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INDICATORS OF THE STANCE OF MONETARY AND FISCAL POLICY

A pragmatic approach for the OECD countries in the 1980s

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Abstract

This paper investigates the question what indicators should be used to assess the stance of monetary and fiscal policy. In the literature a striking lack of consensus can be observed in this respect. Every author seems to have his own individual approach, using particular indicators without, however, justifying why they are used. A basic reason for this confusion is that it is largely impossible *theoretically* to assess the reliability of alternative indicators. We therefore opt for a *pragmatic* approach.

This approach relies on the semi-annual evaluation by the OECD (Economic Outlook) of monetary and fiscal policy in the seven largest industrialized countries in the 1980s. Using this evaluation as our norm, we study the reliability of nine monetary and three fiscal indicators. Ultimately, the short-term nominal interest rate is selected as the most reliable indicator of the stance of monetary policy and the cyclically-adjusted primary budget balance as the most reliable indicator of the stance of fiscal policy. The growth rate of money (real or nominal, broad or narrow) has been observed often to give wrong indications of the stance of monetary policy, especially since the process of deregulation and financial innovation took place in the 1980s. Finally, we also discuss the stance of monetary and fiscal policy in the small OECD countries, obviously using the short-term nominal interest rate and the cyclically-adjusted primary budget balance as our indicators.

1. Introduction

All observers agree that demand management policy in the OECD countries as a whole took a strongly restrictive course after the second oil shock. The fight against inflation received policy priority (see e.g. OECD, July 1982, p. 10-11; Llewellyn, Potter & Samuelson, 1985, p. 39-44; Coe, Durand & Stiehler, 1988). Undoubtedly, however, if one asked these observers to evaluate the evolution of policy in particular countries and years, agreement would soon disappear. A basic reason seems to be that there is no consensus at all on what are reliable indicators of the stance of monetary or fiscal policy. This paper presents a pragmatic approach on this issue.

We are aware that a pragmatic approach can be no more than a second-best solution. It is relevant, however, to the extent that it provides additional information at a point where theory is unable to give definite answers. Basically, our pragmatic approach relies on the detailed evaluation by the OECD (published every semester in its Economic Outlook) of monetary and fiscal policy in the seven largest industrialized countries. We concentrate on the period after the second oil shock (1979-1989). On Using this evaluation as a norm, we investigate the reliability of various indicators that are used in the literature and derive our 'best' fiscal and our 'best' monetary indicator. Consistency with the OECD evaluation will be a major requirement.

Section 2 goes into monetary policy. Section 2.1. illuminates the confusion that underlies the choice of relevant indicators as far as theory is concerned. In section 2.2. we present our pragmatic answer. Nine candidates' qualities as 'reliable' indicators of the stance of monetary policy after the second oil shock are tested. The short-run nominal interest rate will be selected as the 'best' indicator. Finally, on the basis of this indicator, we shall in section 2.3. present a description of the stance of monetary policy in the small OECD countries in the 1980s. Section 3 repeats this exercise for fiscal policy and selects the cyclically-adjusted primary budget balance as the most reliable indicator. Section 4 summarizes our main conclusions and goes into possible points of criticism regarding our approach.

2. Indicators of the stance of monetary policy in the OECD in the 1980s

2.1. Indicators of the stance of monetary policy: theoretical confusion

Developing an indicator of the stance of monetary policy is not an easy task. A look at the literature quickly learns how confused things are (see e.g. the discussion in Crockett & Goldstein, 1987). All kinds of variables are used, ranging from the rate of growth of some money or credit aggregate to interest rates or interest rate differentials. Further, a choice must be made between real and nominal variables.

Crockett & Goldstein (1987, p. 40) put forward that a nominal money stock indicator is probably the best. Gordon's analysis (1987, p. 430-436) of the FED's policy is mainly based on the growth rate of nominal M1. Chouraqui & Price (1984) discuss the stance of monetary policy in the OECD countries in terms of the growth rate of real M2. Llewellyn, Potter & Samuelson (1985, p. 42) look at the long-term real interest rate. Coe, Durand & Stiehler (1988) refer to the evolution of the monetary base. The OECD (December 1984, p. 11) emphasizes that all single indicators are deficient and may generate wrong and diverging conclusions.

Figure 1, which is based on Pierce & Tysome (1985, p. 94-95), is all one needs to make this clear. It is a simple representation of equilibrium on the market for nominal deposits, a major component of M1. Demand (D_d) for and supply of deposits (D_s) are presented in terms of the nominal rate of interest (i).

The demand curve for deposits has a negative slope. The lower the rate of interest, the more the public will ask for loans (and thus deposits) from the banks. The position of D_d depends on nominal income (py), the expected evolution of real or permanent income $(y^e$, i.e. confidence in the future) and expected inflation $(\overset{\circ}{p}{}^e)$. A rise in nominal income generates the need for more transaction money and shifts the D_d-curve upwards. So will a rise in business confidence. A rise in inflationary expectations implies, for a given nominal interest rate, a reduction of the real cost of borrowing. It also pushes D_d upwards.

The supply curve of deposits, drawn for a given amount of high powered money, has a positive slope[1]. High interest rates increase the willingness of the public to supply the banks with cash reserves, which, for a given reserve ratio, allows the banks to supply more deposits. Further, higher interest rates increase the marginal revenue of

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[1] We make abstraction of the fact that a rise in interest rates may attract foreign capital and thus, under fixed exchange rates, increase the amount of high powered money.

making loans and drive the banks to reduce their reserve ratio. For a given amount of cash reserves, they will supply more deposits[2]. As far as the position of D_s is concerned, it is important to emphasize the role of policy intervention by the monetary authorities (A). An open-market sale or a rise in the central bank interest rate, for example, generate a shift of D_s to the left, since they directly or indirectly reduce the amount of high powered money in circulation. A rise in expected inflation will, for a given i, reduce the willingness of the banks to lend. Its effect on the willingness of the public to supply the banks with cash reserves is less clear. In net terms, we expect a negative effect on D_s.

Figure 1. Determination of the quantity of deposits
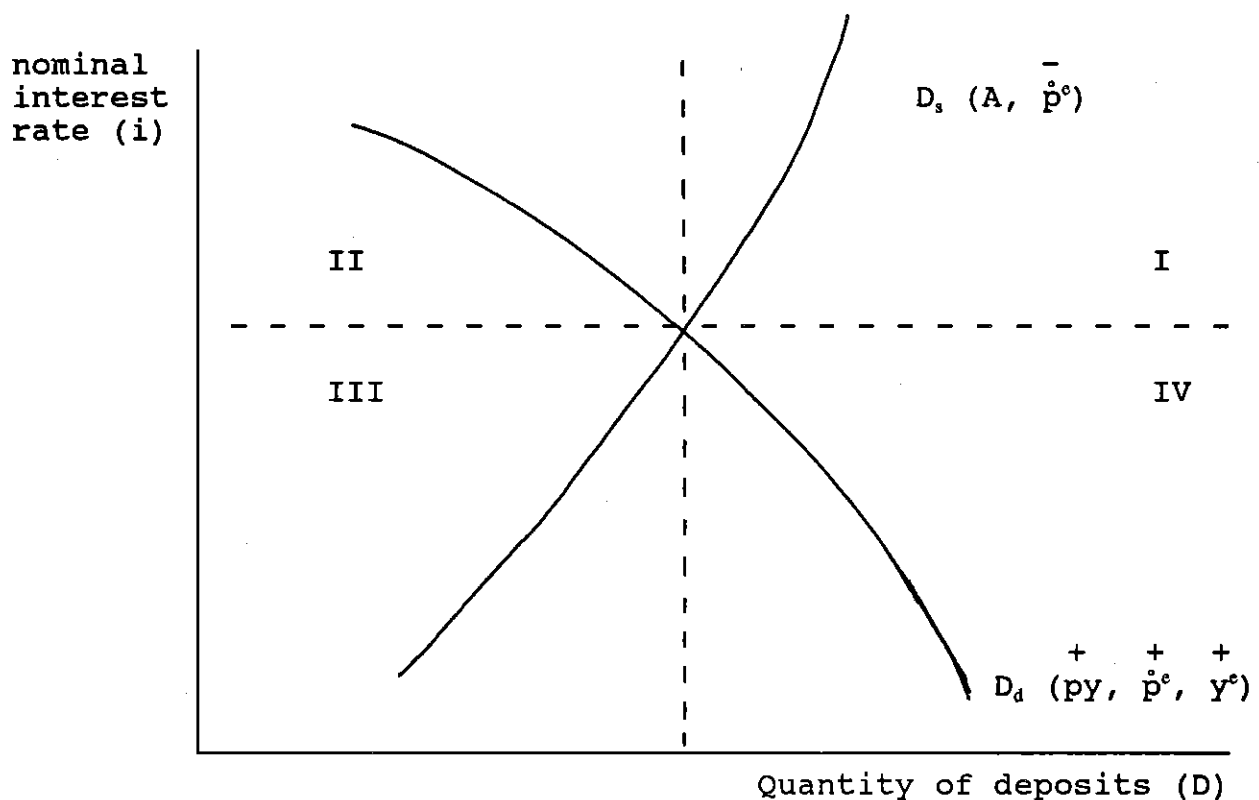
Having sketched this basic framework, let us illuminate the difficulties involved in using the interest rate or the money stock (i.e. the quantity of deposits) as indicators of the stance of monetary policy.

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[2] Assuming that there is some absolute minimum reserve ratio that banks must observe as a matter of prudence, and an absolute minimum of cash that the public wants to hold, the D_s-curve would eventually become vertical (Pierce & Tysome, 1985, p. 89).

At first sight, we are inclined to consider the interest rate as the better indicator. Starting from equilibrium in figure 1, shifts of D_d or D_s can bring the market outcome to four quadrants. The first quadrant shows a rise of both i and D. This outcome is obtained if the rise (shift to the right) in demand is stronger than the rise in supply. (Supply may also remain unchanged or even fall.) Thus, the supply of deposits does not accommodate the rise in demand, which implies a tightening of monetary conditions and could be considered restrictive. The second quadrant is characterized by higher i but lower D. One ends up here if the fall in supply is stronger than the fall in demand, which may even rise. Again, the balance of supply and demand turns restrictive. Quadrant III shows both lower i and D. In this case, the supply curve of deposits does not follow the negative shift of demand. Temporarily, the economy is thus supplied with more deposits than demanded. Monetary conditions can be considered loose. Finally, the rise of D and the fall of i in the fourth quadrant follow from excess supply of deposits. The rightward shift of D_s is stronger than the shift of D_d, which we can also qualify as expansionary.

Summarizing the findings of figure 1, non-accommodating, tight monetary policy unambiguously implies rising interest rates (I and II). The evolution of the quantity of deposits (money) is ambiguous. Easing of monetary conditions generates lower interest rates (III and IV). Again the evolution of the quantity of deposits is uncertain.

Should we than use the interest rate as our indicator of the stance of monetary policy? Not necessarily. The analysis presented above is clearly too simple. First of all, it is based on a simple model. Second, within this simple model, the conclusions drawn can only be valid if the assumption is accepted that shifts in D_s or D_d do not generate overcompensating reactions on either side of the market.

A severe tightening of monetary conditions by the authorities (D_s shifts to D_s' in figure 2) may generate the expectation of a recession and thus affect confidence. Ultimately, it may also reduce inflationary expectations. These effects shift the demand curve for deposits to the left (D_d') and the supply curve to the right (D_s''). In net terms, monetary restraint may bring the economy to the third quadrant (point e"), instead of the second (e'). In this case the interest rate gives the wrong indication of the stance of policy.

