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Fiscal-Monetary Mix and Exchange Rate Movements in
the Major Industrial Countries, 1980-84

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Abstract

This paper analyzes the financial policies pursued in the major industrial countries under the flexible exchange rate regime, and links misalignments in policies and their mixes to exchange rate variations among the major currencies. A number of indicators note that misalignments in fiscal policy led to a corresponding divergence of fiscal and monetary policy mix among the industrial countries, and, together, contributed to the rapid appreciation of the dollar during the early 1980s. The continued liberalization of international capital movements and the differences in the savings rate also amplified the effects of policy divergences and their mixes on the exchange rate movements.

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I. Introduction

The turbulent events in the world economy since 1973 suggest that under a flexible exchange rate system, the economies are not less interdependent than they are under a fixed-rate regime and that unilateral expansionary or contractionary policies may be difficult to sustain and costly in terms of inflation and external sector developments. Recent theoretical and empirical studies, prepared at both academic and policy-making levels, have demonstrated that all countries can potentially benefit from coordinating their macroeconomic policies. ^{1/} The high degree of interdependence reflecting adjustments to common external shocks (e.g., the two oil price shocks) and the effects of major industrial countries' domestic policies on each other and on smaller countries underscore the importance of policy harmonization and exchange rate stability among major industrial countries. These observations have led to some degree of policy coordination in the aftermath of the 1973 oil price shock, ^{2/} to the "locomotive approach" to promote world recovery during 1977-78, and to the repeated mention in the economic summits of the major industrial countries of the need for financial policy coordination to achieve less volatility in exchange rates.

This paper does not go into the debate on policy coordination. Instead, it examines developments in the financial policies pursued by authorities in the major industrial countries in the early 1980s to determine the extent to which uncoordinated policies might have contributed to exchange rate variations among the major currencies during the period. We observe that, notwithstanding a repeated call for exchange rate stabilization through policy coordination, exchange rates among major currencies continued to fluctuate widely. A review of the developments in financial policies indicates that significant convergence has, in fact, been achieved in monetary policy and in the liberalization of capital markets, but that fiscal policies have tended to diverge as the expansionary stance of fiscal policy in the United States and Canada stood in sharp contrast to the contractionary stances adopted in other major industrial countries. These developments in the fiscal and monetary policy mix took place in an environment of more liberal capital movements.

The paper argues that the widening misalignments in fiscal policies, in combination with a converging disinflationary monetary policy and a continued liberalization of capital market restrictions in most countries, contributed to interest rate differentials, to large capital inflows into the United States, and to an appreciation of the U.S. dollar in the early 1980s. The effects of fiscal ease and monetary restraint in the United States on international capital mobility and on

^{1/} For discussions on policy coordination, see Menil and Solomon (1983), Stewart (1984), Putnam and Bayne (1984), Ostry (1984), and Oudiz and Sachs (1984).

^{2/} The objective, which was only partly achieved, was to avoid deflationary policies.

exchange rate movements were also amplified by such structural aspects as the relatively low savings rates in the high-deficit countries (like the United States) and high savings rates in countries where fiscal deficits were being reduced (Japan and the Federal Republic of Germany). In view of these observations, the paper concludes that much of the exchange rate fluctuations in recent years, to the extent that they were policy induced, may be attributable to the observed divergence in fiscal policy and in the fiscal and monetary policy mixes in industrial countries.

The plan of the paper is as follows. Section II reviews developments in monetary policy and domestic prices, in fiscal policy, and in capital market liberalization. Section III relates the misalignments in financial policies to developments in fiscal-monetary policy mix and to divergence in fiscal deficit in relation to private sector savings, and examines their implications for the exchange rates. Section IV highlights the potential effects on exchange rate movements of the observed convergences and divergences in the policies among various countries. Concluding observations are presented in Section V.

II. The Experience with Financial Policies and their Mixes in Major Industrial Countries

Theoretical considerations based on existing literature suggest that convergence in financial policies and their mixes should contribute to exchange rate stability by reducing the policy-induced component of exchange rate movements. Various monetary models of exchange rate determination indicate that convergence in the movements of nominal variables such as money supply, inflation, and nominal interest rates contribute to reduce exchange rate volatility; the monetary models that introduce expectations also highlight the importance of coordination in the area of monetary policy, since exchange rates are affected both by current views and by expectations about future monetary activity. ^{1/} Divergence in the stance of fiscal policy among countries may also contribute to corresponding divergence in exchange rates. According to some formulations of monetary models, an expansionary fiscal policy increases output and raises the price level, both of which create, for a given money supply, an excess demand for money and higher interest rates, causing an inflow of capital and an appreciation of the exchange rate. In some portfolio models of exchange rate determination, expansionary domestic fiscal policy also induces an excess supply of both domestic and foreign currency-denominated bonds, with the financial market equilibrium being restored through lower bond prices, higher interest rates, capital inflows, and an appreciation of the exchange rate in the short run.

^{1/} For some earlier contributions in this area, see Dornbusch (1976a and 1976b), Frankel (1979), Frenkel (1976), and Mussa (1976).

The mix of monetary and fiscal policy and liberalization of capital markets during the last decade might have a significant influence on exchange rate movements; lower interest differentials may induce large exchange rate movements as a result of higher volumes of capital inflows. For example, as shown by Mundell (1971), the combination of monetary restraint and fiscal ease may strengthen the domestic currency by raising the domestic interest rate and generating increased capital inflows. In the long run, however, increased capital inflows help reduce the interest rate differentials among countries, deepen the domestic market for financial assets, and reduce the potential for a more volatile exchange rate that will occur in a thin capital market.

Based on this very brief review, it may generally be argued that convergence in financial policies and their mixes should contribute to exchange rate stability by reducing the policy-induced component of exchange rate movements. Thus, in the remainder of this section we review the developments in financial policies of major industrial countries during the flexible exchange rate period in order to determine if there were any misalignments in policies or their mixes which could be linked to the movements in exchange rates.

1. Monetary policy developments and exchange rate movements

Medium-term strategies aimed at moderating and stabilizing inflation and inflationary expectations have conditioned the operations of monetary policy in major industrial countries since the early 1970s. Monetary policy has been implemented principally through the control of the money stock. Unpublished targets for monetary aggregates were first employed as guides in policymaking in the United States in the early 1970s, and it has now been more than a decade since targets were first published in the Federal Republic of Germany and the United States. Since then, published monetary growth targets have been used in France, Japan, and the United Kingdom. Because nominal interest rates had become a less reliable indicator of the true stance of monetary policy under conditions of high and variable inflation, the control of the quantity of money was seen to provide a more reliable fulcrum of anti-inflationary policy. Given the broadly similar objectives and operational principles followed by monetary authorities, both monetary aggregates and inflation rates followed a similar trend. In recent years the average rates of both inflation and monetary expansion for the industrial countries as a group (and their dispersion among industrial countries) were substantially reduced (Table 1). The average growth rate of broad money for all the major industrial countries taken together declined, on average, from 12 percent during 1973-77 to 7.5 percent in 1984. Similarly, the weighted average inflation rates declined from a peak of more than 11 percent after the first oil price shock to around 4 percent in 1984. As a reflection of increased convergence in monetary policy, the growth of broad money decelerated in

Table 1. Major Industrial Countries: Inflation Rates and Changes in Monetary Aggregates, 1973-84

(In percent)

