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The Medium-Term Macroeconomic Strategy Revisited

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by

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Monetary and Fiscal Policy Division

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This paper discusses several aspects of the medium-term orientation of OECD countries' economic policies in the 1980s, concentrating on monetary and fiscal instruments. The developments that led to the adoption of such a "medium-term strategy", and the apparent analytical rationale for it, are first described. The paper then examines the way the strategy was actually implemented, attempting to judge how closely policies have in fact followed medium-term objectives, and assesses the results. Some lessons from experience with the strategy are outlined in conclusion.

Cette étude analyse divers aspects de l'orientation à moyen terme des politiques économiques formulées par les pays de l'OCDE dans les années 80, l'accent étant mis plus particulièrement sur les instruments d'action monétaire et budgétaire. Elle décrit tout d'abord l'évolution qui a conduit à l'adoption d'une telle "stratégie à moyen terme" ainsi que ses fondements analytiques. L'étude examine ensuite la façon dont cette stratégie a été mise en oeuvre, en tentant d'apprécier dans quelle mesure les politiques pratiquées ont effectivement suivi des objectifs à moyen terme et quels en ont été les resultats. En conclusion, l'étude souligne les quelques leçons que suggère l'application de cette stratégie à moyen terme.

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I. INTRODUCTION

Since the early 1980s a medium-term approach to economic policy has been widely adopted in the OECD area (1). At that time many countries had both high inflation and large budget deficits, so the objective was to create, via a sustained commitment to monetary and fiscal restraint, an environment conducive to non-inflationary growth. This not only meant eschewing attempts to moderate short-run cycles in business activity and employment, it also involved a recognition that some short-term output and employment losses might be unavoidable in order to bring inflation down. At the same time it was recognized that there was a need to improve the functioning of the economy by adopting structural policies to promote more flexibility in the labour and goods markets and more efficient industrial adjustment.

A sufficiently long period has now passed to evaluate how this "medium-term strategy" has worked in practice on the macroeconomic side. This is particularly relevant at present because, while inflation -- the main problem that the strategy was designed to address -- has been much reduced, output growth has been sluggish and unemployment has become of increasing concern in much of the OECD area. Moreover, the difficulties created by the large current account imbalances among the largest economies have led to suggestions that policies should be more expansionary in countries with a strong external position so as to assist a more stable evolution of exchange rates and a smoother adjustment of balance of payments disequilibria.

In this broad context, the present paper addresses three sets of issues:

i) Why was a medium-term macroeconomic strategy adopted? What were the analytical foundations of the strategy? What did it imply for the mix of policies?

ii) To what extent did monetary and fiscal policies in OECD countries adhere to this general medium-term framework? What was their impact on domestic performance, notably in terms of inflation, output and unemployment, and savings and investment flows? How important were the international implications of these policies?

iii) What are the lessons to be learned from the experience so far? How well have the principles underlying the strategy held up?

Sections II, III and IV deal successively with these questions.

II. BACKGROUND TO THE STRATEGY

A. The experience of the 1970s

At the beginning of the 1980s a consensus developed among OECD countries that medium-term objectives were best served by monetary restraint, a gradual reduction in fiscal imbalances, preferably by restrictions on

government spending rather than tax increases, and a programme to reduce structural rigidities. This movement was motivated by a variety of developments that called into question traditional counter-cyclical demand management policies (2). A protracted sequence of short-run expansionary measures, for each of which there had seemed good justification at the time, led in the 1970s to a tendency towards excessive monetary growth and high budget deficits. The decade was marked by volatile price increases, in part as a result of the two oil shocks of 1973 and 1979, and worsening unemployment in Europe.

In the latter half of the 1970s, monetary policy slipped into an excessively expansionary stance more or less inadvertently. Central banks were following what they thought to be a gradualist disinflationary approach (based in some cases on the formulation of monetary targets). In retrospect, it appears that they were misled by several factors. First, certain indicators of monetary policy then in use did not reveal the looseness of the actual thrust of policies. In particular, since accelerating inflation tended to reduce the demand for money, the growth in money supply proved more expansionary than it appeared; and in North America this was exacerbated by portfolio shifts out of narrow money. Second, central bank operating procedures used to achieve monetary targets concentrated too much, in some countries, on controlling short-term nominal interest rates. This contributed to cumulative deviations from money targets (e.g. "base drift" in the United States), which should have been a warning signal, and to unsustainably low real rates of interest. Third, there was widespread concern that economies were performing below capacity, as real growth slowed from the rates observed in the 1950s and 1960s and as unemployment rates rose. A significant proportion of these adverse output and employment trends is now thought to have been due to underlying changes in productivity growth and labour market behaviour, and not to have reflected an increasing degree of slack in the economies. Fourth, tolerance of inflation may have been encouraged by the notion that the output effect of the oil price shock of late 1973 could be offset by monetary accommodation.

By 1978, it was widely believed that more demand was required, led by a stimulus in countries with large external surpluses. Fiscal policy thus shifted in a concerted move to an expansionary stance outside North America. Meanwhile, monetary policy had eased in strong currency countries -- Japan and Germany notably -- as a result of the acceleration in money growth associated with the support of the U.S. dollar in exchange markets. In 1979, under the impetus of strong demand and the second oil shock, inflation rose quickly. This, in conjunction with a deterioration of fiscal positions, then forced many governments to rethink the conduct of their macroeconomic policy.

B. Analytical foundations

To a large extent, the motives for the adoption of a medium-term approach to policies were of a practical nature, as governments had different philosophies about the working of their economies. Nevertheless, it is possible to discern, e.g. in the OECD Ministerial Communiqués of 1981 and 1982, the outlines of a consensus on some key propositions. These might be interpreted as follows:

i) The tradeoff between unemployment and inflation is essentially confined to the short run. Changes in aggregate demand can influence the level of output and employment in the short term because wage rates and the prices of many services and manufactured goods are sticky. Thus, in the first instance, tighter monetary or fiscal policy will affect activity rather than the price level. However, increased excess capacity and unemployment will put downward pressure on profit markups and wage rates, so that, over time, inflation will decline. As a result, workers and employers will tend to reduce their expectations about future inflation, and to moderate wage settlements. In other words, the short-run relation between inflation and unemployment depicted in conventional Phillips curves will shift downwards, and this will continue as long as unemployment is above its "natural" rate (i.e. the rate associated with the existing structural and frictional rigidities in the economy rather than the level of aggregate demand). Eventually, when expectations converge to the lower rate of inflation consistent with the tightened policy stance, the economy will return to its given natural rate of unemployment. Thus, the reduction of inflation will imply only a transitional increase in excess capacity and unemployment. Similarly, an expansionary policy stance will cause an increase in inflation in the long run but no permanent reduction in unemployment.

ii) Although macroeconomic policy can significantly affect the level of activity in the short run, efforts to fine tune the economy are not advisable. Indeed, the experience with "stop-go" policies had shown that uncertainties about expectations and the length of lags made it inappropriate to try to exploit the short-run trade-off between unemployment and inflation. However, the care taken to recommend that the medium-term strategy be applied with due regard for the actual cyclical position of the economy shows that policymakers recognized that the reduction of inflation would imply short-term negative effects on output and employment (3).

iii) Governments need to be concerned with the medium-term implications of the macroeconomic policies. Discretionary measures undertaken for short-term reasons may produce situations that become unsustainable over time in that they would ultimately require difficult and painful policy reversals. This is the case, for example, of budget deficits leading to growing debt/GNP ratios in the context of interest rates exceeding growth rates, and of monetary expansion designed to produce a permanent increase in output, which would induce an accelerating inflation. The problem also arises with excessive international imbalances since a sustained deterioration in international asset positions will make the eventual adjustment of trade in goods and services that much more difficult. However, this issue receives more attention now than it did when the strategy was originally formulated.

iv) The "natural" rate of unemployment can be significantly influenced by various government policies, such as the regulations governing labour and product markets, the extent and coverage of unemployment insurance, barriers to mobility between regions or industries, etc. This is one of the main reasons for the emphasis given to structural reforms and to the need for social policies that take greater account of economic behaviour. However, structural unemployment also reflects factors about which the government can do very little, for example shifts in the comparative advantage of regions or industries, demographic trends and advances in technology.

v) **The level of real output in the medium term is essentially determined by supply-side factors.** These include total factor productivity, the available supply of capital and the behaviour of labour with respect to after-tax real wages. Thus fiscal policy may increase output by removing tax disincentives or inefficient subsidies or by releasing savings for productive investment as a result of reductions in government borrowing. Such "supply-side" benefits of fiscal action, as opposed to the traditional aggregate demand effects, have been given heavy emphasis by some governments in the 1980s.

vi) **Fiscal policy will in the medium term affect the composition of output.** A fiscal stimulus that is not accommodated by monetary expansion puts upward pressure on interest rates and therefore induces cuts in interest-sensitive components of domestic demand. In addition, in any individual country, there would be some deterioration in the current external account induced by an appreciation of the exchange rate and the increase in activity. Fiscal expansion thus tends to reduce private spending and net exports, and, if investment outlays are more interest sensitive than consumption, a change in the share of output devoted to capital accumulation. This explains the emphasis on reducing budget deficits in relation to national income.

vii) **The absolute size of government intervention in the economy may have gone beyond the optimal level.** There has been serious concern that governments absorb too great a proportion of national output and redistribute too much of the rest, i.e. that, at the margin, the efficiency cost of government intervention appears greater than the benefits obtained in terms of increased social welfare. For these reasons it has been part of the strategy to reduce the size of government, spending cuts being preferred to tax increases as a means of lowering the budget deficit. In addition, the fear that accumulation of public debt would eventually require still higher levels of taxation, implying greater tax distortions, was an important motivation for reducing the deficits over and above the need to reinforce the disinflationary stance of monetary policy.

viii) **Monetary policy effects are, over the medium term, largely limited to the price level and other nominal variables.** It therefore follows that the main responsibility of monetary policy in the medium run is to maintain price stability. An important step towards achieving this goal was seen to be the restoration of central banks' credibility as inflation fighters, lost in the excessive monetary expansion of the 1970s.

In sum, it seems clear that governments, in moving away from short-run objectives, embraced a more classical view of how the economy works. Since wage and price movements play a very significant role over time in clearing markets, a medium-term orientation necessarily places strong emphasis on measures that allow the price mechanism to operate effectively. This means predictable policies that ensure a reasonably stable price level so that relative price signals are transmitted clearly. It also argues for reducing the extent of government intervention (particularly since many existing policies have had unintended and unfavourable medium-term costs), and more generally for increasing the flexibility of the economy. Deregulation and other supply-side measures fit into this scheme, as does the special prominence given to the need for open multilateral trade. As regards time horizons, it should be stressed that it was never imagined that more than a

start could be made in solving some of the more deeply imbedded problems within a four or five year period. Rather, policymakers recognized that, just as it had taken many years to get into these problems, it would take a long time to get out of them.

C. International policy spillovers and cooperation

The medium-term strategy did not stipulate convergent policy actions. Instead the emphasis was that governments should set their policies, in accordance with the circumstances in each country, to achieve convergent performance, i.e. non-inflationary growth. At the same time, however, it was stated that monetary and fiscal policies should be conducted "in a complementary fashion so as to avoid financial market pressures" (4). Thus the strategy embodied provisions for minimizing harmful spillover effects from policies in one country on to objectives in other countries, to the extent that such effects are most likely to result from the pursuit of a strongly asymmetric policy mix.

This point is important enough to consider in some detail, since the notion that a tight money/loose fiscal mix would allow reduced inflation with minimal output costs has had some influential adherents in the economic literature (5). In a given country such a mix can effectively produce a favourable result, but this is a short-run gain obtained via a temporary movement in the exchange rate. For example, quick disinflationary effects might be obtained via appreciation of the real exchange value of the domestic currency, induced by the high real interest rates implied by tight money and a loose budget. As the exchange rate returns to its equilibrium value over the medium term, the early inflation gains have to be paid back (6). In the meantime the country will have experienced an increase in government indebtedness and a deterioration in its current account balance -- a situation aggravated by the associated increase in the real interest rate, which will compound the costs of servicing the growing stock of government liabilities and worsen the net foreign investment income position. Moreover, the movements in the real exchange rate will tend to initiate a costly shift of resources first out of, and then back into, the tradeables sector. The higher real interest rate will also cause a shift out of capital-intensive activities. Such reallocations could lead to an increase both in the price level and in frictional unemployment. In the medium term this type of policy mix is therefore liable to produce, if anything, a worsened inflation-output tradeoff, and to saddle the country concerned with high real interest rates and potentially awkward debt problems.