Summarizing, observable movements of the quantity of deposits (money) and the interest rate give insufficient information on the underlying, but unobservable, shifts of demand and supply curves. Further, these movements also leave unanswered the question of causality. Theoretically speaking, looking at the interest rate or a monetary aggregate does not allow to draw definite conclusions on the stance of monetary policy.

Figure 2. Tight monetary policy and endogenous demand and supply shifts

i

D_s' D_s'' D_s

e'

e

e''

D_d' D_d

D
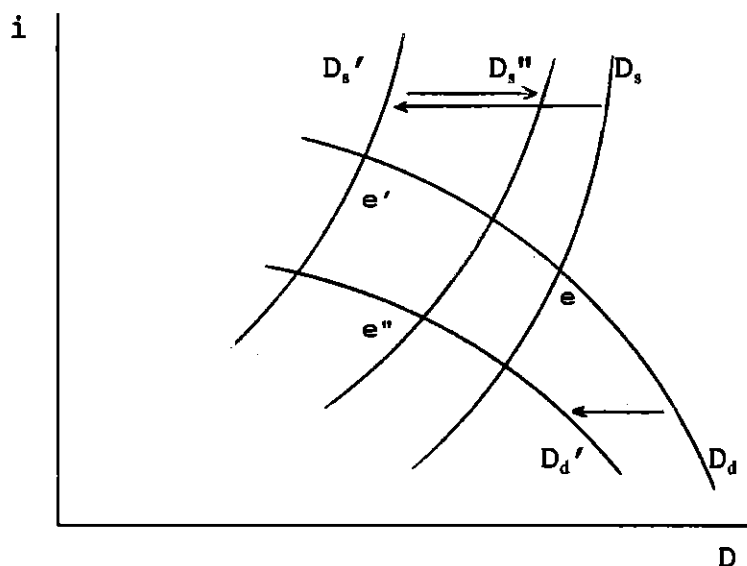
2.2. Indicators of the stance of monetary policy after the second oil shock: a pragmatic approach

Considering that as far as theory is concerned, things are not unambiguous, we decided to turn to a pragmatic approach. This consists of three major steps. The first is an interpretation of the semi-annual evaluation by the OECD (published in its Economic Outlook) of monetary policy and monetary conditions in the seven largest industrial countries after the second oil shock. This evaluation does not only provide us with a reliable idea of the stance of monetary policy in this group of countries and this period, it can also be used as a point of reference (or norm) to investigate the reliability of various indicators for the stance of monetary policy used in the literature. This is the second step. On the basis of a comparison of the (assumed) 'true' evolution of policy as it is sketched by the OECD and the evolution of policy as it is suggested by those various alternative indicators, a 'best' indicator can be selected. The third step is to use this 'best' indicator to assess the stance of monetary policy after the second oil shock in the small OECD countries and to compare it with the developments in the large countries. We have to turn to using this 'best' indicator since explicit OECD evaluation of monetary policy in the small countries generally remains highly incomplete (both in terms of the number of countries and the periods that are considered).

Table 1 summarizes our interpretation of the OECD evaluation of monetary conditions

in the G-7 for the period 1979:1-1989:2. It is important to notice that in its evaluation the OECD explicitly takes into account the evolution of a large number of relevant factors determining demand and supply on the money market (e.g., targets for monetary aggregates, central bank interest rates, credit demand, inflation, exchange rate considerations, etc). In our view, this makes this evaluation more relevant than any single indicator. (An additional argument in favour of this evaluation concerns the fact that the OECD brings together specialists from its various member countries).

A few preliminary remarks must be made with respect to the table. First, as far as the meaning of the symbols is concerned, a plus stands for monetary expansion (expansionary policy), a minus represents monetary restraint (restrictive policy). In case policy was cautious, neither stimulating, nor restraining the economy, we put a zero. Intermediate cases (there were not few) are indicated as 0/+ (weak, cautious expansion) or 0/- (weak restraint). Second, we repeat that table 1 follows from our interpretation, which is based on three opinions[3]. Although in almost all cases agreement could be reached, differences of opinion sometimes had to be dealt with. Divergence of evolution between e.g. the U.S. and the other large OECD countries (e.g., 1982:1, 1984:1 and 1987:1) or observation of policy reversals (e.g., 1980:2, 1981:2 and, in the period of the stock market crash, 1987:2-1988:1) are at the basis of difficulties of interpretation we sometimes had.

Looking at the results, the following conclusions can be drawn. Monetary policy has evolved from persistent restraint in the first years after the second oil shock (1979-81) to caution and 'wait and see' attitudes in later years. The risk of generating a new rise of inflationary expectations made policy makers most reluctant to ease monetary conditions too early (see also OECD, December 1985, p. 78-81). Medium-term perspectives prevailed. Only in 1986 monetary policy became unambiguously expansionary. Undoubtedly, the favourable oil shock and the falling dollar contributed to this. Moreover, the OECD countries started to realize that stronger demand might be a necessary condition for expansion of production capacity and growth of investment (OECD, June 1985, p. xi-xii and xviii).

In what follows, we shall consider the OECD interpretation summarized in table 1, to represent the 'true' evolution of monetary policy in the countries and the years concerned. It will provide us with a norm for the evaluation of individual indicators of the stance of monetary policy.

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[3] We are most grateful to our colleague Renaat Berckmoes, who went through the OECD comments too.

Table 1. Monetary policy in the seven largest OECD economies
An interpretation of the OECD evaluation

Period	Stance of monetary policy	Period	Stance of monetary policy
1979:1	0/-	1985:1	0/+
:2	-	:2	0/+
1980:1	-	1986:1	+
:2	0	:2	0/+
1981:1	-	1987:1	0
:2	0	:2	0
1982:1	0	1988:1	0
:2	0/+	:2	0/-
1983:1	0/+	1989:1	0/-
:2	0/-	:2	0/-
1984:1	0/-		
:2	0		

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+ : expansion        0/+ : weak expansion        0 : caution
- : restraint        0/- : weak restraint
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This brings us to the second step. What single indicator should have been used in order to get a (more or less) correct (OECD) idea of the stance of monetary policy after the second oil shock? What indicator should not have been used? The figures 3/a to 3/e present nine 'candidates'. These are the short-term nominal interest rate, the short-term real interest rate, the yield gap, the growth rate of narrow-money (M1), both nominal and real, the growth rate of broad-money, also both nominal and real, and the liquidity ratio, both for M1 and broad-money. The yield gap measures the difference between the long-term and the short-term nominal interest rates. The liquidity ratio is the ratio of nominal money (either M1 or broad-money) to nominal GDP. Our data for the latter variable are calculated as deviations from the trend liquidity ratio over 1970-1989. The data and data sources underlying these figures are summarized in appendix 2.

The tables 2/a and 2/b summarize the evolution of these indicators in terms of the stance of policy they suggest[4]. Analogous to the symbols used in table 1, a plus means that expansionary policy is suggested, whereas a minus stands for restraint. A

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[4] Evidently, expansion is suggested by falling interest rates, a rising yield gap, rising money growth rates and a rising liquidity ratio.

Figure 3/a

Indicators of Monetary Policy (G7)
short-term interest rate

□ nominal + real

Figure 3/b

Indicators of Monetary Policy (G7)
yield gap

Figure 3/c

Indicators of Monetary Policy (G7)
narrow-money growth

□ nominal   + real

Figure 3/d

Indicators of Monetary Policy (G7)
broad-money growth

□ nominal   + real

Figure 3/e

Indicators of Monetary Policy (G7)

