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December 11, 1984

To: Members of the Executive Board

From: The Secretary

Subject: Monthly Charts on Exchange Market Developments

There is attached for the information of the Executive Directors the monthly series of charts on exchange market developments.

Att: (1)

Other Distribution:
Department Heads

INTERNATIONAL MONETARY FUND

Monthly Charts on Exchange Market Developments

Prepared by the Research Department

December 7, 1984

The attached charts present statistical data on exchange rates and on some of the variables that play an important role in exchange rate developments. The focus is on the seven largest industrial countries.

The presentation comprises eleven charts. The first three charts provide information on exchange rate developments. They show, respectively, indices of U.S. dollar exchange rates and nominal effective exchange rates on a monthly average basis (Chart 1), actual U.S. dollar exchange rates and the index of nominal effective exchange rates on a daily basis (Chart 2), and daily series of EMS divergence indicators (Chart 3). The remaining eight charts provide information on some factors that may affect exchange rates, namely: quarterly movements in official holdings of net foreign assets (Chart 4), daily uncovered short-term interest rate differentials in nominal terms (Chart 5), monthly uncovered short-term interest rate differentials in nominal terms (Chart 6) and in real terms (Chart 7), monthly uncovered long-term interest rate differentials in nominal terms (Chart 8) and in real terms (Chart 9), relative costs and prices (Chart 10), and current account and long-term capital flows (Chart 11). Information on the statistical series depicted in these charts is presented in the appendix.

The indicators presented in the attached charts must be interpreted with caution. See EBD/80/271 (10/10/81) and SM/83/263 (12/28/83) for a discussion of some of the statistical and conceptual problems involved.

CHART 1

INDICES OF MONTHLY AVERAGE U.S. DOLLAR AND EFFECTIVE EXCHANGE RATES

JANUARY 1980 - NOVEMBER 1984

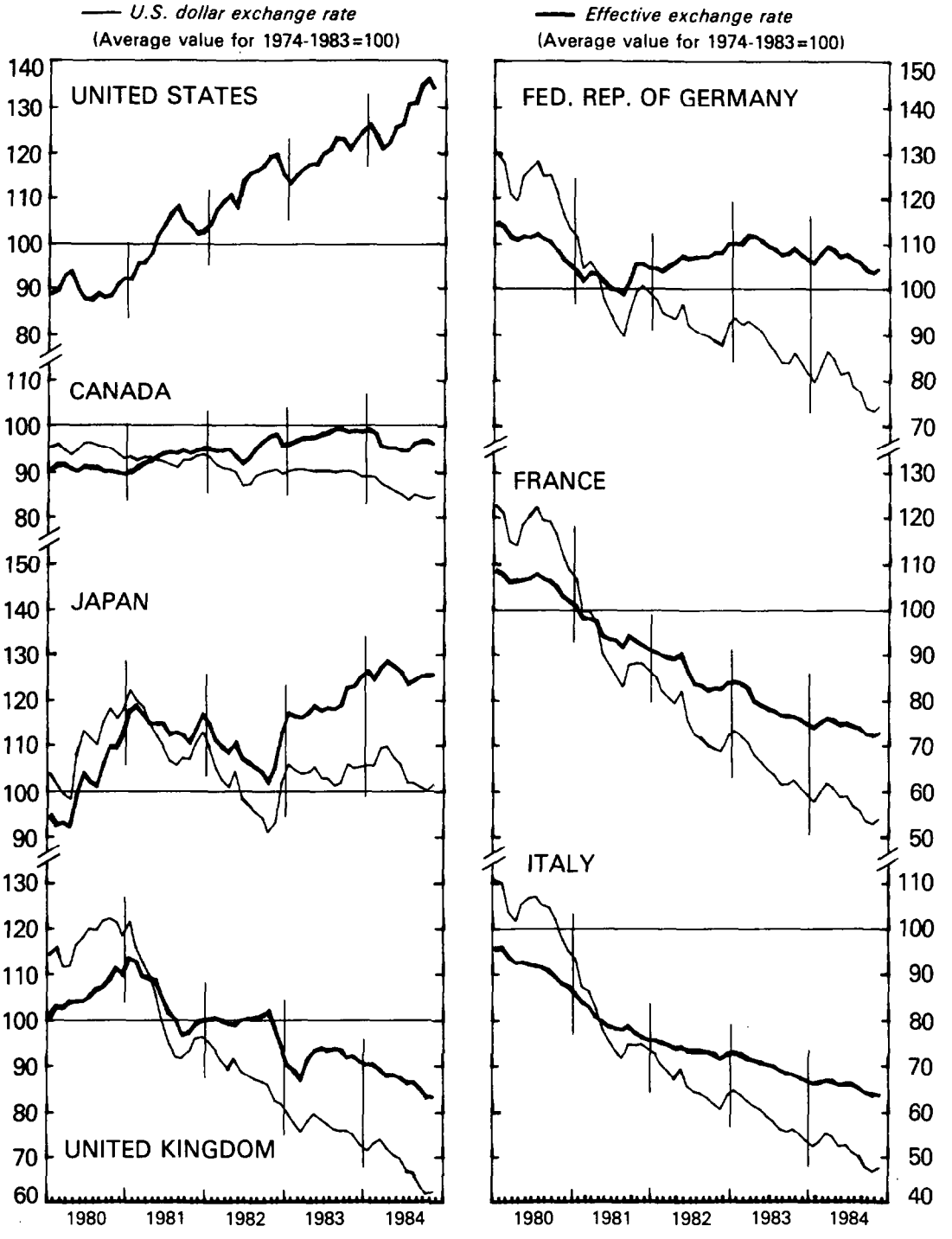
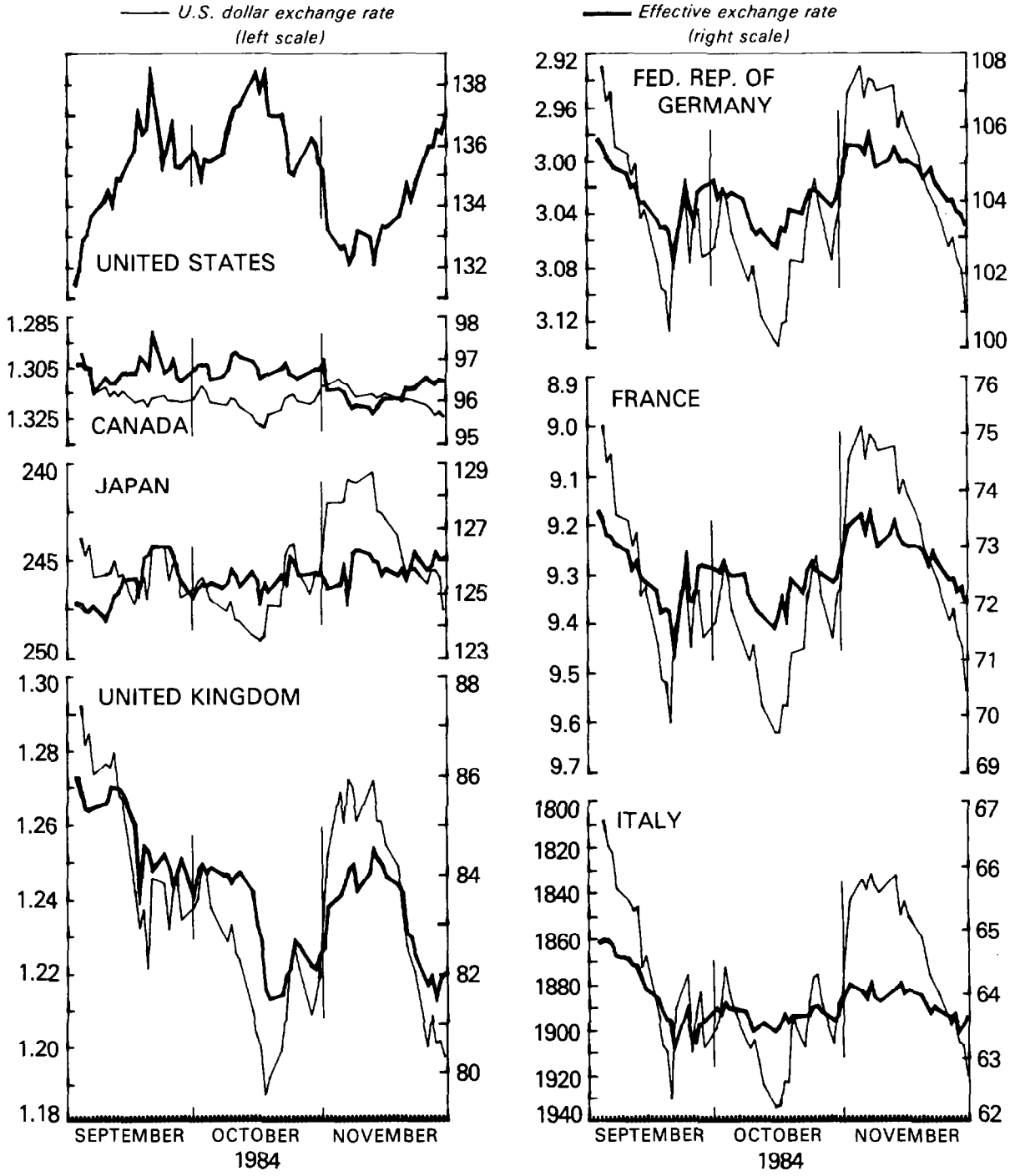