The implications for other countries may also be undesirable. They too must shift resources back and forth between sectors as the real exchange rate goes through a cycle. However, empirically it does not seem that the spillover effects from asymmetrical policies in one country on the main internal macroeconomic goals of large economies over the medium term need be very great. The most worrying implications for large countries (or regions) stem instead from the effects on external variables such as balance of payments flows and exchange rates, which can be greatly affected by unilateral changes in policy mix, and for which strong movements are liable to trigger harmful reactions in markets and in government policies. Smaller economies, especially, are often constrained by exchange rate considerations to follow policies similar to those applied by large economic partners.

All these considerations will be taken up in the discussion of actual economic performance in Section III. At this stage, the point to stress is that the medium-term strategy envisaged that each government would pursue sustainable medium-term or longer-term objectives in its own interest since harmful international side-effects are likely to be avoided if such an approach is universally adopted. Interpreted in this way, the strategy of itself represented a code of conduct for mutually consistent policies across countries.

III. THE STRATEGY IN PRACTICE

A. The evolution of macroeconomic policies since the end of the 1970s

When the move towards a medium-term approach to macroeconomic policies began around the start of the decade, most industrialised countries faced high inflation and, with the exceptions of the United States and France, high budget deficits. Chart A illustrates the policies followed over the past dozen years in terms of two sets of indicators: the first (panels A1) consists of money growth rates and the structural budget balances; the second (panels A2) is made up of real short-term interest rates and the inflation-adjusted structural budget balance.

These indicators must be interpreted with caution. On the monetary side, both money stocks and real interest rates have been affected by factors other than monetary policy per se , including changes in the institutional setting and in the operating procedures of the authorities (7). This said, trends in the growth of certain money aggregates have been, on the whole, a fairly reliable indicator of medium-term monetary expansion in most of the OECD area. This is not to deny that various key aggregates, which had exhibited stable behaviour through the 1970s and which were closely watched by policymakers, became unreliable policy indicators in the 1980s -- examples are M1 in the United States and £M3 in the United Kingdom. However, for the three largest economies at least (the United States, Japan and Germany), estimated equations track the growth of a broad monetary aggregate quite well over recent years (8). Movements in the real short-term interest rate can also offer a useful guide to changes in the stance of monetary policy from year to year, since in the short run goods prices are not perfectly flexible. Over longer time horizons, on the other hand, monetary expansion or contraction will not necessarily be associated with any change in the real interest rate. Indeed, in the long-run the latter variable is affected more by the supply and demand for savings, and hence more by fiscal policy than by monetary policy.

On the fiscal side, the change in the structural (i.e. cyclically-adjusted) budget balance gives an indication of discretionary policy action, while the change in the budget balance adjusted both for the business cycle and for the inflation premium in interest payments on public debt provides a rough measure of the impact of shifts in fiscal policy on the economy (9). In the period described here, however, these indicators will tend to underestimate governments' efforts to control the budget deficit, because debt service payments grew. Table 1 thus shows how the structural budget balance

net of debt interest payments has evolved in recent years and compares the cumulative 1980-86 changes in this measure (which can be thought of as the extent of tax increases and discretionary spending cuts) with the corresponding figure for the structural balance itself. The difference between the two, which represents the increase in interest payments, is significant for many countries. Since, in principle, economic agents consider all their income when making spending plans, a budget indicator including real interest payments would better measure the long-term impact of fiscal policy on spending. However, it is possible that people may react differently in the short run to changes in real interest receipts than to changes in other sources of income. If so, the extent to which fiscal policies were restrictive in recent years may be under-estimated by the structural budget measures.

To review the change in policies from these various indicators, it is convenient to consider the developments since 1979 in three separate subperiods -- 1979 to mid-1982, mid-1982 to mid-1985, and mid-1985 onwards, which might each be characterised by a broadly dominant monetary or fiscal orientation.

Monetary tightening: 1979 to mid-1982.

In most OECD countries there was a sharp tightening in monetary policy in the years immediately following the 1979 oil price shock. Real interest rates rose steeply to record highs. This was most evident in the United States, with the Federal Reserve's move to a clearly non-accommodating stance following its change in operating procedures late in 1979. For the area as a whole, the structural budget balance changed little during this period as increases in debt interest payments offset significant discretionary moves to reduce the budget deficits in many countries. Improvements in the structural balance were quite marked in Japan and the United Kingdom. Among the major countries, only Italy and, at the end of the period, France showed a noticeable deterioration in the budget balance net of interest payments.

Fiscal expansion in some countries: mid-1982 to mid-1985.

The major change in macroeconomic policy in this period was the adoption of an expansionary fiscal policy in the United States, Canada and, for about two years, in France. This more than offset the continued fiscal restraint in Japan and the switch to a very tight fiscal policy in Germany from 1982. Although in other countries there were widely different fiscal stances, the structural budget balance for the OECD area outside the United States was little changed. As for monetary policy, the 1982-83 acceleration in the money aggregates in the United States occurred in the context of a steadily declining inflation rate, reflecting a once-and-for-all increase in money demand rather than an aggressive easing of policy -- although concern about the third world debt position did play a role (10). Elsewhere, monetary policies remained uniformly restrictive as countries attempted to defend their currencies against the rise of the dollar. This mix of policies contributed to the maintenance of high real interest rates internationally (11). However, the wide real interest differentials across countries corresponded more to divergent fiscal stances than to differences in monetary policies: real short-term rates in the United States averaged about 6 per cent against approximately 4 per cent in Japan and Germany. These differentials, together

with improved confidence in the U.S. economy, were an important cause of the strong appreciation of the U.S. dollar (12).

Monetary easing: mid-1985 to mid-1987.

This period saw a significant easing of monetary policies in the three largest economies, that originated in the United States, and then spread to Japan and Germany as the realignment of exchange rates gathered momentum after the September 1985 Plaza Agreement. The average level of real short-term interest rates (measured in relation to GDP/GNP deflators) declined to around 2 per cent in these countries by 1987, which is quite moderate by historical standards (13). On the other hand, outside Japan long-term real interest rates, over which monetary policy exerts very little direct control, remained on most measures above historical norms. In Japan there were numerous indications of excess liquidity, particularly in the form of speculative price increases in asset markets. Among the other larger countries, France seems to stand out in that virtually all the conventional monetary indicators suggested a rather tight stance. On the fiscal side, the reduction in the United States budget deficit in 1987 contributed to a significant tightening of the fiscal stance in the OECD area as a whole. Nevertheless, marked differences in budget positions still existed across countries. Fiscal policy remained loose in the United States, Canada and, especially, Italy. On the other hand Germany, France and Japan (at least until the expansionary measures announced in mid-1987) broadly maintained restraint in their budgets. In the United Kingdom, structural budget deficits expanded somewhat after 1985, reflecting in part the oil price decline.

Overall, this historical record suggests that, although the medium-term strategy has been applied with a substantial degree of uniformity on the monetary front, perhaps in large part because of the constraints imposed by the integrated world capital market, Japan and Germany are the only large countries that stuck consistently to a process of budget consolidation. Therefore the stylized presentation that is often drawn, depicting a highly expansionary fiscal policy in the United States and a neutral or even restrictive fiscal policy in the rest of the OECD area, is to some extent an over-simplification.

B. Effects on domestic performance

Disinflation

The outstanding achievement of macroeconomic policies in the 1980s has been the reduction in inflation (see Table 2 and Chart B). In certain respects the disinflationary process followed the ex ante intentions of the medium-term strategy. In particular, monetary policy was tightened in all the major countries (not necessarily simultaneously), expressly to bring inflation under control and to restore the credibility of central banks. Some loss of output for a period of time was inevitable, given the strongly entrenched expectations of inflation and the slowness with which wages and prices of services and manufactured goods usually respond to market conditions. From this viewpoint, the 1981-82 recession can be regarded as a cost that policy-makers were prepared to accept to get rid of runaway inflation. This said, it is almost certainly true that the recession was sharper -- and the disinflation quicker -- than they anticipated beforehand.

A major channel by which lower aggregate demand reduces inflation, and which may be the most important over the medium term, is the depressing effect of unemployment and excess capacity on wage increases and profit markups. Events in North America in this regard appear to conform fairly closely to the analysis described in Section II. Indeed, unemployment in the United States remained above most estimates of the natural rate until about 1985, dampening wage settlements by roughly as much as -- or even slightly more than -- empirically estimated Phillips curves would predict (14). By 1986 U.S. unemployment was no higher than it had been in 1980, yet the rate of increase in nominal wage rates was reduced from 10 to 2.2 per cent over this period. In Canada the economy followed a similar pattern, although weak natural resources prices dampened the recovery.

The markets for raw materials, characterized by a high degree of price flexibility, were a second important transmission channel for monetary disinflation. High interest rates led to weak demand and destocking, and hence explain a significant part of the decline in the relative price of commodities (15). This was amplified by: over-investment in resource extraction which had been encouraged until 1982 by mistaken expectations of price increases and by abundant supplies of credit; excess supplies of agricultural products, often as a result of government subsidies; the increase in non-OPEC oil output; and more efficient use of energy. These last factors were, to a large extent, a response to more market-oriented pricing and to conservation efforts in consuming countries. In consequence, falling prices of raw materials were a major factor in the rapid decline of inflation in the United States in the early 1980s. In most other industrialised countries the costs of imports of resource-based commodities declined little until early 1985, as their currencies depreciated against the dollar, but then fell steeply when the exchange rate movement was reversed. This, together with the collapse in oil prices, contributed importantly to the sharp deceleration in consumer and wholesale prices in 1986. One result of these relative price movements was a strong OECD-area terms-of-trade improvement from 1980 to 1986 (Table 3), the counterpart of which was a severe drop in real incomes in raw materials- producing countries.

In the United States disinflation was also encouraged by the appreciation of the dollar in the first half of the 1980s. The effective value of the dollar was 40 per cent higher in early 1985 than in 1980. In addition to lowering import prices directly, this intensified competitive pressures in all exposed sectors of the U.S. economy, notably the manufacturing sector, while putting additional downward pressure on the relative price of raw materials. Estimates of the combined impact of all these effects, including the ramifications for wage settlements, suggest that over the 1980-84 period they may have reduced the U.S. price level by between 5 and 9 per cent (16). Of course, the U.S. authorities could not have expected such a large appreciation of the dollar, or the deflationary impulse that it generated. Although there was a consequent loss of output and employment in the tradeables sectors, many observers have argued that the dollar appreciation reduced the overall output losses associated with disinflation in the United States.

The rest of the OECD of course saw a negative side to this. Most European countries sought to protect their own price level goals by resisting

depreciation against the dollar with tight money. As a result, the overall stance of policies proved tighter than in the United States since fiscal policy was less expansionary. This is undoubtedly one reason for the sluggish growth in European domestic demand in 1983 and 1984, when in the U.S. it was recovering strongly. The increases in unemployment and excess capacity helped lower inflation in Europe, even though the depreciation of European currencies against the dollar prevented the weakness in commodity markets from contributing very visibly to this process. Thus, until about 1985, disinflation in Europe seems to have been broadly consistent with the conventional analysis described earlier. What is less clear, as discussed further below, is why unemployment has remained so high or, alternatively, why wage increases seem recently to have stopped declining despite the high unemployment.

In Japan, the restrictive policies eliminated inflation rather quickly, with apparently minimal costs in terms of output and unemployment -- an outcome that reflected a high degree of flexibility in wage bargaining and in the deployment of resources in the manufacturing sector. Despite the low rate of inflation, the Bank of Japan maintained a tight monetary stance because of the concern that a lower exchange value of the yen would further increase its trade surplus and encourage protectionism abroad. However, such a stance resulted in relatively high real interest rates, which dampened domestic demand. This illustrates a dilemma in using monetary policy for external objectives: it is not clear in the end that the tight monetary stance did anything to slow the unsustainably rapid increase in the current account surplus, since the effects on trade flows via the exchange rate and those via domestic spending went in opposite directions.

Output and unemployment

The policy of restraint reduced growth sharply in the early 1980s, but by mid-1983 expansion had resumed in most of the OECD. Domestic demand growth was initially much stronger in the United States than elsewhere, with the differences in output growth attenuated by the improving trade balances in Japan and Europe. Thus, the output recovery since 1982 has been largely export-based in Japan, and more than entirely domestically based in the United States. In Europe as a whole, output growth has been just about in line with that of domestic demand over the recovery period; however, the pace of expansion has remained well below rates observed in previous decades. Exports to non-OECD countries fell after the 1982 debt crisis, as financing constraints forced developing countries to cut their imports. This was amplified by the weakened purchasing power of commodity producers, especially oil producers. Output growth in industrialized countries was somewhat dampened by this loss of exports.