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
I. Inflation ^{1/}												
Industrial countries ^{2/}	7.5	11.5	11.1	7.6	7.6	7.6	8.0	9.2	8.7	7.2	4.9	4.1
United States	5.7	8.8	9.3	5.2	5.8	7.4	8.7	9.2	9.6	6.0	3.8	3.8
Japan	11.7	20.6	8.1	6.4	5.7	4.6	2.6	2.8	2.7	1.7	0.5	0.6
Germany, Federal Republic of	6.5	6.8	6.1	3.4	3.7	4.2	4.1	4.5	4.2	4.6	3.2	1.9
France	7.8	11.2	13.3	9.9	9.0	9.4	10.4	12.2	11.8	12.6	9.5	7.3
United Kingdom	7.0	14.9	26.9	14.6	13.9	11.2	14.5	19.9	11.7	7.2	5.3	4.2
Italy	11.6	18.5	17.5	18.0	19.1	13.9	15.9	20.7	18.3	17.8	15.0	10.7
Canada	9.1	15.3	10.8	9.5	7.4	6.7	10.3	11.4	10.6	10.4	5.3	2.8
Standard deviation												
Weighted	2.4	5.2	6.9	5.2	5.3	3.3	4.8	6.8	5.0	5.2	4.6	3.2
Unweighted	2.4	5.0	7.1	5.2	5.4	3.5	4.9	6.9	5.2	5.4	4.8	3.5
II. Broad money ^{3/}												
Industrial countries ^{2/}	12.7	10.0	11.0	13.1	12.2	11.0	10.7	9.5	9.9	9.6	10.5	7.5
United States	8.8	6.8	8.6	13.7	12.7	8.5	8.3	8.1	9.5	9.3	12.5	7.9
Japan	22.7	11.9	13.1	13.5	11.4	11.7	11.9	9.2	8.9	9.2	7.4	7.8
Germany, Federal Republic of	1.0	8.5	8.6	8.4	9.4	10.6	8.9	5.3	6.4	6.5	6.6	3.9
France	14.6	17.8	15.7	12.8	12.3	13.2	13.0	10.8	11.4	11.5	9.1	8.0
United Kingdom	28.4	12.6	7.8	10.7	8.0	15.3	13.3	16.7	15.9	11.0	10.8	9.1
Italy	23.5	15.7	24.5	20.2	20.5	22.3	20.9	14.3	10.8	12.1	16.1	11.9
Canada	20.6	19.2	15.4	14.1	14.3	11.1	15.7	18.9	15.1	9.4	5.7	4.4
Standard deviation												
Weighted	9.8	5.4	6.0	3.4	3.8	4.8	4.7	5.1	3.4	1.8	3.5	2.5
Unweighted	9.5	4.6	5.9	3.6	4.1	4.5	4.3	4.9	3.4	1.9	3.7	2.7

Source: International Monetary Fund, World Economic Outlook (May 1983 and October 1985); Economic Statistics Monthly, Bank of Japan (various issues); Monthly Report of the Deutsche Bundesbank (various issues); Federal Reserve Bulletin, Board of Governors of the Federal Reserve System, Washington, D.C. (various issues).

^{1/} As measured by changes in GNP deflators for industrial countries.

^{2/} Averages of percentage changes in GNP deflators or broad money for industrial countries weighted by the average U.S. dollar value of their respective GNPs over the preceding three years.

^{3/} Generally "M₂" (currency in circulation, private demand deposits, and quasi-money) + CD, and M₃, respectively, except for the United Kingdom, Japan, and the Federal Republic of Germany, for which data are based on sterling M₃, M₂ + CD, and M₃, respectively.

every industrial country. ^{1/} In a high-inflation country, such as Italy, the growth of broad money decelerated from more than 20 percent in the 1970s to less than 12 percent in 1984; in low-inflation countries, such as the Federal Republic of Germany and Japan, the growth of broad money had decelerated by about 50 percent by 1984 compared with its growth rate in the 1970s.

The observed convergence in the monetary area was achieved against a rapidly changing economic and financial background and was implemented through increased reliance on market mechanisms. A flexible approach to the implementation of monetary targets was adopted because of the instability of monetary aggregates in some countries; for example, the effects of financial innovation in response to regulating changes and high interest rates have been more disruptive in the United States than elsewhere. Increased reliance was placed on market mechanisms to achieve monetary controls, although the starting point and the pace of change have varied across countries. Direct credit control mechanisms are no longer in use in most industrial countries, and the regulatory arrangements in operation until recently in Japan and Germany have undergone significant changes. In order to take these factors into account, minor amendments were made over the years in the countries' targeting procedures and in the specification of target periods. However, notwithstanding these amendments, the target aggregates and actual outcome in all countries broadly followed the stated medium-term strategy of monetary policy (Table 2).

Notwithstanding a general trend toward a convergence in inflation and monetary expansion, exchange rate movements among the major currencies did not follow a similar trend. In fact, since the inception of floating rate regimes, inflation differentials explain very little of the exchange rate movements among the major currencies. This can be readily observed from movements in bilateral nominal exchange rates vis-à-vis inflation rates, and by comparing developments in nominal and real bilateral exchange rates between the U.S. dollar and other major currencies (Table 3). Both the Japanese yen and the Deutsche mark steadily appreciated against the dollar during 1973-79. The rapid appreciation of the mark against the dollar may be attributable to inflation differential, but the appreciation of the yen cannot be explained by the inflation differential. The situation has changed sharply since 1979, as the dollar rebounded strongly against all currencies in the period up to 1985; the currencies of other major industrial countries depreciated by about 28 percent against the dollar during 1980-84, while price increases in the other industrial countries as a group were not significantly different from corresponding increases in the United States.

^{1/} Similar observations were noted for the countries within the European Monetary System by Tanzi and Ter-Minassian (1987).

Table 2. Major Industrial Countries: Monetary and Credit Aggregates: Objectives and Actual Rates of Expansion, 1975-84

(Increase during period in percent)

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
United States										
Objective	8.5-10.5	7.5-10.5	7.0-10.5	6.5-9.0	5.0-8.0	6.0-9.0	6.0-9.0	6.5-9.5	6.5-9.5	6.0-9.0
Actual outcome	9.6	10.9	9.8	8.7	8.3	9.0	9.4	10.1	12.1	8.7
Japan										
Objective	--	--	--	12.0-13.0	11.0	8.0	10.0	8.0	7.0	8.0
Actual outcome	14.5	14.3	10.6	12.6	10.3	7.6	10.4	8.3	6.7	7.9
Germany, Federal Republic of										
Objective	8.0	8.0	8.0	8.0-	6.0-9.0	5.0-8.0	4.0-7.0	4.0-7.0	4.0-7.0	4.0-6.0
Actual outcome	9.9	9.3	9.0	11.4	6.4	4.8	3.5	6.0	7.1	4.6
France										
Objective	--	--	12.5	12.0	11.0	11.0	10.0	12.5-13.5	9.0	5.5-6.5
Actual outcome	18.2	12.9	13.9	12.2	14.4	9.8	11.4	12.0	10.5	7.6
United Kingdom										
Objective	--	9.0-13.0	9.0-13.0	8.0-12.0	8.0-12.0	7.0-11.0	6.0-10.0	8.0-12.0	7.0-11.0	6.0-10.0
Actual outcome	...	7.3	15.4	11.4	10.3	20.0	14.6	9.8	10.0	11.9
Italy										
Objective	17.5	17.5	15.0	16.0	18.5	17.5	16.0	15.5	18.0	17.4
Actual outcome	25.4	19.9	17.8	20.9	18.5	18.5	18.1	20.8	20.6	20.0
Canada										
Objective	--	10.0-15.0	8.0-12.0	7.0-11.0	6.0-10.0	5.0-9.0	4.0-8.0	4.0-8.0	...	...
Actual outcome	--	10.9	8.3	9.2	8.0	6.2	3.9	3.5	...	...
Average 2/										
Objective 3/	9.9	9.8	9.7	9.5	8.7	8.4	8.4	8.7	7.9	7.4
Actual outcome	12.2	11.6	10.9	10.8	9.6	9.4	9.6	9.8	10.7	8.9
Standard deviation										
Objective 3/	4.5	3.8	2.6	3.0	4.1	3.7	3.3	3.5	...	...
Actual outcome	6.7	3.8	3.6	4.1	4.1	5.7	4.9	5.1	...	...

Source: Bank for International Settlements, Annual Reports (several years).

1/ The target aggregates are as follows: United States - broad money (M_2); Japan - $M_2 + CD_p$; Federal Republic of Germany - central bank money; France - M_2 up to 1983, and M_2R in 1984; United Kingdom - sterling M_3 ; Italy - total domestic credit; and Canada - M_1 .

2/ Weighted by the average U.S. dollar value of their respective GNPs over the preceding three years.

3/ In case of a range, the mid-value of the range has been used.

Table 3. Major Industrial Countries: Relative Inflation and Exchange Rate Movements, 1973-84 1/

(In percent)

Country	1973-79			1980-84		
	Consumer price index	Difference from U.S. inflation	Appreciation over the dollar	Consumer price index	Difference from U.S. inflation	Appreciation over the dollar
United States	63.5	--	--	26.1	--	--
Other major industrial countries <u>2/</u>	74.3	-10.8	9.8	28.8	-2.7	-28.4
Japan	(76.7)	(-13.2)	(19.3)	(12.1)	(14.0)	(-4.8)
Germany, Federal Republic of	(31.1)	(32.4)	(31.4)	(18.4)	(7.7)	(-56.6)
France	(83.9)	(-20.4)	(4.6)	(49.3)	(-23.2)	(-106.8)
United Kingdom	(138.9)	(-75.4)	(-13.5)	(33.4)	(-7.3)	(-42.6)
Canada	(69.5)	(-6.0)	(-18.3)	(37.5)	(-11.4)	(-10.8)

Source: International Monetary Fund, International Financial Statistics, Yearbook, 1985.

