional, or experimental, basis, thus leaving the future of this technique somewhat uncertain. What is clear is that a real test would come if the upswing reached a more advanced stage, as it might then be necessary to accept substantial rises in interest rates as a means of monetary control.[21] Alternatively, countries might find themselves faced with

[21] In the United States the test seems already to have come, as witnessed by above-target growth rates of money in recent months.

a test of a different sort, namely, how or whether to change their targets if output stagnates again while prices continue to rise at an unacceptably high rate.

Recently the Citibank, in its "Monthly Economic Letter", had this to say:

> "Governments have adopted the technical trappings of the new monetary economics. Monetary growth targets are widely promulgated, even targets for the growth of nominal GNP. But in the process... the crucial linkages — such as that between money and inflation or monetary growth and spending — are being ignored." [22]

One may, it is true, have doubts about the firmness of the resolve of western European governments to enforce the *direct* control of the targeted aggregate by means of central-bank action. In a sense the European attitudes reflect a more complex view of the monetary process and, at the same time, sensitivity to a number of pitfalls that might stand in the way of its smooth functioning. As indicated earlier, the behaviour of the money supply tends widely to be viewed as a function of the overall mix of policy — that is, not simply of central-bank policy as such but also of fiscal and, in some cases, incomes policy. In other words, if the policy mix is right, the behaviour of money will be right. In this sense monetary targets serve as a check on the overall consistency of policy and involve in practice a continuing exercise in political economy. In short, they help to concentrate the minds of those whose actions bear on the monetary outcome. However, I think it would also be true to say that targets in western Europe have involved more than this. Their adoption reflected the authorities' determination to bring the money supply under better control, even if this should imply a need for less accommodating central-bank behaviour than in the past.

In assessing the use and relevance of monetary targets in western Europe, it is convenient to focus attention on three problem areas: (i) the supply of money, (ii) the demand for money, and (iii) the behaviour of prices and output.

## A. *The variability of money supply*

How can one best judge the influence that targeting has had on the actual behaviour of money? After all, it is one thing to set

[22] June 1977, p. 15.



a target, but it is another to improve on past behaviour. Has the new strategy implied a change in actual performance or simply the use of a new vocabulary or new "packaging"?

One obvious test, first, is the extent to which actual money growth misses the target. As shown in the table and graphs on pages 10, 12 and 13, above-target growth has at times been significant in countries such as Germany, Italy, Spain and the United States, and below-target growth has also occurred over fairly extended periods in some countries.

Secondly, it is pertinent to ask whether, as envisaged, the targeted growth rate has tended gradually to be adjusted downwards. Most countries, in fact, can claim some success in reducing the average rate of money growth during the targeting period below that recorded during the comparable pre-targeting period.

Thirdly, it would seem appropriate to examine whether the variance of money growth during the target period has been reduced relative to that in an earlier period. This test is relevant in the context of the monetarist view that the high variance of money growth has contributed to market uncertainties. Just to have an impression of what such figures look like, and without wanting to attach much importance to them until further study, we have made some rough-and-ready calculations of variance figures for money growth in a number of countries. An interesting preliminary point is that the average standard deviation of money growth over the whole period — target and pre-target — is quite different from country to country, ranging in the case of broad money from 0.05 per cent per quarter in the United States to 1.34 per cent per quarter in the United Kingdom. It would thus appear that the natural range of variability in money growth differs considerably among countries and that the institutional responses to the adoption of targets may have to be more pronounced in some countries than in others.

On the basis of calculations of relative variance ("F" statistics), it would appear that money growth ($M_2$) has become more stable under targeting in such countries as the United States, Canada, Germany and France. However, as the time periods under targeting have in some cases been very short, the results at this stage are no more than suggestive. A somewhat more general comparison is given in the table below, which is based on uniform time periods for each country rather than on precise targeting and pre-targeting periods.

The results are diverse, but the variance of $M_2$ growth in the most recent period (IV/75-II/77) appears to have declined in targeting countries other than the United Kingdom and the United States. It is also noteworthy that variance over the recent period has in most cases been less stable than during a representative period of fixed exchange rates, the exceptions being for $M_2$ in the United States, Canada and Japan.