The decline in European growth has been accompanied by chronically high unemployment, which has become one of the most intractable problems confronting the medium-term strategy. Because little improvement in the situation in Europe is foreseen in the near future, and since the high levels of unemployment no longer appear to have a disinflationary effect on wage settlements, it has been suggested that the strategy is now in need of basic modification.

In examining this issue it is important to recognize that unemployment rates in the European economies have been on an upward trend since the early 1970s, despite sometimes highly expansionary policies. This tendency can be attributed largely to a secular upward drift in the natural rate of unemployment (17). Many developments, particularly the growing inflexibility of labour markets in the 1970s, underlay the increase in structural unemployment. To some extent government programmes designed to protect workers raised non-wage labour costs, often created barriers to job mobility, made employers less willing to hire new workers, and in some cases supported sectors without due regard to changes in technology and comparative advantage. Also, more generous treatment of the jobless tended to raise measured unemployment rates. All these measures went further in Europe than in North America and Japan. Although since 1980 a number of steps have been taken to improve labour market flexibility, barriers to employment posed by government programmes remain important (18). For example, non-wage costs of hiring labour have not been significantly reduced; in addition, employment practices in Europe, compared to those in the United States, tend to favour workers who already have jobs vis-à-vis those seeking work.

Three explanations, not mutually exclusive, have been suggested for the existence of non-structural unemployment in Europe:

i) **Tight macroeconomic policies.** Continuous policy tightening would mean that the adjustment process (described by the downward shifts in the short-term Phillips curves in Section II.B) is still under way. However, as the overall stance of policies has in fact eased since 1985, unemployment rates should have started to fall. Moreover, while policies have varied widely among European countries, most have experienced a poor employment record (19).

ii) **The "hysteresis hypothesis".** This postulates that the natural rate of unemployment follows the trend in actual unemployment, so that only when the unemployment rate is increasing will wage increases be reduced. There is some empirical evidence to this effect for the United Kingdom, but as yet very little for other countries (20).

iii) **An inflation expectations trap.** This argument relies on less-than-absolute confidence in the willingness of authorities to persist with non-inflationary policies. If policy-makers announce that an inflation rate of, say, 2 per cent is acceptable, then the floor to the expected price increase might rationally be somewhat above that level. This is because of the non-negligible probability that policymakers will try to reduce the unemployment rate by allowing inflation to accelerate. A floor to price expectations of this kind could block the downward trend in the short-run Phillips curve that occurs when expectations are adaptive. Thus, if the authorities stick rigidly to their announced inflation target, the level of unemployment may get stuck above the natural rate. Evidence against this "credibility" argument may be the fact that in Germany, where the central bank has a very strong reputation, the unemployment costs of reducing inflation do not seem to have been less than in other countries.

Each of these explanations has weaknesses. It is plausible that elements of all three interact with the structural rigidities to compound the unemployment problem in Europe. Circumstantial evidence to this effect is that whereas Japan has been confronted with external shocks of equal or greater magnitude, and has had macroeconomic policies at least as tight as those in Germany, it has not until recently had significant unemployment. It would appear that the inflexibility in certain market arrangements in Europe, some of which result from policies designed to protect specific groups, means that exogenous changes of various kinds, such as tightened domestic financial policies, changes in international comparative advantage and the asymmetric policy mix in the United States, cause prolonged and costly frictions.

In any event, the implications of these explanations of high unemployment for demand management are quite different. According to i) more expansionary policies are warranted, but according to iii) no measures should be taken that put the credibility of non-inflationary policies at risk. Explanation ii) might or might not justify an easing of policies, depending on what causes "hysteresis". If it results from the destructive effects of unemployment on human capital and from low capital accumulation (21), then demand stimulation could reduce unemployment with almost trivial inflation costs. On the other hand, "hysteresis" might reflect barriers to entry in job and product markets, since the costs to a firm of replacing its labour force from the pool of unemployed may be greater than those of acceding to wage increases (22). In this case it is still true that a boost in demand can reduce unemployment with relatively small increases in inflation -- indeed measures that simultaneously stimulate demand and alleviate the non-wage costs of employment, e.g. reduced levies on employers for social insurance, would be a particularly attractive option (23). However, it is not clear that more expansionary macroeconomic policies are necessarily the best response, particularly over the medium term. Rather, this source of "hysteresis" seems to call for an opening up of job opportunities to "outsiders", e.g. by removing restrictive practices, by improving training and by other measures to increase the mobility of labour. It also suggests that product markets should be more exposed to outside competition, so as to stiffen firms' resistance to inflationary wage demands by the employed work force.

Private sector dynamism

One of the major goals of the strategy adopted by most OECD countries was to remove government restraints on private sector initiative. This was taken to imply a lower share of government in GNP, reduced public sector claims on savings and a reduction in the extent of regulation and other interference with the workings of the market economy. In fact, while there has been some evidence of reduced government involvement, in many countries ratios of government spending to GNP have increased, and government debt issues continue to absorb a high share of private sector savings. Moreover, although in some instances counterproductive regulation has been eliminated and taxation has been reduced (especially the highest rates of taxes on income), these steps have not so far proved adequate to stimulate a strong revival of private savings and investment, both of which have fallen as a percentage of GNP in the OECD area as a whole. In a number of countries, heavy government deficits, by contributing to the persistence of high real long-term interest rates, are to some extent responsible for the weak investment performance. However, a more important factor in this regard, at least in Europe, seems rather to be the low overall rate of output growth.

C. International implications

Current account imbalances and exchange rates

The emergence of large payments imbalances among the industrialized countries was associated with prolonged swings in exchange rates and with marked differences in growth rates of domestic demand. The dollar appreciation and the relatively rapid increase in spending within the United States were, in particular, the principal proximate causes of that country's current account deficit. By mid-decade the view that real exchange rates were greatly misaligned (24) was officially accepted by the Plaza Agreement of September 1985, which added impetus to the decline in the dollar. By early 1987 the effective exchange value of the dollar had returned roughly to its 1980 level. Although this movement in exchange rates has, according to estimates based on relative price levels, restored an overall pattern of international competitiveness that appears more reasonable in the light of historical data, the payments imbalances seem set to persist. This is in part due to time-lags in the response of trade volumes to changes in relative prices, but also reflects the fact that there was little or no reversal of the relative demand movements as between the United States and the rest of the OECD area. In addition, the very size of the existing current account imbalances complicates the adjustment problem because these imbalances will tend to widen, other things being the same, as a result of the change in investment income flows implied by their financing.

This problem has attracted a good deal of policy-makers' attention, for obvious reasons. Continued external disequilibria on the present scale could in the long run jeopardize goals for variables of direct importance to economic welfare. There are three main reasons for this. First, and most harmful, are the adverse effects on tradeable goods industries, which reinforce protectionist pressures. Second, since persistent large external imbalances make it more difficult to forecast future exchange rates, speculators are encouraged to take only very short-term positions, exacerbating the risk of currency movements not consistent with economic fundamentals. By adversely affecting business investment, such uncertainty about exchange rates can have deflationary implications. Third, in view of the fragile debt position of the developing countries and of some sectors within the United States, a sharp increase in U.S. interest rates brought on by a withdrawal of capital inflows could cause serious financial stress. Fourth, there is a risk that further rapid declines in the dollar might provoke a renewed burst of inflation in the United States, bringing in train a rebound in nominal and real interest rates. Fifth, unresolved international disequilibria cause heightened uncertainties in all financial markets, increasing the risks of disruptive price movements.

To clarify the extent to which macroeconomic policies may have aggravated the external imbalances problem, two quantitative approaches may be taken: the first is to simulate a model of the international economy, the second is to examine the components of underlying domestic savings and investment flows. These approaches are discussed in turn.

Table 4 shows the results for current-account balances of simulations of fiscal policy with the OECD INTERLINK model, run over the period 1982

(year 1) to 1987 (year 6). The calculations, which are purely illustrative, assume a decrease in government spending in the United States of one per cent of GNP from actual levels and an increase, likewise of one per cent of GDP/GNP, in all other OECD countries (25). Money growth and exchange rates are assumed to remain on their actual historical paths in the face of such budgetary changes. On these assumptions, INTERLINK simulations suggest that the U.S. current account deficit would be $34 billion less in 1987 than is currently expected. Of this, approximately two-thirds would be attributed to the hypothetical U.S. cutback alone. The simulations also indicate that fiscal action by other governments had much less impact on the U.S. trade deficit, especially when allowance is made for the fact that only a few of these governments actually improved their budget positions (26).

A third experiment simulates the repercussions that induced changes in exchange rates might have had, in addition to the effects just discussed. It is likely that the assumed changes in fiscal positions would have moderated the appreciation of the dollar in the early 1980s: this simulation makes the specific assumption that the appreciation would have been 8 per cent less at the peak (in the first half of 1985) than has in fact been the case, and that exchange rates would then return towards actual values (27). The results suggest that in 1987 the U.S. current account deficit would have been about $14 billion lower, while Japan and Germany would have had somewhat smaller surpluses. The combined simulated effect of the fiscal policy and exchange rate assumptions is a decline in the U.S. current account deficit of some $48 billion.

To conjecture what the results imply for U.S. fiscal policy, it might first be noted that the actual increase in the U.S. general government deficit was about three times the size of the shock considered in the simulations. Neglecting any exchange rate effect, this would give a deterioration in the current account deficit of some $75 billion in 1987. As simulated, the exchange rate effect, which was assumed to be consistent with hypothetical fiscal policy changes in other countries as well, might be used to give a rough idea of the impact of the actual strategy shift in the United States alone. On this assumption, some $90 billion of the deterioration in the current account between 1981 and 1987 might be attributed to U.S. fiscal policy.

While such simulations emphasize the proximate determinants of trade flows such as activity and relative prices, it is also useful to consider more explicitly the interplay of domestic savings and investment flows that underlies the medium-term evolution of the current account balance. Fiscal policies had strong effects on these flows, as the expansionary budgetary stance in the United States increased the demand for savings, while the restrictive fiscal action in Japan and Germany increased the ex ante supply of savings. The excess demand for savings in the United States was thereby satisfied by capital imports -- to a large extent from Japan -- which were the financial counterpart to the current account deficit. Other aspects of U.S. policy also favoured inflows of foreign saving by renewing confidence in the economy -- important cases in point are the strengthened credibility of monetary policy, the enhanced incentives in the Economic Recovery Tax Act and the successful deregulation of several important industrial and service sectors. This stood in some contrast to the less optimistic perceptions of investment prospects in certain other industrialized countries.

To flesh out some of the general considerations about domestic savings and investment behaviour empirically, Table 5 presents cross-section data for a sample of 15 OECD countries on savings, investment and current account ratios over the 1981-86 period. These show a slight negative correlation between budget and current account positions over the period as a whole: while the United States, Australia and Finland on average had lower budget deficits in relation to GDP/GNP than the mean of the sample, these countries had large external deficits; at the same time some countries with high budget deficits, such as Italy, Canada and the Netherlands, have had near-balance or surplus in their external accounts (28). Moreover, the external balance ratio was positively correlated with the investment ratio, a result that is also somewhat counter-intuitive. The key to this apparent paradox is that current account ratios were strongly correlated with private savings ratios, which in turn were positively associated with investment ratios (29). In any case, from the viewpoint of macroeconomic policy, the levels of these ratios are perhaps of less interest than their changes over the period concerned. Viewed this way the correlations indicate a strong positive association of external balances with budget positions, as well as with private savings. Moreover, an inverse relationship is also apparent between changes in the current account ratio and changes in the investment ratio. In sum, these results indicate, first, that differences in private savings behaviour across countries may be the key component in explaining current account balances and, second, that changes in each one of the three components of domestic savings and investment featured in Table 5 were associated with predictable changes in these balances (30).

Spillover effects on internal goals

While it is clear, from either of these approaches, that divergent fiscal positions have had a major influence on external imbalances and real exchange rates, the spillover effects of policies in one country on performance within other countries are more difficult to ascertain quantitatively. The issue is important because recommendations for international policy coordination are generally based on the view that significant benefits in terms of domestic macroeconomic goals might result. To be more specific, it has been suggested that in the early 1980s the U.S policy mix worked at the expense of other countries (31). Readings from one naive performance indicator -- the "discomfort index" (the sum of the unemployment rate and the inflation rate) -- perhaps illustrate why this claim might have some credence. For the OECD area as a whole the "discomfort index" was only slightly lower during the 1983-86 expansion than in the two expansionary periods of the 1970s (see Table 2). Moreover the 1980s expansion is already relatively long by historical standards, and it has not yet brought on an increase in inflation of the kind that ended previous recoveries. Thus, there has not been a definite deterioration in the domestic economic performance of OECD countries taken as a group in the 1980s as compared to the 1970s. Instead, there has been a substantial worsening in Europe offset by an improvement in the United States and Japan.