CHART 2

DAILY U.S. DOLLAR RATES AND INDICES OF EFFECTIVE EXCHANGE RATES[1]

SEPTEMBER 1 - NOVEMBER 30, 1984



[1]U.S. dollar rates are expressed in local currency units per U.S. dollar except for the United Kingdom, for which the rate is U.S. dollars per pound sterling. The base period for the effective exchange rate indices is the average value for the period 1974 to 1983.

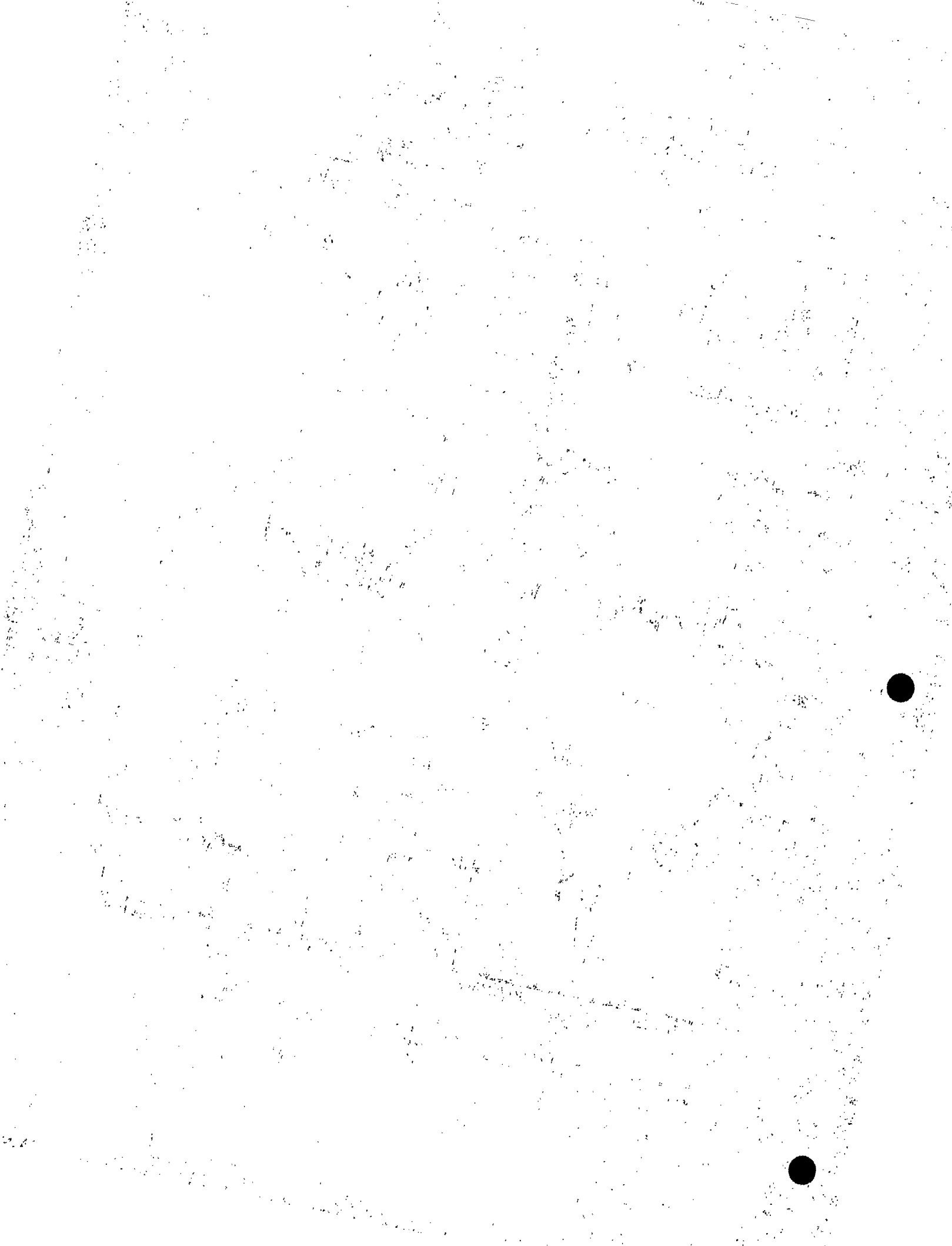
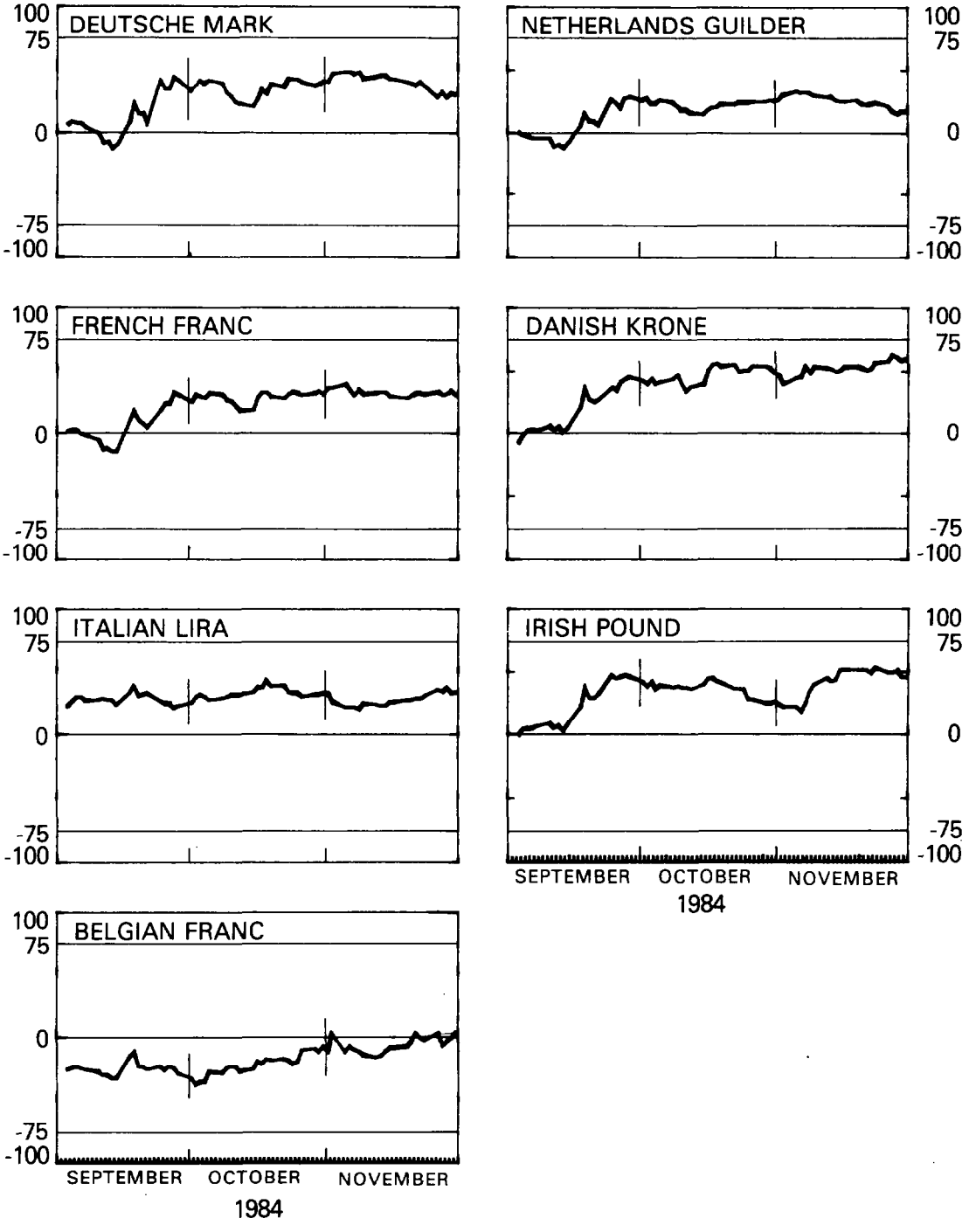


