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A report on monetary policy and open market operations in 1982 begins on page 37.

A semiannual report of Treasury and Federal Reserve foreign exchange operations for the period August 1982 through January 1983 starts on page 55.

Foreign Pension Fund Investments in the United States

Foreign pension funds are investing sizable amounts in the U.S. securities and real estate markets. These pension funds, which supplement government social security systems, are growing, as are those in the United States, at a rapid rate. The annual flows into the funds constitute a large part of national savings, and their deployment accounts for an increasingly significant share of total new investments in the capital markets of the respective countries. At the same time, however, international diversification has become an important feature of pension fund management, with U.S. assets generally accounting for a major portion of the foreign investments.

This article focuses on U.S. investments by the pension funds of four foreign countries—the United Kingdom, the Netherlands, Canada, and Japan—which together comprise all but a small portion of total foreign pension fund holdings in the United States. The first three are countries whose fund managers began to invest abroad many years ago.[1] In Japan, international diversification got under way more recently, and U.S. holdings are still quite small. However, Japanese funds are in an early state of development, and their portfolios will be expanding particularly rapidly. U.S. assets also make up significant portions of the pension funds of some countries not covered in this article but, due to the comparatively small size of the labor force in those countries, the totals invested here are not substantial. Some larger countries do not have funding requirements; consequently, accumulated reserves are relatively insignificant.[2]

The flow into the United States from the foreign funds has risen significantly in recent years, reflecting both the swelling of the funds and the increase in the share allocated to foreign investment. Of all the world's capital markets, those in the United States have stood up over the long run as the most attractive. During the past few years, growing uneasiness about various political and economic developments in home countries and elsewhere has strengthened the interest in U.S. assets. At the same time, however, a trend has been developing toward broader geographical diversification by pension funds in countries where foreign holdings have heretofore consisted overwhelmingly of dollar assets.

The author is greatly obligated for information used in this article to a host of individuals, too numerous to mention, from various foreign entities, including government agencies, central banks, corporate pension funds, financial intermediaries, and national organizations of pension fund managers.

[1] This is in sharp contrast to developments in the United States, where international diversification began only in the late seventies. The movement into foreign assets by U.S. pension funds, and its implications, were examined in detail by the author in "International Diversification by United States Pension Funds", this *Quarterly Review* (Autumn 1981).

[2] In *Italy*, less than 20 percent of the working population is covered by private plans. Although reportedly a majority of the firms that do have plans choose to fund them, thereby deriving tax benefits, Italian foreign exchange regulations inhibit foreign investments. In *Germany*, almost all business enterprises with pension plans carry their plan liabilities on their corporate balance sheets instead of setting aside separate reserves. The only firms whose pension plans are funded are affiliates of companies headquartered in other countries. In *France*, private pension plans are mandatory but operate on what is, in effect, a pay-as-you-go system, with current workers paying for current retirees.

Table 1

Funded Pension Plans—1981

In billions

Country	Accumulated reserves as of end-1981: Trusteed funds	Accumulated reserves as of end-1981: Insured funds	Growth of reserves in 1981: Trusteed funds	Growth of reserves in 1981: Insured funds
Canada*				
Canadian dollars	60½	15	10	1
U.S. dollar equivalent	51	12½	8½	1
Japan†				
Japanese yen	6,500	3,200	1,100	700
U.S. dollar equivalent	29½	14½	5	3
Netherlands‡				
Dutch guilders	92	32§	10	3½
U.S. dollar equivalent	37	13§	4	1½
United Kingdom				
Pounds sterling	64	33	7	3½
U.S. dollar equivalent	122	63	13½	6½

Some reserve figures are market value, others book value. Reserve growth figures for 1981 are mainly book value. Most of the figures on insured funds are estimates. U.S. dollar conversions are at end-1981 rates.

* Reserves for Canadian Government Annuities, a holdover from an earlier pension era, comprise an additional Can.$500 million.

† Data as of March 31, 1982, the end of the fiscal year.

‡ Excludes the General Public Service Pension Fund, the country's largest fund (assets at the end of 1981 totaled Fl 83 billion), since the only foreign assets it is allowed to acquire are foreign government bonds listed on the Amsterdam stock exchange.

§ The insurance companies are used almost solely for guaranteed contracts, primarily by the smaller pension funds. The volume of foreign investments was insignificant.

Sources: United Kingdom: Central Statistics Office, *Financial Statistics*; the Netherlands: De Nederlandsche Bank, *Annual Report;* Canada: Statistics Canada, *Trusteed Pension Plans Financial Statistics* and *Financial Institutions Financial Statistics;* and Japan: The Bank of Japan, *Economic Statistics Monthly*. Also, unpublished information.

Despite the scarcity of hard data, information gathered for this article suggests that the amount of foreign pension money that has been coming here during the last three years may have grown from perhaps $2½ billion a year to approximately $4 billion. This range constitutes roughly the same order of magnitude as the estimated outflow of U.S. pension money into investments abroad. It seems likely that a near balance will continue to be the situation for at least the next five years. One can therefore conclude that the increasing internationalization of pension fund portfolios is occurring without significant effects on the value of the dollar in the exchange markets. In addition, the overseas investors are adding to the depth and the liquidity of U.S. securities and real estate markets. Moreover, both the foreign and the U.S. pension funds are able to develop portfolios that their sponsors and managers regard as better than could be achieved if they were restricted to purely domestic investments.[3]

Pension fund reserves and government regulations

The actual volume of investments in U.S. assets depends upon a large number of variables. The potential volume, however, depends basically on (1) the size of the accumulated pension fund reserves and of the ongoing additions to these reserves, and (2) government regulations concerning portfolio investments.