In view of the big change in the U.S. policy mix, it is natural that other governments might feel that this was responsible for part of this apparent reallocation of welfare. Indeed, the background considerations outlined in Section II.C suggest that U.S. macroeconomic policies could well

have shifted the unemployment-inflation tradeoff in other countries upwards (so that any given inflation target required more unemployment in the short run). However, it is not clear that the negative spillover effects were of large magnitudes.

The INTERLINK simulations shown in Table 6 are illuminating in this regard. As far as domestic effects -- inside the region where policy is changed -- are concerned, the three fiscal shocks (with a non-accommodating monetary policy) described above conform fairly well, for the regions concerned, to the general propositions mentioned in Section II. Domestic multipliers in the second year of the shock (corresponding to 1983) are above one, but are much lower in the sixth year. As regards spillovers, the results indicate that less fiscal expansion in the United States would have led to lower output and inflation in the rest of the OECD, particularly in Japan (owing to Japan's greater trade dependence on the United States). According to the exchange rate simulations (which also assume a non-accommodating monetary policy), the dollar depreciation associated with such a U.S. fiscal shock would have had little additional impact on either output or inflation outside North America.

In the monetary experiments the growth of money is increased by one percentage point per year, first in the United States (with the dollar assumed to depreciate by one per cent per year against all other countries), and second in the rest of the OECD (with the dollar assumed to appreciate at the same rate) (32). The United States again shows an almost classical outcome, with an initially significant output effect dying away as inflation accelerates; by the end of the simulation period the increase in nominal income is entirely dissipated by higher inflation. In the rest of the world, output effects of domestic monetary expansion are more prolonged, and inflation correspondingly slower to accelerate.

Spillover effects of monetary policy on output abroad are negligible in these simulations. This finding is not unusual; in theory the direction of these effects is ambiguous, and empirical models give a range of results varying from small negative to small positive numbers (33). However, there is some negative spillover from monetary expansion outside the United States to the U.S. rate of inflation, because of the assumed appreciation of the dollar. Thus, to some degree, the outcome for the United States of a joint monetary easing is better than that for a "go it alone" expansion. But the main conclusion to be drawn from both the fiscal and the monetary simulations is that over the medium term the spillover effects on domestic goal variables are quite small (34). Of course, the associated changes in external balances, to the extent that they are not indefinitely sustainable, may imply costs in the future that are not captured by these results.

With respect to the crucial question of the effect of the U.S. policy mix on European unemployment, the simulations suggest that it has been virtually zero. The different forces at work apparently almost cancel each other out. Since INTERLINK is fairly representative of mainstream models built on the income-expenditure framework (35), either the spillovers from the U.S. policy mix to the rest of the world -- and in particular to Europe -- were not very great, or this approach underestimates some crucial factors. Two possiblities, emphasised more in neoclassical analyses than in conventional macroeconometric models, concern:

i) **High capital substitutability and rational expectations.** In the short to medium run these assumptions imply that policy shocks can cause the exchange rate to overshoot, and over the longer run that real interest rates will be equalized across countries. Thus spillovers from movements in exchange rates and real interest rates are amplified. Moreover, the impact of fiscal policy on real long-term interest rates is more immediate, since expectations instantly incorporate the implications for future short-term rates (36).

ii) **The supply side.** Negative impacts on the European supply side could arise from terms-of-trade deterioration and increased real interest rates. A deterioration in the terms of trade could reduce the supply of output by causing resistance to real wage cuts and by raising the effective price of imported inputs. A rise in the real interest rate combined with a tax-induced increase in demand for investment goods in the United States might also have negative supply spillovers (37).

However, such side effects of U.S. policies would have been attenuated by two factors:

i) Effective exchange rates of non-U.S. currencies depreciated much less between 1980 and early 1985 than did bilateral rates against the dollar. For example, the decline in the U.S. dollar value of the mark was 38 per cent, but the effective value of the mark against all major currencies taken as a group actually rose over that period. Taking the European Community as a whole, the relative importance of the U.S. dollar in the economy can be roughly gauged from the fact that about 19 per cent of the area's exports went to the United States in 1986.

ii) The terms of trade in Europe did not in fact deteriorate after the United States embarked on its loose fiscal/tight money mix. Because of declining dollar prices for raw materials, they improved after 1981 (see Table 3). Moreover in 1985 and 1986, as the dollar depreciated, there was a very strong improvement in the European terms of trade. Thus, the losers from the terms-of-trade movements were primarily the third world; and Europe's losses of export sales to this area were of the same order of magnitude as those of other industrialized countries. In all, the evidence does not suggest that terms-of-trade effects on labour and output markets in Europe could have been strongly adverse.

Overall, U.S. policies probably made European problems more difficult, by raising world interest rates and shifting the terms of trade, but they do not seem to have been a basic cause of these problems. The mix of policies followed in the United States presented a new set of opportunities as well as a new set of costs to the rest of the world. Japan and many newly industrializing countries were able, at least during the first half of the decade, to benefit from the expansion of demand in the United States, and to maintain a very satisfactory employment record. This said, to the extent that U.S. fiscal policy made unsustainably large claims on domestic savings, implying a rapid increase in external indebtedness, trouble may have been stored up for the future.

IV. SOME CONCLUSIONS FROM THE EXPERIENCE WITH THE STRATEGY

In the light of the above analysis, what are the lessons from the experience with the medium-term strategy? How much of the disappointing economic performance of the 1980s is due to: i) unforeseen limitations of the strategy as originally envisaged; ii) insufficient structural reform; or iii) inadequate implementation of the strategy, in particular an asymmetric application of monetary and fiscal policies?

i) **Unforeseen limitations of the approach.** Experience in the 1980s has, in some important aspects, been different from what the analytical framework outlined in Section II would have implied. It had probably been expected that market forces would restore unemployment rates to levels no higher than those of 1980 well before the end of the decade. As it turns out, output growth has remained rather slow even after the inflation rates stabilised, and outside North America this has been reflected in high unemployment. This suggests that market mechanisms have worked more slowly than had been expected. In addition, tax cuts in the United States have apparently not stimulated savings and productivity growth as much as it was hoped. For example, if the optimistic predictions of the "supply side school" in this respect had borne fruit there might not now be a significant deficit in the U.S. current account.

ii) **Insufficient structural reform.** Although an examination of structural issues is beyond the scope of this paper, it must nevertheless be noted that obstacles to better economic performance have proved much more obdurate than had been expected. While there have been some steps towards freer markets in the form of privatisation and deregulation, particularly of financial markets, other structural reforms (notably in European labour markets, as discussed above) have been rather limited. Trade barriers have been maintained or reinforced, and even countries with large surpluses have done little to open their economies to foreign competition. In virtually all countries the scale of government activity, as indicated e.g. by the share of government in GDP, remains high or has grown. The size and manner of assistance to industries, as well as to individuals, continues to raise efficiency questions. Numerous other examples of remediable distortions are cited in a recent OECD Report on Structural Adjustment (38).

iii) **Inadequate implementation of the strategy.** In several countries the monetary and fiscal levers have been manipulated independently for some time: monetary policy has been used to fight inflation, while fiscal policy -- not necessarily intentionally -- has continued to support aggregate demand. In practice, as the historical record suggests, low budget deficits do not appear to be necessary or sufficient for moderate money growth, nor do capital market constraints necessarily force central banks to monetize a high public sector borrowing requirement. However, as the experience of recent years has shown, the use of an expansionary fiscal policy while fighting inflation with tight money may lead to high real interest rates, exchange rate misalignments, rapid increases in public debt and allocative distortions. Therefore, although decisions about monetary and fiscal policy can technically be separated, it is important for them to be jointly consistent with the ultimate

objectives. One might argue that the strategy put insufficient weight on this point, but it is probably fairer to say that at the start of the 1980s it was simply assumed that the two arms of macroeconomic policy would be applied rather symmetrically.

Each of the above considerations contributed to the less-than-satisfactory performance of the OECD economies since the early 1980s. However, the important point here is that more adherence to the strategy as originally conceived -- i.e. more structural adjustment and less conflict between monetary and fiscal policies -- would presumably have avoided some of the difficulties experienced during this period. As regards fiscal policy, the emphasis on allocative considerations was certainly appropriate -- if anything, the effects of government budgets on national savings and investment flows, and hence on current account positions, may have been underestimated. In the case of monetary policy, where the strategy has been implemented rather consistently, a major success can be claimed in the control of inflation. It would seem therefore that, overall, the broad principles underlying the medium-term strategy have stood up fairly well. However, in the light of the unsatisfactory aspects of macroeconomic performance that have emerged (sluggish growth, persistent high levels of unemployment in Europe and large international imbalances), the question as to how best to adapt the strategy to current circumstances has become more pressing.

NOTES

1. The broad outlines of this approach can be found, in particular, in the communiqués of the OECD Council at Ministerial level, 1981 and 1982.

2. For a more detailed discussion, see Chouraqui and Price (1984).

3. See, for example, paragraph 10(ii) and paragraph 12 of, respectively, the 1981 and 1982 Communiqués.

4. 1981 Ministerial Communiqué.

5. E.g. Mundell (1971).

6. Indeed, since the initial overvaluation of the currency will cause a build up of foreign debt or a rundown of overseas assets, which affects the investment income component of the current account, the ultimate equilibrium real exchange rate will be below its initial value.

7. These are reviewed in Atkinson and Chouraqui (1986).

8. See in this respect Clinton and Chouraqui (1987).

9. The levels of adjusted budget balances illustrated in these charts should be regarded with care, since the hypotheses about the trend level of output used to calculate them are of necessity arbitrary. In any event it is the changes in the balances that gives an indication of the fiscal stance. It should be recognized that automatic stabilisers also support demand in the economy.

10. Money growth was heavily influenced in this period by deregulation, financial innovation and portfolio shifts induced by the process of disinflation; this provoked an increase in the demand for liquid assets that the Federal Reserve accommodated by allowing a substantial acceleration in money growth.

11. See the econometric estimates of Sachs (1985) and Fukao (1987).

12. See discussion in Atkinson and Chouraqui (1985).

13. It might be noted here that the Secretariat's estimate of the real interest rate for Japan in 1987 is significantly reduced by a projected increase in the Japanese price level associated with an assumed increase in indirect taxes in 1988. For the method of calculation, see notes to Chart A.

14. Coe (1985) discussed this question.

15. The sensitivity of commodity prices to interest rates and inflation is discussed in Holtham and Durand (1987).

16. This range covers what would be indicated by the coefficient estimates surveyed by Hooper and Lowrey (1978) and by the detailed study of Sachs (1985). Experiments with the OECD INTERLINK model suggest an impact of about 6.5 per cent.

17. See the evidence presented in Coe (1985).

18. Microeconomic policies and institutional changes in the labour market are described in Chan-Lee et al. (1987).

19. The effective stance of fiscal policy in Italy and several smaller countries may have been tighter than is indicated by the budget balances if the large shift in the composition of government spending towards debt interest payments reduced aggregate demand -- see Table 1.

20. See Coe (1985).

21. As suggested in Buiter and Gersowitz (1982).

22. This rationale for hysteresis is given by Blanchard and Summers (1987).

23. As argued by Blanchard and Summers (1987), op. cit.

24. A well known exposition of this view is in Williamson (1985).

25. The results for output, inflation and unemployment are discussed later in this section. The model was modified in these experiments to remove a positive link between interest rates and the price level. The unmodified version of the model yields stronger crowding out effects for a non-accommodated fiscal expansion, and weaker price effects for a monetary expansion.

26. It is interesting to note that if all OECD governments other than the United States' were to raise their spending, the model predicts that the trade surpluses of Japan and Germany would be somewhat increased. This may reflect high elasticities of demand for their exports with respect to activity.

27. The implied real effective exchange for the U.S. dollar returns approximately to its actual value in the second half of 1987. For Japan and Germany, the changes in effective exchange rates are much less than those assumed for the U.S. dollar. These assumptions embody exchange rate changes broadly similar in magnitude to those derived by Masson and Knight (19867) and Sachs (1985), with due allowance made for differences in the shocks considered. However, the profile used here is chosen completely judgementally.

28. In this respect, the correlations presented in Table 5 must be interpreted with some caution, since the variables concerned are linked via a sources-and-uses of funds identity. These correlations are simply descriptive statistics which of themselves say nothing about causal patterns. These points are discussed in a number of articles, following Feldstein and Horioka (1980) and Sachs (1981).