CHART 3

EUROPEAN MONETARY SYSTEM
DAILY DIVERGENCE INDICATORS[1]

SEPTEMBER 1 - NOVEMBER 30, 1984

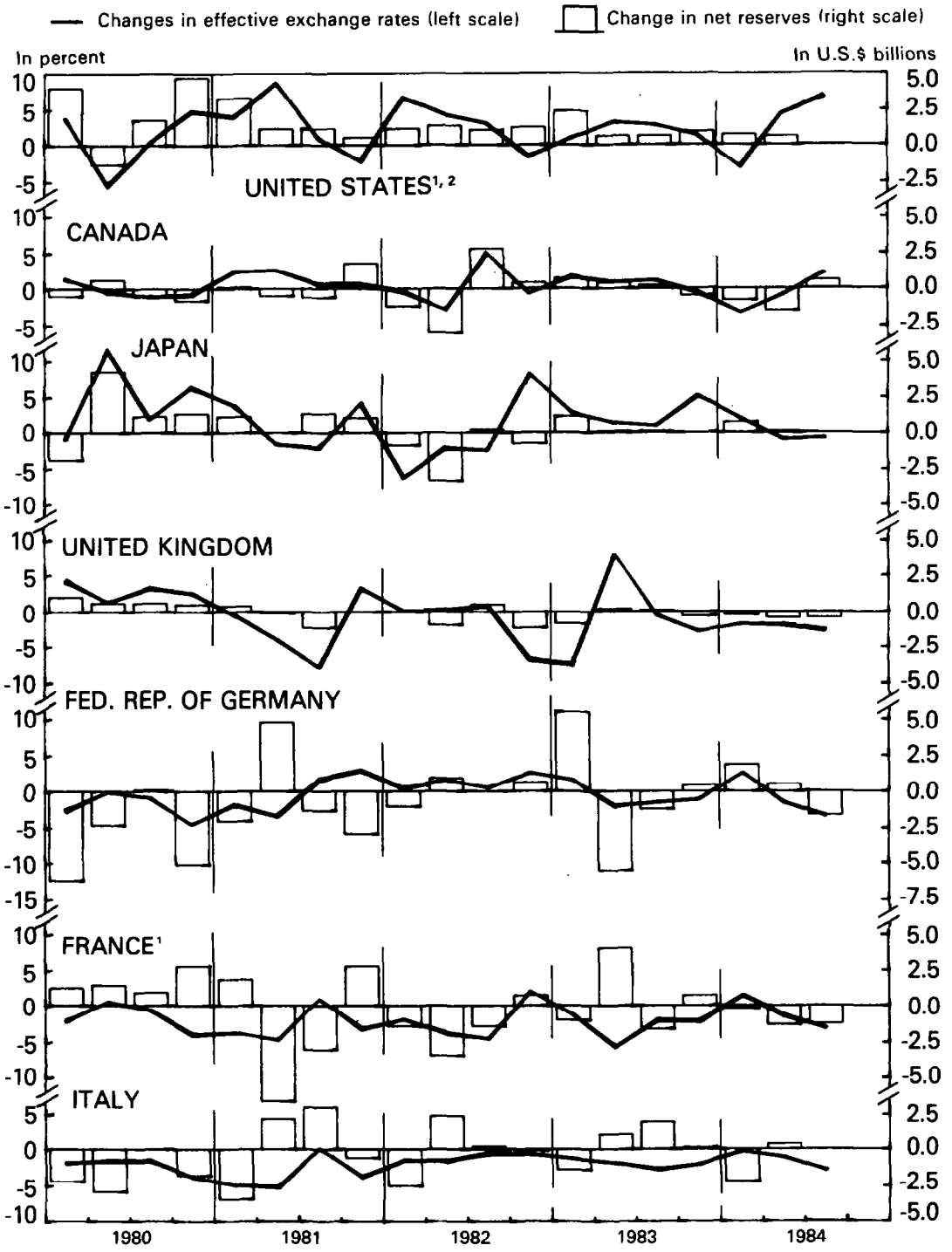
(Based on noon quotations in London)



[1]The Divergence Indicators at plus 75 per cent and minus 75 per cent are the upper and lower thresholds respectively.

CHART 4

QUARTERLY MOVEMENTS IN NET FOREIGN ASSETS AND QUARTERLY CHANGES IN EFFECTIVE EXCHANGE RATES



Note: The quarterly change in effective exchange rates is calculated by taking the ratio between the last month of the quarter and the last month of the previous quarter.

[1]Change in net reserves for most recent quarter is a provisional estimate.

[2]The series for the change in net reserves excludes both net U.S. drawings and net foreign drawings under official reciprocal currency arrangements.

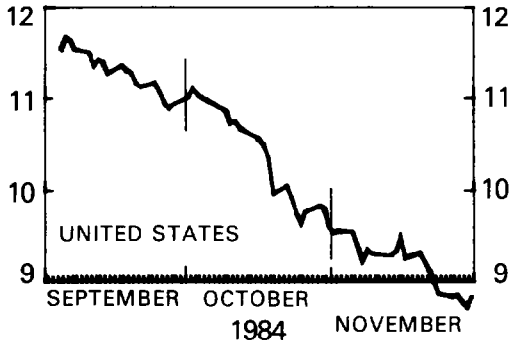
CHART 5

DAILY SHORT-TERM INTEREST RATES[1]