RELATIVE VARIANCES IN MONEY SUPPLY GROWTH: "F" STATISTICS [1]

| Country | $M_1$ | | | $M_2$ [2] | | |
|---|---|---|---|---|---|---|
| | IV/61-IV/66 | I/67-I/72 | II/72-III/75 | IV/61-IV/66 | I/67-I/72 | II/72-III/75 |
| | ratio | | | | | |
| Belgium | 1.05 | 1.22 | 1.24 | 2.67 | 2.08 | 1.71 |
| Canada | 4.20 | 2.45 | 1.50 | 0.77 | 0.30 | 0.37 |
| France | 6.62 | 1.21 | 0.47 | 6.50 | 1.56 | 0.27 |
| Germany | 1.62 | 2.25 | 0.39 | 1.11 | 0.63 | 0.88 |
| Japan | 1.36 | 2.44 | 1.26 | 0.71 | 1.21 | 0.43 |
| Netherlands | 9.69 | 8.92 | 1.01 | 1.33 | 1.81 | 0.38 |
| Sweden | . | 3.14 | 3.94 | . | 1.48 | 2.85 |
| United Kingdom | 2.67 | 1.35 | 0.64 | 8.19 | 5.28 | 2.43 |
| United States | 1.28 | 1.28 | 1.68 | 0.89 | 0.35 | 1.31 |

[1] Variance in quarterly growth of $M_1$ and $M_2$ in the period IV/75-II/77 divided by the corresponding variance in the period indicated.
[2] For Germany and the United Kingdom, $M_3$.

The improved results so far achieved under targeting are unlikely to satisfy those of strict monetarist persuasion. In their view, one may infer, the targets are subject to too frequent change and in some cases permit too wide a variation within an accepted range. Moreover, policy has sometimes allowed money growth to deviate too far from the target path, often in a pro-cyclical way.

In the western European context, problems relating to the controllability of the monetary aggregates can at times present serious difficulties. In purely technical terms, and in the absence of major exogenous shocks, central-bank authorities generally feel



that targets can, given reasonable periods of time, be met with the instrument variables already at hand. All would stress, however, that the aggregate(s) may in the short run fluctuate widely relative to the target and that these movements may be difficult to interpret. In the United Kingdom, for example, the desired rate of monetary expansion can normally be achieved within six to twelve months, while in Switzerland changes in the monetary base usually work through to $M_1$ after about six months.

One technical problem of short-term targeting lies in market limitations of public-debt management and open-market operations. In the United Kingdom wide short-term fluctuations in the money supply