Volume of reserves

The size and rate of growth of pension funds reflect, among other factors, the number of people covered and the liberality and maturity of the plans. They also

[3] For details on the motivations for U.S. funds' diversification, see article cited in footnote 1.

reflect government funding regulations—*i.e.*, the extent to which actuarially determined reserves must be accumulated. Figures showing the amount of reserves accumulated by the end of 1981 in funded pension plans in the four countries discussed, and the 1981 growth of reserves, appear in Table 1. Because investment regulations and policies differ between insurance companies and other types of intermediaries, the table divides the data into two components, insured and trusteed. "Insured" funds are those handled by insurance companies, often on a guaranteed income basis. "Trusteed" funds are those managed either internally, *i.e.*, by the firm sponsoring the pension plan, or outside by noninsurance company intermediaries, including banks, trust companies, brokerage houses, and investment counselors.

The mass of reserves accumulated by *United Kingdom* pension funds was by far the largest, as was the annual reserve growth. To some extent, the rate of growth in recent years has reflected new tax incentives introduced in the 1970s, which stimulated an increase in funding.[4] The smallest accumulation was in *Japan*, where funded plans covered about the same number of active workers as in the United Kingdom but accounted for a much smaller percentage of the labor force. Additional plans are being established at a rather substantial pace, partly because of recently heightened favorable tax treatment.[5] Partly as a result of this increase in plans, the liabilities and reserves of the pension funds are climbing steeply. Also contributing to the swelling of the funds are improvements in benefits and a rise in employee and retiree ages because of a sharp increase in the Japanese life span.

In all four countries, the large wage increases that accompanied the high inflation rates of the past decade contributed importantly to sharp upward pressures on required reserves. However, in some countries actuarial assumptions were, or are being, modified to allow for anticipation of higher portfolio returns, thereby reducing for some funds indicated increases in employer-employee contributions. Moreover, due to the difficult financial situation in which many firms have found themselves because of the worldwide recession, some employers' contributions have been temporarily cut back. The contributions are expected to be restored to their previous levels, however, as soon as financial conditions permit.

Investment regulations

Government regulations concerning pension fund investments vary widely. They are very liberal in both the *United Kingdom* and the *Netherlands*.[6] In *Canada*, however, the government regulates investments both by type and quantity. And in *Japan*, where flexible Ministry of Finance guidelines substitute for regulations, the guidelines are more restrictive of investments handled by trust banks than those by insurance companies.[7] Everywhere, including countries not covered here, local government employee plans are usually more conservative in their investments than are other funded plans, sometimes because of regulation, sometimes because of custom. This has resulted—at least until very recently—in their making comparatively small, and even no, foreign investments.

The basic national regulatory attitudes carry over into the foreign investment sphere. The pension funds of *British* private and nationalized industries are allowed to invest abroad freely. The only restraints, as with domestic investments, are those imposed by fund trustees. The local authority pension funds still have some constraints, but these are currently under review. Also, the investments of pension funds managed by insurance companies as part of their long-term funds are subject to the general restriction that 80 percent of an insurance company's assets must correspond to the particular currencies in which its liabilities are expressed. In the *Netherlands*, foreign investments are similarly free of formal government restrictions. The Chamber of Insurers, which supervises the private plans but makes no general rules, may offer comments regarding a plan's investment policies. Reportedly, however, it seldom does this before an investment proves to have been ill-advised.

In *Canada* and *Japan* the situation is very different. Canadian tax regulations effectively limit foreign investments to 10 percent of the book value of total assets. Any entity exempt from income taxes becomes subject to a monthly penalty on foreign investments in excess of the prescribed 10 percent. This ceiling becomes especially restrictive when a manager wants to realize a capital gain and to reinvest, since the transaction immediately increases book value. Within the overall 10 percent ceiling there is a further restriction of 7 percent on foreign real estate. In Japan,

[4] See the article beginning on page 13 of this *Review* for a discussion of the relevant British government steps to shift the burden of pension provision from the public sector to the private sector.

[5] Tax revisions in the 1960s encouraged firms to start funded plans. Previously, retirement plans were mostly unfunded and provided only lump sum severance payments. In 1981, complete tax exemption was provided for all funding contributions.

[6] The British government has established an interdepartmental working group to look into all laws and conventions affecting pension funds. Their report, due this year, could lead to some changes.

[7] The trust banks and insurance companies are the only two kinds of intermediaries allowed to manage Japanese pension funds. The single, important exception is the Daiwa Bank, a commercial bank that in this context is treated by the government as a trust bank.

Ministry of Finance guidelines permit pension funds to be invested in foreign-currency-denominated financial assets only up to 10 percent of total portfolios. The insurance companies are permitted to make additional pension fund investments in foreign real estate, but only within the 20 percent limit prescribed for aggregate real estate investments. Moreover, informal agreements with the Ministry of Finance at times restrict the amounts of foreign investing that banks and insurance companies may do currently.