liquidity ratio

□ narrow   + broad
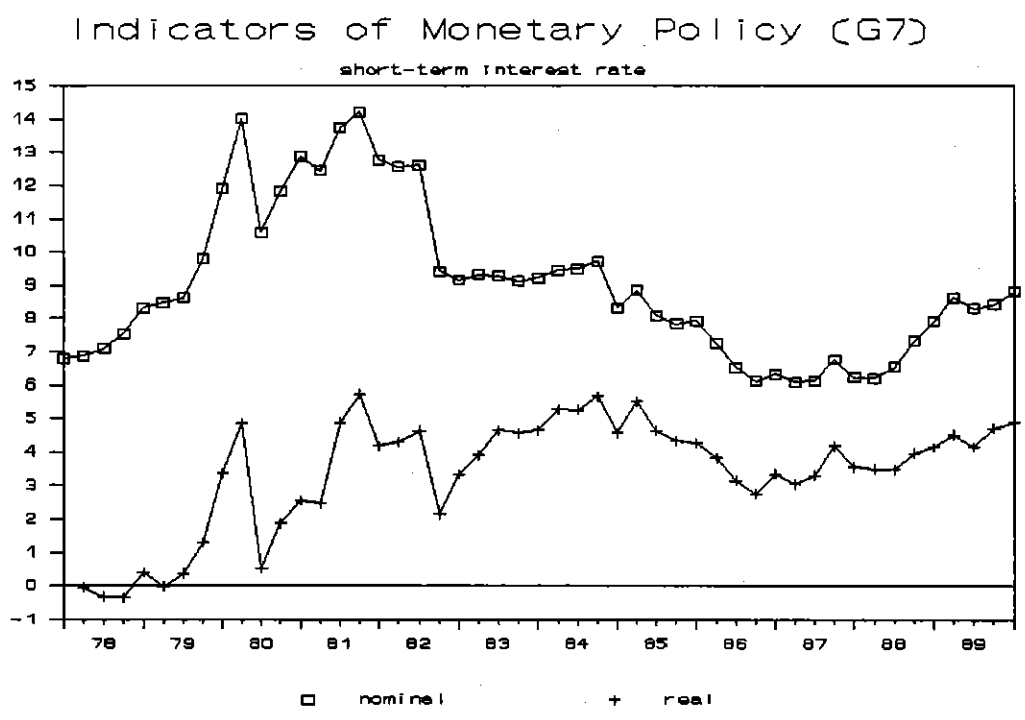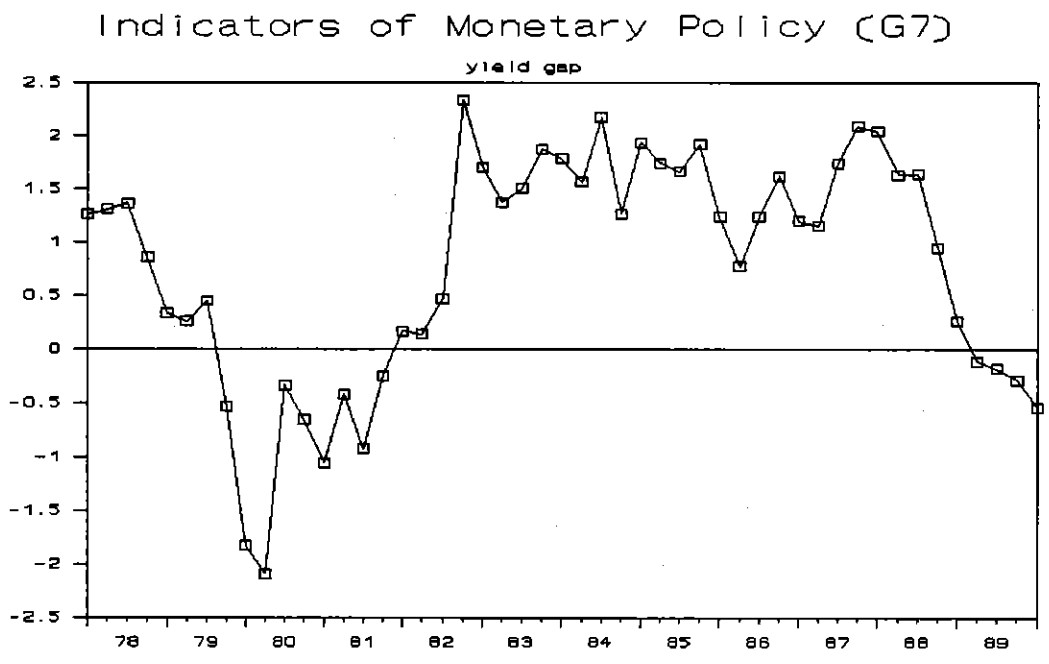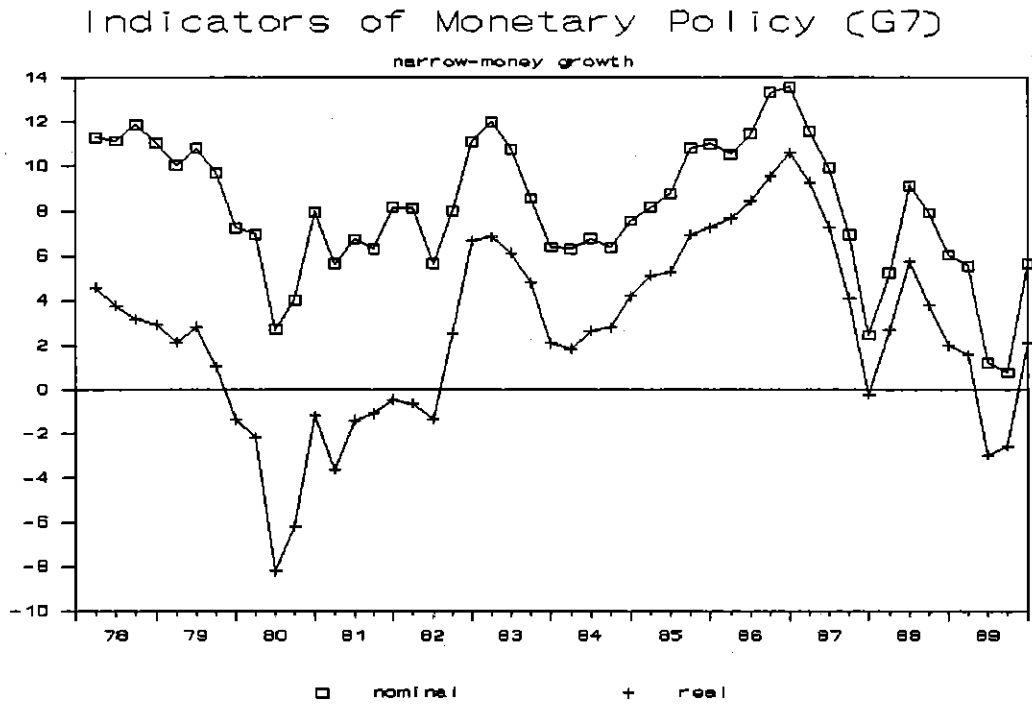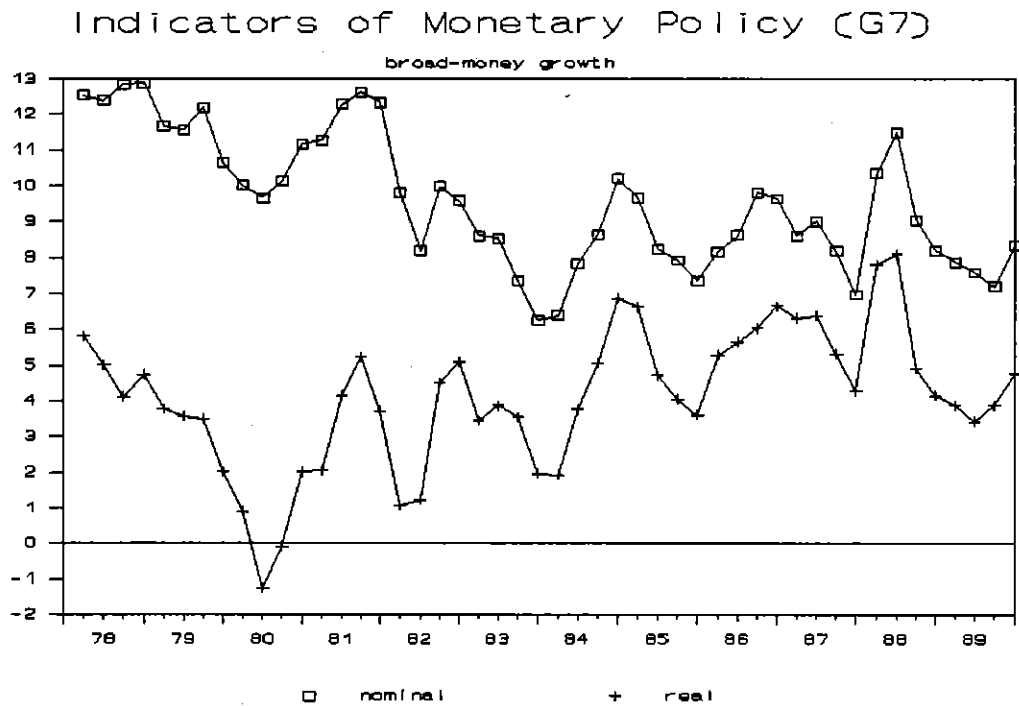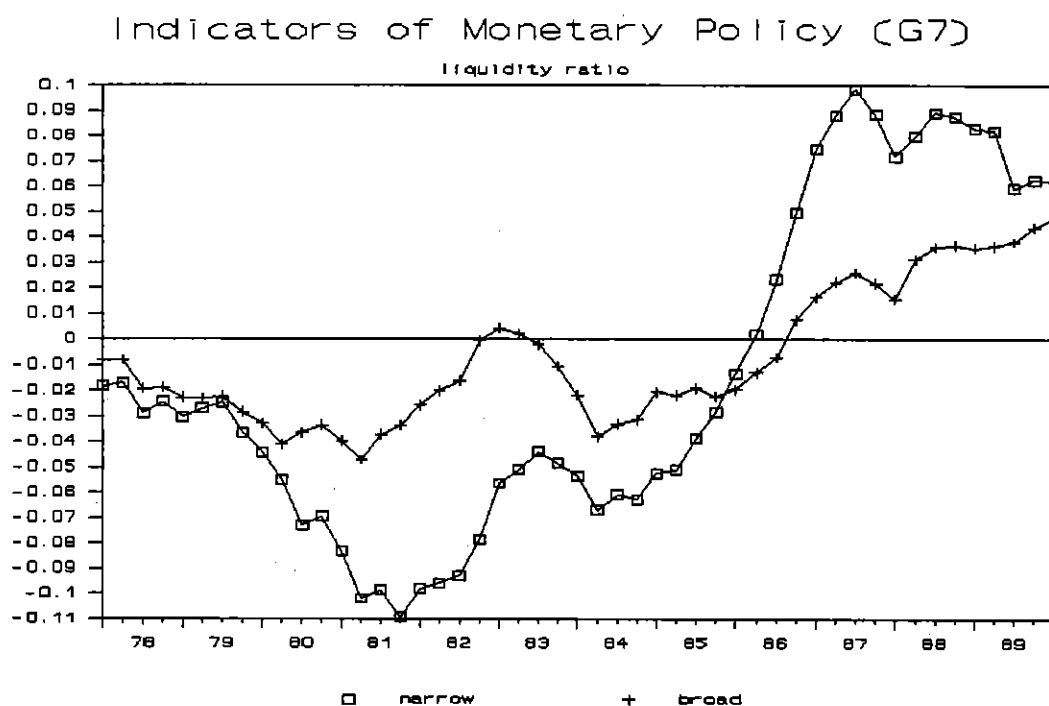
zero means that the indicator concerned suggests that monetary policy missed a clear direction, that it neither stimulated, nor restrained the economy. At the bottom of each table, we put the 'scores' of the various indicators. These scores follow from a comparison, for each indicator, of its own evolution (table 2/a or 2/b) with the evolution of policy (table 1). A simple rule of thumb underlies the derivation of these scores. If in a particular semester the indicator's evolution suggests the correct, actual stance of policy (e.g., both the indicator and policy show + or 0/-), then the indicator receives one point. The indicator gets no points if it suggests a completely different evolution than shown by policy (e.g., the indicator says 0, whereas policy was +). Intermediate cases yield half a point (e.g. 0 versus 0/+, 0/- versus -, etc.).

Of immediate relevance here are the rules that we used for the translation of the raw data underlying the figures 3/a to 3/e into the +'s and -'s of the tables 2/a and 2/b. It goes without saying that a wide variety of alternatives exist in this respect. In table 2/a a plus or, depending on the direction of change, a minus was assigned if the absolute change in an indicator exceeded 15% of its level in the previous semester. If change took a value between 5% and 15%, a 0/+ or 0/- was assigned, again depending on the direction of change. Changes smaller than or equal to 5% of the

indicator's level in the previous semester resulted in a zero[5]. Looking at the results, we notice that the short-term nominal interest rate was the 'best' indicator, receiving 18.5 points out of 22, followed by its real counterpart. The M1-liquidity ratio comes next. The least reliable indicators are the money growth rates, both nominal and real, which give wrong or imperfect indications of monetary developments in a large majority of the semesters considered. As far as the results for particular years are concerned, we observe that, as a group, the indicators perform well in the periods 1979:1-1981:1, 1986 and 1989:1. Performance is rather weak in 1981:2-1982:1, 1983-84:1, 1987:2-1988:1 and 1989:2. The latter is, however, mainly due to the very bad performance of the money growth rates in these periods.

Obviously, various simple alternatives exist for the rule underlying table 2/a. For example, instead of 5% and 15%, one can work with other percentages. Instead of taking these percentages with respect to the indicator's level in the previous period, one can take these percentages with respect to the indicator's average level over 1979-89. Further, one may think of omitting the distinction between - and 0/- and between + and 0/+ and just discuss policy in terms of 'restrictive' or 'expansionary', without indicating degrees. We did try out these alternatives. However, we never had to modify our conclusions.

The rule for translating the raw data into +'s and -'s in table 2/b is more complex. It explicitly takes into account the fact that the various indicators show diverging degrees of variability. (Compare e.g. the evolution of real narrow-money growth, which shows relatively large fluctuations and the evolution of the short-term nominal interest rate, which fluctuates relatively little). Obviously, using a fixed 5%-15% rule like we did in table 2/a will generate more +'s and -'s for strongly fluctuating indicators, and more 0/+'s and 0/-'s (or even 0's) for less variable indicators. In a period of mainly cautious policy, the latter indicators might, consequently, be favoured above the former. As a measure of an indicator's variability we calculated the standard deviation of its change from quarter to quarter over the period 1978-89[6]. A plus (or minus, depending on the direction of change) was assigned in table

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[5] For example, the rise in the short-term nominal interest rate from 10.1% in 1979:2 to 12.16% in 1980:1 (see appendix 2, p. 32) implies a minus, whereas the fall from 13.57% in 1981:2 to 12.65% in 1982:1 implies a 0/+. The rise in the nominal M1 growth rate from 7.56% in 1984:2 to 8.8% in 1985:1 implies a +; the fall from 11.12% in 1982:2 to 10.78% in 1983:1 implies a 0, etc.