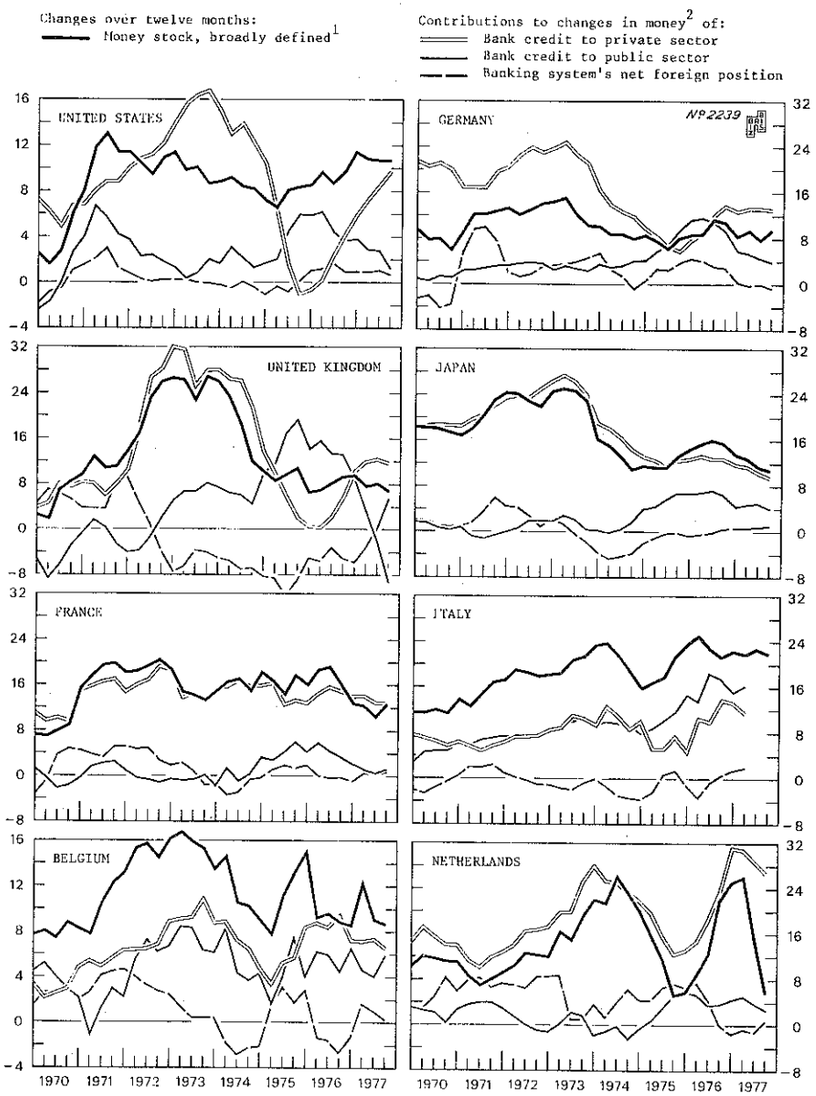
> " ...have been a reflection of the fact that official sales of gilt-edged tend to be rather tidal, periods of very large sales alternating with periods of very small sales. The institutional structure in the UK is such that when sales are deficient, the government's residual financing tends to be supplied by the banking system, usually in the form of Treasury bills, increasing both the money stock and the banks' reserve assets." [23]

The relevance of this point would seem to be corroborated by the accompanying graph. Whereas in the United States the banking system's credit to the public sector varies inversely with that to the private sector, and hence is stabilising with respect to the money supply, the relation in the United Kingdom, and apparently also in Belgium and Italy, is positive and destabilising. The Netherlands' case appears similar to that of the United States, while in France, Germany and Japan the monetary financing of the public sector does not seem to have presented a major difficulty.

What the graph shows, moreover, is that the difficulties which may arise from public-sector monetary financing may extend well beyond the short term into the medium and long term. In both the United Kingdom and Italy, for instance, the public-sector borrowing requirement, and with it the sector's recourse to the banking system, has been on an upward trend for some years now. Other countries, too, have experienced large trend increases in government expenditure, particularly for transfer payments, and most of them feel considerable unease as to whether present large deficits, which are

[23] L. PRICE, *op. cit.*, p. 18.

CHANGES IN THE MONEY STOCK AND
THE CONTRIBUTIONS OF ITS COUNTERPARTS




1 Based on national sources. For Germany and the United Kingdom $M_3$; for other countries $M_2$ (money plus quasi-money). 2 The percentage contributions of the counterparts add up to the percentage change in money, except for differences due to balance-sheet items not shown - the principal one being domestic non-monetary liabilities of banks.



partly recession-induced, can be brought down to manageable size as economic recovery proceeds.[24] If not, the question would then be whether they were prepared to permit a sufficient rise in interest rates to achieve their monetary targets. On the other hand, it is no doubt true that reasonably adequate money supply growth during the recession could not have occurred without the willingness of governments to run exceptionally large deficits and to resort to financing via the banking system.