Investments in U.S. and other foreign assets

The aggregate numbers

The major foreign financial assets in the pension fund portfolios of the four countries are estimated, on the basis of comparatively firm data, to have amounted at the end of 1981 to the equivalent of about $20 billion (Chart 1). This figure reflects conversion of foreign currency values into U.S. dollars at end-1981 exchange rates. The assets comprised practically all of the foreign financial investments but not any foreign real estate holdings (which the author believes may have totaled at least $4 billion).

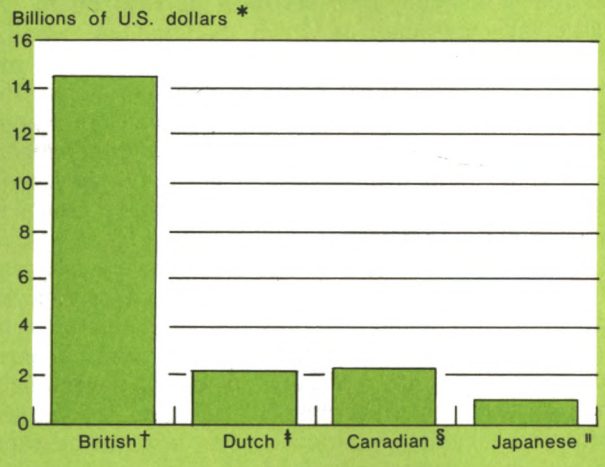
Total U.S. assets held by the funds of the four countries amounted, by very rough estimate, to about $13-14 billion (Chart 2). U.S. financial assets accounted for about $11 billion,[8] or slightly over half of all foreign financial investments. U.S. real estate investments are estimated to have been about $2½ billion, with United Kingdom holdings constituting approximately 60 percent of this aggregate.

A substantial portion of the *United Kingdom* pension funds' foreign assets was acquired in the two years after exchange controls were lifted in October 1979. These controls had greatly curtailed foreign investments because of the very high premium that had to be paid for dollars. The removal of controls released a large pent-up demand, and purchases of foreign assets, especially corporate equities, jumped. In 1981, close to 25 percent of the trusteed funds' net additions to their securities portfolios consisted of foreign

Chart 1

Foreign Financial Assets in Foreign Pension Fund Portfolios

End-1981



* Converted into U.S. dollars from foreign currency figures at end-1981 rates.

† Foreign assets of trusteed funds and of relevant portion of life insurance company long-term funds.

‡ Foreign assets of trusteed funds only. Foreign assets at life insurance companies were negligible.

§ Foreign assets of trusteed funds and of relevant portion of life insurance company segregated funds.

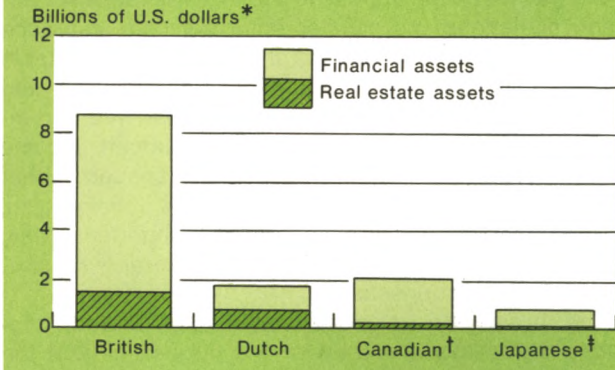
|| Foreign assets of trusteed funds and of relevant portion of life insurance company assets.

Sources: See Table 1.

Chart 2

Estimated U.S. Assets in Foreign Pension Fund Portfolios

End-1981



* Converted into U.S. dollars from foreign currency figures at end-1981 rates.

† Real estate holdings may be no more than $100-200 million.

‡ Real estate holdings may be only about $50 million.

Source: Author's estimates, based on data in Chart 1 and unpublished information.

[8] Includes a small amount of Eurodollar bonds.

securities, and at the insurance companies the share rose to almost 20 percent (Chart 3). By the end of that year, approximately 10 percent of the accumulated financial assets were foreign assets. Probably about half of these were U.S. assets.

Foreign investments by the *Dutch* pension funds picked up strongly in 1979, with bonds being favored over equities. By 1980 and 1981 about 5 percent of the annual additions to their financial investments were foreign investments and, at the end of 1981, foreign assets represented 6 percent of total financial assets (Table 2). The writer estimates that U.S. holdings accounted for somewhat less than one third of these investments.

For both the *British* and especially the *Dutch* funds, investments in foreign real estate were also significant. U.S. real estate investments, shown in Chart 2, may well have represented at least 75 percent of the foreign real estate held by the United Kingdom funds but probably no more than 40 percent of that held by the Dutch funds.