29. A result found earlier by Feldstein and Horioka (1980).

30. Lest there be any confusion about these inferences, it is to be noted that they are not tautological: the sources and uses identify says only that at least one of the components will be correlated with the current account balance. In fact no single component dominated the outcome.

31. See Sachs (1985).

32. This exchange rate assumption is fairly neutral, since in practice exchange rates might either jump suddenly in response to changed monetary policy or adjust adaptively to new purchasing power parities.

33. See Holtham (1986) for a discussion of such results from a wide range of models.

34. In the context of income-expenditure oriented models this is intuitively easy to understand because trade in a given large region with any other region will usually be a small percentage of GNP. For example, 4 per cent of Japan's GNP derives from exports to the United States. Hence a change in U.S. fiscal policy equivalent to one per cent of U.S. GNP would have predicted effects in the order of 0.04 per cent in Japan's GNP.

35. A comparison of INTERLINK with eleven other models presented to the Brookings Institution conference (March 1986) reveals that its properties are near the central tendency of international empirical models. If anything, it tends to be more neoclassical in its predictions that the conventional models, but less so than the rational expectations models.

36. On this basis Masson and Knight (1986), for example, conclude that U.S. macroeconomic policies had a significant impact on other industrialized countries.

37. These issues are discussed in detail by, e.g. Bruno and Sachs (1985), Daniel (1981) and Fitoussi and Phelps (1987).

38. See OECD (1987).

TABLES AND CHARTS

TABLES

CHARTS

TABLE 1

CYCLICALLY ADJUSTED BALANCE NET OF DEBT INTEREST PAYMENTS(a)

	1980	1981	1982	1983	1984	1985	1986	1987	Change 1980-87	Change in cyclically-adjusted balance 1980-1987
UNITED STATES	1.0	1.9	1.5	0.9	0.5	-0.1	-0.6	0.3	-0.7	-1.7
JAPAN	-3.1	-2.2	-1.6	-1.2	0	0.9	1.2	1.1	4.2	3.4
GERMANY	-0.3	0.2	2.4	3.3	3.3	4.1	3.7	3.5	3.8	3.1
FRANCE	1.5	0.4	-0.7	0.1	1.2	1.3	1.3	1.8	0.3	-0.9
UNITED KINGDOM	1.6	4.1	4.6	2.7	2.5	2.6	1.8	1.2	-0.5	0.3
ITALY	-3.8	-5.5	-3.3	-1.4	-2.4	-3.9	-2.8	-3.0	0.9	-1.4
CANADA	-0.2	1.3	0.2	-1.0	-1.4	-1.9	-0.8	-0.5	-0.3	-2.2
TOTAL MAJOR SEVEN	0	0.7	0.8	0.6	0.6	0.5	0.3	0.7	0.7	-0.2
TOTAL MAJOR SEVEN(LESS USA)	-1.0	-0.5	0.2	0.4	0.8	1.0	1.2	1.1	2.1	1.2
AUSTRALIA	0.1	0.9	2.3	0.2	-0.2	-0.6	0.2	0.8	0.6	-0.5
AUSTRIA	0	1.3	0.5	-0.4	1.7	1.9	1.5	1.1	1.1	-0.5
BELGIUM	-3.9	-4.1	-0.9	-0.1	2.4	3.9	3.6	5.3	9.1	4.6
DENMARK	-1.0	-1.4	-3.3	0.2	3.9	4.9	8.4	7.9	8.9	4.9
FINLAND	0.7	2.0	0	-1.0	0.7	0.2	0.8	-1.4	-2.1	-2.8
GREECE	-0.5	-7.1	-3.8	-2.7	-4.1	-7.5	-4.0	-2.1	-1.5	-5.8
NETHERLANDS	-0.9	-0.3	0.7	2.1	1.5	2.9	1.3	0.6	1.5	-0.9
NORWAY	6.4	6.4	7.2	6.6	7.8	9.3	5.2	5.5	-0.9	-1.1
SPAIN	-0.6	-0.3	-1.8	-0.4	-0.3	-0.4	0.7	0.5	1.1	-0.8
SWEDEN	-4.0	-2.9	-2.2	-0.9	0.5	-0.2	2.7	5.5	9.5	7.9
TOTAL SMALL COUNTRIES	-0.7	-0.3	0	0.4	1.1	1.3	1.8	2.1	2.8	0.8
TOTAL OF ABOVE COUNTRIES	-0.1	0.9	0.7	0.6	0.7	0.6	0.5	0.9	1.0	-0.1
OECD LESS USA	-0.9	-0.5	0.1	0.4	0.8	1.1	1.3	1.3	2.2	1.1

a) Defined as the cyclically-adjusted general government financial balance plus the net interest payments of the government sector.

Source: OECD National Accounts, national sources and Secretariat estimates.

Table 2
PERFORMANCE INDICATORS
(Per cent rates)

	UNITED STATES				OECD EUROPE				JAPAN				OECD TOTAL			
	Output growth (a)	Unemployment	Inflation (b)	"Discomfort index" (c)	Output growth (a)	Unemployment	Inflation (b)	"Discomfort index" (c)	Output growth (a)	Unemployment	Inflation (b)	"Discomfort index" (c)	Output growth (a)	Unemployment	Inflation (b)	"Discomfort index" (c)
1971	2.8	6.0	5.6	11.6	3.2	2.5	7.5	10.0	4.3	1.2	5.6	6.8	3.3	4.0	6.2	10.2
1972	5.0	5.6	4.8	10.4	4.3	2.8	6.7	9.5	8.5	1.4	5.6	7.0	5.3	4.0	5.6	9.6
1973	5.2	4.9	6.6	11.5	5.7	2.6	7.9	10.5	7.9	1.3	12.9	14.2	5.9	3.6	8.1	11.7
1974	-0.5	5.6	8.9	14.5	1.6	2.9	11.7	14.6	-1.4	1.4	20.8	22.2	0.3	4.0	12.0	16.0
1975	-1.3	8.3	9.9	18.2	-1.1	4.3	14.4	18.7	2.7	1.9	7.7	9.6	-0.4	5.9	11.2	17.1
1976	4.9	7.7	6.3	14.0	4.8	4.8	10.2	15.0	4.8	2.0	7.2	9.2	4.9	5.8	7.9	13.7
1977	4.7	7.0	6.7	13.7	2.3	5.1	9.8	14.9	5.3	2.0	5.8	7.8	3.9	5.6	7.6	13.2
1978	5.3	6.1	7.3	13.4	3.1	5.2	8.5	13.7	5.2	2.2	4.8	7.0	4.5	5.2	7.3	12.5
1979	2.5	5.9	8.8	14.7	3.6	5.2	9.4	14.6	5.3	2.1	3.0	5.1	3.4	5.1	8.2	13.3
1980	-0.2	7.2	9.1	16.3	1.0	5.7	12.0	17.7	4.3	2.0	3.8	5.8	1.0	5.9	9.4	15.3
1981	1.9	7.6	9.6	17.2	-0.1	7.4	9.8	17.2	3.7	2.2	3.2	5.4	1.6	6.7	8.7	15.4
1982	-2.6	9.7	6.4	16.1	0.6	8.8	9.0	17.8	3.1	2.4	1.9	4.3	-0.6	8.3	6.8	15.1
1983	3.6	9.6	3.9	13.5	1.7	9.8	7.1	16.9	3.2	2.6	0.8	3.4	2.8	8.7	4.6	13.3
1984	6.8	7.5	3.7	11.2	2.6	10.9	5.8	16.8	5.1	2.7	1.2	3.9	4.9	7.9	4.5	12.4
1985	3.0	7.2	3.2	10.4	2.4	11.0	5.5	16.5	4.7	2.6	1.5	4.1	3.2	7.7	4.1	11.8
1986	2.9	7.0	2.6	9.6	2.6	11.0	4.9	15.9	2.4	2.8	1.8	4.6	2.7	7.6	3.6	11.2
1987 (d)	2.7	6.2	3.0	9.2	2.3	10.8	3.5	14.3	3.5	3.0	-0.2	2.8	2.7	7.2	3.2	10.4
SUMMARY RESULTS FOR THREE EXPANSIONARY PERIODS																
1972-74	3.2	5.4	6.7	12.1	3.8	2.8	8.7	11.5	4.9	1.4	13.1	14.5	3.8	3.9	8.5	12.4
1976-80	3.4	6.8	7.6	14.4	2.9	5.2	9.9	15.1	5.0	2.1	4.9	7.0	3.5	5.5	8.1	13.6
1983-86	3.8	7.8	3.5	11.3	2.3	10.1	5.5	10.6	3.9	2.7	1.3	4.1	3.3	7.9	3.9	11.8

a) Average annual rate of change in real GDP/GNP.

b) Average annual rate of change in GDP/GNP deflator.

c) Sum of unemployment rate and inflation rate.

d) Secretariat projection.

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Table 3
EXCHANGE RATES AND TERMS OF TRADE
Indices based on 1980 = 1.00

	UNITED STATES			JAPAN				GERMANY				OECD EUROPE	OECD TOTAL
	Effective U.S.$	Real effective U.S.$	Terms of trade	U.S.$/ Yen	Effective Yen	Real effective Yen	Terms of trade	U.S.$/ DM	Effective DM	Real effective DM	Terms of trade	Terms of trade	Terms of trade
1976	1.11	1.03	1.22	0.76	0.81	1.08	1.24	0.72	0.84	0.92	1.10	1.01	1.14
1977	1.11	1.01	1.19	0.84	0.91	1.17	1.29	0.78	0.89	0.96	1.09	1.01	1.13
1978	1.00	0.94	1.17	1.08	1.11	1.32	1.51	0.90	0.95	1.00	1.13	1.05	1.17
1979	0.99	0.96	1.15	1.03	1.03	1.56	1.24	0.99	0.99	1.01	1.07	1.03	1.12
1980	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1981	1.07	1.06	1.04	1.03	1.12	1.08	1.02	0.80	0.97	0.94	0.93	0.97	1.01
1982	1.18	1.17	1.08	0.91	1.05	0.94	1.03	0.75	1.02	0.96	0.97	0.99	1.03
1983	1.22	1.16	1.13	0.95	1.16	1.00	1.06	0.71	1.08	0.96	0.98	1.01	1.07
1984	1.29	1.25	1.12	0.95	1.22	1.00	1.09	0.64	1.08	0.95	0.96	1.00	1.07
1985	1.33	1.28	1.15	0.95	1.25	0.99	1.13	0.62	1.10	0.93	0.98	1.02	1.09
1986	1.09	1.01	1.19	1.35	1.64	1.30	1.57	0.84	1.19	1.01	1.12	1.10	1.20

Table 4

DEVIATIONS OF CURRENT ACCOUNT BALANCES FROM ACTUAL VALUES IN SIMULATIONS WITH THE OECD INTERLINK MODEL ($ BILLION)

	Effect on United States		Effect on Japan		Effect on Germany	
Year	2	6	2	6	2	6
Decrease in U.S. government spending (a)	9.1	24.6	-2.7	-9.6	-1.7	-6.1
Increase in ROECD government spending (a)	7.6	12.1	-0.6	4.5	0.5	2.6
Both above combined	16.5	33.8	-3.3	-5.2	-1.2	-3.4
U.S.$ appreciation reduced (b)	1.2	14.6	0.0	-7.3	0.3	-2.9
Memorandum item:						
Assumed deviations in exchange values						
- vis-à-vis U.S.$	..	..	4.7	3.6	4.7	3.6
- effective	-4.5	-3.5	2.1	1.6	0.6	0.5

a) Of one per cent of GDP/GNP.

b) One per cent per half year decline from actual values between 1982.I and 1985.I, followed by one per cent per year increase back towards actual values. Maximum assumed decrease from actual value exchange value of U.S. dollar, occurring in 1985.I, is thus 8 per cent.

Note: In all these experiments monetary policy holds money stocks in the major countries to their actual values. ROECD is the OECD area excluding the United States.