A second major source of potential disturbance lies in the wage/price field. In Italy, for example, the substantial over-shooting of the total credit target in 1975-76 is explainable largely by the wage explosion that occurred in early 1975 and which was accommodated by a subsequent acceleration in monetary expansion. In the United Kingdom the Government did not, in fact, come round to introducing a monetary target until it had managed over two years or so, against a background of incomes policy, to stabilise the growth of $M_3$ at around 10 per cent. Last summer British trade unions rejected the Government's plea for a third year of formal incomes policy, and the much-improved economic situation has laid open the possibility, despite continued high unemployment, that wage/price inflation might again accelerate. In quite a few European countries, it might be added, long-term trends in income distribution have made inroads into profitability and investment. There is a risk that monetary restraint in the absence of wage restraint would squeeze these further and/or give rise to intolerable levels of unemployment. Hence incomes policy, if only in the sense of broad consensus understandings, is often regarded as an essential complement of monetary restraint.

In the external field, floating rates have not in all cases been playing the key rôle in monetary control that might earlier have been expected. In Germany exchange-market intervention under the "snake" arrangements has at times accelerated monetary growth unduly, though this has not been a major problem. In Switzerland intervention has actually been the principal means by which monetary growth has been ensured, though it has not caused monetary expansion to get out of hand as it did under the fixed exchange rate system. In a number of countries, such as France, Italy, Spain and

24 BANK FOR INTERNATIONAL SETTLEMENTS, "Public-sector deficits: Current problems and policies", Basle, March 1977.

the United Kingdom, the problem has long been one of excessive domestic credit expansion, though more recently the tables have turned in the United Kingdom, which has had to cope with huge inflows of funds based largely on North Sea oil prospects. In coping with these inflows, the Government sought at first to prevent the exchange rate from rising unduly and thus to maintain the competitiveness of non-oil exports. Subsequently, however, when the money supply threatened to accelerate unduly, the monetary target was given priority and the exchange rate allowed to appreciate. And, as mentioned earlier, a number of the smaller EEC countries are subject to fairly large external impulses stemming from their adherence to the exchange rate arrangements of the "snake", which makes it difficult for them to accept money supply target commitments.

Another problem area for monetary targeting lies in the management of interest rates. For some of the smaller, highly open economies, the perceived need for autonomy with respect to interest rates is one factor that has weighed against the use of monetary targets. But even in the larger countries the acceptance of monetary targets has not been meant to exclude the possibility of giving weight — at times even priority — to interest rate considerations. This may at times imply adjusting interest rates rather sharply if that is deemed necessary to preserve orderly conditions in the exchange markets, while at other times domestic liquidity disturbances may warrant holding interest rates relatively stable. The extent to which large interest rate changes under such circumstances really constitute a problem with respect to monetary control would seem to hinge mainly on the question of whether the situation is reversible. The interest rate changes may at times be compatible with such control even in the short run, and in any event may have only short-lived effects which may permit a quick reversion to the money stock as a target. But while some interest rate aims may be justifiably accommodated within the context of a monetary target, there may be others which, if accommodated, would risk increasing the variability of both interest rates and the money stock.

Much more of a problem may be certain institutional and political factors that inhibit the adjustment of interest rates. In the United States and the United Kingdom, for example, substantial increases in competing rates may cause disruption in the housing market, where by regulation or convention interest rates on mortgages are relatively slow to adjust. In Italy the authorities have on past occasions pursued a policy of relatively low, stable long-term rates, with the aim of encouraging the flow of funds to the capital market, but this practice ultimately had to be abandoned in favour of markedly higher rates. In Switzerland the high volume of mortgage debt makes interest rates a sensitive political issue, but low interest rates have been desired in any case as a means of encouraging capital exports.



It might be added that relative rigidities in certain interest rates may have been a significant source of exchange-market disturbance in some countries. For example, given that large international shifts of deposits or borrowing take place mainly via the banking sector, the behaviour of bank deposit and lending rates relative to those in international markets may be an influence of considerable importance. In practice, forward exchange rates seem to adjust mainly in relation to deposit rates, so that any tendency of the latter to vary relative to those in international markets gives rise only to short-lived incentives to move funds. Bank lending rates, on the other hand, are often much less flexible, and differentials may arise, even on a covered basis, which may lead to persisting one-way movements of capital. Such movements clearly may have significant implications for both exchange rates and monetary control.