1/ Percentage change during the period.

2/ Weighted averages; the weights are derived from the Fund's multilateral trade model.

The monetary growth targeting approach was, from the beginning, medium-term in orientation, and considerable importance was attached to the potential influence of monetary policy on the formation of expectations, though it was recognized that its impact might not be felt immediately. Once set, the norms were broadly maintained from year to year, or were lowered progressively over a period of years, in the hope of eroding inflationary sentiments. Thus, monetary policies of different countries, on their own, could not have adversely contributed to higher fluctuations in exchange rates during most of the period under consideration.

2. Fiscal developments

Fiscal developments in the major industrial countries did not parallel movements in the monetary sector, although similar objectives and strategies have been adopted by most governments of industrial countries. A central objective has been the reduction of the fiscal deficit and to arrest the long-term deterioration in fiscal flexibility. Notwithstanding these common objectives, the combined deficit of the seven major industrial countries taken as a group was considerably higher in recent years than in the 1970s, at both central and general government levels (Table 4). The combined deficit was higher because of high fiscal deficits in the United States and Canada despite fiscal consolidation in other industrial countries; this divergence in the stance of policy could have adverse effects on the real rate of interest, altered real interest rate differentials among major countries, and contributed to sharp exchange rate movements.

During most of the 1970s, fiscal deficits were high in traditionally high-saving countries, such as the Federal Republic of Germany, Italy, and Japan, and lower in low-saving countries, such as the United States. This particular combination of public sector deficit and private sector savings behavior during most of the 1970s should have dampened the adverse effect of the higher budget deficit in some countries on their domestic interest rates and, consequently, on their exchange rates. This may also explain why divergence in fiscal policies among some major industrial countries did not receive much attention from market participants during the early part of the flexible exchange rate period.

Over the period 1980-84, the fiscal situation rapidly deteriorated in Canada, France, Italy, and the United States; on the other hand, significant improvements were recorded for the Federal Republic of Germany and Japan, where fiscal deficits were higher, and fiscal consolidations were undertaken. The overall fiscal deficit in the United States averaged around 3.8 percent of GNP at the general government level during 1982-84, compared with an average of less than 1.0 percent during the 1970s. In Italy, the fiscal deficit deteriorated by more than 5 percentage points in relation to GNP during the same period. In Japan, the overall deficit declined from around 5 percent of GNP in 1979 to less than 3 percent in 1984; similar improvements were

Table 4. Major Industrial Countries: Fiscal Developments at the General Government and Central Government Levels, 1976-84

(In percent of GNP)

	1976	1977	1978	1979	1980	1981	1982	1983	1984
General government fiscal balance									
United States	-2.1	-0.9	--	0.6	-1.2	-0.9	-3.8	-4.1	-3.4
Japan	-3.7	-3.8	-5.5	-4.8	-4.5	-3.6	-3.6	-3.5	-2.7
Germany, Federal Republic of	-3.5	-2.4	-2.5	-2.8	-3.1	-3.7	-3.3	-2.5	-1.9
France	-0.5	-0.8	-1.9	-0.7	0.2	-1.8	-2.7	-3.1	-2.8
United Kingdom	-5.0	-3.3	-4.4	-3.3	-3.7	-3.1	-2.4	-3.5	-3.8
Italy	-9.0	-7.9	-9.7	-9.5	-8.0	-11.9	-12.6	-12.4	-13.5
Canada	-1.7	-2.4	-3.1	-1.8	-2.7	-1.6	-5.0	-6.2	-6.3
Seven major countries <u>1/</u>	-2.9	-2.1	-2.2	-1.7	-2.4	-2.6	-4.0	-4.2	-3.5
Central government fiscal balance									
United States	-3.1	-2.6	-2.0	-1.1	-2.3	-2.4	-4.1	-5.6	-4.9
Japan	-5.0	-5.1	-5.2	-6.1	-6.2	-5.9	-5.9	-5.7	-5.4
Germany, Federal Republic of	-2.8	-2.2	-2.1	-1.8	-1.6	-2.1	-2.1	-2.0	-1.8
France	-1.2	-1.0	-1.6	-1.5	-1.1	-2.6	-2.8	-3.3	-3.4
United Kingdom	-3.4	-1.9	-3.3	-2.2	-2.5	-2.9	-2.7	-3.2	-3.2
Italy	-9.1	-9.0	-13.1	-10.8	-10.8	-12.8	-15.1	-16.4	-15.4
Canada	-1.8	-3.5	-4.6	-3.5	-3.5	-2.2	-5.3	-6.2	-7.0
Seven major countries <u>1/</u>	-3.5	-3.1	-3.3	-2.7	-3.3	-3.6	-4.6	-5.4	-5.1

Sources: International Monetary Fund, World Economic Outlook, 1985; and staff estimates.

1/ Composites for the country groups are weighted averages of the individual national ratios for each year, with weights proportionate to the U.S. dollar value of the respective GNPs in the previous three years.

also recorded for the Federal Republic of Germany. The fiscal policy in the United States stood in sharp contrast to that generally adopted in the Federal Republic of Germany and Japan, although in all these countries the fiscal strategy was intended to have similar supply-side effects through a reduction of the tax burden. The difference lay in the order in which measures were taken. The Federal Republic of Germany and Japan adopted a gradual approach in which expenditure growth was contained or reduced in relation to GNP before the growth in tax burden was contained or reversed. In the United States, cuts in the tax burden were implemented without securing the politically more sensitive cuts in expenditure, thereby sharply increasing the federal government budget deficit.

The deterioration in the fiscal balance in Canada and the United States relative to other major industrial countries also paralleled the underlying structural shifts in the fiscal position of the countries independent of cyclical variations. After adjusting for cyclical developments, fiscal policy in all countries, except Canada and the United States, appears to be contractionary, and in some countries much more contractionary than what appears from the unadjusted actual fiscal balance (Table 5). ^{1/} During a period in which the structural changes in the other five countries were directed toward lower structural deficits, the corresponding changes in Canadian and the U.S. structural deficits were sharply higher and were increasing in each of the years through 1985. The cumulative increments amounted to about 2 percent of GNP by 1984 in the United States, and further increased to around 2.4 percent by 1985 (Chart 1). ^{2/} The dispersion of the underlying cumulative structural change in deficit increased rapidly for the group as a whole, indicating divergence in policy stance; for the group of countries excluding Canada and the United States, the dispersion of the structural change in deficits narrowed significantly, indicating a general trend toward fiscal policy convergence among those countries.

3. Developments in capital markets liberalization and their effects

A review of the experience of major industrial countries in attempting to control international financial operations indicates that there has been a significant liberalization of such operations. In adhering to the OECD's code of liberalization of capital movements, most major industrial countries have agreed to "progressively abolish between one another. . . restrictions on movements of capital to the extent

^{1/} The cumulative deterioration of fiscal positions during 1979-85, which is attributable to purely cyclical factors, is estimated to be between 3 percent and 6 percent of GNP for the European economies, 1.7 percent for the United States, and only 0.4 percent for Japan. For more on the methodology used in deriving these estimates, see Heller, Haas, and Mansur (1986), and World Economic Outlook (April 1986).

^{2/} The fiscal deficits through 1985 are discussed because these were most probably anticipated by the financial community by 1984 and were reflected in interest rates and exchange rate developments in 1984.