[6] These standard deviations are: for the short-term interest rates: 0.99 (nominal) and 1.09 (real); for the yield gap: 0.61; for nominal money growth: 2.16 (narrow) and 1.14 (broad); for real money growth: 2.34 (narrow) and 1.43 (broad); for the liquidity ratio: 0.0118 (narrow) and 0.0069 (broad).

2/b if the absolute change of an indicator in a particular semester (versus its level in the previous semester), exceeded this standard deviation. If this change was smaller than or equal to one third of this standard deviation, a zero was assigned. Intermediate changes resulted in a 0/+ or 0/-.

Looking at the scores at the bottom of the table, our main conclusions remain relatively unchanged. The short-term interest rates perform much better than the other indicators. The money growth rates perform badly. Small modifications concern the fact that the real interest rate now becomes 'the best' (with a score of 17.5), although the difference with its nominal counterpart is negligible. We also notice the significant improvement in the score of the yield gap. Further, the total score over all indicators is better if diverging degrees of variability are taken into account (107.5 instead of 98.5 in table 2/a). Finally, we emphasize that we again tried out alternative rules (alternative measures for an indicator's variability), without having to change any of our conclusions.

Given these findings, two more points seem worth investigating. First, it may be an interesting issue to discriminate a little further between the short-term nominal and real interest rates. This may not be irrelevant, considering that both variables perform relatively well and that, as shown by figure 3/a, their evolution is highly correlated[7]. Second, the question may be asked whether our conclusions can be extrapolated to other periods than the 1980s. For example, the OECD (December 1988, p. 20) refers to the process of financial deregulation and innovation to explain why money and credit aggregates perform badly as indicators of the stance of monetary policy in the 1980s. This suggests that these aggregates may have been better indicators in the 1970s.

As far as the first issue is concerned, we prefer to work with the nominal interest rate, mainly for two reasons. First, the nominal interest rate does not raise the usual problems of definition or calculation of the real interest rate. For example, what inflation rate (actual or expected) should be used to obtain a real variable? How should the expected inflation rate be determined, etc.? Second, we tested both variables' quality as indicators of the stance of monetary policy in the periods 1974:1 and 1975:2-1976:1. The reason is that in these periods their evolution diverged widely (see figure 4). (In 1974:2-1975:1 their evolution was highly similar). The nominal interest rate suggested monetary restraint in 1974:1, whereas the real

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[7] We emphasize that due to our way of calculating the real interest rate on a semi-annual basis, there is no one-to-one correspondence between the evolutions suggested by figure 3/a and the tables 2/a and 2/b (see appendix 2).

interest rate suggested (weak) expansion. In comparison with the first semester of 1975, the nominal interest rate was significantly lower in the second semester (and suggested expansion), whereas the real interest was higher (and suggested restriction). In 1976:1 the nominal interest rate remained largely unchanged, whereas the real rate continued its strong rise (restriction).

Analogous to what we did for the period 1979-89, we interpreted the OECD evaluation of monetary policy in the seven largest industrial countries in 1973-78. The first column of table 3 summarizes the results. As can be observed, after a period of restraint in 1973-74, monetary policy took a more expansionary course in 1975-76 and became generally neutral in later years. Obviously, these findings unambiguously support the use of the short-term nominal interest rate as the 'best' indicator of the stance of monetary policy. It predicted relatively well in 1974:1 and 1975:2-1976:1. The real interest rate's suggestions were wrong.

Figure 4. <u>Evolution of the short-term nominal and real interest rates after the first oil shock</u> (G-7)
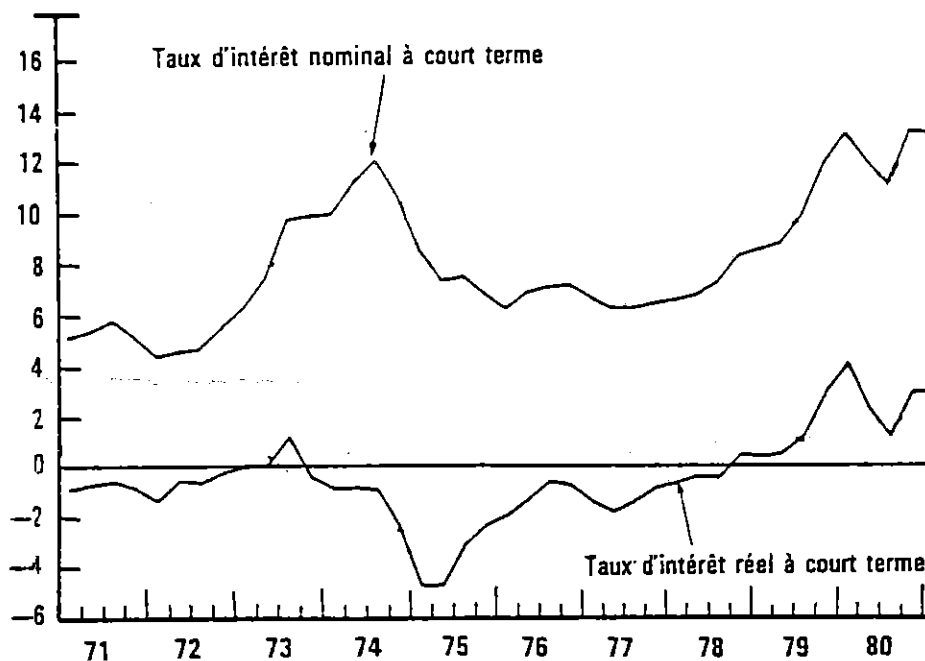
Source: see appendix 2

Table 2/a. <u>Indicators of monetary policy in the seven largest OECD economies in 1979-89</u>

(*First rule*)^a

Period	Monetary policy stance suggested by the indicator									score per year
	short-term interest rate		yield gap	money growth (M1)				liquidity ratio		
	nominal	real		narrow nominal	narrow real	broad nominal	broad real	narrow	broad	
1979:1	0/-	-	-	0	0	0/-	-	0	0/-	6.0
:2	-	-	-	-	-	0/-	-	-	-	8.5
1980:1	-	-	-	-	-	0/-	-	-	-	8.5
:2	0	+	+	+	+	+	+	-	0	2.0
1981:1	0/-	-	-	-	-	0/+	+	-	0/-	6.0
:2	0	-	+	+	+	0	0/-	0/-	+	3.0
1982:1	0/+	0/+	+	-	-	-	-	0/+	+	1.5
:2	+	0	+	+	+	+	+	+	+	4.5
1983:1	0/+	0	0	0	0/-	0/-	-	-	+	3.5
:2	0	0	0/+	-	-	-	-	0	-	4.0
1984:1	0	0/-	0/+	0/+	0/+	+	+	-	-	2.5
:2	0	0/-	0	0/+	0/+	+	+	0	0/+	4.5
1985:1	0/+	0/+	0	+	+	-	-	+	+	4.5
:2	0/+	0/+	0/-	+	+	0/-	-	+	0	4.0
1986:1	0/+	0/+	-	0	0	+	+	+	+	6.0
:2	0/+	0/+	+	+	+	0/+	+	+	+	6.0
1987:1	0	0	0	-	-	0/-	0	+	+	4.5
:2	0	0/-	+	-	-	-	-	0	0	3.5
1988:1	0	0/+	0/-	+	+	+	+	0/+	+	2.5
:2	0/-	0/-	-	-	-	-	-	0/+	+	4.5
1989:1	0/-	-	-	-	-	0/-	-	0/-	0	6.0
:2	0	0/-	-	+	+	0/+	+	-	+	2.5
score	18.5	15.0	9.5	8.0	8.0	8.0	7.5	13.0	11.0	98.5

(a) For a description of this first rule: see main text.
Underlying raw data : see figures 3/a-3/e; Sources : see appendix 2.

Table 2/b. Indicators of monetary policy in the seven largest OECD economies in 1979-89

(Second rule)[a]

Period	Monetary policy stance suggested by the indicator									score per year
	short-term interest rate		yield gap	money growth narrow (M1) broad				liquidity ratio		
	nominal	real		narrow nominal	narrow real	broad nominal	broad real	narrow	broad	
1979:1	0/-	0/-	0/-	0	0	-	0/-	0	0	6.5
:2	-	-	-	-	-	0/-	-	-	-	8.5
1980:1	-	0/-	-	-	-	0/-	-	-	-	8.0
:2	0/+	0/+	+	+	+	+	+	-	0	2.0
1981:1	-	-	0	0/-	0	0/+	+	-	0/-	4.0
:2	0/-	0/-	0/+	0/+	0/+	0	0	0	+	5.5
1982:1	0/+	0	0/+	-	0/-	-	-	0/+	+	3.0
:2	+	0	+	+	+	+	+	+	+	4.5
1983:1	+	0	0	0	0	0/-	0/-	+	0	3.5
:2	0	0	0	-	-	-	-	0	-	4.5
1984:1	0	0/-	0	0	0	+	+	-	-	4.0
:2	0	0	0	0/+	0/+	+	+	0/+	+	4.5
1985:1	0/+	0/+	0	0/+	0/+	-	-	+	0/+	6.0
:2	0/+	0/+	0	+	0/+	0/-	0/-	+	0	5.0
1986:1	0/+	0/+	0/-	0	0/+	+	+	+	+	5.5
:2	0/+	0/+	0/+	0/+	0/+	0/+	0/+	+	+	8.0
1987:1	0	0	0	-	-	0/-	0	+	+	4.5
:2	0	0	0/+	-	-	-	-	-	0/-	3.0
1988:1	0	0/+	0	+	+	+	+	0/+	+	3.0
:2	0/-	0	-	-	-	-	-	0	0/+	4.5
1989:1	-	0/-	-	-	-	0/-	0/-	-	0	6.0
:2	0	0/-	0/-	+	+	0/+	0/+	0/-	+	3.5
score	17.0	17.5	13.5	9.5	10.5	7.5	9.5	12.5	10.0	107.5

(a) For a description of this second rule; see main text.
Underlying raw data : see figures 3/a-3/e; Sources : see appendix 2.

Table 3. Monetary policy in the seven largest OECD economies (1973-78): indicators and OECD evaluation

Period	Monetary policy evaluation by the OECD	Monetary policy stance suggested by the indicator (using the *first rule*)			Monetary policy stance suggested by the indicator (using the *second rule*)		
		short-term nominal interest rate	nominal money growth narrow (M1)	broad	short-term nominal interest rate	nominal money growth narrow (M1)	broad
1973:1	0/-	-	-	0/-	-	-	-
:2	-	-	-	-	-	-	-
1974:1	-	0/-	+	0/-	-	0/+	0/-
:2	0/-	0/+	-	-	0/+	-	-
1975:1	0/+	+	+	+	+	+	+
:2	0/+	0/+	0/+	+	+	0/+	+
1976:1	0/+	0/+	0	0/+	0/+	0	0/+
:2	0	0	-	0/-	0/-	-	-
1977:1	0	0/+	+	0	0/+	+	0
:2	0	0	+	0/+	0	+	0/+
1978:1	0	0/-	0	0	0/-	0	0
:2	0/-	-	0/-	0	-	0/-	0
score		8.0	6.0	8.5	7.5	6.0	7.5

Sources of the raw data underlying this table : see appendix 2
For a description of the first rule: see our discussion of table 2/a. For the second rule: see table 2/b.
(The standard deviations of the change from quarter to quarter in 1973-78 are 0.56 for the short-term nominal interest rate, 1.47 for the nominal M1 growth rate and 1.13 for the nominal broad-money growth rate).