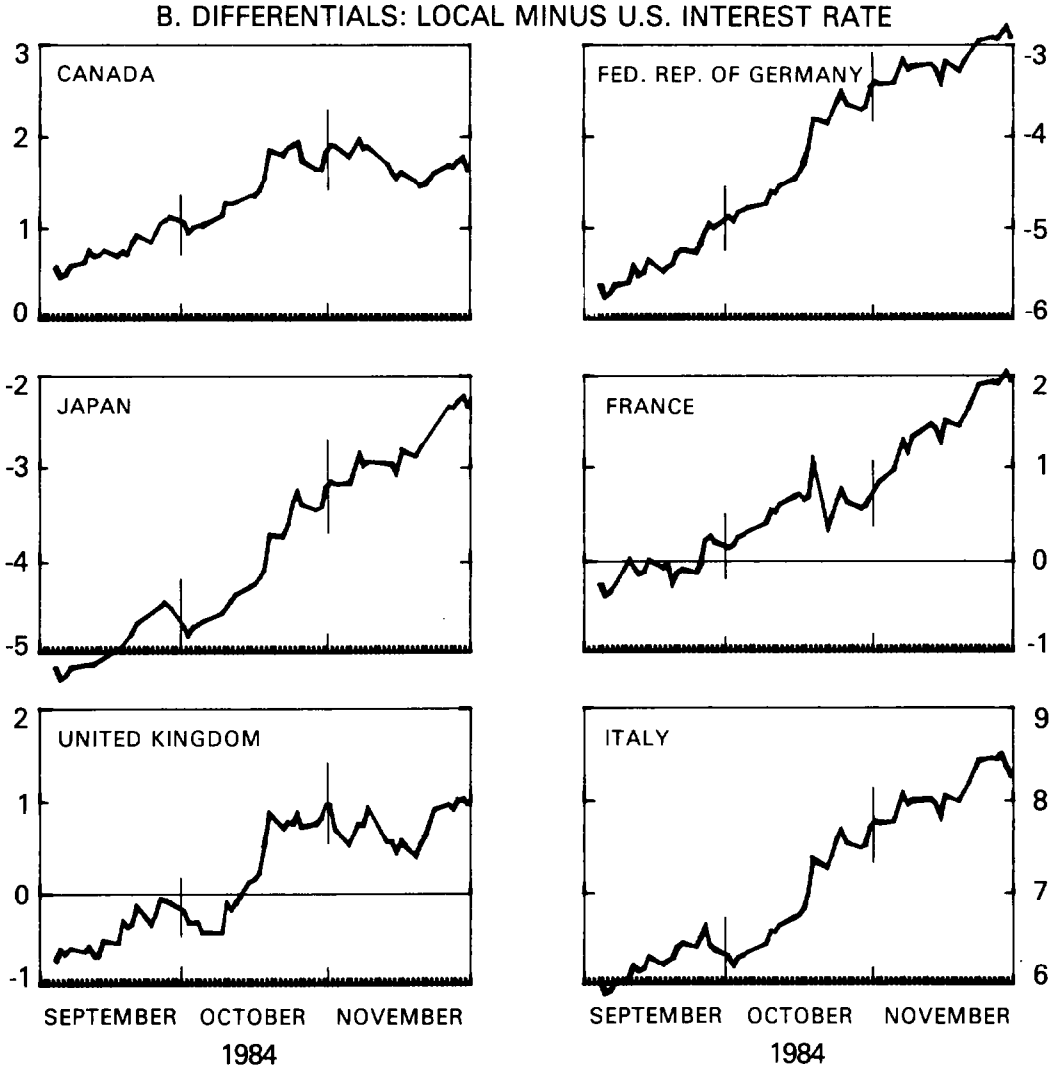
SEPTEMBER 1 - NOVEMBER 30, 1984

(In percent per annum)

A. U.S. INTEREST RATE



B. DIFFERENTIALS: LOCAL MINUS U.S. INTEREST RATE



[1]The rates shown are daily rates on money market instruments of about 90 days' maturity, except for Japan, where the discount rate on 2 months (private) bills is used.

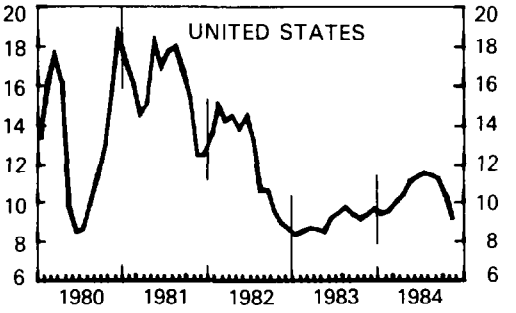
CHART 6

MONTHLY AVERAGE SHORT-TERM INTEREST RATES[1]

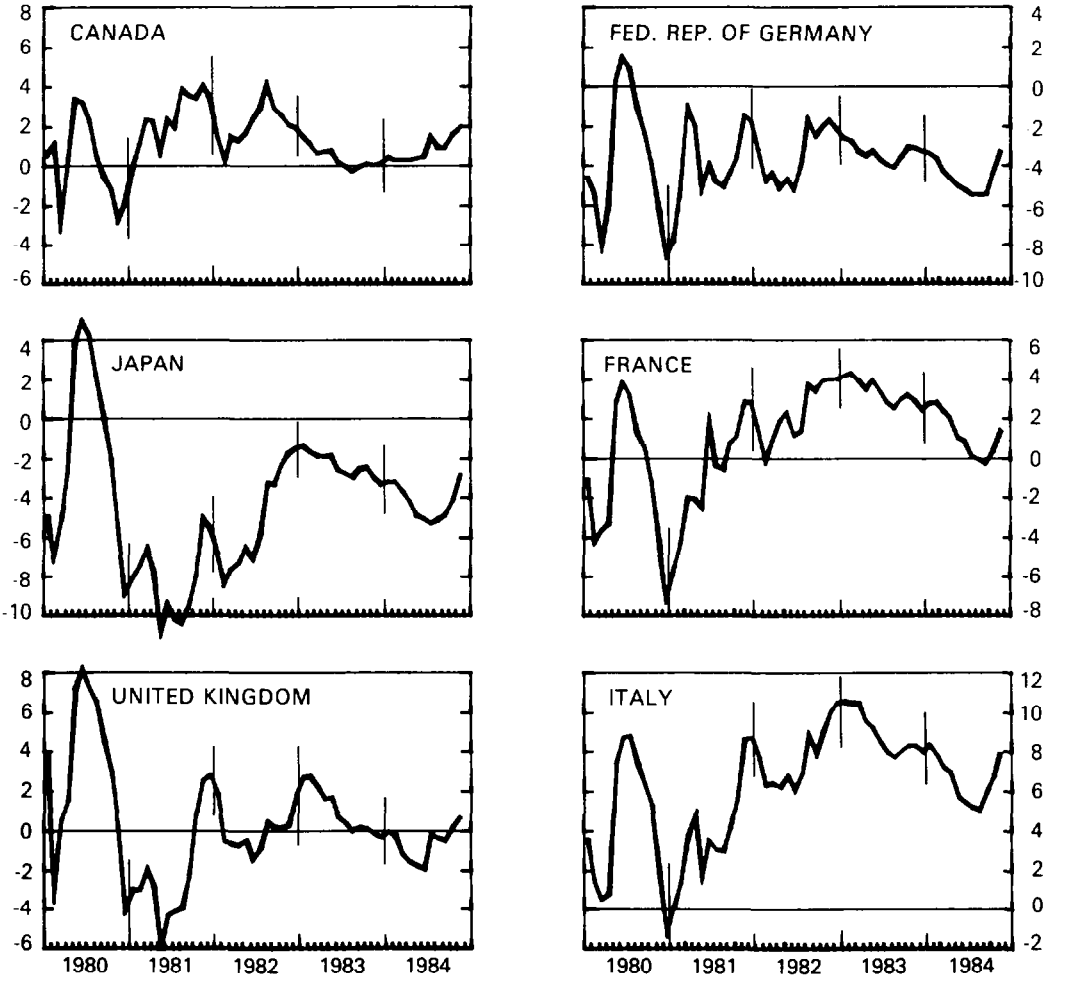
JANUARY 1980 - NOVEMBER 1984

(In percent per annum)

A. U.S. INTEREST RATE



B. DIFFERENTIALS: LOCAL MINUS U.S. INTEREST RATE



[1]The rates shown are monthly averages of daily rates on money market instruments of about 90 days' maturity, except for Japan, where the discount rate on 2 month (private) bills is used.