CHART 1
MAJOR INDUSTRIAL COUNTRIES:
CUMULATIVE STRUCTURE DEFICITS SINCE 1979, 1979-84
(In percent of GDP/GNP)

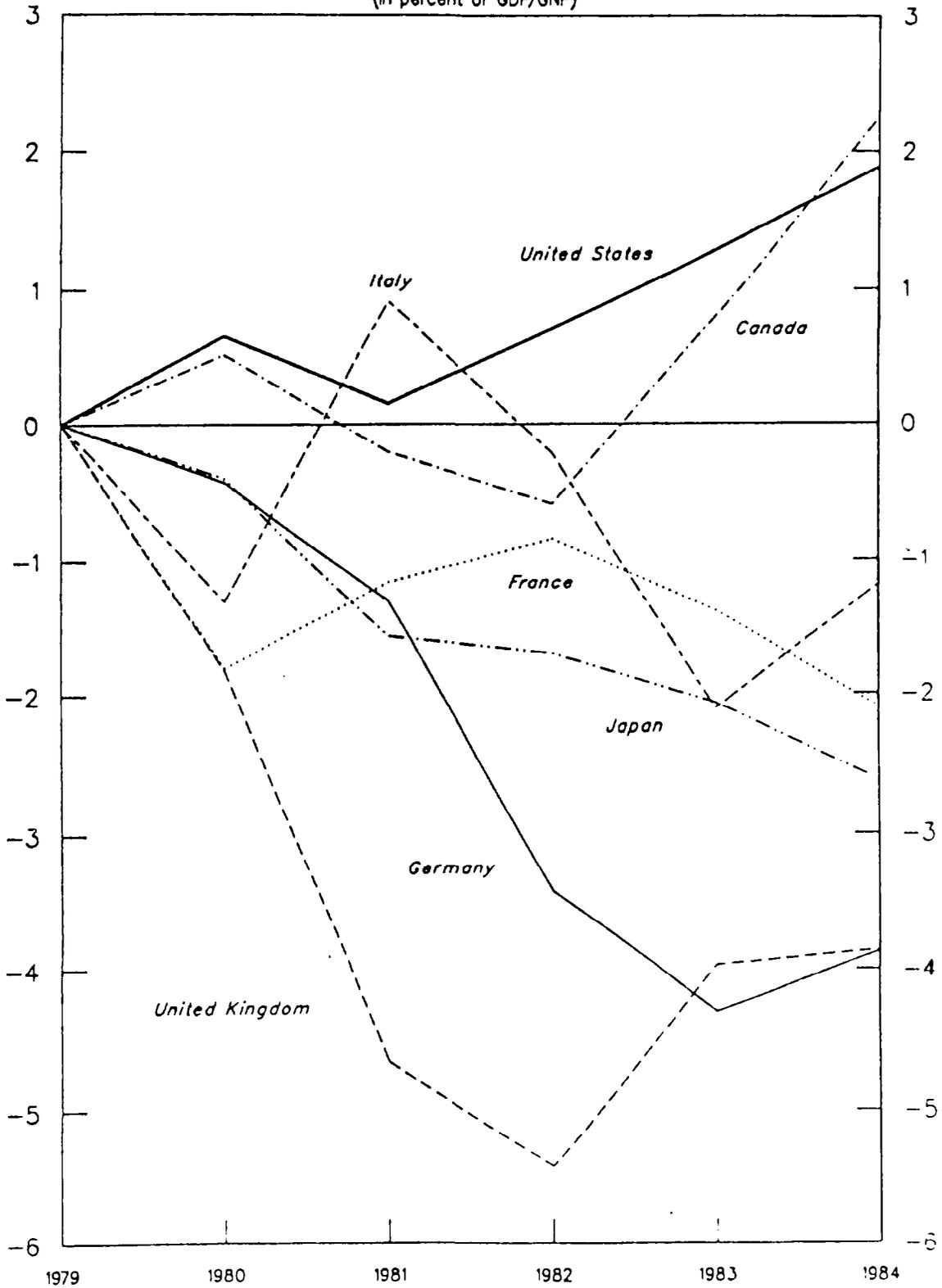




Table 5. Major Industrial Countries: Summary of General Government Fiscal Developments, 1979-85

(Cumulative changes as percent of GNP/GDP)

	Canada	United States	Japan	France	Federal Republic of Germany	Italy	United Kingdom	Weighted Mean	Standard Deviation	Weighted Standard Deviation
Cumulative change in deficit	4.31	3.94	-3.13	1.86	-1.44	4.52	0.05	1.79	3.03	2.83
Cumulative change in revenue <u>1/</u>	4.19	0.52	4.18	4.69	1.15	9.19	3.30	1.74	2.83	3.38
Total cumulative change in expenditure	8.50	4.46	1.05	6.54	-0.28	13.71	3.34	3.53	4.76	4.76
Cyclically neutral expenditure	1.51	1.65	0.36	5.10	2.89	5.30	3.87	1.50	2.10	2.46
Structural expenditure	7.10	2.82	0.69	1.44	-3.17	8.41	-0.53	2.03	4.00	3.72
Cumulative structural change in deficit <u>2/</u>	2.90	2.29	-3.49	-3.25	-4.32	-0.78	-3.83	0.29	3.07	3.39

Source: Staff estimates based on fiscal numbers reported in World Economic Outlook (April 1986).

1/ According to the criteria described in the Appendix, a constant ratio of revenue to GNP is considered cyclically neutral. Any changes in that ratio may be considered structural and may be interpreted as cumulative withdrawal (if positive) of fiscal stimulus from the revenue side of the government accounts.

2/ Row 5 minus row 2, which is also equivalent to the difference in the cyclically adjusted fiscal stance in 1985 and the fiscal stance in 1979; fiscal stance is defined to be the difference between cyclically neutral balance and actual balance.

necessary for effective economic cooperation." 1/ The relaxation of capital controls was partly facilitated by the current flexible exchange rate system, compared with the Bretton Woods system, since the current system allows for much greater exchange rate flexibility. According to an OECD study (1982), this move toward increased liberalization was reinforced by the requirement on many member countries to finance current or capital account imbalances, especially since the mid-1970s. The growth of multinational business in general has also helped to promote the diversity and volume of international financial transactions. 2/

By encouraging capital inflow and outflow, the liberalization of capital market operations has increased the integration of the financial system of major industrial economies. For example, the Japanese capital market liberalization during the 1970s and early 1980s widened Japan's role as a major capital center and integrated the Japanese capital market with the rest of the world. The Japanese capital market has developed into a major source of funds for public and private borrowers and has provided both domestic and foreign investors with a wide range of assets.

III. Fiscal-Monetary Mix, Private Savings, and their Effects Under Increased Capital Mobility

1. Developments in fiscal-monetary policy mix

The widening disparity between the fiscal stance in the United States and that in Japan and the European countries, in combination with a converging disinflationary monetary policy in most countries (including the United States), shifted the fiscal-monetary mix in the United States vis-à-vis other major industrial countries. The shift in the mix of policies should have implications for interest rate differentials and, consequently, for exchange rates among the major currencies. To obtain a measure of the shift in the policy mix among various countries, a number of indicators can be used:

(i) a comparison of the ratios of the amount of government bonds held by the public to the central bank's reserve money stock;

(ii) a comparison of the ratios of the government budget deficit to the change in money stock over time; and

(iii) a comparison of the movements in the nominal and real interest rates and interest rate differentials among the countries.

1/ Code of Liberalization of Capital Movements, OECD, 1961 (March 1982 edition).

2/ For more on developments in restrictions on outward and inward capital movements and the overall effects of capital market liberalization, see the Appendix.

The stock of government bonds are directly related to the nonbank financing of the government budget deficit and, since central banks in the industrial countries are generally not obligated to buy Treasury bills except for independent monetary policy functions, the fiscal deficit has mostly been reflected in the increasing stock of government bonds. ^{1/} On the other hand, both the monetary base and the broadly defined money stock would respond to shifts in monetary policy stance under the stated monetary targeting approach, independent of fiscal developments. ^{2/} Thus, an increase in the ratio of the amount of government bonds held by the public to the central bank's reserve money stock (σ) implies a financing of new government deficit through bond-financing and represents a greater reliance on fiscal than on monetary policy. As rough indicators of fiscal-monetary mix, the ratios reveal major shifts in policy emphasis among major industrial countries during 1973-84 (Table 6 and Chart 2). Canada, Italy, and the United States had values of σ between 2.5-3.4 in 1973, while France, the Federal Republic of Germany, and Japan, had significantly lower ratios, ranging around 0.6. The latter group displayed rapid increases in the σ ratios between 1973-79, while the ratios for the other group of countries remained high and stable. The differences between the two groups in terms of the σ ratios narrowed significantly by 1979, as the Federal Republic of Germany and Japan followed expansionary fiscal policies in combination with tight monetary policies during the period following the first oil price shock.

The dispersion of the σ ratios reached its lowest point around 1979, and since then rapidly increased, indicating divergence in the fiscal-monetary policy mix. The σ ratios for Canada and the United States increased sharply while those of the other countries increased less rapidly and remained significantly below the ratios for Canada and the United States. The rapid increase in the σ ratios for Canada and the United States indicates that these countries have adopted a policy of curtailing monetary growth concurrently with an expansion in government debt, a policy followed by the Federal Republic of Germany and Japan after the first oil price shock. Somewhat similar conclusions may also be drawn from the movements in the ratios of central government deficits to changes in reserve money, as shown in the lower panel of Table 6. In the United States, where the fiscal deficit has increased

^{1/} For example, in the case of the United States, except to the extent that the Federal Reserve makes purchases of Treasury debt in the open market in the course of its normal reserve-supplying operations, it does not play a role in the financing of budget deficits.