Pension funds in *Canada,* as already noted, are expected by the authorities to hold their foreign investments to a maximum of 10 percent of portfolio. In *Japan,* a similar 10 percent restriction applies to foreign-currency-denominated assets, but insurance companies can put additional money into foreign real estate. Virtually all of the Canadian investments are in corporate shares, and more than half of these were acquired during the three years 1979-81 (Table 2). Although only 4 percent of the end-1981 trusteed pension fund portfolios (including local government funds) consisted of foreign assets, many pension plans of the larger business firms and Federal Crown corporations were at, or very close to, the maximum 10 percent.[9] In Japan, even though only one year had elapsed since the banks were allowed to put pension fund money abroad, by the end of 1981 they already had an estimated 2 percent invested overseas. The insurance companies, which had been investing abroad for several years, are believed to have had about 3 percent of their aggregate portfolios in foreign holdings. U.S. assets clearly accounted for all but a very small fraction of the Canadian foreign holdings, and apparently they represented approximately 60 percent of the Japanese foreign holdings.

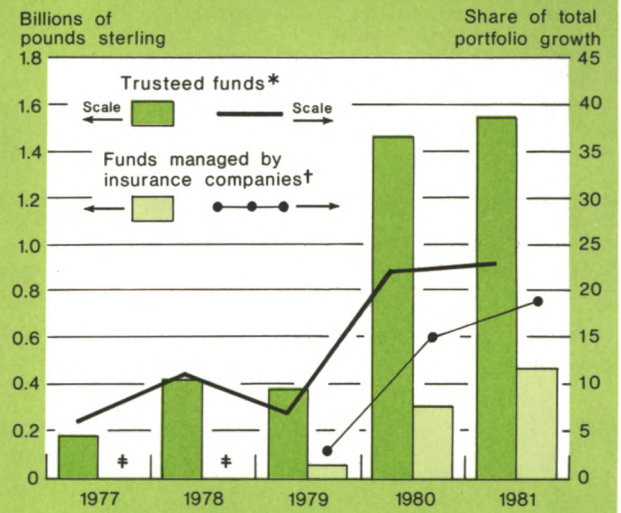
The U.S. attractions

Although the concentration in U.S. assets began to decline during the seventies in some of the countries, the flows into the United States have continued to rise along with the growth of the pension funds. The sheer size of the U.S. securities markets, their high degree of liquidity, the variety of economic sectors represented, and the vast array of securities issues from business firms and government entities have all contributed to this drawing power.

Investments in U.S. real estate are also growing. The Dutch and British funds had started to acquire real estate in Europe during the 1960s in response to inflationary pressures on pension plan costs and to declines in equities prices. By the mid-1970s their investments had extended into the United States. The Canadian and Japanese pension funds, in contrast, began to invest even in domestic real estate only very recently. Again market size has been among the U.S. attractions for investors. One reason is that small real estate staffs can develop broad holdings while concentrating limited energies on a single country.

Chart 3

British Pension Funds' Annual Net Additions to Foreign Financial Holdings



* Foreign financial investments by trusteed pension funds of private and nationalized firms and public authorities.

† Estimated at 55 percent of the foreign financial investments by insurance company long-term funds.

‡ Not available.

Source: United Kingdom Business Statistics Office, Business Monitor MQ5.

[9] Among the largest Federal Crown corporations are such companies as the Canadian National Railway, Air Canada, and the Canadian Broadcasting Corporation.

The U.S. markets are also more liquid than most other real estate markets.

In more recent years, the apparent hardening of political and military positions between the Soviet Union and the United States, the unstable political situation in several European countries, and the nationalization of important industries in some countries have made the U.S. financial and real estate markets appear particularly attractive. Fund managers place a high value on the relatively safe geographical location of the United States, its free market orientation, its reliable legal system, and its tremendous natural, industrial, technological, and manpower resources.

Despite these perceptions, the emergence in the postwar years of Japan and then of a number of other countries as successful industrial producers inevitably caused attention to be more broadly focused. These investments have been aided by the rapid de-

Table 2

Dutch Private Pension Funds: Foreign Net Acquisitions

In millions of guilders

Year	Bonds	Private loans	Shares	Total	Total as share of year's aggregate net acquisitions
1977	−70	292	−214	8	*
1978	44	196	−226	14	*
1979	320	30	− 6	344	4
1980	299	82	219	600	5
1981	306	90	136	532	5
Addendum: Accumulated foreign holdings					Total as share of all assets
End-1981	1,721	1,471	1,935	5,127	6
U.S. dollar equivalent (millions)	697	596	784	2,077	6

Canadian Trusteed Pension Funds: Foreign Net Acquisitions

In millions of Canadian dollars

Year	Bonds	Shares	Total	Total as share of year's aggregate net acquisitions
1977	1	19	20	*
1978	0	134	134	2
1979	3	516	519	7
1980	7	517	524	6
1981	17	535	552	6
Addendum: Accumulated foreign holdings				Total as share of all assets
End-1981	38	2,616	2,654	4
U.S. dollar equivalent (millions)	32	2,206	2,238	4

Table does not include minor amounts of other types of foreign financial assets or any foreign real estate.

* Less than ½ percent.

Sources: De Nederlandsche Bank, *Annual Report,* and Statistics Canada, *Trusteed Pension Plans Financial Statistics.*

velopment of capital markets outside the United States, which has reduced the share of U.S. equities in the world market from almost 70 percent a decade ago to only a little over half of the world total today. The world role of the U.S. bond market has similarly declined relative to national bond markets in other countries and, especially, relative to the Eurobond market.