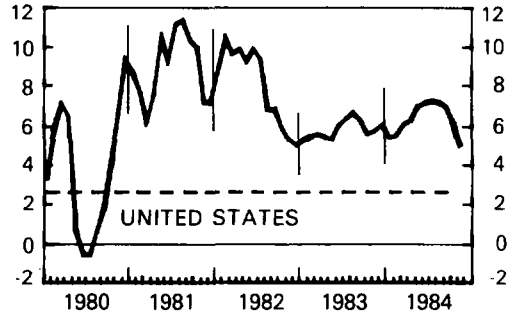
CHART 7

MONTHLY AVERAGE REAL SHORT-TERM INTEREST RATES[1]

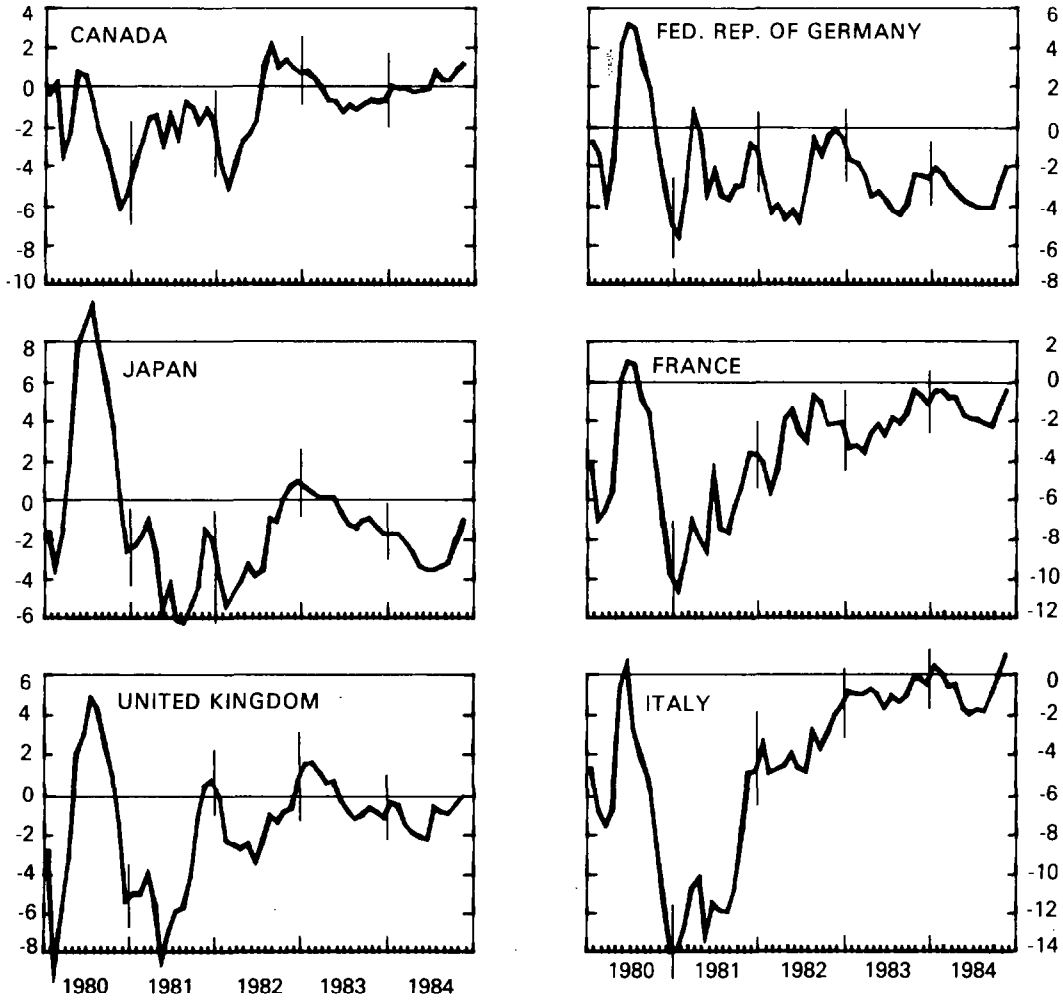
JANUARY 1980 - NOVEMBER 1984

(In percent per annum)

A. U.S. REAL INTEREST RATE[2]



B. REAL DIFFERENTIALS: LOCAL MINUS U.S. INTEREST RATE



[1]The rates shown are monthly averages of daily rates on money market instruments of about 90 days' maturity deflated by an estimate of the rate of inflation. The rate for Japan is the discount rate on 2 month (private) bills.
[2]The dashed line represents the average value of the U.S. real short-term interest rate during the period 1974 to 1983.

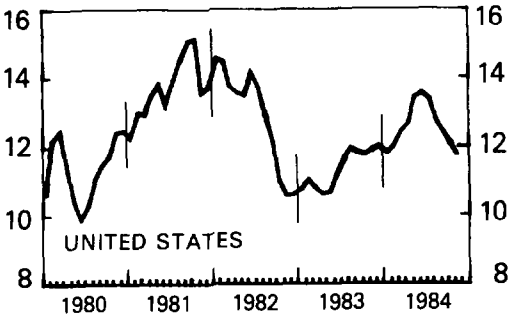
CHART 8

MONTHLY AVERAGE LONG-TERM INTEREST RATES[1]

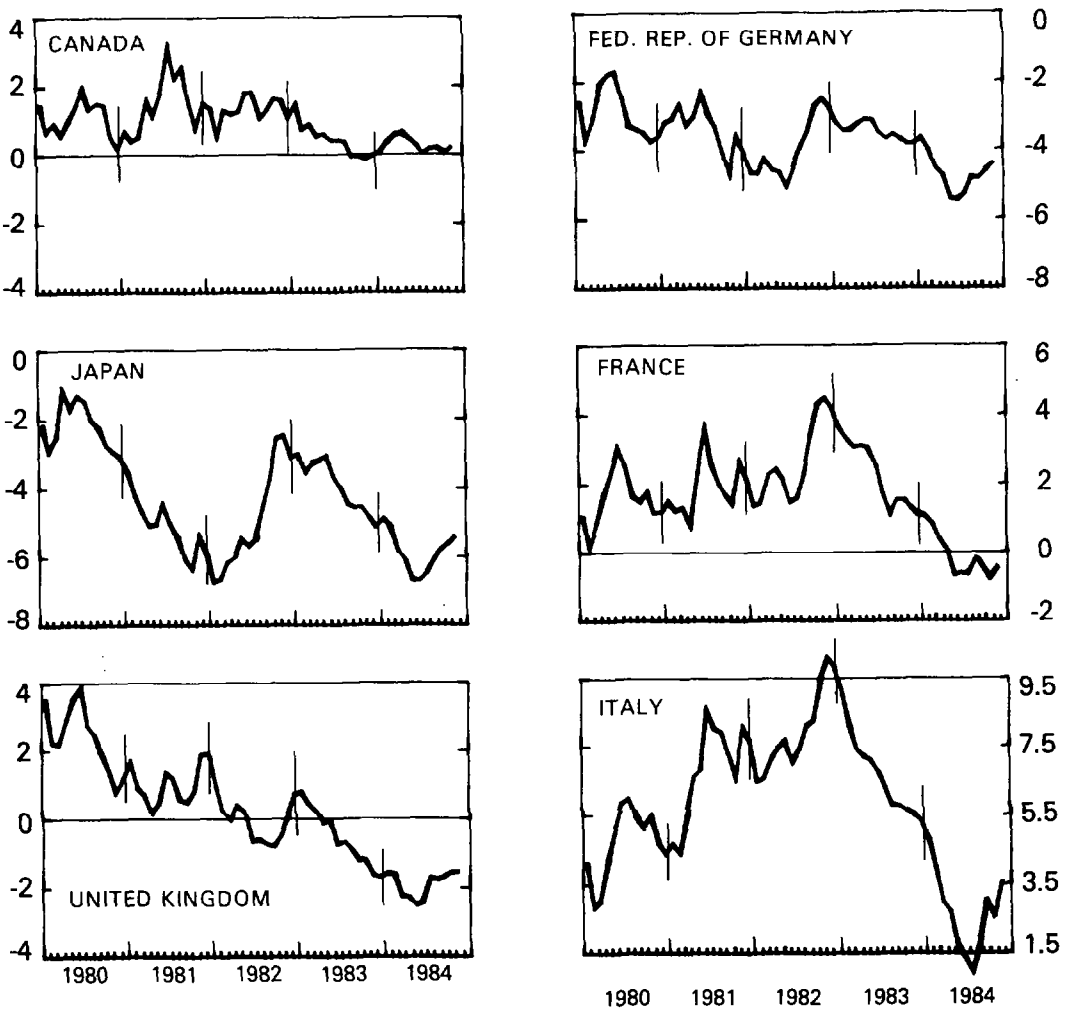
JANUARY 1980 - NOVEMBER 1984

(In percent per annum)

A. U.S. INTEREST RATE



B. DIFFERENTIALS: LOCAL MINUS U.S. INTEREST RATE



[1]Monthly averages of daily or weekly yields on government bonds, with maturities ranging from 7 years for Japan to 20 years for the United States and the United Kingdom.