^{2/} This independence between monetary and fiscal policy is crucial for the ratio of government bonds to reserve money or money stock, to serve as a useful indicator of policy mix. In most developing countries, where the government borrowing requirements are met by borrowing directly from the central banks, both the monetary base and broadly defined money stock would increase by the same amount and, thus, the proposed ratio would not serve as a satisfactory indicator of policy mix.

Table 6. Major Industrial Countries: Selective Indicators of Fiscal and Monetary Policy Mix, 1973-84

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Ratios of government bond to reserve money												
United States	3.40	3.26	3.82	4.20	4.36	4.26	4.23	4.48	4.85	5.46	6.13	6.74
Japan	0.67	0.73	1.06	1.42	1.88	2.17	2.66	3.13	3.55	3.90	4.23	4.32
Germany, Federal Republic of	0.58	0.69	0.96	1.09	1.20	1.24	1.35	1.59	1.91	2.05	2.15	...
France	0.64	0.63	1.08	2.03	2.05	2.04	2.23	2.16	2.48	2.58	3.11	3.29
United Kingdom												
Italy	2.52	2.69	2.47	2.49	2.71	2.86	3.03	3.30	3.65	4.07	4.47	4.78
Canada	3.57	3.57	3.46	3.51	3.73	4.28	4.35	4.64	5.16	5.93	7.22	8.45
Weighted average ^{1/}	2.46	2.34	2.69	3.01	3.20	3.23	3.32	3.54	3.89	4.37	4.97	5.24
Standard deviation (weighted)	1.43	1.34	1.30	1.23	1.22	1.21	1.12	1.16	1.20	1.44	1.76	2.74
Standard error	1.75	1.64	1.59	1.51	1.50	1.48	1.37	1.42	1.47	1.77	2.16	3.35
Ratios of government deficit to change in reserve money ^{2/}												
United States	0.89	1.36	11.80	8.98	5.87	2.80	2.63	7.55	13.45	12.45	17.47	15.24
Japan	0.58	0.91	12.20	2.58	8.47	5.16	7.85	10.78	24.80	10.83	11.61	6.68
Germany, Federal Republic of	-1.70	-5.23	12.30	2.84	2.72	1.58	3.66	-4.81	-14.82	4.00	3.92	5.16
France	-0.51	-0.33	-1.15	1.90	1.95	1.72	3.55	0.04	10.29	3.00	11.25	5.19
United Kingdom	1.33	12.32	10.94	4.18	8.46	8.24	9.36	-30.02	22.46	14.65	39.93	19.18
Italy	2.73	4.09	1.98	2.60	3.95	3.45	4.17	5.44	6.29	6.86	7.05	6.95
Canada	1.50	1.41	4.37	6.37	6.73	8.17	6.32	24.01	32.31	101.56	84.00	23.57
Weighted average ^{1/}	0.63	1.29	9.87	5.86	5.62	3.56	4.39	4.00	12.55	13.87	18.52	12.19
Standard deviation (weighted)	1.33	5.00	5.73	2.90	2.45	2.77	2.53	15.64	14.31	33.74	29.24	7.01
Standard error (weighted)	1.58	5.91	6.78	3.43	2.90	3.28	2.99	18.50	16.93	39.92	32.23	8.29

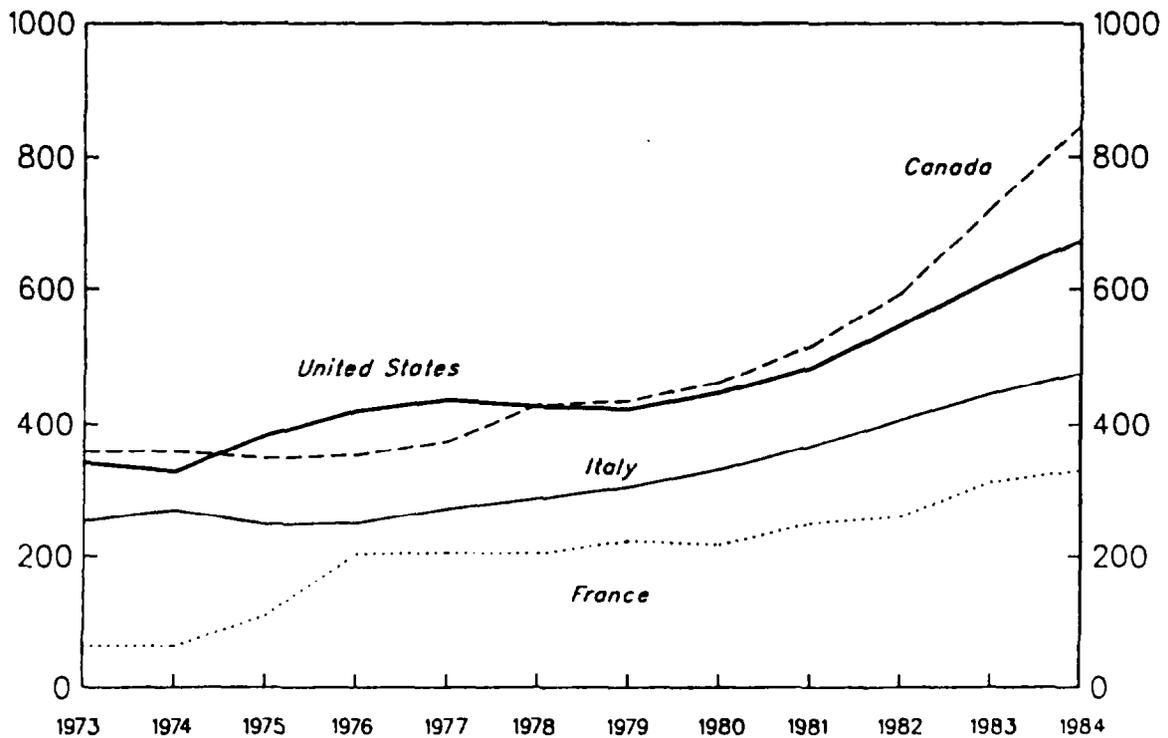
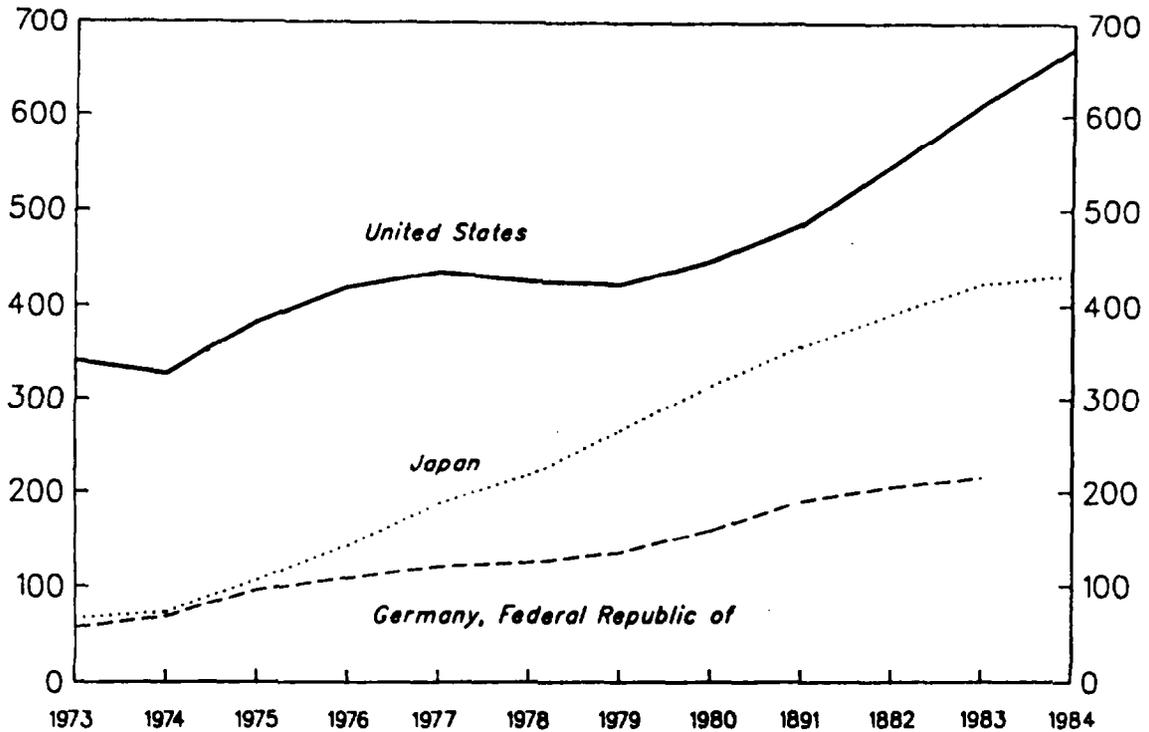
Source: International Monetary Fund, *International Financial Statistics* (1985), various issues; and Fund staff estimates.