Table 5

SAVINGS AND INVESTMENT RATIOS 1981-86
Per cent of GDP/GNP

	Average level				Five-year change			
	CA	S	T-G	I	CA	S	T-G	I
United States	-1.8	16.9	-2.9	15.7	-3.5	-1.2	-2.4	0.0
Japan	2.3	28.0	-2.5	23.3	3.9	-0.7	3.0	-1.7
Germany	1.3	21.1	-2.3	17.7	4.7	0.8	2.4	-1.5
France	-0.6	18.7	-2.7	16.7	1.3	-0.3	-1.1	-2.7
United Kingdom	1.0	18.8	-3.0	14.8	-2.8	-2.2	-0.1	0.4
Italy	-0.7	23.0	-11.4	12.2	2.8	0.4	0.2	-2.2
Canada	-0.2	23.3	-5.4	18.1	0.0	-0.3	-3.9	-4.3
Australia	-4.9	18.3	-2.2	21.1	-0.7	-1.5	-2.3	-3.1
Austria	-0.2	21.9	-2.8	19.3	2.2	1.3	-0.9	-1.8
Belgium	-0.5	23.4	-10.7	13.3	7.5	1.4	4.5	-1.7
Denmark	-3.7	15.5	-4.3	14.9	-2.1	-7.0	10.3	5.4
Finland	-1.1	19.6	0.2	20.9	-0.6	-3.0	-0.1	-2.4
Netherlands	3.2	25.3	-6.2	15.9	0.0	2.2	-1.2	1.1
Spain	-0.3	22.5	-5.4	17.4	4.5	2.9	-2.1	-3.7
Sweden	-1.2	19.0	-4.0	16.2	3.1	0.3	3.5	0.7
Total of above	-0.4	20.2	-3.5	17.2	-0.3	-0.6	-0.6	-0.9
Weighted correlation with CA across countries	1.00	0.95	-0.35	0.86	1.00	0.89	0.97	-0.92

Notes: CA Current account balance (balance of payments basis)
S Private-sector savings
T-G Government budget surplus
I Fixed business investment, including residential construction

Data source: OECD INTERLINK data base.

Table 6

INTERLINK SIMULATION RESULTS

	Effect on United States						Effect on Europe						Effect on Japan						Effect on whole OECD area					
	Output		Inflation		Unemployment		Output		Inflation		Unemployment		Output		Inflation		Unemployment		Output		Inflation		Unemployment	
Year	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6	2	6
FISCAL																								
Decrease in U.S. government spending (a)	-1.1	-0.4	-0.8	-0.2	0.62	-0.02	-0.3	-0.2	-0.1	-0.2	0.10	-0.03	-0.4	-0.5	-0.1	-0.0	0.01	0.01	-0.6	-0.3	-0.4	-0.3	0.31	-0.00
Increase in ROECD* government spending (a)	0.3	0.1	0.2	0.3	-0.16	-0.02	1.7	1.0	0.4	0.4	-0.54	-0.16	1.6	0.7	0.5	0.0	-0.05	-0.03	1.1	0.5	0.3	0.3	-0.32	-0.07
Both above combined	-0.7	-0.2	-0.7	-0.2	0.46	-0.07	1.4	0.8	0.3	0.2	-0.44	-0.11	1.2	0.2	0.4	-0.1	-0.04	-0.02	0.4	0.2	-0.1	0.0	-0.01	-0.08
EXCHANGE RATE																								
U.S. dollar appreciation reduced	0.1	-0.5	0.3	0.4	-0.09	0.16	0.0	0.0	-0.2	0.3	-0.02	-0.12	0.0	-0.2	-0.2	0.0	0.00	0.01	0.0	-0.2	0.0	0.2	-0.03	0.03
MONETARY																								
Increase in U.S. money growth (b)	0.6	0.1	0.4	1.0	-0.36	-0.14	0.0	-0.1	-0.1	0.1	0.00	0.01	0.1	-0.4	0.0	-0.0	0.00	0.01	0.3	-0.1	0.1	0.4	-0.15	-0.06
Increase in ROECD* money growth (b)	-0.1	0.1	-0.1	-0.4	0.06	-0.03	0.3	0.7	0.2	0.3	-0.19	-0.67	0.6	0.7	0.2	0.5	-0.01	-0.03	0.2	0.4	0.1	0.1	-0.06	-0.27
Both above combined	0.5	0.1	0.3	0.7	-0.31	-0.12	0.4	0.5	0.2	0.4	-0.18	-0.68	0.7	0.3	0.1	0.5	-0.02	-0.02	0.5	0.3	0.2	0.5	-0.21	-0.33

* OECD excluding the United States. a) Of one per cent of GDP/GNP. b) Of one per cent per annum.

Note: The fiscal and exchange rate shocks are the same as those described in Table 4.

Chart A

FISCAL MONETARY MIX IN SELECTED OECD ECONOMIES

I. Structural budget balance and money growth

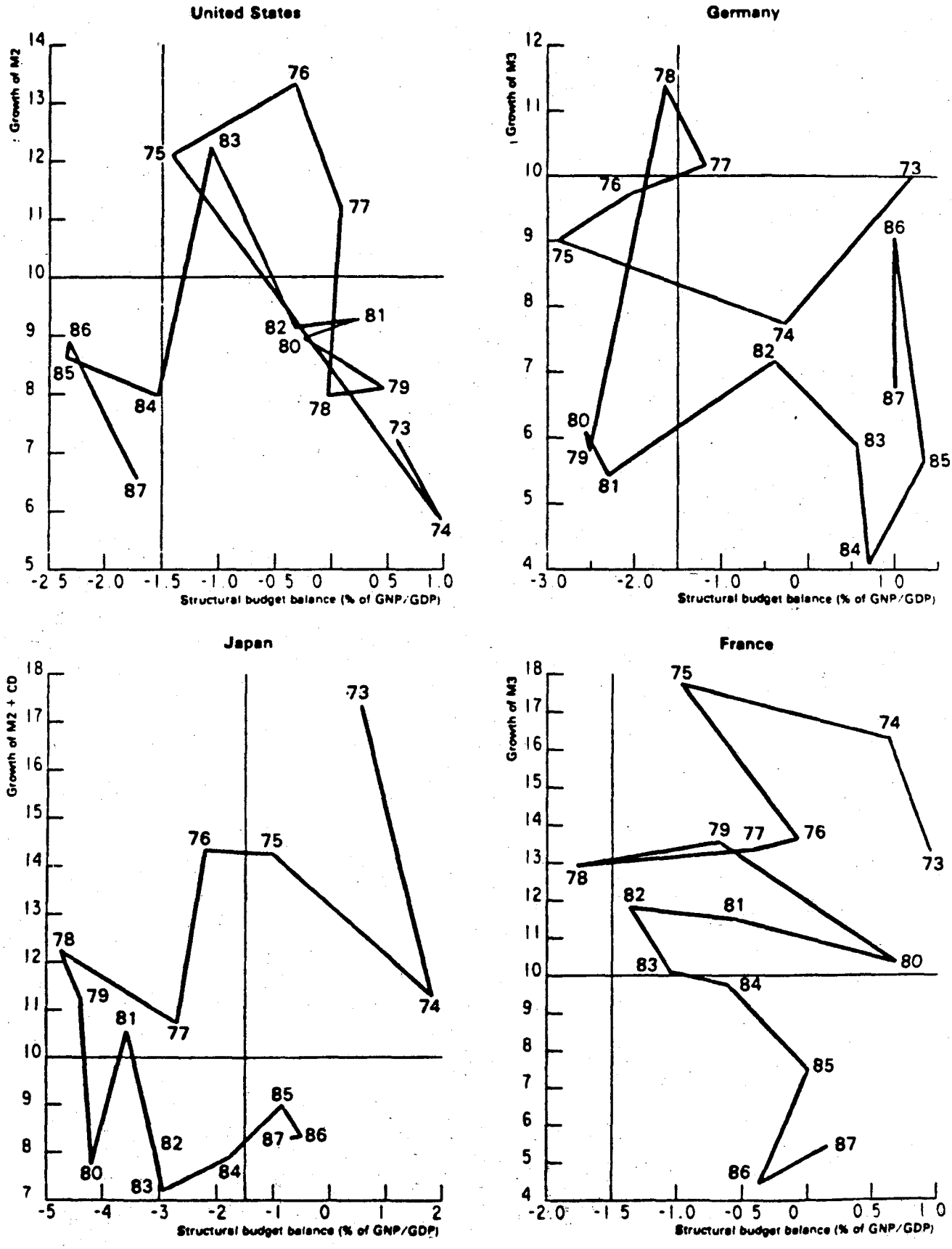
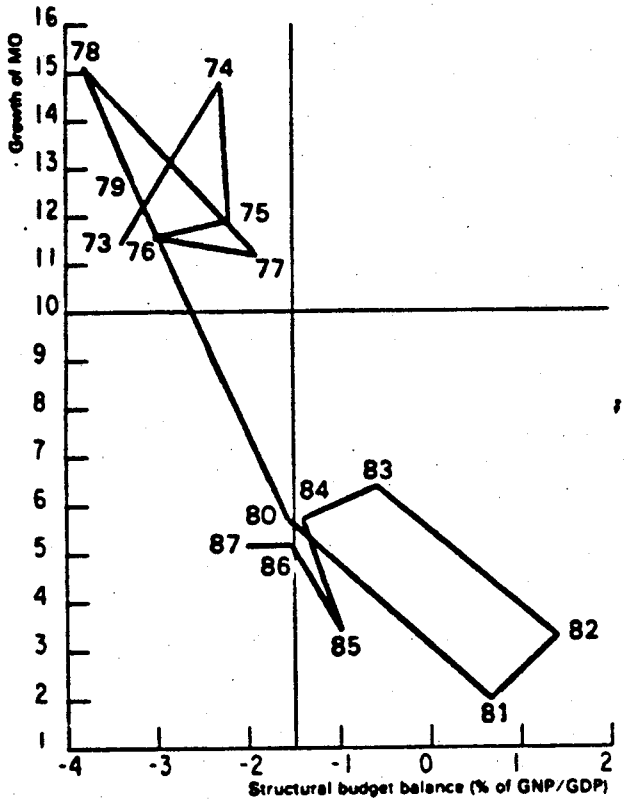


Chart A (continued)