Table 3 also provides a first answer to our second question. It repeats the exercises done in the tables 2/a and 2/b for the short-term nominal interest rate, the growth rate of nominal M1 and the growth rate of nominal broad-money, using the same rules. The scores at the bottom of the table follow from a comparison of the second to seventh column with the first. The results are not inconsistent with the OECD explanation of the poor performance of the money growth indicators in the 1980s mentioned earlier. In the 1970s, i.e. before the deregulation of financial markets, no significant difference can be observed between the reliability of the nominal interest rate and the money aggregates as indicators of the stance of monetary policy (although the performance of nominal M1 remains somewhat inferior).

2.3. The stance of monetary policy after the second oil shock in the small OECD countries

The previous section concerned the group of the seven largest OECD economies. In this section we go into the stance of monetary policy in the small OECD countries as a group. As we emphasized earlier, for a large number of these countries explicit and consistent evaluation of policy by the OECD is absent. In accordance with our previous finding, we use the evolution of the short-term nominal interest rate as indicator. The importance of exchange rate considerations in many small countries undoubtedly increases the relevance of this indicator.

Figure 5 shows the (unweighted average) evolution of the short-term nominal interest rate in the small countries since the last quarter of 1977 and compares it with the (weighted average) evolution in the seven largest countries[8]. Table 4 translates these data in terms of the suggested stance of monetary policy in both groups of countries. (We used the 5%-15% rule underlying table 2/a). Basically, table 4 and figure 5 make clear that monetary policy in the small countries showed broadly the same pattern as in the G-7, which is not unexpected. We observe strongly rising interest rates (severe restraint) in 1979-81. After a short, but significant decline in 1982, short-term interest rates stabilized in 1983-84 (caution). In 1985-86 a downward tendency can be noticed (cautious expansion), especially in the large countries. In later years short-term nominal interest rates tend to rise again (policy became more restrictive).

Appendix 1 goes go into the evolution of the stance of monetary policy in the

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[8] We present an unweighted average for the group of small countries for the simple reason that these countries are all roughly comparable in magnitude and influence. Clearly, for the large countries only a weighted average is acceptable since the individual countries differ enormously as far as their impact is concerned.

individual countries, also as suggested by short-term nominal interest rate developments. We learn that even at this level no significant deviations from the general pattern seem to exist, especially if one considers the initial years of restriction (Spain is an exception). In later years, the variance among the individual country developments grows slightly (e.g. Norway).

Figure 5.

Indicators of Monetary Policy
short-run nominal interest rate

□ 7 large countries   + 11 small countries
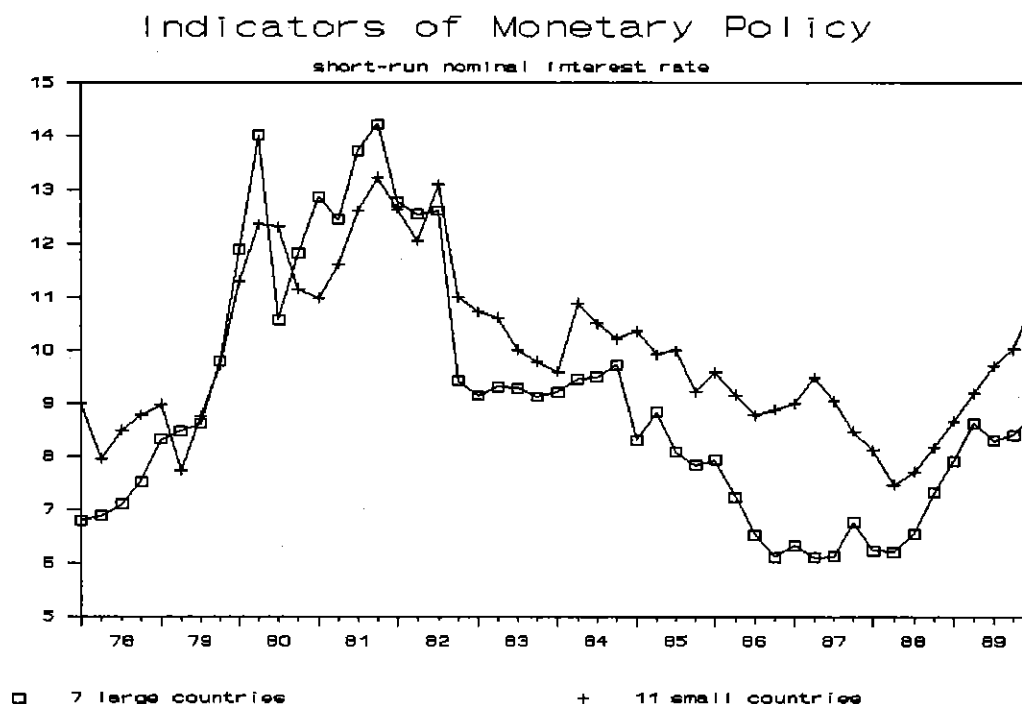
Table 4. The stance of monetary policy in the large and small OECD countries as suggested by the short-term nominal interest rate evolution (1979-89)

Country group	Period											
	1979		1980		1981		1982		1983		1984	
	1	2	1	2	1	2	1	2	1	2	1	2
11 small countries	0	—	—	0	0	0/—	0	0/+	0/+	0/+	0/—	0
7 large countries	0/—	—	—	0	0/—	0	0/+	+	0/+	0	0	0

	1985		1986		1987		1988		1989	
	1	2	1	2	1	2	1	2	1	2
11 small countries	0	0/+	0	0	0	0/+	0/+	0/—	0/—	0/—
7 large countries	0/+	0/+	0/+	0/+	0	0	0	0/—	0/—	0

Underlying raw data : see figure 5;   Sources : see appendix 2

3. Indicators of the stance of fiscal policy in the OECD in the 1980s

Deriving indicators of the stance of fiscal policy is, relative to monetary policy, a less difficult task, although also in this respect various candidates exist. Section 3.1. briefly goes into these candidates. In section 3.2. we shall select one of these indicators as more relevant, relying on the OECD evaluation of fiscal policy in the seven largest countries after the second oil shock. Section 3.3. discusses fiscal policy in the small countries.

3.1. Indicators of the stance of fiscal policy

Undoubtedly, the most frequently used indicator of the stance of fiscal policy in the literature is the cyclically-adjusted budget balance (CAB). The main idea underlying the need for and use of this indicator is the following. Changes in the government's actual budget balance give a misleading impression of the thrust of fiscal policy since these changes may be due to both policy actions and fluctuations in economic activity. In a stagnating economy, for example, the budget balance will automatically deteriorate because tax revenues fall and government expenditures, e.g. for social security, rise. The purpose of CAB is to reflect only ex-ante changes due to policy actions. Expansionary fiscal policy generates a deterioration of CAB (i.e. $\Delta CAB < 0$), discretionary budgetary restraint improves CAB (i.e. $\Delta CAB > 0$).

We will not go into the details underlying its calculation, but refer to Chouraqui, Hagemann & Sartor (1990) in this respect. Generally speaking, changes in CAB are derived as a residual, after subtracting from the change in the observed budget balance the estimated cyclically-induced variation in the balance.

Remaining issues for the calculation of CAB concern the treatment of interest payments and inflation. Interest payments depend on the existing stock of public debt. Consequently, they are not only largely independent of current economic fluctuations, but they generally also escape the direct control of the fiscal authorities. Strictly speaking, they should thus not show up in a correct measure of discretionary policy actions. This brings us to a second indicator of the orientation of fiscal policy: the cyclically-adjusted primary budget balance (CAPB, i.e. CAB excluding net interest payments).

The effect of inflation on the stance of fiscal policy is double (see e.g., OECD, July 1984, p. 28-30). On the one hand, it reduces the real value of the government's outstanding debt and levies a 'tax' on wealth-holders. On the other hand, expected inflation pushes nominal interest rates upwards, which increases government expenditures. To the extent that inflation is unexpected, it will exert effects similar to budgetary restraint. These considerations underly the use that is often made, e.g. by the OECD, of cyclically and inflation-adjusted budget balances, especially in circumstances when inflation is unstable. To the extent, however, that the fiscal deficit may itself be a source of inflationary pressure, inflation-adjusted budget balances become difficult to interpret.

More fundamental limitations of CAB or CAPB have been emphasized by Chouraqui, Hagemann & Sartor (1990). They stress that CAB and CAPB cannot be used as indicators of the impact of fiscal policy on aggregate demand. As mentioned before, CAB and CAPB ignore the contribution of automatic stabilizers to demand. Further, they do not take into account that changes in spending may have different demand effects than e.g. changes in taxes. As an alternative, Chouraqui et al. construct their own indicators of fiscal impact on aggregate demand (IFI).

A crucial element in the construction of IFI is the way in which consumers and investors are perceived to respond to changes in the government's budget balance. To the extent that the households' consumption decision depends on their perceived future (permanent or life-cycle) income pattern, the impact of fiscal policy on aggregate demand will be lower. The response of such households to e.g. current tax reductions will fall, since current tax reductions may imply higher taxes in the future. A debt-financed increase in government expenditures reduces private consumption to the extent that consumers anticipate that they will have to repay the debt in the future. Clearly, the households' planning horizon is of crucial importance here. When full Ricardian equivalence (infinite planning horizon) is operative, a tax reduction or debt-financed increase in government expenditures may have no effect on the level of aggregate demand (i.e. IFI = 0).

In our evaluation of indicators of the stance of fiscal policy in the next section we shall also consider Chouraqui et al's most progressive IFI, which assumes that the planning horizon of the households spans five years.

3.2. Indicators of the stance of fiscal policy after the second oil shock: a pragmatic approach

In this section we go into the quality of three alternative indicators of the stance of fiscal policy (CAB, CAPB and IFI). Figure 6 shows their evolution. For data sources we again refer to appendix 2. Analogous to our pragmatic approach to monetary policy, we take the OECD analysis of fiscal policy conditions in the seven largest OECD economies as our point of reference. Table 5 presents our interpretation. For obvious reasons, we concentrate on one evaluation per year.

Completely in accordance with the monetary authorithies, fiscal policy makers in these countries, as a group, opted for restraint in the first years after the second oil shock (1979-82) and turned to a more neutral stance in later years. It must be noticed, however, that the latter observation hides widely diverging developments between, on the one hand, the U.S. (and Canada) which turned to more expansionary policy and the other countries, which largely sticked to a cautious and restrictive policy (see also section 3.3.).

Table 5. Fiscal policy in the seven largest OECD economies
       An interpretation of the OECD evaluation

Period	Stance of fiscal policy	Period	Stance of fiscal policy
1979	0/-	1985	0
1980	-	1986	0
1981	-	1987	0/-
1982	-	1988	0
1983	0	1989	0
1984	0		

Table 6 presents the evolution of fiscal policy suggested by CAB, CAPB and IFI respectively. A plus or, depending on the direction of the change, a minus was assigned if ΔCAB, ΔCAPB or ΔIFI exceeded 0.45% of (trend) GDP in absolute value. Changes that took a value between 0.15 and 0.45% resulted in a 0/+ or 0/-. Otherwise a zero was put[9]. The score of the three indicators has been calculated according to the rule of thumb presented earlier (see p. 10).