^{1/} Composite of country graphs are weighted averages of the individual national ratios for each year, with weights proportionate to the U.S. dollar value of the respective GNPs in the previous three years.

^{2/} Deficits in the budget are shown as positive numbers; thus, the negative figures are due to budget surpluses or to reductions in the stock of reserve money in relation to previous years' stock.

CHART 2

MAJOR INDUSTRIAL COUNTRIES:
RATIO OF GOVERNMENT BONDS TO RESERVE MONEY¹



¹ In percent.



sharply and monetary policy has continued to remain restrictive to combat inflation, the ratio of the deficit to the change in reserve money increased sharply from 2.6 in 1979 to a peak of about 17.5 in 1983. On the other hand, in the Federal Republic of Germany and Japan, fiscal policy was contractionary and the growth of reserve money was very modest, allowing for a generally lower ratio of the deficit to reserve money expansion. 1/

2. Fiscal deficit in relation to private sector savings

The weighted average of the ratios of deficits to private sector saving increased in recent years from only 13 percent in 1979 to 29 percent in 1983. This rapid increase in the ratio, given the closely integrated nature of the international capital market, contributed to higher global interest rates with adverse implications for the overall private sector investment. Thus, long-term interest rates increased not only in the United States, where fiscal imbalances were widening, but also in countries such as the Federal Republic of Germany and Japan, where the size of fiscal deficit was falling. 2/

On the shift in the composition of the fiscal deficit in relation to the private sector saving behavior, we note that the fiscal deficit has increased sharply in the United States, which is traditionally a low-savings country. The ratio of the federal government deficit to gross private savings in the United States increased from only 7.0 percent in 1979 to a peak of close to 34 percent in 1983 (Chart 3). On the other hand, in traditionally high-savings countries, such as the Federal Republic of Germany and Japan, reductions in fiscal deficits caused the ratio of deficit to gross private saving to decline or to remain somewhat unchanged at relatively lower levels. These asymmetric developments generated a potential "pull" effect for external resources in the United States, contributing to a capital account surplus, and some kind of "push" effect in the Federal Republic of Germany and Japan, causing an increase in the supply of funds for external investment and a consequent capital account deficit in their balance of payments. These "push" and "pull" effects resulting from the divergence in fiscal performances have contributed to both interest rate differentials and exchange rate movements. Another contributing factor toward the "pull" effect was the sharp increase in private sector investment in the United States during the recent recovery phase of the business cycle, notwithstanding record-high real interest rates, partly owing to the availability of generalized write-offs for interest costs and to higher depreciation allowances for business fixed investment that were introduced in 1981.

1/ In fact, in some years the stock of reserve money declined or increased only marginally, allowing for negative ratios (e.g., in the Federal Republic of Germany during 1980/81) or a sharp increase in the ratio (e.g., in Japan in 1981).

2/ For more on fiscal deficits and the international credit market, see Tanzi (1985).

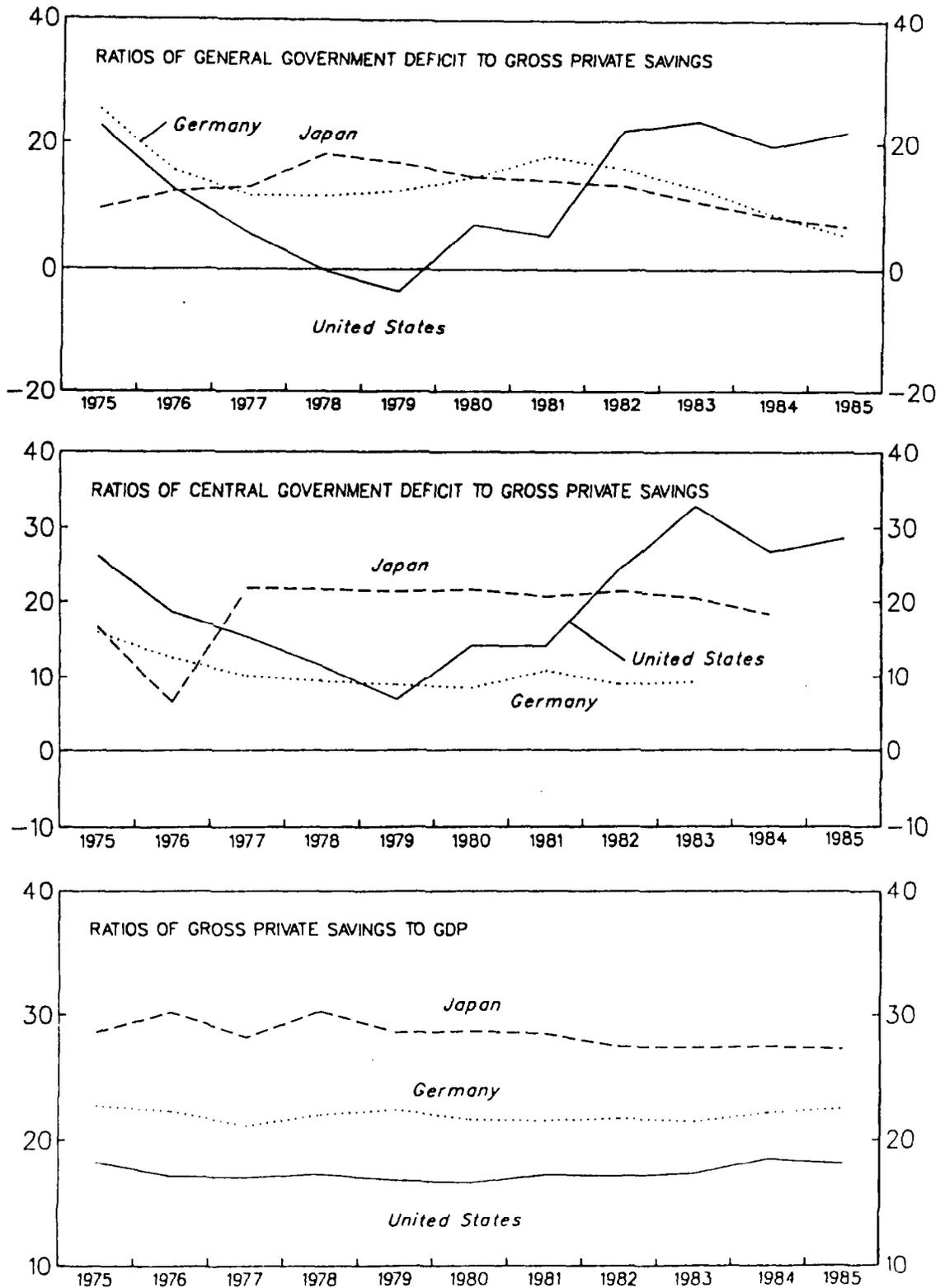
3. Effects of shifts in policy mix and in deficit in relation to savings

Shifts in the fiscal and monetary mix in different countries should be reflected in the movements in nominal and real interest rates and in real interest rate differentials among the countries. As expected, the combination of expansionary fiscal policy, contractionary monetary policy, and lower domestic private savings rate led to sharp increases in both nominal and real interest rates in the United States. Because of the increased capital mobility resulting from liberalization of capital markets in most industrial countries, the record-high interest rates in the United States were reflected in rapid increases in real interest rates in all countries. Given the integrated nature of the global capital market, the global interest rate would have increased through a higher composite fiscal deficit in relation to gross private savings. Both short- and long-term real interest rates in the United States were higher than in most industrial countries in recent years, which facilitated the inflow of foreign capital to cover the gap between domestic saving and investment. Through this differential interest rate effect, the fiscal-monetary mix of the United States also contributed to a rapid appreciation of the U.S. dollar in recent years. This process was also facilitated by the "push effect" originating from excessive savings in Japan; the potential real interest rate differential in the absence of increased capital mobility could have been much higher than what was actually observed.