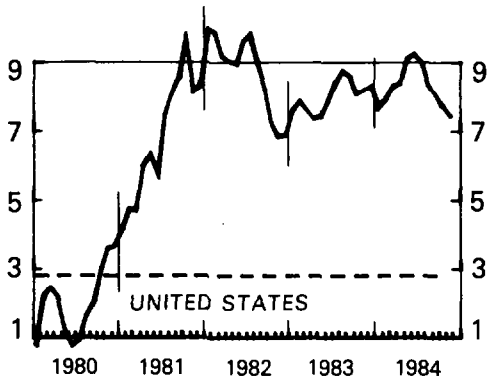
CHART 9

MONTHLY AVERAGE REAL LONG-TERM INTEREST RATES[1]

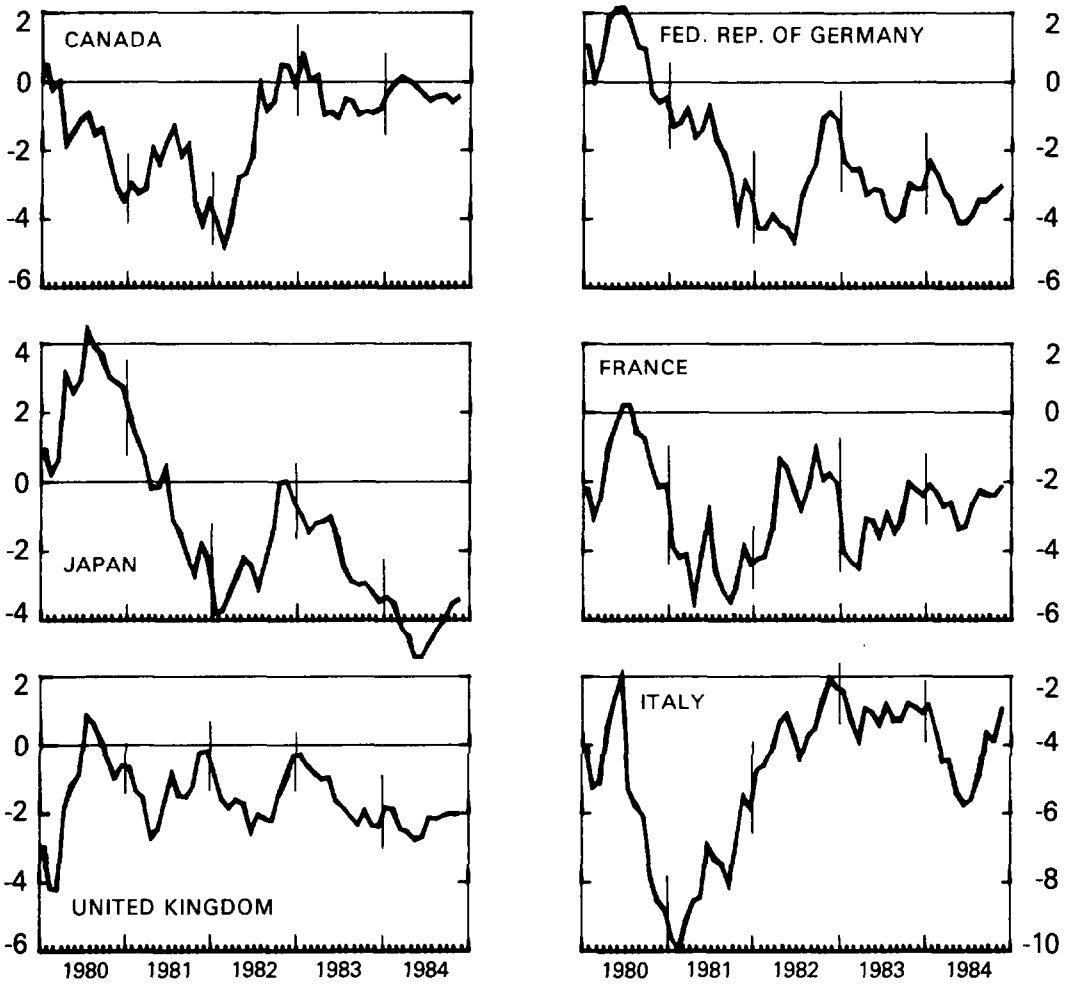
JANUARY 1980 - NOVEMBER 1984

(In percent per annum)

A. U.S. REAL INTEREST RATE[2]



B. REAL DIFFERENTIALS: LOCAL MINUS U.S. INTEREST RATE



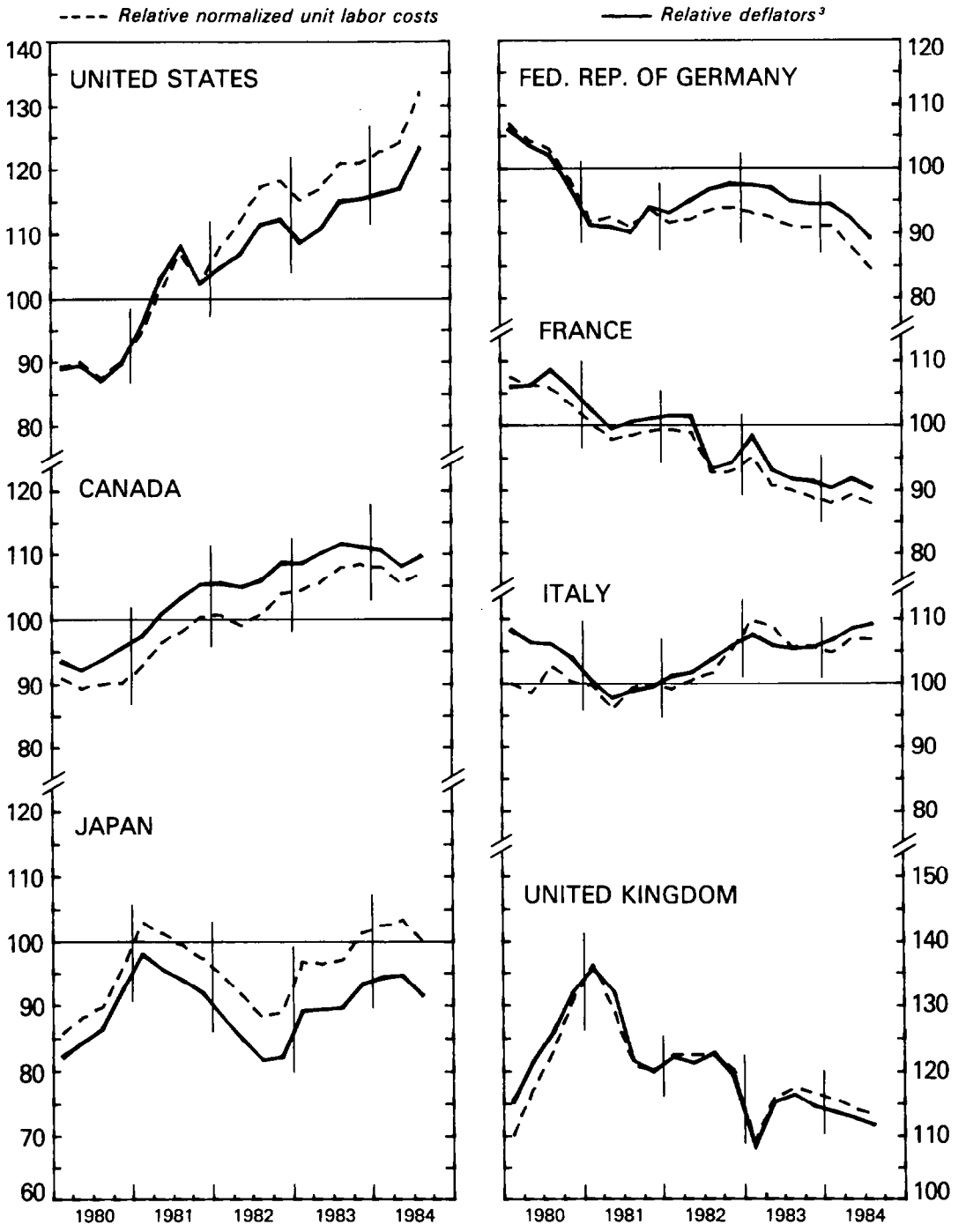
[1]Monthly averages of daily or weekly yields on government bonds deflated by an estimate of the rate of inflation. The maturities range from 7 years for Japan to 20 years for the United States and the United Kingdom.