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[9] Obviously, expansion is suggested if ΔCAB<0, ΔCABP<0 and if ΔIFI>0.

Figure 6.

Indicators of Fiscal Policy (G7)

1979-1989
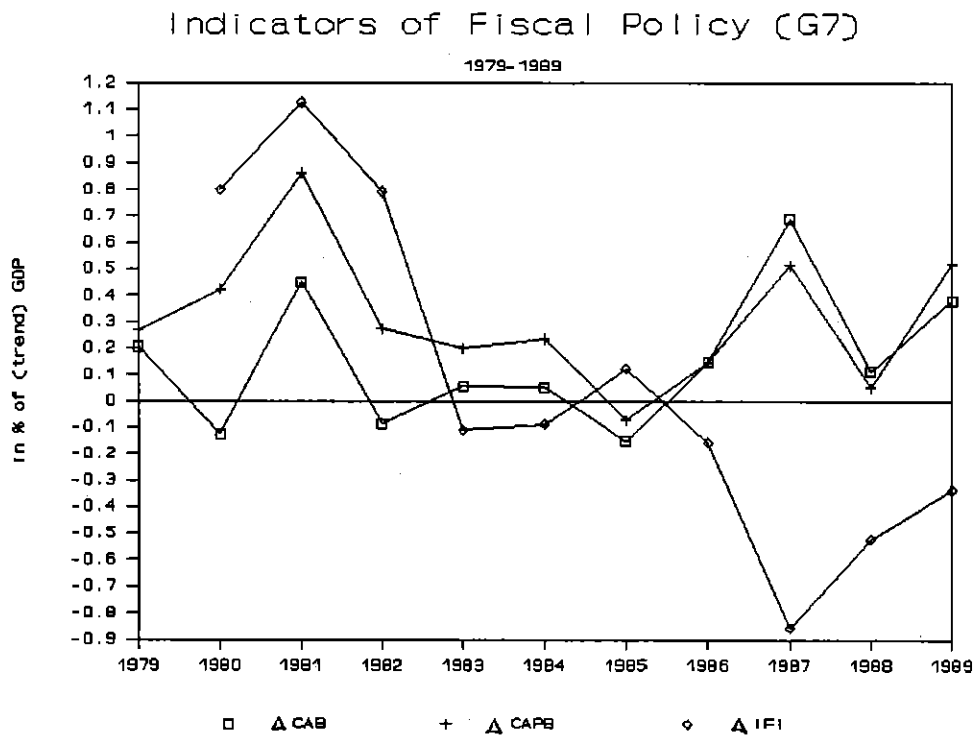
Table 6. <u>Indicators of fiscal policy in the seven largest OECD economies</u>

Period	Fiscal policy stance suggested by the indicator		
	CAB	CAPB	IFI
1979	0/-	0/-	n.a.
1980	0	0/-	+
1981	0/-	-	+
1982	0	0/-	+
1983	0	0/-	0
1984	0	0/-	0
1985	0/+	0	0
1986	0	0	0/-
1987	-	-	-
1988	0	0	-
1989	0/-	-	0/-
score	7.0	7.5	4.5

Underlying raw data : see figure 6; Sources : see appendix 2
n.a.: data not available

The results are interesting in a number of respects. First, CAPB comes out as the better indicator, although, due to the limited number of observations and the fact that CAP scores almost equally well, this conclusion remains rather weak. Second, the evolution of IFI and the policy stance it suggests (expansionary in the period 1980-82), seems surprising at first sight. However, considering that the OECD countries ran into strongly rising deficits in the beginning of the 1980s[10], this is not unexpected.

Indeed, as Chouraqui et al. show, IFI is strongly related to the actual current deficit, adjusted by taking into account potential future taxes. Public sector deficits reduce overall savings in the economy and (if their effects are not compensated by the expectation of future taxes) increase aggregate demand. Rising deficits go along with a higher IFI. As a consequence, to the extent that the OECD countries created a recession in the beginning of the 1980s by monetary and ex-ante fiscal restraint, they generated rising deficits and a positive effect on aggregate demand ex-post. This is exactly what the combined evolution of IFI and CAB (CAPB) shows: ex-ante fiscal restraint ($\Delta CAB > 0$) turned into ex-post fiscal expansion ($\Delta IFI > 0$). Fiscal restraint was considered necessary to offset the upward pressure exerted on interest rates by monetary restriction and, as a consequence, to keep investment high (see e.g. OECD, July 1981, p. 10). In reality, government claims on savings rose and contributed to higher interest rates.

This paradox shows that IFI is a rather tricky concept. It suggests that fiscal policy contributed to aggregate demand and stimulated the economy in the beginning of the 1980s. In reality, this was, however, the consequence of fiscal policy makers' actions to reduce aggregate demand and to cool off the economy. In our view, this ambiguity makes IFI an inadequate concept to illuminate what fiscal policy actually did or did not.

3.3. The stance of fiscal policy in the small OECD countries

In this section we rely on the evolution of CAPB to evaluate the stance of fiscal policy in the period 1979-89 in the small OECD countries. Table 7 summarizes the evolution suggested and compares it with developments in the large OECD countries.

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[10] The general government financial balance of the seven largest OECD countries deteriorated from -2.2% of GNP/GDP in 1979 to -2.7% in 1980 and -4.0% in 1982. From 1984 onwards the situation started to improve. (OECD, Economic Outlook, nr. 49, June 1991, Statistical Annex, table R14, p. 188)

Figure 7 is a graphical representation. To improve the quality of the message, we added -- and + + to our list of symbols. The first indicates very restrictive policy (i.e. $\Delta CAPB > 1\%$ of trend GDP), the second very expansionary policy ($\Delta CAPB < -1\%$ of trend GDP). Further, we also pay particular attention to the group of large countries other than the U.S..

Interesting conclusions can be drawn. First, we notice that in both the large and the small OECD countries discretionary fiscal policy contributed to demand restraint after the second oil shock. This conclusion becomes even stronger if we leave out 1979 (considering that the budget situation in that year largely resulted from decisions in 1978, i.e. before the second oil shock). Second, however, there is a significant difference of timing between both groups of countries. In the small countries, it took until 1982 before fiscal policy turned restrictive. In the large countries policy was tight since 1979. Except for these early years (and 1989), however, fiscal policy showed a highly similar pattern in both groups of countries. Comparing the small and the large countries less the U.S., similarity is even more striking.

As far as the evolution of fiscal policy in the individual countries is concerned, we refer to appendix 1. In contrast to our findings on monetary policy, more countries show an evolution that diverges from their group average. We already mentioned the U.S. as one example. Norway is another, although this is mainly due to the effects of the oil price evolution on this country's budget situation. (The latter example makes clear that our CAPB indicator is not perfect either). Further, appendix 1 allows to assess differences in the degree of fiscal expansion or tightness among countries. In this respect, for example, Belgium, Ireland and Japan deviate from their group average. These countries show much longer periods of more severe restraint (the former two countries in 1982-87, the latter in 1979-87).

Table 7. The stance of fiscal policy in the large and small OECD countries as suggested by the change in the cyclically-adjusted primary budget balance (1979-89)

Country group	Period										
	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
11 small countries	++	0	0/+	-	--	--	0	0/-	-	0	+
7 large countries	0/-	0/-	-	0/-	0/-	0/-	0	0	-	0	-
large ctrs less U.S.	0	--	-	-	-	-	0/-	0/-	0/-	0/-	-

Figure 7.

Indicators of fiscal policy (1979-89)

Change in cycl.-adj. primary balance

| □   11 small countries | +   7 large countries | ◇   large cntrs less US |
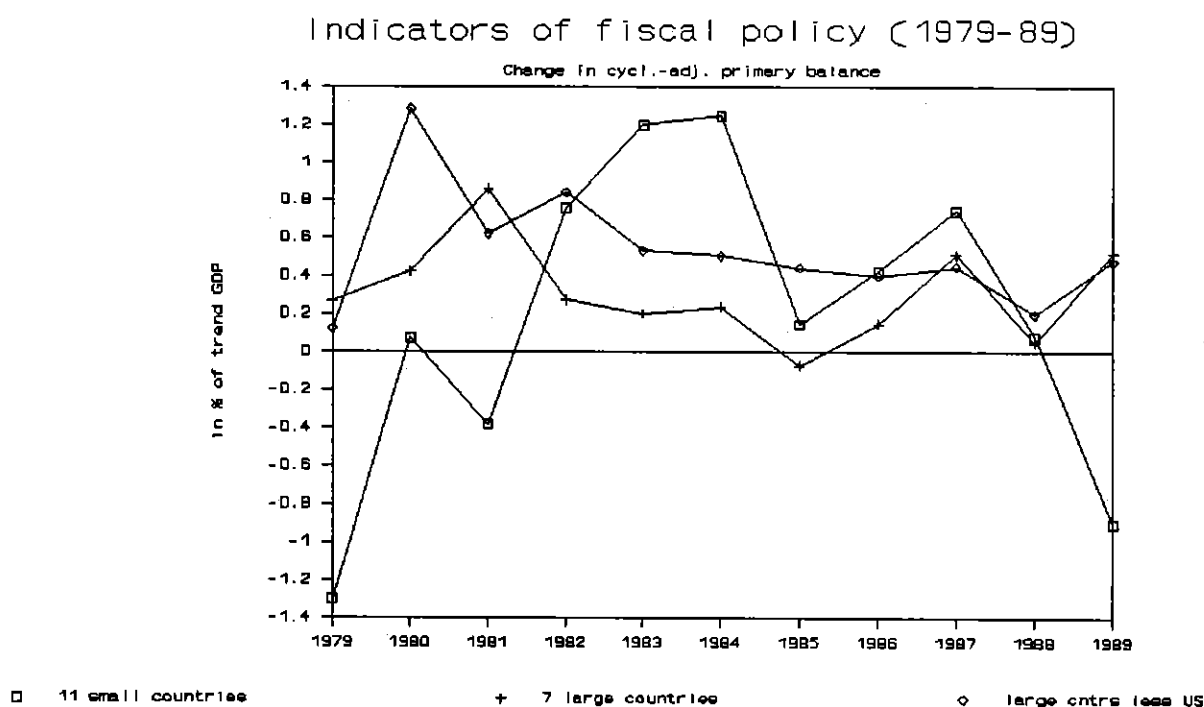
4. Concluding remarks

The evaluation of the stance of demand management policy in the literature seems to a large extent based on intuition and improvization, with every author having his own individual approach, using indicators that he believes are best. This is true for fiscal policy, but it is even more true for monetary policy. A basic reason for this confusion is that theory is largely unable to discriminate among approaches.

This paper provides a pragmatic answer to the question which indicators may be more reliable for the assessment of fiscal and monetary policy. Taking the detailed evaluation of the stance of policy by the OECD as our point of reference (norm), we concluded that the short-term nominal interest rate is the 'best' indicator for the stance of monetary policy. Money aggregates were found often to lead to misleading conclusions, especially in the 1980s. As far as the 1970s are concerned, we were not able to discriminate between money and interest rate indicators. The cyclically-adjusted primary budget balance came out as the best indicator for the stance of fiscal policy.