These observations on policy mixes indicate that industrial countries have employed widely different mixtures of fiscal and monetary policies during the flexible exchange rate period. The promised policy autonomy under the flexible exchange rate regime has been exercised by the industrial countries, and its effects have generally been felt in fluctuations in the exchange rates among the major currencies. The policy "assignment" in the United States surprisingly parallels the views expressed by Mundell (1971) in the context of a weak dollar, that the correct policy mix to stop inflation should be based on fiscal ease in combination with monetary restraint. This mix, according to Mundell, would strengthen the dollar by raising domestic interest rates and generating increased capital inflows. Mundell's policy was not pursued in the early 1970s when the Federal Reserve embarked on an expansionary monetary policy. Developments since 1981, however, indicate that the policy mixes of the United States, as reflected in terms of the rising values of σ , parallel the recommendation of Mundell. The macroeconomic developments have also been in accord with Mundell's analysis: a sharp drop in inflation and a sharp appreciation in the value of the dollar caused by capital inflows resulting from higher interest rates in the United States. An expected side-effect is the rapid worsening of the U.S. current account position in recent years. 1/

1/ For more on the policy mix in the United States, see Bisignano and Hoover (1982), Sachs (1985), and Mansur (1987).

CHART 3
MAJOR INDUSTRIAL COUNTRIES:
RATIOS OF GROSS PRIVATE SAVINGS TO GDP
AND DEFICIT TO GROSS PRIVATE SAVINGS, 1975-85¹



¹In percent.



IV. Developments in Financial Policies and Their Possible Effects on Exchange Rate Movements

A tendency toward convergence in monetary policies in the industrial countries should have a dampening effect on fluctuations in exchange rates. Anti-inflationary monetary policies in most countries succeeded in bringing down the inflation rate and should have lowered nominal interest rates and reduced the interest rate differential, barring divergences in other areas of financial policy.

On the other hand, the more expansionary fiscal policy in the United States than in other countries should have contributed to an initial appreciation of the U.S. dollar vis-à-vis other currencies. Both higher interest rates and a rapidly increasing capital account surplus reflected the expected effects of the expansionary U.S. fiscal stance. Other factors also contributed to higher interest rates and the capital account surplus in the United States and amplified the effect of fiscal expansion on the exchange rate. The complementary factors include:

(a) Contractionary fiscal policies in most other major industrial countries. While the cyclically adjusted budget deficit in the United States increased by more than 2.4 percent of GNP during 1980-85, the combined cumulative structural deficits of the four European countries and Japan declined by 3.3 percent of GNP.

(b) The combined effect of fiscal expansion and a relatively lower private sector savings rate in the United States, and lower government deficits in the Federal Republic of Germany and Japan, together with the continued high private sector savings rate. The resultant "pull" effect for capital in the United States and a "push" effect in the Federal Republic of Germany and Japan contributed to sharply higher capital inflows into the United States and to an appreciation of the dollar.

(c) The policy mix of fiscal ease and monetary restraint in the United States. The expansion of the monetary base was restrained so as to contain inflationary pressure and, in combination with fiscal expansion, this contributed to higher real interest rates and the appreciation of the dollar.

(d) The continued liberalization of international capital movements that allowed both public and private sector deficits in the United States to be financed during the recovery phase of the recent business cycle. Thus, the crowding out of private investment in the United States owing to a higher budget deficit did not materialize, as private sector investment boomed, financed by a large-scale inflow of foreign saving. In the absence of the recent increases in capital account surpluses, interest rates in the United States would have had to be even higher to crowd out private sector investment. The inflow of

foreign capital increased the demand for the dollar and led to its appreciation. 1/

Apart from policy-induced effects, exchange rate movements may also be influenced by differences in actual and expected shifts in the underlying economic potential of the various countries and by the degree of external shocks these countries encountered. Empirical observations based on indicators, such as potential and actual GNP growth rates, developments in economic productivity, and unemployment rates, indicate that the U.S. dollar should not have enjoyed any clear advantage vis-à-vis the Japanese yen or the Deutsche mark. External shocks, such as the second oil price shock, affected the economies of the Federal Republic of Germany and Japan more adversely than they did the economy of the United States, and could have depressed the value of their currencies. Given the resilience of these two economies in withstanding adverse external and domestic conditions, however, it is difficult to explain the weakness of their currencies over a prolonged period. In fact, after a brief period of current account deficits resulting from sharply higher oil prices, both countries moved rapidly into substantial current account surpluses.

V. Conclusions

Policymakers in major industrial countries have repeatedly emphasized the importance of policy coordination to stabilize exchange rates, and have adopted medium-term strategies to achieve increased price stability, eliminate inflationary expectations, reduce the tax burden and the size of the government to generate beneficial supply-side effects, liberalize capital market rigidities, and so on. In this context, this paper reviewed the extent to which this call for policy coordination materialized in monetary policy, fiscal policy, and the liberalization of capital markets, and their implications for the fiscal-monetary policy mix.

The paper argues that the common anti-inflationary monetary policy adopted in most countries could not contribute to the appreciation of the dollar, but monetary restraint combined with fiscal ease in the United States should have contributed significantly to the appreciation during 1980-84. The effect of fiscal expansion and the policy mix on the exchange rate was amplified by the continued liberalization of international capital movements and such structural aspects as the high savings rate in Japan and the low savings rate in the United States. Although other factors, such as the "political risk" or "safe haven" argument, the "perceived strength" of the U.S. economy, and the

1/ Islam (1986) has described this development in greater detail. He notes that "the strong dollar worked as a lever, opening the safety valve of the U.S. current account deficit through which foreign funds flowed into the United States. In the end, it was not investment, but the tradable sectors that were crowded out".

existence of "bubbles" in market expectation, may explain part of the appreciation of the dollar, it is hard to believe that those factors alone, in the absence of policy-induced factors, can provide a satisfactory explanation. The conclusions of this paper are also broadly consistent with the recent depreciation of the dollar since both recent and prospective developments in the mix of fiscal and monetary policy in the United States indicate a clear reversal of the past trend. Monetary policy has eased significantly since 1985 with the attainment of price stability, and the stance of fiscal policy became contractionary in recent years and is expected to remain so. The Gramm-Rudman-Hollings fiscal deficit reduction package, which reflected a political awareness of the problem and the efforts by the industrial countries to coordinate policies in other areas, have served to reduce both policy and exchange rate misalignments among major industrial countries.

Developments in Capital Control and Capital Movements

The following discussion of developments in restrictions on outward and inward capital movements is based on the Annual Report on Exchange Arrangements and Exchange Restrictions (various issues), OECD (1982), and Eken (1984).

a. Liberalization of outward capital movements

Outward financial credits are currently completely unrestricted in Canada, the Federal Republic of Germany, the United Kingdom, and the United States. Most of these countries, however, had different forms of regulatory control during the 1970s. To affect international capital flows directly, the United States used the temporary restrictive controls of the Interest Equalization Tax and the voluntary Foreign Credit Restraint Program, which were terminated in 1974. Canada had similar restrictions in the form of voluntary guidelines limiting the net foreign currency claims by chartered banks on residents of countries other than Canada and the United States to the level existing at the end of February 1968. The guidelines were also terminated in 1974 and, since then, Canada has had no recourse to controls to influence international financial operations. The United Kingdom had a highly restrictive outward capital movement until October 1979; under this system, virtually no outflows of financial credits, loans, and deposits in sterling were permitted for purposes not related to trade. Bank lending in foreign currencies to nonresidents was freely permitted to the extent that the loans were financed by foreign currency deposits. Through restrictions on sterling loans, the U.K. authorities were able to maintain a strict separation between the domestic and international financial markets. 1/

The rules governing international capital flows in Japan have been greatly liberalized during the past decade, contributing to a rapid increase in financial flows between Japan and other countries. The development of payments imbalances and wide fluctuations at times in the exchange rate of the yen, however, resulted in a slowdown or a temporary reversal of the trend toward liberalization. During 1976-78, because the yen had appreciated, various measures were adopted to liberalize capital outflows. Restrictions on purchases of foreign securities by residents were eased, the frequency of Samurai bond issues was increased, 2/ the need for approval of outward direct investments was eliminated, and private placement of foreign yen bonds with Japanese institutional investors was resumed. Despite a temporary reversal of the liberalization process following the second oil price shock, the

1/ There were restrictions on the extent to which banks could fund foreign currency lending from sterling deposits or other sterling assets, which effectively limited the extent of speculation against sterling.

2/ Yen-denominated long-term bonds issued by foreign borrowers in Japan through public offerings.

liberalization achieved during the 1970s led to the implementation of the Foreign Exchange and Foreign Trade Control Law in December 1980, which further liberalized external transactions. 1/ Notwithstanding a sharp depreciation of yen during 1981-82, the system remained open as the authorities generally refrained from imposing new restrictions. 2/

French banks can make outward credits in foreign currencies as long as foreign currency borrowings on deposits are used. Lending in francs for nonresidents, however, was prohibited until recently, with minor exceptions. Foreign direct investments in France and French direct investments abroad, including loans constituting direct investment, require prior declaration.