Thus, there are two basically opposed developments affecting the foreign investment decisions of the foreign pension fund managers. The net effect has been an increase of investments in third-country assets but at the same time investments in U.S. assets continue to expand. Moreover, the interest in real estate as a long-term investment is supporting the flow into the United States. In sum, although the dominance of U.S. assets in the foreign sectors of pension fund portfolios has declined, U.S. assets still constitute by far the largest foreign component.

Investments in U.S. securities

During the 1960s and well into the 1970s the United States was the leading foreign location for *United Kingdom* pension fund financial investments, which were almost entirely equities. The U.S. investments accounted for perhaps as much as 80 percent of the total. However, during the seventies, funds began to be placed increasingly in Japan and in small amounts in areas formerly part of the British Empire. Investments were also made in continental Europe. A sluggish U.S. stock market contributed to a slow growth of U.S. holdings. By 1981, U.S. assets probably were down to approximately half of the total. Nonetheless, they had increased in absolute volume. Moreover, during 1982 a swing from Japanese investments back to U.S. investments got under way.

An important foreign investment vehicle for all but the larger pension funds has been the British tax-exempt unit trusts (similar to closed-end mutual funds in the United States) set up by merchant banks, clearing banks, and large stockbrokers. The merchant banks have the biggest share of the business, while the trusts run by the stockbrokers have as their clients primarily small pension funds. Small funds also acquire foreign assets through insurance companies, which make foreign investments for their general funds—although some insurance companies also use the unit trusts. There are a number of international unit trusts that can invest anywhere, but more recently some have been established to invest in specific geographic areas. Apparently a considerable part of the non-U.S. investments is being channeled through these specific area trusts, including investments by large pension funds that do not have in-house expertise for certain countries.

Although foreign financial assets constituted about 6 percent of *Dutch* pension funds at the end of 1981,[10] holdings of U.S. financial assets probably comprised less than half. Fixed-income assets accounted for approximately 60 percent of total foreign financial investments, but U.S. assets were perhaps only a third of these. Private loans constituted close to half of the interest-yielding assets and were almost entirely in other countries. Of the equities, however, apparently more than half were U.S. securities, and the percentage clearly increased during 1982.[11]

Until recently, almost all of the foreign investments of the *Canadian* pension funds were in the United States. At the end of 1981, corporate shares comprised close to 99 percent of their total foreign investments; all but an insignificant portion consisted of shares in U.S. companies. The United States is so comfortably close and the choice of equity issues so vast compared with Canada's primarily resource-based activities, relatively few funds have invested in other markets. Some funds are even being sent below the border in the form of venture capital. The funds have not invested in U.S. bonds because Canadian yields have been much higher. A few of the larger funds have been making direct loans to U.S. firms; these are on a floating-rate basis, against mortgage security, and with final maturities that go out to twenty-five years. Nonetheless, the great majority of pension funds among both trusteed accounts and insurance company segregated accounts that have foreign assets hold U.S. corporate shares as their sole foreign investment.[12]

The Canadians' almost exclusive concentration on the United States is changing, however. In the last year or so, some fair-sized amounts have been placed elsewhere, principally in Japan and Europe. Some large funds are investing directly, using investment advisers in London or the Far East. In addition, Canadian investment counselors have set up mutual funds for offshore investment, and Canadian trust companies have established pooled funds for the same purpose. There are already a few funds designed solely for investing in non-U.S. equities.

The *Japanese* pension funds hold the bulk of their foreign investments in dollar-denominated securities.

[10] This excludes pension funds with insurance companies, which until recently had invested only a minute amount abroad.

[11] Some of the largest foreign investments are by the several Dutch-based multinational companies. Their foreign holdings reflect to a minor extent anticipated foreign liabilities to provide pensions for staff members who expect to retire overseas. Often dollar assets are held even when pension liabilities are expected to be in other foreign currencies, especially currencies of countries that do not have important securities markets.

[12] In many cases, however, the holdings are limited to shares of a U.S. parent company.

Equities comprised only 3½ percent of their foreign holdings at the end of 1981; almost all, both at the trust banks and the insurance companies, were shares of U.S. corporations. The fixed-income securities were more widely distributed. At most banks and insurance companies the majority of such holdings were dollar denominated, including large amounts of Eurodollar bonds as well as bonds issued by foreigners in the U.S. market, the so-called Yankee bonds. At a few banks, Canadian dollar bonds were dominant or almost equal in importance to U.S. dollar securities.

By 1982, as the Japanese funds continued a rapid buildup of foreign investments, diversification became increasingly evident. Some portfolios had securities that were denominated in about eight additional currencies. These included sterling, several Continental currencies, Australian dollars, and some East Asian currencies.

Investments in U.S. real estate

The U.S. real estate investments of foreign pension funds have been primarily in commercial buildings. Office buildings are particularly popular. One reason is that it is easier for foreigners to determine the value of such buildings than of other real estate since customary office needs of U.S. and foreign users are more similar than are the ways in which other types of buildings are used. Moreover, office rentals are the most easily indexed to take account of future inflation. There has also been a good deal of investment in shopping centers, although the recession dampened the attraction of such properties (and also of warehouses) sooner than that of office buildings. Oil and gas properties have been of interest to some funds, but the recent weakness in the oil sector presumably affected such investing. Finally, a few funds have invested in apartment buildings, although in comparatively small amounts, and some hold parcels of as yet undeveloped land.