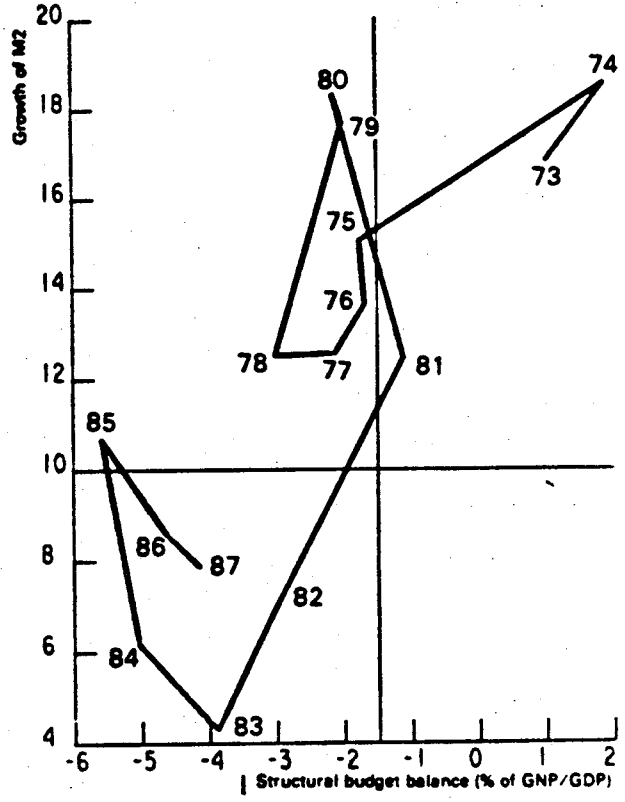
FISCAL MONETARY MIX IN SELECTED OECD ECONOMIES

I. Structural budget balance and money growth

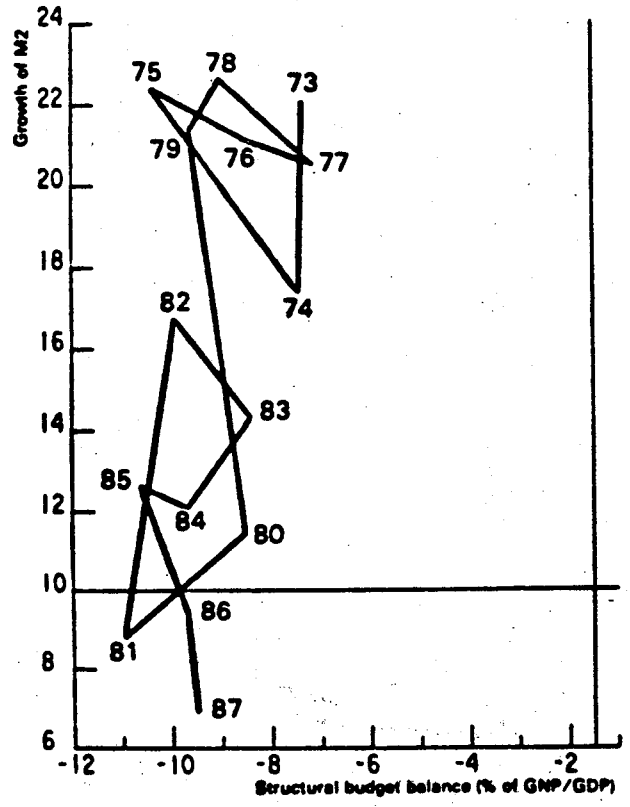
United Kingdom



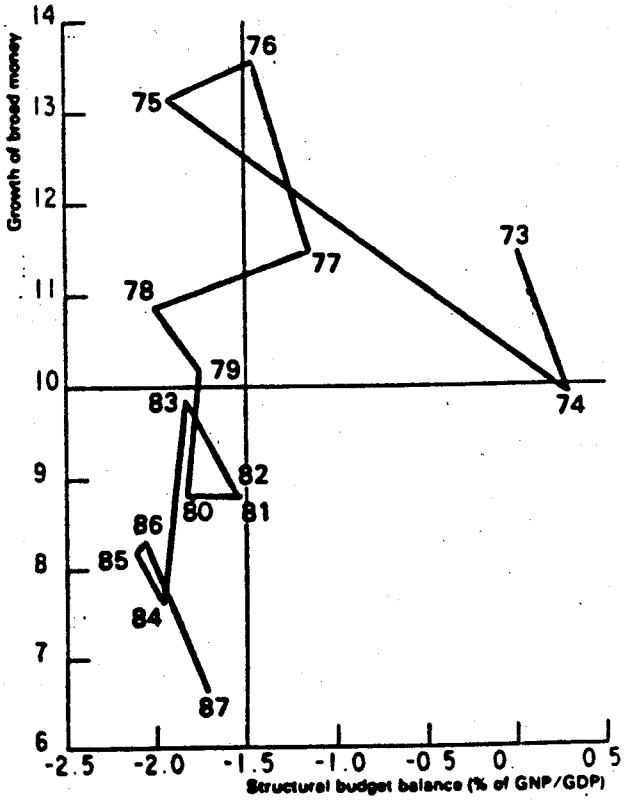
Canada



Italy



OECD Area (°)



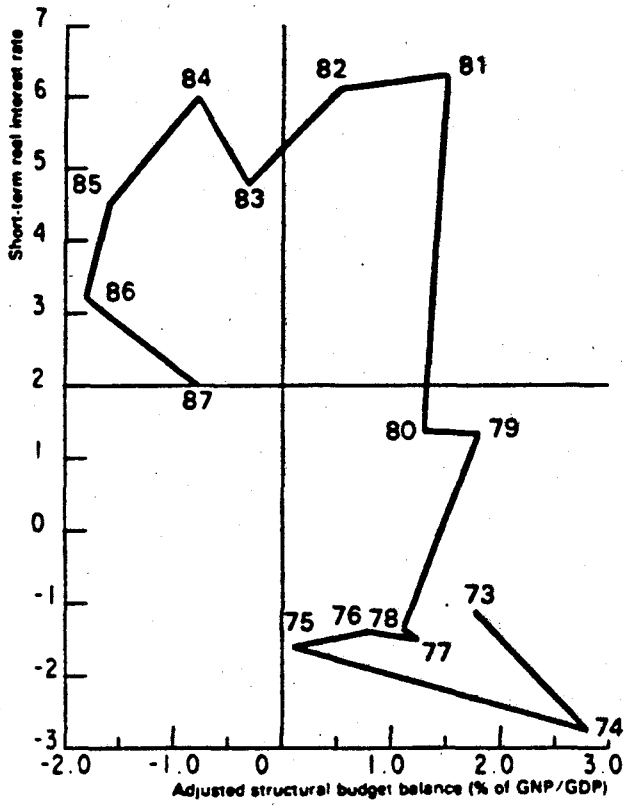
(°)Major seven plus Belgium, Netherlands and Sweden

Chart A (continued)

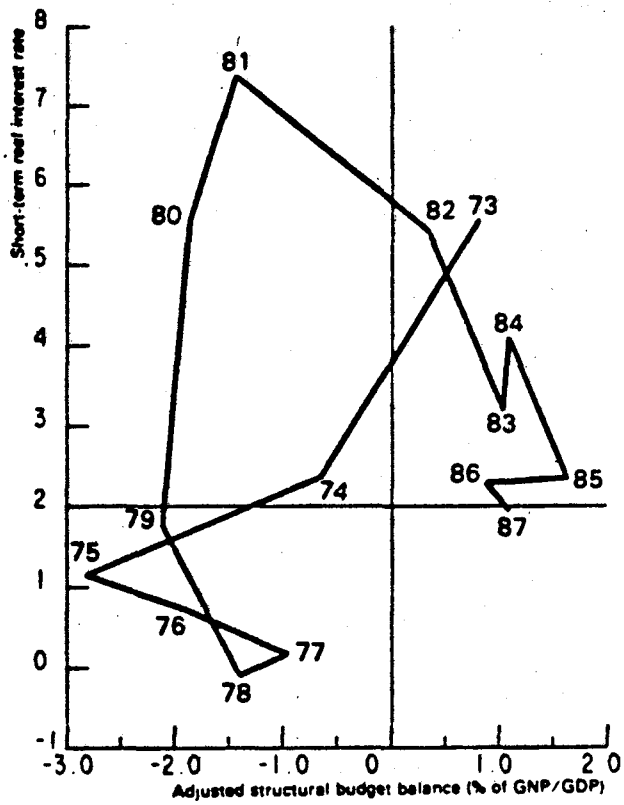
FISCAL MONETARY MIX IN SELECTED OECD ECONOMIES

II. Inflation adjusted structural budget balance and short-term real interest rate

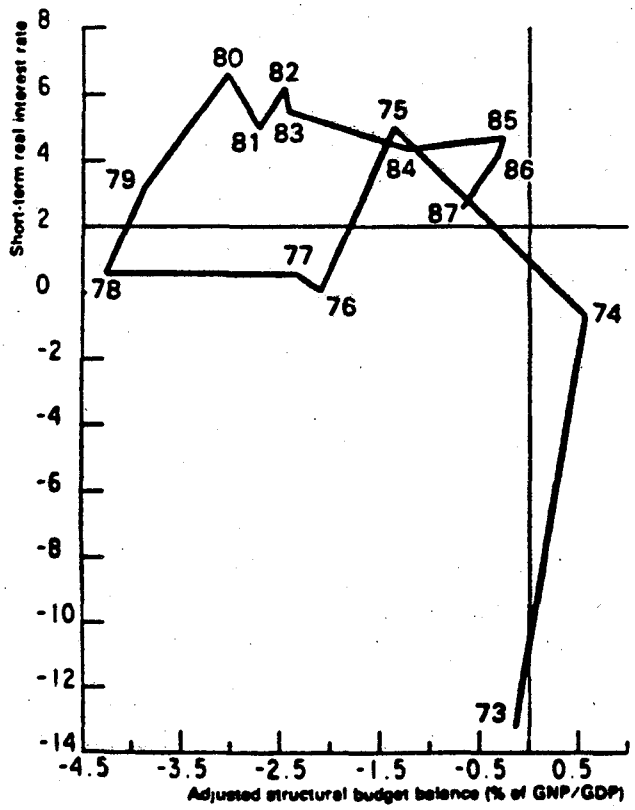
United States



Germany



Japan



France

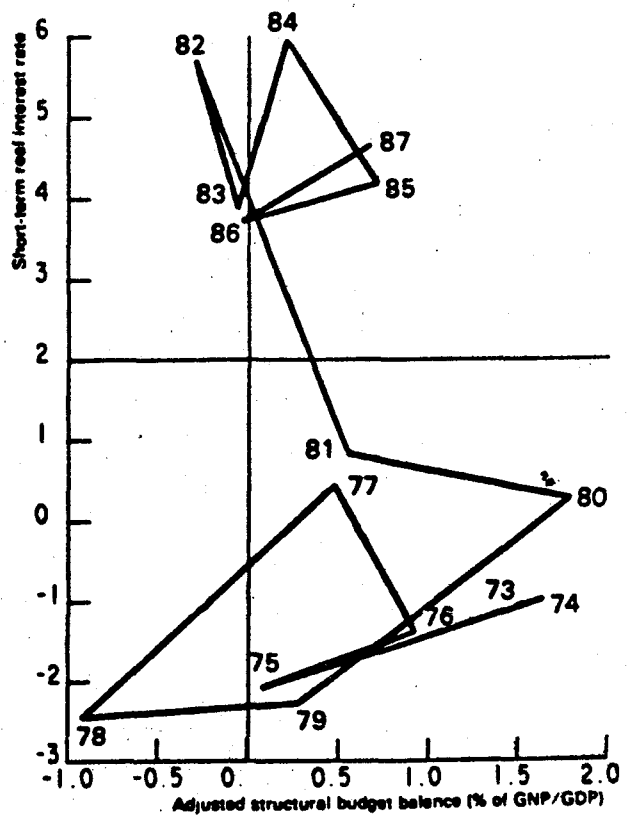
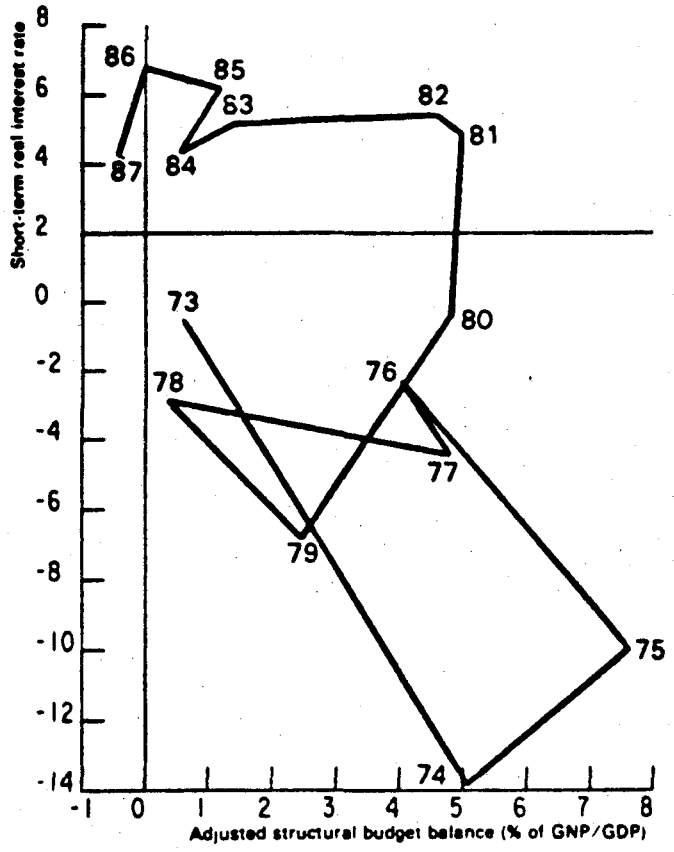


Chart A (continued)