What is the value of these findings? Might one not as well argue that the close correspondence between the OECD evaluation of monetary policy and the evolution of the short-term interest rate only proves that, for its evaluation, the OECD (at least implicitly) relies heavily on the latter variable? That, as a consequence, this correspondence has nothing to do with any superiority of the short-term interest rate as an indicator. We reject this argument. As we mentioned earlier, in its evaluation the OECD explicitly relies on a large number of variables. Reading OECD comments, one will notice that at least as much reference is made to money targets, than to interest rates. If the OECD were after all biased towards relying on the short-term interest rate, this should in our view not be called 'implicit', but 'subconscious'. As far as fiscal policy is concerned, we admit, the risk of a bias may be more serious. We believe that at least in later years, the hypothesis that the OECD turns mainly to the cyclically-adjusted budget balance for its evaluation cannot be rejected.

Other potential problems for our findings derive in our view from the nature of our work itself. We are aware that the use of 'rules of thumb' will not convince everyone and that some people may ask the question why this and not another rule was used. In this respect, we emphasize that typical of a pragmatic approach is that theoretical justifications can often not be given. Further, we repeat that we did try out other rules. Our conclusions survived, however.

APPENDIX 1 The stance of monetary and fiscal policy in the individual OECD countries

Table A1. The stance of monetary policy in the small OECD countries as suggested by the short-term nominal interest rate (1979-89)

Country	Period										
	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Australia	0	−	−	0	+	0/−	−	0	+	0/−	−
Austria	0/+	−	0	0/+	+	0/−	0	0	0/+	0	−
Belgium	−	0/−	0/−	0/+	+	−	0/+	0/+	0/+	0	−
Denmark	0/+	−	0/+	0	+	0/−	0/+	0/+	0/−	0/+	0/−
Finland	0	−	0	0	0	−	+	+	0	0/−	0
Ireland	−	0/−	0/−	0	+	0	0/+	0	0	0/+	−
Netherlands	−	0	0/−	+	+	0	0	0/+	0/+	0	−
Norway	0/+	−	0/−	0/−	0/+	0	0	0/−	0	0/+	0/+
Spain	0/+	0	0	0	−	+	0/+	0	−	+	−
Sweden	0/−	−	0/−	0/+	0/+	0/−	0/−	+	0	0/−	0/−
Switzerland	−	−	−	+	0/+	0	0	0/+	0/+	0/+	−
Unweighted Average	0/−	−	0/−	0/+	0/+	0/−	0/+	0/+	0	0/+	−

Notes : + : expansion   0/+ : weak expansion   0 : caution
      − : restraint   0/− : weak restraint
Data sources and methods : see appendix 2   (+'s and −'s are derived using the 5%-15% rule underlying table 2/a) (see main text).

Table A2. The stance of monetary policy in the large OECD countries as suggested by the short-term nominal interest rate (1979-89)

Country	Period										
	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
U.S.	−	−	−	+	0/+	0	+	0/+	0	0/−	0/−
Japan	−	−	+	0	0/+	0	0	+	0/+	0	−
Germany	−	−	−	+	+	0	0/+	0/+	0/+	0/−	−
France	−	−	−	+	0/+	0/+	0/+	+	0/−	0	−
Italy	0/−	−	−	0/+	0	0/+	0/+	+	0	0	0/−
U.K.	−	0/−	0/+	0/+	0/+	0	−	0/+	0/+	0/−	−
Canada	−	0/−	−	+	+	−	+	0	0	0/−	−
Weighted Average	−	−	0/−	+	0/+	0	0/+	0/+	0	0/−	−

Notes: see table A1

Table A3. The stance of fiscal policy in the small OECD countries as suggested by the cyclically-adjusted primary budget balance (1979-89)

Country	Period										
	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Australia	+	--	0/-	--	++	0/+	0	-	--	--	0
Austria	+	0	--	+	0/+	--	0/-	+	0	0/-	+
Belgium	++	++	0/+	--	--	--	--	-	--	++	0/+
Denmark	++	0/+	0/+	++	--	--	-	--	+	0/+	+
Finland	++	++	--	++	+	--	0/+	-	++	--	0
Greece	-	0	++	--	--	++	++	--	--	++	++
Ireland	++	++	+	--	--	--	0/-	--	-	--	++
Netherlands	++	-	-	--	--	0/+	--	++	0	-	+
Norway	-	--	0/+	-	0/-	--	--	++	+	++	++
Spain	0	0	0/+	++	--	0/-	0	--	--	0/+	0
Sweden	++	0/-	-	0/-	--	--	0/+	--	--	++	0/+
Unweighted Average	++	0	0/+	-	--	--	0	0/-	-	0	+

Notes: see table A1;
     -- : severe restriction; ++ : strong expansion (see main text)

Table A4. The stance of fiscal policy in the large OECD countries as suggested by the cyclically-adjusted primary budget balance (1979-89)

Country	Period										
	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
U.S.	0/-	+	--	0/+	0/+	0	+	0	-	0	-
Japan	0/-	0/-	--	-	-	--	--	0/-	--	0	0/-
Germany	++	0	-	--	--	0/-	-	0	0/+	+	--
France	-	-	++	+	-	--	0/-	0/-	-	0	0/+
Italy	+	--	++	--	--	0/+	++	--	0	0/-	-
U.K.	-	--	--	-	++	0/+	-	0/+	0/+	--	-
Canada	-	0/-	--	++	+	0/+	+	--	0/-	--	0/+
Weighted Average	0/-	0/-	-	0/-	0/-	0/-	0	0	-	0	-

Notes: see tables A1 and A3

APPENDIX 2 Data sources and computation methods

- The indicators of monetary and fiscal policy for the seven largest OECD economies (figures 3, 5, 6 and 7) are calculated as a weighted average of individual country indicators. The weights used are:

  United States: 0.461   Italy: 0.077
  Japan: 0.166   United Kingdom: 0.076
  Germany: 0.092   Canada: 0.046
  France: 0.082

  Each country's weight equals the share of its GDP (in purchasing power U.S. dollars) in total GDP in 1982.

  The data for the small country group (figures 5 and 7) are calculated as an unweighted average of the data for Australia, Austria, Belgium, Denmark, Finland, Ireland, the Netherlands, Norway, Spain and Sweden. Switzerland is also included .in figure 5, Greece also in figure 7.

- Unless indicated otherwise, all data have been taken or computed from OECD, Main Economic Indicators, Part one, "Indicators by subject" and "National Accounts" (various issues).

- Short-term and long-term nominal interest rates.
  The OECD presents end of quarter data. We calculated our interest rate data for the first semester of a particular year as the average of the interest rates for the fourth quarter of the previous year and the first and second quarters of the year concerned. Data for the second semester were calculated as the average of data for the second, third and fourth quarters.

- Real interest rate: nominal interest rate minus GDP price inflation (calculated as the percentage change of the GDP deflator relative to the same quarter in the previous year). The real interest rate in a particular semester was calculated as the nominal interest rate in that semester (cf. supra) minus GDP price inflation over the year ending at the end of the semester concerned. It is important to notice that as a consequence of this way of calculating the real interest rate in a particular semester need not be equal to the average of the real interest rates of the related quarters.

  As an alternative (not shown in the paper), we calculated the real interest rate in a particular semester on the basis of the (annualized) GDP price inflation over the semester concerned. This did not at all, however, change our conclusions. For example, in table 2/a this alternative real interest rate obtained 13 points, which still leaves it the second best indicator.

  Quarterly data for GDP and GDP prices have been taken from the "National Accounts" section in Part one of the Main Economic Indicators, except for France, for which we relied on IMF, International Financial Statistics.

- Nominal money growth: narrow-money (M1) and broad-money (money and quasi-money) data presented by the OECD are end-of-period data. Growth rates for a particular quarter t were computed relative to t-2 and then annualized. Growth rates for the first (second) semester of a year equal those for the second (fourth) quarter.

- Real money growth: nominal money growth minus GDP price inflation (calculated as the annualized percentage change of the GDP deflator relative to two quarters

ago). Growth rates for the first (second) semester of a year equal those for the second (fourth) quarter.

- <u>Liquidity ratio</u>: ratio of nominal money to nominal GDP. The data underlying figure 3/e are calculated as deviations from the trend over 1970-1989. Data for the first (second) semester of a year are the average of data for first and second (third and fourth) quarter.

- <u>Cyclically-adjusted budget balance, cyclically-adjusted primary budget balance, index of fiscal impact on aggregate demand</u>: Chouraqui, Hagemann & Sartor (1990, their tables 4, 5, 13 and 14).

- <u>General government budget balance</u>: OECD, <u>Economic Outlook</u>, June 1991, nr. 49, Statistical Annex.

- Data sources of particular figures and tables:
    - figure 4: OECD, <u>Perspectives Economiques</u>, nr. 40, December 1986, p. 2
    - tables 1, 3 (first column) and 5: OECD, <u>Perspectives Economiques</u>, all issues from July 1973 until December 1989.
    - tables A1 and A2: Yearly data (+, -, etc.) are derived on the basis of a comparison of the average short-term nominal interest rate in a particular year with the average in the last semester of the previous year. (We applied the 5%-15% rule underlying table 2/a).

(A detailed list of the particular short-term and long-term interest rate series and broad-money series for each country can be obtained from the authors).