Pension funds in the *United Kingdom* are very heavily into real estate. Many of the large funds have as much as one quarter of their assets invested in real estate, and investments by other funds generally range between 15 and 20 percent. This contrasts with about 3 percent for U.S. pension funds. The principal impetus to diversification into foreign real estate came from the skyrocketing of prices of British properties during the seventies as a result of inflation and a flood of competing institutional investors. By the early eighties, first-year returns on London prime properties (which are in very limited supply because of government planning controls that severely restrict the demolition of old buildings) reportedly were only one half those of unleveraged U.S. properties. Another motivation for investing abroad was that many large funds whose property holdings were heavily concentrated in London felt that prudent management required them to diversify.

For many of the big funds, foreign real estate now constitutes 2 or 3 percent of aggregate portfolio, and for a few funds more than double that share. The bulk of this investment has been in the United States. About thirty to fifty smaller pension funds and a few of the larger funds make their U.S. real estate investments through specially tax-exempt Property Unit Trusts (PUTs), almost all open ended. Several PUTs have been established specifically for investing in the United States. Some of these are joint British-American undertakings.

The half dozen or so large pension funds that have been the major real estate investors were active in buying, developing, and leasing properties in the United Kingdom for many years, and a few are doing the same in the United States. Most, however, are pursuing a low-risk policy for the present of buying only existing properties. Some funds have made joint investments with American institutional buyers, either because the price of the property is higher than the amount the pension fund wishes to put into any single investment (the upper limit usually is $50-80 million) or because the pension fund believes the American participants would have a better understanding of local conditions and property values. When there has been property development, the American partner has usually taken the development risk, with the British pension fund committed to buying the property after it is completed and partially rented.

The strong interest of *Dutch* pension funds in real estate is very obvious; it is not unknown for a large fund to have close to 40 percent of total portfolio in this form, while the more typical portfolio holds between 10 and 20 percent. Foreign real estate constitutes a major component of the funds' holdings, in part because there is very limited opportunity for increased investment in commercial buildings in the Netherlands. By the end of the seventies, U.S. investments had come to the fore. During the past two years there was a slowdown in such purchases but, as 1982 was drawing to a close, interest had begun to pick up again in anticipation of a U.S. economic recovery.

The Dutch have been, and remain, very much attracted to shopping centers. However, they buy buildings only after they have been erected. When new property development has been undertaken, it has always been on a joint-venture basis, with an American partner putting up the buildings. The small pension funds, which do not have the staff to go directly into foreign real estate, have been able to channel funds

through three large Dutch real estate investment trusts. Unlike British PUTs, none of these were established solely for tax-exempt institutional investors. The pension funds nonetheless use the trusts for a real estate play, since the income the pension funds receive is exempt from Dutch taxes.

Canadian pension funds have been permitted to invest in foreign real estate only since 1977. They can do so up to 7 percent of the total 10 percent foreign investment allowed. However, until recently only the larger pension funds held significant amounts of even domestic real estate. For pension funds in the aggregate, real estate comprised less than 2 percent of total portfolio assets, although for some large ones the ratio went as high as 10 percent. Now a few funds are starting to invest abroad, that is, in the United States.

The Canadian funds are not allowed to own either domestic or foreign real estate directly except for limited amounts. Several alternative routes have been chosen. One is through investment in shares or debentures of tax-exempt corporations set up under a special provision of the Tax Act that was designed to enable pension funds to make real estate investments. Other routes have included joint venturing with Canadian real estate development firms, investment through U.S. real estate pools set up by Canadian investment counseling firms, and investment through U.S. subsidiaries established by the pension funds themselves.[13]

As already noted, the only *Japanese* pension fund reserves that can be invested in foreign real estate are those managed by the insurance companies. As of mid-1982, their foreign real estate holdings totaled less than 1 percent of all assets (compared with 6 percent invested in domestic real estate), but almost all was in the United States. Only a few companies have so far purchased foreign properties, but they are planning to add to their holdings, some on a continuing basis. Moreover, purchases by other companies are in the offing. Half of the investments have been in existing buildings; in other cases, new properties are being developed. All of the investments so far have included an American partner. There are no official limits on the size of foreign real estate transactions, but the Finance Ministry has to be notified prior to every such deal. When the yen has been under strong pressure because of heavy outflows, administrative guidance has occasionally been used to influence the amount of capital being transferred abroad.

Many foreign pension funds were, and still are, strongly drawn to the sun-belt states. Others, believing that a number of such locations have been overbuilt, prefer other parts of the country. Many invest only in the downtown areas of big cities, while others see opportunities in "second-tier" properties in more modest-size communities, although often requiring higher returns from such investments.