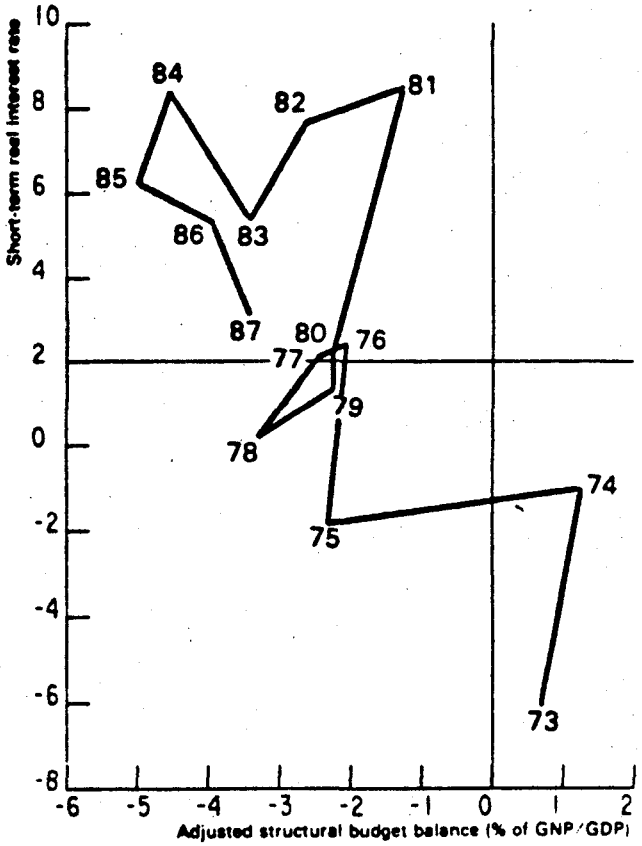
FISCAL MONETARY MIX IN SELECTED OECD ECONOMIES

II. Inflation adjusted structural budget balance and short-term real interest rate

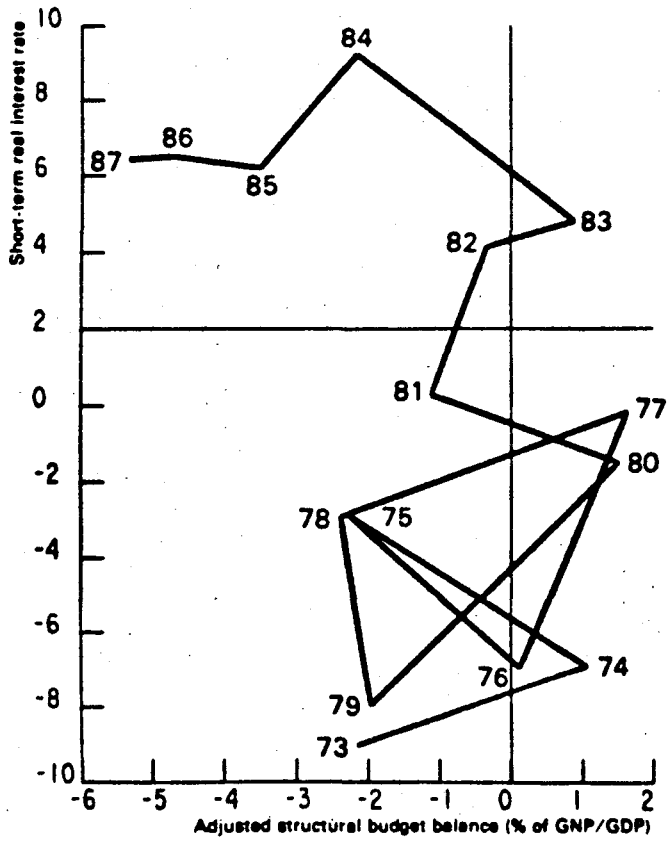
United Kingdom



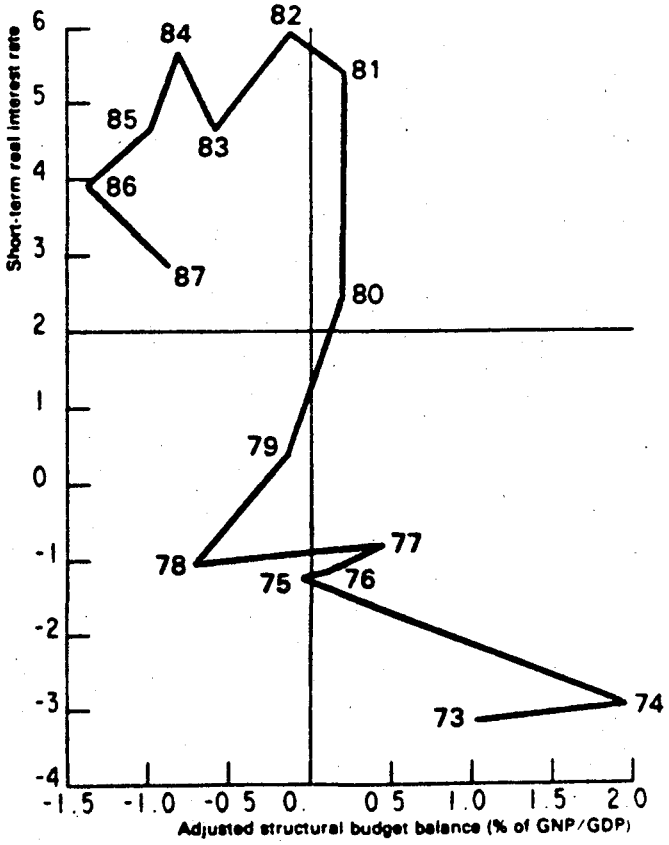
Canada



Italy



OECD Area (*)



(*)Major seven plus Belgium, Netherlands and Sweden.

NOTES TO CHART A

In all the diagrams movements upwards or to the right represent contractionary policy; those downwards or to the left represent expansionary policy.

Money growth rates are defined on a fourth quarter over fourth quarter basis. The data points for 1987 are therefore OECD Secretariat assumptions about the level of money stocks at the end of this year and do not represent the actual stance of monetary policy in 1987.

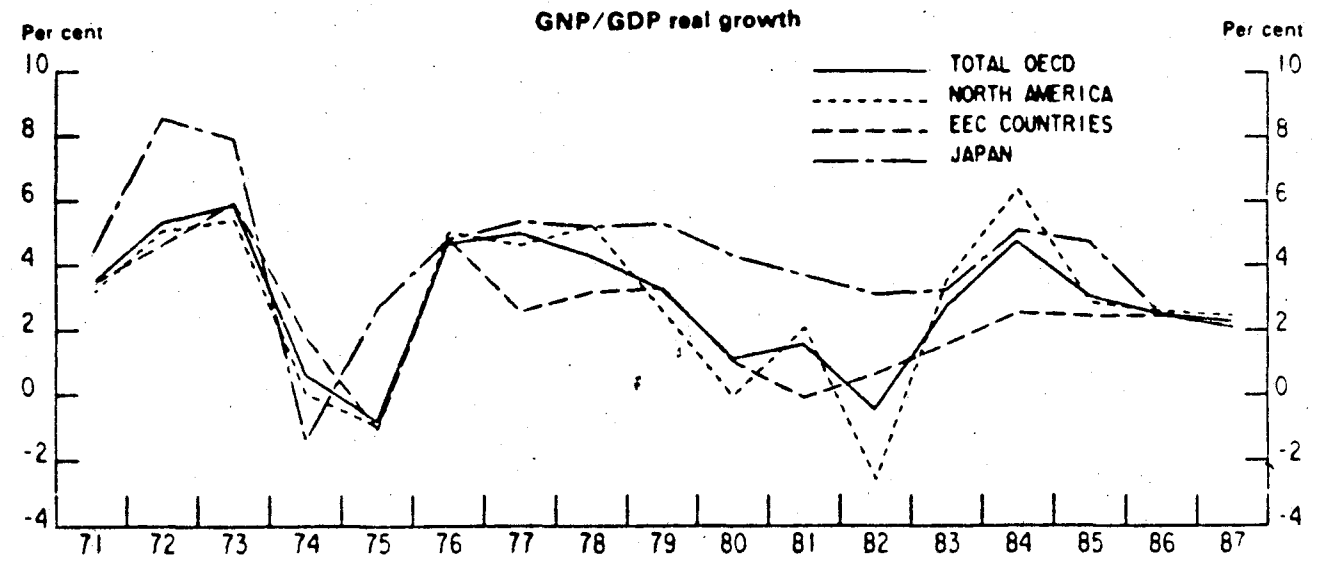
Structural (i.e. cyclically-adjusted) budget balances take account of the automatic stabiliser components of revenues and expenditures. The measure gives a rather wide definition of "discretionary" fiscal action as it includes components (such as debt service and resource revenues) that are not directly under government control (see the discussion in OECD Economic Outlook 31, July 1982).

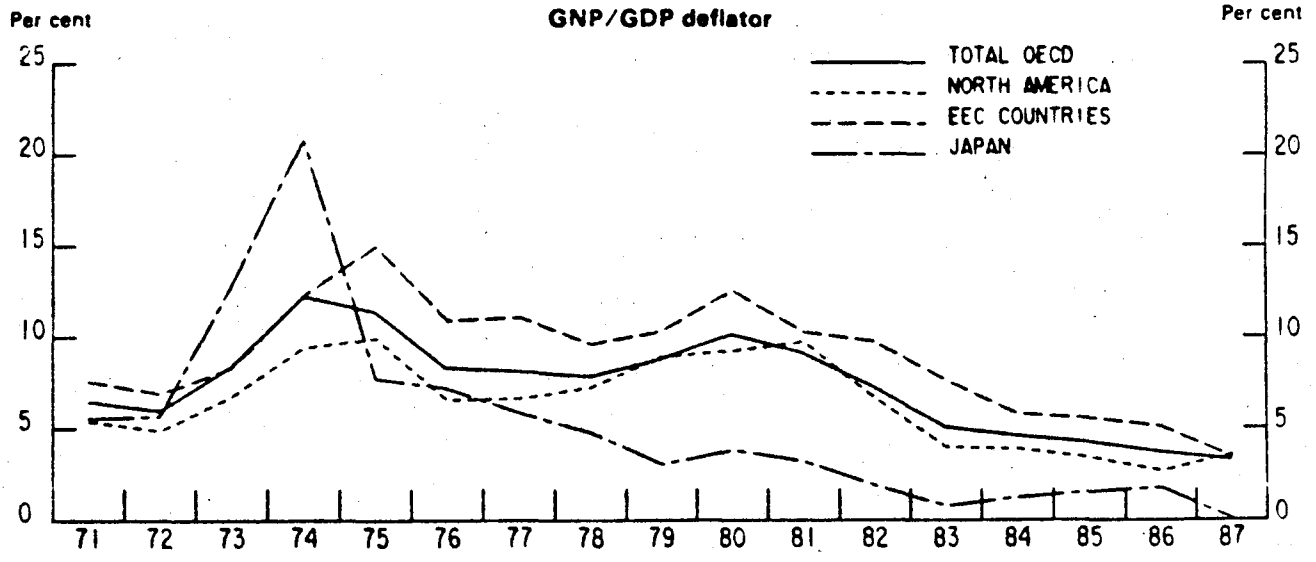
Short-term real interest rates are estimated on an ex post basis, as described in OECD Economic Outlook 40, December 1986, pp. 5-9. Inflation rates are measured as a 3-quarter moving average with a one-month lead; therefore the estimated real interest rate for 1987 incorporates Secretariat price level projections for 1987 and 1988.

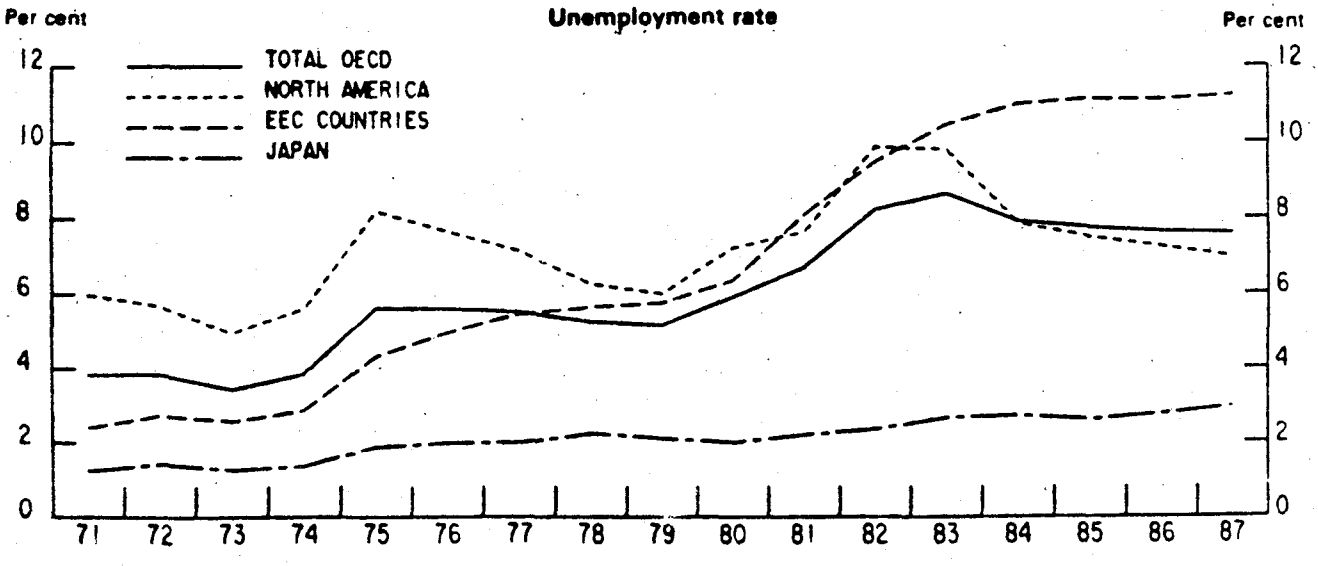
The inflation-adjusted structural budget balances provide a measure of the real impact of the government's fiscal position on the economy (see the discussion in OECD Economic Outlook 34, December 1983).

Chart B

PERFORMANCE INDICATORS FOR THE OECD AREA
1971-1987







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