INDICATORS OF MONETARY POLICY
QUARTERLY DATA LARGE COUNTRIES   SMALL COUNTRIES

	sh-term nominal interest	sh-term real interest	yield gap	nominal M1 growth	nominal br-money growth	real M1 growth	real br-money growth	liq. ratio M1	liq. ratio br-money	gdp price inflation quarter t versus t-4	t-2 (annualized)		sh-term nominal interest
	6.79		1.26					-0.0182	-0.0079				9.00
1978:I	6.89	-0.05	1.31	11.30	12.53	4.596	5.83	-0.0169	-0.0081	6.94	6.70	1978:I	7.95
:II	7.10	-0.34	1.37	11.14	12.39	3.766	5.02	-0.0287	-0.0193	7.44	7.38		8.49
:III	7.53	-0.35	0.86	11.90	12.86	3.167	4.12	-0.0244	-0.0186	7.88	8.73		8.78
:IV	8.32	0.40	0.33	11.05	12.88	2.917	4.75	-0.0302	-0.0228	7.92	8.13		8.98
1979:I	8.48	-0.02	0.26	10.04	11.67	2.153	3.78	-0.0269	-0.0231	8.50	7.89	1979:I	7.74
	8.62	0.37	0.45	10.82	11.57	2.829	3.58	-0.0247	-0.0223	8.25	7.99		8.76
	9.79	1.30	-0.53	9.73	12.19	1.040	3.50	-0.0364	-0.0285	8.50	8.69		9.71
	11.89	3.37	-1.82	7.27	10.63	-1.343	2.02	-0.0442	-0.0328	8.52	8.61		11.30
1980:I	14.00	4.85	-2.09	6.96	10.01	-2.151	0.90	-0.0549	-0.041	9.16	9.11	1980:I	12.36
	10.58	0.52	-0.33	2.73	9.66	-8.196	-1.26	-0.0727	-0.0363	10.07	10.93		12.31
	11.81	1.87	-0.65	4.04	10.13	-6.180	-0.09	-0.0694	-0.0335	9.94	10.22		11.16
	12.88	2.55	-1.05	7.97	11.16	-1.173	2.02	-0.0832	-0.0397	10.33	9.14		10.99
1981:I	12.45	2.46	-0.42	5.63	11.28	-3.590	2.05	-0.1019	-0.047	9.99	9.22	1981:I	11.61
	13.73	4.87	-0.92	6.75	12.29	-1.386	4.16	-0.0987	-0.0372	8.86	8.13		12.61
	14.21	5.72	-0.24	6.33	12.63	-1.047	5.25	-0.1094	-0.0335	8.49	7.38		13.23
	12.78	4.19	0.17	8.17	12.34	-0.455	3.72	-0.0982	-0.0257	8.59	8.62		12.65
1982:I	12.55	4.30	0.14	8.13	9.81	-0.617	1.06	-0.0959	-0.0199	8.26	8.75	1982:I	12.05
	12.61	4.64	0.47	5.64	8.18	-1.317	1.23	-0.0927	-0.0162	7.97	6.95		13.10
	9.42	2.16	2.34	8.01	9.97	2.549	4.51	-0.0784	-0.0004	7.26	5.46		11.00
	9.15	3.33	1.71	11.12	9.57	6.661	5.11	-0.0562	0.0044	5.81	4.46		10.73
1983:I	9.31	3.90	1.38	12.01	8.61	6.848	3.45	-0.0509	0.0021	5.41	5.16	1983:I	10.62
	9.29	4.65	1.50	10.78	8.54	6.125	3.88	-0.0437	-0.0021	4.64	4.65		10.00
	9.12	4.57	1.88	8.57	7.34	4.786	3.55	-0.0484	-0.0104	4.55	3.78		9.79
	9.21	4.65	1.78	6.39	6.27	2.096	1.97	-0.0532	-0.0216	4.56	4.30		9.60
1984:I	9.45	5.26	1.56	6.32	6.39	1.858	1.93	-0.0669	-0.0378	4.19	4.46	1984:I	10.88
	9.50	5.25	2.18	6.75	7.85	2.679	3.77	-0.0607	-0.0331	4.25	4.08		10.51
	9.72	5.66	1.26	6.36	8.64	2.805	5.08	-0.0624	-0.0313	4.06	3.56		10.21
	8.31	4.57	1.93	7.56	10.20	4.226	6.86	-0.0522	-0.0206	3.75	3.34		10.37
1985:I	8.84	5.51	1.74	8.17	9.66	5.125	6.62	-0.0509	-0.0218	3.33	3.04	1985:I	9.93
	8.08	4.62	1.66	8.80	8.23	5.287	4.72	-0.0387	-0.019	3.46	3.51		9.99
	7.83	4.34	1.92	10.80	7.91	6.929	4.05	-0.0284	-0.0223	3.49	3.87		9.22
	7.93	4.27	1.24	11.01	7.35	7.268	3.62	-0.0132	-0.0195	3.66	3.74		9.58
1986:I	7.24	3.83	0.78	10.54	8.17	7.663	5.29	0.0021	-0.0128	3.41	2.88	1986:I	9.15
	6.53	3.15	1.25	11.43	8.62	8.473	5.66	0.0233	-0.007	3.38	2.96		8.77
	6.11	2.76	1.62	13.32	9.81	9.549	6.04	0.0496	0.0078	3.35	3.77		8.88
	6.33	3.34	1.20	13.58	9.64	10.603	6.66	0.0748	0.0165	2.99	2.98		8.99
1987:I	6.10	3.05	1.15	11.57	8.60	9.290	6.32	0.0881	0.0223	3.05	2.28	1987:I	9.49
	6.13	3.30	1.74	9.91	9.01	7.280	6.38	0.0983	0.026	2.83	2.63		9.04
	6.76	4.17	2.09	6.97	8.19	4.117	5.34	0.0885	0.0218	2.59	2.85		8.47
	6.24	3.56	2.04	2.47	6.97	-0.216	4.28	0.0718	0.0156	2.68	2.68		8.12
1988:I	6.22	3.49	1.63	5.24	10.34	2.699	7.80	0.08	0.0313	2.72	2.54	1988:I	7.46
	6.55	3.48	1.64	9.14	11.49	5.737	8.09	0.0893	0.0361	3.07	3.40		7.72
	7.33	3.96	0.95	7.93	9.04	3.808	4.92	0.0875	0.0368	3.36	4.12		8.17
	7.92	4.15	0.27	6.04	8.21	2.001	4.16	0.0828	0.0356	3.77	4.04		8.67
1989:I	8.62	4.52	-0.11	5.56	7.86	1.565	3.87	0.082	0.0364	4.10	3.99	1989:I	9.19
	8.30	4.15	-0.18	1.22	7.59	-2.954	3.42	0.0593	0.0381	4.15	4.17		9.70
	8.41	4.72	-0.28	0.78	7.19	-2.546	3.87	0.0625	0.0439	3.69	3.32		10.02
	8.81	4.90	-0.54	5.67	8.33	2.108	4.77	0.0618	0.0476	3.91	3.56		10.97

INDICATORS OF MONETARY POLICY

SEMESTERLY DATA LARGE COUNTRIES
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	sh-term nominal interest	sh-term real interest	yield gap	nominal M1 growth	nominal br-money growth	real M1 growth	real br-money growth	liq. ratio M1	liq. ratio broad-money
1978:1	6.93	-0.51	1.31	11.14	12.39	3.77	5.02	-0.0228	-0.0137
:2	7.65	-0.27	0.85	11.05	12.88	2.92	4.75	-0.0273	-0.0207
1979:1	8.47	0.23	0.35	10.82	11.57	2.83	3.58	-0.0258	-0.0227
	10.10	1.58	-0.63	7.27	10.63	-1.34	2.02	-0.0403	-0.0307
1980:1	12.16	2.09	-1.42	2.73	9.66	-8.20	-1.26	-0.0638	-0.0386
	11.76	1.43	-0.68	7.97	11.16	-1.17	2.02	-0.0763	-0.0366
1981:1	13.02	4.15	-0.80	6.75	12.29	-1.39	4.16	-0.1003	-0.0421
	13.57	4.98	-0.33	8.17	12.34	-0.46	3.72	-0.1038	-0.0296
1982:1	12.65	4.67	0.26	5.64	8.18	-1.32	1.23	-0.0943	-0.0181
	10.39	4.58	1.51	11.12	9.57	6.66	5.11	-0.0673	0.0020
1983:1	9.25	4.61	1.53	10.78	8.54	6.12	3.88	-0.0473	0.0000
	9.21	4.65	1.72	6.39	6.27	2.10	1.97	-0.0508	-0.0160
1984:1	9.39	5.14	1.84	6.75	7.85	2.68	3.77	-0.0638	-0.0355
	9.18	5.43	1.79	7.56	10.20	4.23	6.86	-0.0573	-0.0259
1985:1	8.41	4.95	1.78	8.80	8.23	5.29	4.72	-0.0448	-0.0204
	7.95	4.29	1.61	11.01	7.35	7.27	3.62	-0.0208	-0.0209
1986:1	7.23	3.85	1.09	11.43	8.62	8.47	5.66	0.0127	-0.0099
	6.32	3.33	1.36	13.58	9.64	10.60	6.66	0.0622	0.0121
1987:1	6.19	3.36	1.37	9.91	9.01	7.28	6.38	0.0932	0.0242
	6.38	3.69	1.96	2.47	6.97	-0.22	4.28	0.0802	0.0187
1988:1	6.34	3.26	1.77	9.14	11.49	5.74	8.09	0.0847	0.0337
	7.27	3.50	0.95	6.04	8.21	2.00	4.16	0.0852	0.0362
1989:1	8.28	4.13	-0.01	1.22	7.59	-2.95	3.42	0.0707	0.0372
	8.51	4.60	-0.33	5.67	8.33	2.11	4.77	0.0622	0.0458

INDICATORS OF FISCAL POLICY
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	7 LARGE COUNTRIES			LARGE COUNTRIES LESS U.S.	SMALL COUNTRIES
	ΔCAB	ΔCAPB	ΔIFI	ΔCAPB	ΔCAPB
	........% of (trend) gdp........			(% of trend gdp)	(% of trend gdp)
1979	0.21	0.27		0.12	-1.30
1980	-0.13	0.42	0.80	1.28	0.07
1981	0.45	0.86	1.13	0.62	-0.38
1982	-0.09	0.27	0.79	0.84	0.76
1983	0.06	0.20	-0.11	0.53	1.20
1984	0.05	0.24	-0.09	0.50	1.25
1985	-0.15	-0.07	0.12	0.44	0.15
1986	0.15	0.15	-0.16	0.40	0.43
1987	0.69	0.51	-0.86	0.45	0.75
1988	0.11	0.05	-0.52	0.20	0.08
1989	0.38	0.52	-0.34	0.48	-0.90

	short-term nominal interest	nominal M1 growth	nominal M2 growth
	5,67	15,24	17,26
1973:I	6,29	12,49	17,65
	7,47	10,58	15,99
	8,21	8,86	14,94
	8,42	7,10	13,47
1974:I	8,88	8,14	12,86
	8,65	8,26	12,53
	7,93	6,33	9,45
	7,95	6,61	7,95
1975:I	6,48	8,19	9,26
	6,40	9,24	9,57
	6,65	11,47	10,94
	5,92	10,36	12,34
1976:I	5,68	9,70	12,40
	6,15	10,18	13,07
	6,30	8,01	12,25
	6,11	6,54	11,50
1977:I	5,78	8,91	11,72
	5,55	9,20	11,66
	5,67	9,83	10,90
	5,91	11,70	12,67
1978:I	5,87	11,12	13,59
	6,32	11,64	12,53
	6,88	12,13	12,92
	7,74	10,53	12,84

Note : The data for the short-term nominal interest rate in 1973:I-1978:IV
presented above are not fully consistent with those presented on page 31
for 1978:I-1989:IV . There are various reasons. First, due to a lack of
data, Italy is not included in the 1970s. Further, the particular
interest rate used for France and Japan differs (e.g. Treasury bill rate
(60 days) instead of "Gensaki" rate (3 months) for Japan).

References

CHOURAQUI, J.-C., HAGEMANN, R. & N. SARTOR, (1990), "Indicators of fiscal policy : a reassessment", OECD Working Papers, nr. 78, April.

CHOURAQUI, J.-C. & R.W.R. PRICE, (1984), "Medium-term financial strategy: the co-ordination of fiscal and monetary policies", OECD Economic Studies, Spring, nr. 2, p. 7-49.

COE, D.T., M. DURAND & U. STIEHLER, (1988), "The disinflation of the 1980s", OECD Economic Studies, Autumn, nr. 11, p. 89-121.

CROCKETT, A. & M. GOLDSTEIN, (1987), Strengthening the International Monetary System: Exchange rates, surveillance and objective indicators, Occasional Paper, nr. 50, IMF, Washington D.C., February.

GORDON, R., (1987), Macroeconomics, Boston, Little Brown and Company.

LLEWELLYN, J., S. POTTER & L. SAMUELSON, (1985), Economic Forecasting and Policy - The International Dimension, London, Routledge & Kegan Paul.

OCDE, (1981), Perspectives Economiques, OCDE, Paris, nr. 29, Juillet.

OCDE, (1982), Perspectives Economiques, OCDE, Paris, nr. 31, Juillet.

OCDE, (1984), Perspectives Economiques, OCDE, Paris, nr. 35, Juillet.

OCDE, (1984), Perspectives Economiques, OCDE, Paris, nr. 36, Décembre.

OCDE, (1985), Perspectives Economiques, OCDE, Paris, nr. 37, Juin.

OCDE, (1985), Perspectives Economiques, OCDE, Paris, nr. 38, Décembre.

OECD, (1988), Economic Outlook, OECD, Paris, nr. 44, December.

PIERCE, D.G. & P.J. TYSOME, (1985), Monetary Economics. Theories, Evidence and Policy, London, Butterworths.

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