Tax considerations have influenced some foreign pension funds in the choice of U.S. locations as well as of the institutional arrangements. For example, California real estate has been shunned by some because of the state's unitary income tax, which is based on a company's consolidated operations regardless of location. In part, their reaction reflects the belief this tax would result in a lower return than could be obtained from a similar investment in most other states. And to avoid U.S. Federal taxes, pension funds have sometimes been invested through specially established Netherlands Antilles subsidiaries. The dividends and interest paid out by these subsidiaries are exempt, under a U.S.-Netherlands Antilles tax treaty, from U.S. withholding taxes which otherwise can be imposed on the distributions from the profits of foreign corporations' U.S. branches. However, beginning two years hence, because of the 1980 Foreign Investment in Real Property Tax Act, these subsidiaries will no longer have the present additional exemption from taxes on capital gains from the sale of real property. This will reduce, although not eliminate, the advantage of investing through Netherlands Antilles subsidiaries.

Future developments

Pension fund growth

Pension fund reserves in the four countries are almost certainly going to continue to expand strongly throughout the mid-1980s and probably beyond, as net cash flows from contributions and from earnings on growing masses of investments rise. Increased pension fund reserves will be required to cover an expanding number of employees and improved benefits. The changes in benefits will vary, but among the goals sought in one country or another there will be higher retirement income, more generous disability and beneficiary treatment, more protection against inflation, and earlier vesting. The number of retired employees will of course be rising, and for some mature pension plans the payout to retirees will impose a considerable brake on net cash flow. However, this can have only a marginal effect on the growth of total fund assets during this decade.

The worldwide recession of the past two years has undoubtedly affected the rate of aggregate pension fund growth. Companies have gone out of business

[13] A new U.S.-Canadian tax treaty that is expected to be approved by the U.S. Senate this year will provide Canadian pension funds with exemption from the 15 percent withholding tax on dividends and interest that other Canadian investors must pay.

and unemployment has increased. In addition, a step-up in early retirements, initiated by some firms as one way of dealing with a surplus of employees, has had an adverse impact on the cash flows of some pension funds. Nonetheless, the number of active workers covered by pension plans in any one country may not have declined to any significant extent, where it has at all. Moreover, strongly rising yields on existing portfolios have partly made up for any slack in fund contributions. And economic recovery, unless it turns out to be very stunted, can be expected to lead over the years to further growth of plan membership.

In a country like *Japan,* where pension plans are still very young and limited in number, the increases in cash flow from widening coverage and better benefits should be especially large for many years. It is anticipated that pension fund totals there could easily increase by 20-25 percent a year. In *Canada,* annual additions to reserves of 15-20 percent are foreseen for the next several years.[14] In the *Netherlands,* annual net cash flows during the next five years at a rate of at least 10 percent of portfolio seem probable. In the *United Kingdom,* the rate of annual accumulations may be just about 10 percent. Overall then, by 1987 the Canadian funds may have at least doubled from their 1981 levels, while the Japanese funds, because of their exceptional rate of growth, may well have expanded to more than 2½ times their 1981 levels. The United Kingdom and the Dutch funds may each grow by approximately 75 percent.

The implications of such rapid growth for foreign investments seem clear. In none of the four countries does the domestic economy provide investment opportunities for the swelling masses of pension funds that are at a level of risk and sufficiently numerous, diversified, and profitable to satisfy the funds' prudential and earnings requirements.[15]

[14] A slowdown might develop in the second half of the decade. The Canadian and the Quebec social security retirement systems will be going into deficit by the end of this year, and mandatory contributions are expected to be doubled or more by the late 1980s. Many employers who operate voluntary pension plans reportedly might then find it financially necessary to reduce benifits, or even to terminate plans.

[15] Two years ago the Governor of the Bank of England made a comment in another context that is of interest here: "The equity capital of the larger British companies, accounting for perhaps three quarters of the output of our private-sector industry and commerce, is increasingly owned by the main institutional investors, above all the life assurance companies and pension funds. Indeed the cash inflow of these institutions and the relative shortage of equity available for purchases in the market may be an important element in the comparative strength of the equity market despite the poor profitability of much of British industry." (Reflections on the Role of the Institutions in Financing Industry, First 1981 Stockton Lecture, London Business School, January 22, 1981.) The second sentence points to one reason why British pension funds have felt a need to invest a substantial portion of their reserves abroad.

Investments in the United States

Although the *British* pension funds will grow more slowly than those in at least two of the other countries, the importance of the British funds as investors in U.S. assets remains great because of their volume and their inclination to enlarge the foreign portion of their portfolios. Those funds that may have reached their desired foreign investment limits would still be putting abroad sizable portions of their annual accruals. More modest-size funds, which have smaller shares invested abroad, may well continue to increase the place of foreign assets in their portfolios by investing through unit trusts, which are very actively marketing their services. Insurance companies, more than half of whose business comes from pension funds, have also begun to step up their foreign investments. In addition, there has been an easing of investment restrictions on local authority pension funds that is making it possible for them to place more of their reserves abroad. Given the current pace of foreign investing and the attitudes of investors, it would not be at all surprising if the foreign assets of British pension funds were to increase from the almost 15 percent of portfolio they had reached by the end of 1982 to 15-20 percent of the expanded aggregate reserves within another five years.