Of course, in trying to resolve conflicts between targets and interest rates, there may be considerable scope in manipulating the structure of rates. In western Europe, particularly last year when strains developed inside the "snake", some countries have shown themselves ready to push up short-term rates to remarkably high levels in defence of their parities. Another interesting recent case is that of France, where bank lending rates were kept at fairly low levels for domestic reasons while money-market rates were adjusted upwards on external grounds.

Another, more general, way of resolving such conflicts lies in making adaptations in the overall policy mix. In western Europe, more than in the United States, much more credence is given to the existence of autonomous cost/price behaviour, and some countries have come to believe in the virtual necessity of some form of incomes policy, even on a semi-permanent basis. Considerable importance is also attached to the size of public-sector deficits and the need to finance these insofar as possible by non-monetary means. For these reasons national authorities are generally aware that, depending on

the policy mix, different levels of interest rates — and, for that matter, different rates of saving, investment and growth — are compatible with a given rate of growth of the money supply.

## B. *The variability of money demand*

How strong, on the demand side, are the underlying empirical foundations of monetary targeting in western European countries? A relatively stable money demand function is, of course, a prerequisite for successful targeting. As far as I am aware, earlier evidence has not been very reassuring in this regard, and the disturbances of recent years seem to have confused the picture still further. In Germany this criterion appears to be fairly well satisfied, while in the United Kingdom recent work has shown greater stability in the $M_1$ demand function than had previously been observed. In European countries that have refrained from adopting targets, the authorities generally claim that such evidence is lacking, or else that such stability as has been observed proves little about the direction of causation.

I do not feel sufficiently well informed on the state of research findings to speak with assurance on this matter. To give some rough indications, however, the table presents some simple calculations showing the variability of income velocity in different countries. The countries examined are the United States, Canada, Japan and, in western Europe, Belgium, France, Germany, Sweden and the United Kingdom. No account was taken of interest rate influences, but a wide definition of money was used so as to reduce their relevance. In any case, the calculations, based on annual data, are on the same basis for all the countries.

The results are interesting in several respects. First, with respect to the money supply itself, the data reaffirm that the annual rate of money growth in the United States is more stable than in other countries. Secondly, it would appear that, in all cases except Canada, France, the United Kingdom and the United States, velocity is a greater source of income variability than is money. Finally, if we look at the standard deviation of velocity changes in different countries relative to that in the United States, the resulting ratio is about 1.9-2.3 for France, Germany and Canada, 2.9-3.3 for Belgium, Japan and Sweden, and 4.4 for the United Kingdom. These differences are unlikely to be explainable by interest rate movements.



THE VARIABILITY OF CHANGES IN THE MONEY SUPPLY AND INCOME VELOCITY,[1] 1961-76

| Country | Standard deviation of | | (2) ÷ (1) | $\frac{(2)}{US\,(2)}$ |
|---|---|---|---|---|
| | $\overset{*}{M}_2$ (1) | $\overset{*}{V}_2$ (2) | (3) | (4) |
| | in percentages per annum | | ratio | |
| Belgium | 2.46 | 6.53 | 2.65 | 3.30 |
| Canada | 4.90 | 3.11 | 0.63 | 2.25 |
| France | 3.29 | 2.60 | 0.79 | 1.88 |
| Germany [2] | 2.01 | 3.02 | 1.50 | 2.19 |
| Japan | 3.54 | 3.95 | 1.12 | 2.86 |
| Sweden [3] | 2.82 | 3.97 | 1.41 | 2.88 |
| United Kingdom [2] | 6.76 | 6.10 | 0.90 | 4.42 |
| United States | 1.95 | 1.38 | 0.71 | 1.00 |

[1] Asterisk indicates annual percentage changes.
[2] $M_3$.
[3] 1967-76.

Again, without more refined analysis to remove the systematic elements of velocity changes, such figures are at best suggestive. However, they point tentatively to the conclusion that monetary targeting is likely to be much more difficult in many European countries than it is in the United States. Moreover, it would also appear that targeting is unlikely, except perhaps in France and the United Kingdom, to remove the greatest source of income fluctuation.