In Italy, inward and outward movements on nonresident capital are permitted, but most loans between residents and nonresidents require authorization. Although the authorities abandoned a two-tier exchange market in 1974, a deposit requirement applies to outward transfers of resident-owned capital for direct investments, portfolio investments, financial loans, and other purposes.

b. Liberalization of inward capital movements

At present no authorization procedures are in effect to regulate the inflow of capital into Canada, the Federal Republic of Germany, Japan, the United Kingdom, and the United States. During the period of exchange controls in the United Kingdom, all external borrowings, whether from banks or nonbanks, by U.K. residents required authorization and were subject to restricted repayment periods. In order to slow capital inflows into Japan, the Japanese authorities introduced marginal reserve requirements on free yen deposits in 1977; this reserve requirement was eliminated in 1979, when the authorities substantially liberalized capital inflows.

In France, foreign currency credits to finance commercial activities are allowed, but the borrowing of Eurofrancs is not permitted. Other inward credits are permitted up to certain ceilings and subject to certain conditions. In Italy, inward credits are subject to authorization, but certain categories are effectively free.

c. Overall effects of capital market liberalization

A general movement toward capital market liberalization among the major industrial countries during the last decade had beneficial effects on resource allocation by providing investors with a wider array of assets with market-determined interest rates. Because of the

1/ The regulations, however, contain several reporting and prior-notice provisions, as well as requirements for approval of some transactions. For details, see Japan Economic Institute (1984).

2/ For more on the capital market developments in Japan, see Eken (1984).

liberalization, Japanese access to foreign markets has increased substantially, as Japanese institutions are allowed to invest their surplus funds abroad and Japanese corporations enjoy greater freedom in borrowing or investing in capital markets abroad.

The liberalization of foreign exchange controls, pari passu with the growth of domestic markets, has also made Japan an important market for foreign bond issues. Japan accounted for about 13 percent of all foreign bond issues and placements in 1982, following Switzerland (45 percent) and the United States (24 percent) (Table 7). With continued liberalization, Japan's share in total foreign bond issues increased from less than 2 percent in 1976 to over 13 percent in 1982, while that of the United States showed a declining trend.

Table 7. Securities Issued in Major Capital Markets, 1976-85

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
(In millions of U.S. dollars)										
Total gross bond issues										
United States	194,500	201,400	212,100	214,900	272,400	291,000	378,300	416,800	527,800	708,300
Japan	84,930	105,613	164,042	155,646	161,330	181,337	176,997	224,384	225,568	256,607
Germany, Federal Republic of	29,819	35,694	48,533	59,819	78,645	82,603	88,085	89,789	81,329	89,964
United Kingdom	17,307	24,582	16,087	31,605	37,579	28,705	21,948	25,696	21,530	22,259
Switzerland	9,513	7,818	12,572	15,435	13,194	12,414	16,929	21,960	17,288	19,108
Foreign bond issues										
United States	10,632	7,668	...	...	2,736	7,576	6,025			
Japan	287	1,394	...	...	1,543	2,723	3,301			
Germany, Federal Republic of	1,309	1,511	...	...	4,952	1,190	2,109			
United Kingdom	--	--	...	...	178	913	1,129			
Switzerland	5,444	4,959	...	...	7,470	8,118	11,325			
Gross share issues										
United States	11,100	11,400	10,700	12,300	22,600	26,900	28,900	51,500	22,600	35,500
Japan	3,706	5,046	6,140	6,617	6,757	10,846	8,645	6,244	9,264	...
Germany, Federal Republic of	2,415	1,881	2,763	3,008	3,822	2,441	2,440	2,848	2,206	3,739
United Kingdom	1,907	1,377	1,776	2,037	2,222	3,831	1,899	3,717	2,180	5,754
(In percent of world total)										
Foreign bond issues and placement by market										
United States	56.1	46.2	...	...	15.2	35.6	24.0			
Japan	1.5	8.4	...	...	8.6	12.8	13.1			
Germany, Federal Republic of	6.9	9.1	...	...	27.6	5.6	8.4			
United Kingdom	--	--	...	...	1.0	4.3	4.5			
Switzerland	28.7	29.9	...	...	41.6	38.2	45.0			

Sources: Organization for Economic Cooperation and Development, Financial Statistics Monthly (Paris), various issues; International Bank for Reconstruction and Development, Borrowing in International Capital Markets (Washington, D.C.), various issues; and Eken (1984).

References

- Bisignano, Joseph, and Kevin D. Hoover, "Monetary and Fiscal Impacts on Exchange Rates," Economic Review, Federal Reserve Bank of San Francisco (Winter 1982), pp. 19-36.
- Dornbusch, Rudiger (1976a), "Expectations and Exchange Rate Dynamics," Journal of Political Economy, (Chicago), Vol. 84 (December 1976) pp. 1161-76.
- _____ (1976b), "The Theory of Flexible Exchange Rate Regimes and Macroeconomic Policy," Scandinavian Journal of Economics (Stockholm) Vol. 78, No. 2 (1976), pp. 255-75.
- Eken, Sena, "Integration of Domestic and International Financial Markets: The Japanese Experience," Staff Papers, International Monetary Fund (Washington), Vol. 31, No. 3 (September 1984), pp. 499-548.
- Frankel, Jeffrey, "On the Mark: A Theory of Floating Exchange Rates Based on Real Interest Rate Differentials," American Economic Review, Vol. 69 (September 1979), pp. 610-22.
- Frenkel, Jacob A., "A Monetary Approach to the Exchange Rate: Doctrinal Aspects and Empirical Evidence," Scandinavian Journal of Economics (Stockholm), Vol. 78, No. 2 (1976), pp. 200-24.
- Heller, Peter S., Richard Haas, and Ahsan Mansur, A Review of the Fiscal Impulse Measure, Occasional Paper No. 44, International Monetary Fund, (Washington, May 1986).
- International Monetary Fund, World Economic Outlook (Washington, D.C.: International Monetary Fund, April 1986).
- Islam, Shafiqul, "Fiscal Policy and the Dollar: Does the G-5 Need Gramm-Rudman?", Federal Reserve Board of New York (unpublished, February 1986).
- Japan Economic Institute, "Capital Market Liberalization in Japan," JEI Report (Washington), No. 10A (March 1984).
- Mansur, Ahsan H., "Divergence in Policy Mixes and Appreciation of the Dollar: A Partial Equilibrium Asset Market Approach," (unpublished, International Monetary Fund 1987).
- Menil, George de, and Anthony M. Solomon, Economic Summitry, Council of Foreign Relations (New York: Council of Foreign Relations, 1983).

Mundell, Robert A., The Dollar and the Policy Mix: 1971, Essays in International Finance, No. 85 (May 1971)

Mussa, Michael, "The Exchange Rate, The Balance of Payments, and Monetary and Fiscal Policy Under a Regime of Controlled Floating," Scandinavian Journal of Economics (Stockholm), Vol. 78, No. 2 (1976), pp. 229-48.

Organization for Economic Cooperation and Development, Controls on International Capital Movements: The Experience with Controls on International Financial Credits, Loans, and Deposits, (Paris: OECD, 1982).

Ostry, Sylvia, "The World Economy in 1983: Marking Time," America and the World, 1983, special issue, Foreign Affairs (New York), Vol. 62, No. 3 (1984), pp. 533-60.

Oudiz, Gilles and Jeffrey Sachs, "Macroeconomic Policy Coordination Among the Industrial Economies," Brookings Papers on Economic Activity: 1 (1984) The Brookings Institution (Washington), pp. 1-64.

Putnam, Robert D., and Nicholas Bayne, Hanging Together: The Seven Power Summits (Harvard: Harvard University Press, 1984).

Sachs, Jeffrey, "The Dollar and the Policy Mix: 1984," Working Paper No. 1636, National Bureau of Economic Research, Inc. (Cambridge, Mass., June 1985).

Stewart, Michael, The Age of Interdependence: Economic Policy in a Shrinking World (Massachusetts: Massachusetts Institute of Technology Press, 1984).

Tanzi, Vito "Deficit Experience in Industrial Countries," in The Economy in Deficit, Essays in Contemporary Economic Problems, ed. by Phillip Cagan, American Enterprise Institute (Washington, 1985), pp. 81-119.

_____, and Teresa Ter-Minassian, "The European Monetary System and Fiscal Policies," in Tax Coordination in the European Community, ed. by Sijbren Cnossen, Series on International Taxation, Kluwer No. 7 (1987), pp. 337-60.