[2]The dashed line represents the average value of the U.S. real long-term interest rate during the period 1974 to 1983.

CHART 10

RELATIVE PRICES OF MANUFACTURES ADJUSTED FOR EXCHANGE RATE CHANGES

(Indices, average value for 1974-1983=100)[1,2]



Source: *International Financial Statistics.*

[1]Indices of the type shown here are frequently referred to as indices of real effective exchange rates.

[2]The data for third quarter 1984 are based on preliminary staff estimates.

[3]Annual deflators for gross domestic product originating in manufacturing with quarterly interpolations and extraploations (beyond the latest available data) based on wholesale prices data for manufactures.

CHART 11

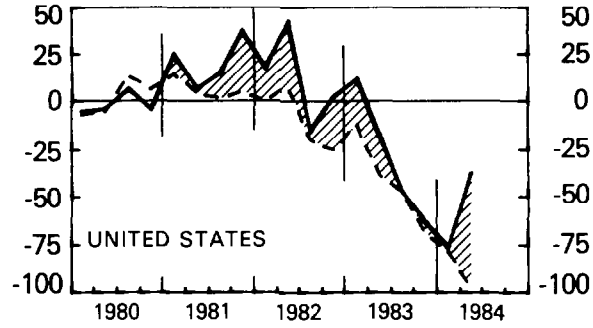
PAYMENTS BALANCES ON CURRENT ACCOUNT AND LONG-TERM CAPITAL ACCOUNT

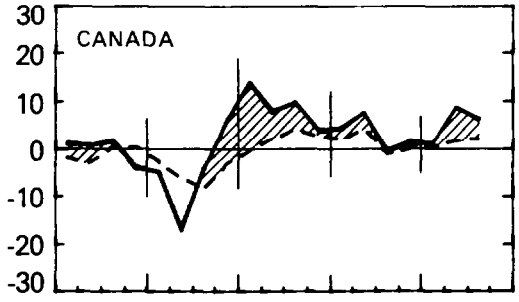
(In billions of U.S. dollars, seasonally adjusted, at annual rates)

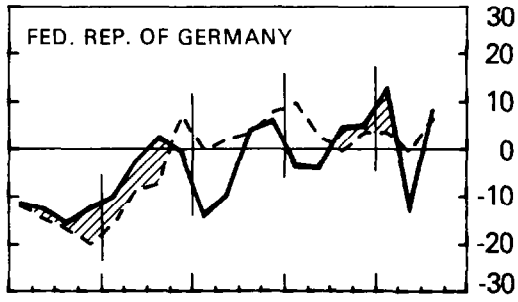
---- *Balance on current account, (including official transfers)*

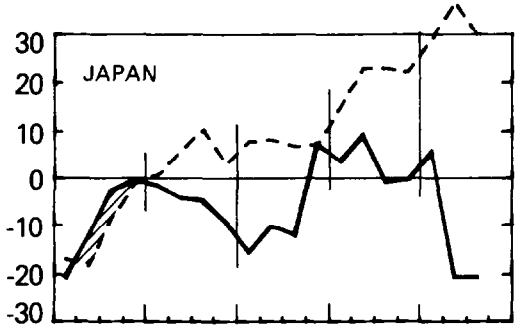
——— *Balance on current account plus long-term capital account*

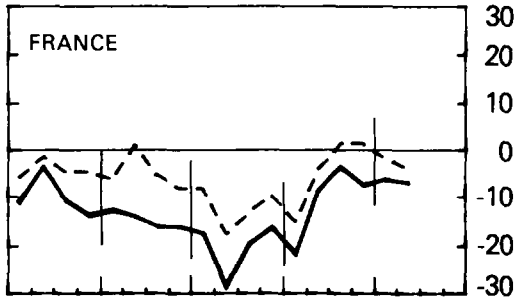
▨ *Net long-term capital inflow* ☐ *Net long-term capital outflow*

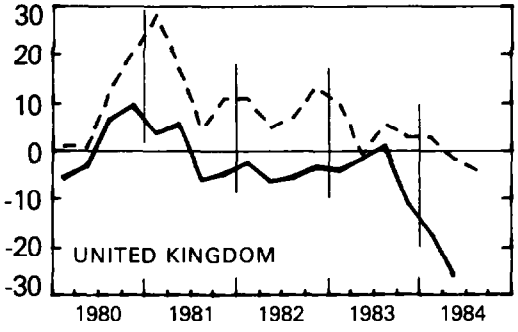


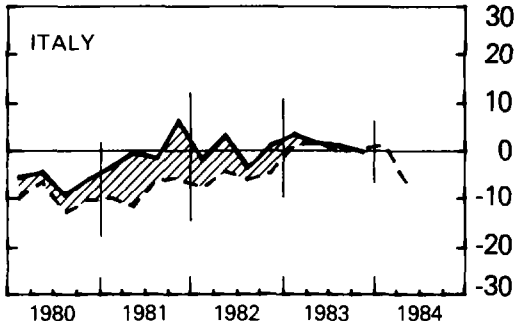












APPENDIX

Sources of Statistical Data

Monthly indices of U.S. dollar and effective exchange rates (Chart 1)

The exchange rates in terms of the U.S. dollar refer either to the average of the highest and the lowest spot rates quoted during the day or to the noon rate in the market of the country. Source: IFS data bank, IMF.

The effective exchange rate index combines the exchange rates between the currency in question and 18 other major currencies with weights derived from the Fund's Multilateral Exchange Rate Model (MERM). The calculations are based on the representative exchange rates. Each weight represents the model's estimate of the effect on the trade balance of the country in question of a change of 1 per cent in the domestic currency price of one of the other currencies. Source: IFS data bank, IMF.

Daily U.S. dollar rates and indices of effective exchange rates (Chart 2)

The exchange rates in terms of the U.S. dollar refer to noon quotations in New York. The daily effective exchange rate indices are calculated using the same weights and representative exchange rates as the monthly effective rates used in Chart 1. Source: IMF Treasurer's Department.