Would it not be possible to offset shifts in the money demand function by adjustments in the money supply? This could pose a number of difficulties. In the first place, such action could well imply having to breach the target limit. Of course, it would be possible to have more operational leeway by expressing targeted growth as a range of tolerance, as in the United States, Canada and the United Kingdom, and provision could be made as well for periodic changes in the base. But the added flexibility obtained in these ways would probably weaken the beneficial expectational effects of targeting. Secondly, it is usually very difficult to distinguish shifts in money demand from "real" sources of disturbance. One recent case in point is the United States, where $M_1$ over much of 1977 was

permitted to grow in excess of target, partly because money demand was believed to have strengthened again after an earlier unanticipated decline. Thirdly, to the extent that shifts in money demand are associated with simultaneous changes in spending propensities rather than shifts in financial asset portfolios, questions may arise as to what policy mix might most appropriately be used to adjust the money supply.

## V. Concluding Remarks

The policy-mix question leads me to conclude on a more general note. The western economic world has been going through a lengthy period of profound, complex adjustments, both real and financial, which have added up to a kind of "Growth Depression". If we think of 1973 as being 1929, we would now find ourselves in 1934, with unemployment in most countries being at peak post-war levels. A principal difference, apart from the one of degree, is that prices have been rising instead of falling, but in terms of deflationary implications this may only have shifted the sectoral impact from net debtors — mainly the business community — to net holders of financial assets — mainly households.

At the same time, macro-economic theories are themselves undergoing a kind of crisis, just as they did in the Great Depression, the difference being that the combination of inflation and unemployment makes it a doctrinal crisis of an even more trenchant kind. Discretionary demand-management policies have been under intense criticism, mainly on the ground that any active intervention along previous "fine-tuning" lines tends to set in motion market reactions of an offsetting nature. The only answer, many are agreed, is to set demand-management policies on a steady moderate course with a view to achieving medium-term objectives. And it is in this context that monetary targets have found much of their justification.

But what if this strategy appears to be a failure? What should policy-makers do if it is found that targeted monetary growth is being swallowed up by price increases with output remaining stuck on an unsatisfactorily low growth trend? The answer would depend partly on what is happening to price/cost relationships, since if wage restraint, perhaps with the help of incomes policy, is leading to some improvement in profitability a rise in investment may not



be too far behind. Moreover, wealth effects associated with existing budget deficits would also be laying the groundwork for a speeding-up of activity. On this basis the answer might still be simply to wait for adjustment to take its inevitably slow course.

If this approach should be considered too slow, one relatively untested option should be more demand-management activism, but within the context of a policy-mix solution aiming at steady, targeted money growth. With respect to fiscal policy, budget deficits have recently been an unfortunate mixture of adverse long-term expenditure trends, deep recession and the need to provide a buffer to external oil deficits. Faced with what they perceive as dangerously large deficits, many countries have sought to reduce them to more comfortable proportions and seem actually to be succeeding in doing so. In practice, therefore, fiscal policy in some countries may have swung too far, and too quickly, in the direction of restraint. Where this appears convincingly to be the case, a discretionary fiscal stimulus might well be warranted, though it would be desirable that it concentrate on tax concessions, preferably of a kind that would encourage fixed capital investment. The resulting increase in final demand could more than counterbalance any "crowding-out" effects associated with higher interest rates, which might occur only with a lag.

But would this not incite inflationary expectations of a counter-productive nature? Not necessarily, particularly if countries are falling short of even moderate medium-term growth objectives and provided they remain openly, and persuasively, committed to target rates of monetary growth. On the other hand, an incubus weighing upon national policy-makers is the fear that wage/price mechanisms have become so sensitive that further demand stimulus would accelerate inflation even at low levels of capacity utilisation and high unemployment. Helpful though they may be, monetary targets are at best an indirect, slow and uncertain way of dealing with this crucial problem. There would seem little doubt that national authorities, if they could be sure of reasonable price/wage responses, would be able and ready to bring their economies back to satisfactory employment levels.

*Basle*

WARREN D. MCCLAM