Daily EMS divergence indicators (Chart 3)

The divergence indicator is measured as the divergence of the ECU market rate of each EMS currency from its ECU central rate. In calculating the divergence indicator, the market rates of the lira or sterling are adjusted for fluctuations in excess of 2.25 per cent (the indicator for the lira is only adjusted for bilateral fluctuations of sterling against the lira in excess of 6 per cent). The divergence indicator is shown as a per cent of the maximum permissible difference between the ECU market and central rates of each EMS currency (taking account of the different weights in the ECU basket). The divergence thresholds are set at 75 per cent of the maximum divergence. The thresholds are (in per cent): DM 1.13, Ff 1.36, Hfl 1.52, Bf 1.53, Dkr 1.64, £Ir 1.67, Lit 4.08, £1.46. When the adjusted divergence indicator crosses the threshold (i.e., when it exceeds 75), there is a presumption that the authorities concerned will correct the situation by adequate measures.

The calculations are based on London noon quotations. For this reason the results may differ slightly from the official calculations of the EC central banks, which are based on information obtained during their daily consultations on exchange market developments. Source: IMF Treasurer's Department.

Quarterly movements in net foreign assets and quarterly change in effective exchange rates (Chart 4)

The composition of the series on quarterly movements in net foreign assets is not consistent across countries. Specifically the composition and sources are: (1) United States - the series refers to the changes in U.S. official reserve assets (adjusted for valuation changes), less net issues abroad of U.S. Treasury securities denominated in foreign currencies and total net drawings under official reciprocal currency arrangements. Sources are the Survey of Current Business and the Federal Reserve Bulletin. (2) Canada - the series refers to the changes in net Canadian official reserve assets adjusted for valuation changes published in the Bank of Canada Review. (3) Japan - the series refers to changes in the value of net international reserves of monetary authorities published in the Bank of Japan, Monthly Economic Statistics. Valuation changes could not be netted out; such changes are, however, normally quite small. SDR allocations have been netted out. (4) The Federal Republic of Germany - the series refers to the net purchases or sales of foreign exchange by the Deutsche Bundesbank (excluding transactions under repurchase agreements and the use of foreign exchange swaps) published in the Monthly Report of the Deutsche Bundesbank. (5) France - the series refers to the changes in the external reserve positions of the Bank of France, the Fonds de Stabilisation des Changes, the Treasury, the fiscal agents of the Government abroad and the administration of Post and Telecommunications as recorded in the balance of payments tables published in the Bulletin Trimestriel of the Bank of France. (6) Italy - the series refers to the changes in foreign exchange reserves of the Banca d'Italia and the Ufficio Italiano Cambi, adjusted for valuation changes, net of long-term indebtedness and short-term indebtedness, published in the Supplemento al Bollettino of Banca d'Italia. (7) United Kingdom - the series refers to changes in net official reserves net of valuation changes, as published in Economic Trends, U.K. Central Statistical Office. The series for all countries exclude SDR allocations.

The quarterly changes in effective rates are based on the monthly indices of effective exchange rates described above.

Daily short-term uncovered interest rate differentials (Chart 5)

The rates used are daily rates on money market instruments of about 90 days' maturity. Specifically the interest rates are: (1) United States - 90-day certificates of deposit; (2) Canada - three-month Treasury

Bills; (3) Japan - discount rate on two-month private bills; (4) the Federal Republic of Germany - three-month interbank deposit rate; (5) France - three-month money rate against private paper; (6) Italy - three-month money rate; (7) United Kingdom - three-month interbank sterling. Source: IMF Treasurer's Department.

Monthly average short-term uncovered interest rate differentials (Chart 6)

The rates used are monthly averages of daily rates on money market instruments of about 90 days' maturity. Specifically the interest rates are: (1) United States - 90-day certificates of deposit, secondary market; (2) Canada - Financial paper, three-month; (3) Japan - Discount rate on two-month private bills; (4) The Federal Republic of Germany - Frankfurt interbank loan rate; three-month; (5) France - Paris interbank loan rate, three-month; (6) Italy - Milan interbank loan rate, three-month; and (7) United Kingdom - interbank sterling, three-month. Source: for Japanese rate, IMF Treasurer's Department; for other rates, U.S. Federal Reserve Board.

Monthly average real short-term uncovered interest rate differentials (Chart 7)

The real short-term interest rates are calculated by deflating the nominal short-term interest rates discussed above (Chart 6) by a measure of the expected rate of inflation. This measure is proxied by a weighted average of the rate of inflation in the current quarter and the next two quarters, with the deflator of private final domestic demand being used as the price variable. Staff projections of this deflator are used for the end-of-period observations. The assumption is that market participants can project reasonably well the evolution of inflation over the near term. Too much should not be made of these calculations; their only purpose is to introduce some allowance for existing inflation rate differentials among countries.

Monthly average long-term uncovered interest rate differentials (Chart 8)

The rates used are monthly averages of daily or weekly yields on government bonds, with maturities ranging from 7 to 20 years. Specifically, the interest rates are: (1) United States - 20 year constant maturities; (2) Canada - average of issues 10 years and over; (3) Japan - 7 year maturities; (4) the Federal Republic of Germany - public authorities bonds, including bonds issued by the Federal Government, the railways, the postal system, the Länder governments, municipalities, and public associations; (5) France - National Equipment Bonds of 1965, 1966 and 1967; (6) Italy - bonds issued by the Consortium of Credit for Public Works, with an average maturity of 15 to 20 years; (7) United Kingdom - 20 year maturities.

Monthly average real long-term uncovered interest rate differentials (Chart 9)

The real long-term interest rates are calculated by deflating the nominal long-term interest rates discussed above (Chart 8) by the same measure of the expected rate of inflation used in calculating the real short-term rates (Chart 7). Because the rate of inflation expected to prevail over the longer run may diverge significantly from the current rate of inflation, even greater caution should be exercised in interpreting real long-term rates than in interpreting real short-term rates.

Quarterly indices of relative costs and prices of manufactures (Chart 10)

The two indicators of relative costs and prices in manufacturing shown in this chart for each of the industrial countries represent the ratio (rebased to 1974-1983 = 100) of the relevant indicator for the country to a weighted geometric average of corresponding indicators for 13 other industrial countries, after expression of all of the national indicators in terms of a common currency. The indicators thus take account of changes in exchange rates.

These indexes should be interpreted with considerable caution. While every effort is made to use national data that are as nearly internationally comparable as possible, the degree to which it is practicable to assure comparability is limited by the character of the available data. The national data underlying the normalized unit labor cost series and the value-added deflator series are calculated by benchmarking the best available monthly or quarterly series on reasonably comprehensive and comparable, but periodically revised, annual data from the national accounts. The normalized unit labor costs are intended to abstract from the cyclical swings in conventionally-measured productivity that often distort the actual unit labor cost series (mainly because cyclical changes in reported employment do not correspond closely to those in effective inputs of labor). Each normalized series is calculated by dividing an index of actual hourly compensation per worker by an index of output per man-hour adjusted so as to eliminate estimated cyclical swings.

The value-added deflators represent the quotient of the current and constant price estimates of value added in manufacturing--adjusted, however, for changes in indirect taxes. Such indicators, which share the properties of the corresponding GNP deflator series for the overall economy, are best viewed in the present context as composite indicators of the cost (per unit of real value added) of all primary factors of production (including capital and 'entrepreneurship,' as well as labor). These indicators differ from final product prices in that they abstract

from the costs of intermediate inputs obtained by the manufacturing sector from other sectors. The extrapolation beyond the most recent benchmark year is based on wholesale prices for manufactures adjusted to exclude the influence of changes in raw material prices. Source: Current Studies Division, IMF Research Department.

Current account and long-term capital balances (Chart 11)

Chart 11 shows balances on current account (including official transfers) and the sum of balances on current and long-term capital accounts. The data are in billions of U.S. dollars, at annual rates. They are seasonally adjusted for current account balances but not for long-term capital balances. The data are obtained from national sources. Estimates for the most recent periods are preliminary and subject to revisions. For the United States, which does not publish aggregate series on "long-term capital flows," long-term capital flows are defined as including direct investment, long-term securities, and government capital flows other than official reserve transactions.