A good deal more than half of the increase is likely to be in U.S. assets. Since U.S. equities accounted for only about 50 percent of their total equities holdings in 1981, any substantial decline would imply a significantly unbalanced portfolio, measured by the share of U.S. equities in world equity capital. For this to happen, either the U.S. economy would have had to deteriorate very seriously, or currency developments would have had to improve greatly the prospective returns from investments elsewhere. The outlook for continued investment in foreign real estate, which in effect means U.S. real estate, is also good. The discrepancy between foreign real estate holdings of 2-3 percent of portfolio for some large funds and 8-9 percent for others suggests there is considerable room for expansion of even large funds' investments. The smaller funds, which so far have invested only a tiny percentage in foreign real estate, are likely to build up to a somewhat more significant level, primarily through the specialized PUTs.

The *Dutch* will certainly also continue to place a substantial portion of their accumulated reserves abroad. Some funds have considerably more than 20 percent invested abroad, while the foreign share for all funds is only 6 percent. This implies that most funds are below even this level. The share of foreign assets in each year's net investments has been creeping upward, pointing to an inclination to allocate a larger portion of reserves to such assets. Insurance com-

panies apparently have also started to invest abroad.

Recent developments suggest that perhaps half of the new foreign investments out of Dutch pension fund reserves will be in the United States. Most of this will be in equities, but real estate investments, which slowed down for two years, will again be important. The managers of some of the large pension funds that had stopped making such investments were in late 1982 again perceiving good real estate values as a result of the recession. Moreover, Dutch real estate trusts that invest in the United States have been intensively soliciting other Dutch pension funds also to invest here.

Pension funds in both *Canada* and *Japan,* despite the 10 percent ceilings, will be placing substantial amounts abroad over the coming several years. In the first place, total foreign investments are currently far below the ceilings. Secondly, fund reserves in each of the two countries are expected to climb rapidly, roughly doubling by 1987 in the case of Canada and even sooner for Japan.

In *Canada,* there is an increasing tendency to make use of the full 10 percent. The largest pension funds have been pressing against the ceiling for some time. Indeed, some have even chosen to invest as much as 15 percent and to pay the tax penalty. In addition, managers of other funds, who have in the aggregate used less than half of the allowable percentage, have recently become more outward looking. Although U.S. securities investments are unlikely to be as overwhelmingly dominant among foreign investments as heretofore, net U.S. securities acquisitions should continue to be strongly positive, with only temporary slowdowns when conditions in currency or equity markets appear to favor substantial increases in investments elsewhere. It seems likely, moreover, that U.S. real estate investments will expand. The importance of domestic real estate investments in Canadian pension fund portfolios is apparently on the verge of a significant increase. Foreign real estate investments will certainly grow along with the domestic investments, as they have in the past, and these will undoubtedly continue to be virtually all U.S. investments. Although some managers still feel the indirect route required to put money into foreign real estate is too troublesome, it is likely that, if investments already made show attractive returns, more investors will follow.

In *Japan,* pension fund managers had been seeking permission to invest abroad for some time prior to the recent Ministry of Finance approval. That approval was finally granted for several reasons, including such widely varying reasons as concern that reserves were growing too rapidly to enable a sufficient volume of good investment opportunities to be found at home and the always present possibility of a disastrous earthquake in Japan. Now the managers are eager to utilize the new opening to foreign capital markets as rapidly as they prudently can. During the last year alone, the trust banks increased the foreign investments in pension fund portfolios from 2 percent to over 3 percent, on average, and the insurance companies from 3 percent to almost 5 percent. As they increase these investments, they are going more heavily into equities, and interest-bearing instruments are declining from their early share of over 90 percent. This may not mean much change in the weight given U.S. securities. Dollar-denominated issues apparently constituted between one half and two thirds of the foreign bond holdings. Equity investments would be in roughly the same currency proportion as bond holdings have been, if the former are geographically allocated in line with the approximately two-thirds share that dollar equities currently constitute of the world's non-Japanese equities. Thus, a major part of the ongoing foreign investments would be channeled to the United States. Foreign real estate investments will also continue to grow as a share of insurance company portfolios. As with investors from other countries, the United States has been the preferred location for purchases already made and will almost surely remain so.

It would be unrealistic to try to quantify in detail the likely flows into U.S. assets sketched in the preceding paragraphs. Nonetheless, one can be bold and, on the basis of the many assumptions stated, venture some extremely rough guesses regarding the totals that might be entering the country during the six-year period through 1987.

For the *United Kingdom* pension funds, the anticipated rate of growth, and the likely allocation in the foreign investment share between U.S. assets and other assets, suggest that the flow into the United States could reach $18 billion.[16]

For the *Dutch* trusteed funds, which are only about one fifth the size to start with, investments might amount to about $4 billion. A comparatively small additional amount could come from the pension funds handled by the Dutch insurance companies.

The *Canadian* funds, because of the 10 percent limitation on foreign investments and the geographic diversification away from their now overwhelmingly U.S. holdings, might invest approximately $6 billion.

The *Japanese* funds, also limited to only 10 percent of portfolio plus some real estate investments, will be growing more rapidly than the Canadian funds and will continue to place a major share in the United States. Over the six-year period, Japanese investments could aggregate about $7 billion.

[16] This and the following figures are in current dollars.

Conclusions

The indicated figures suggest that flows into the United States from these pension funds during the six years ending 1987 could aggregate roughly $35 billion. There will also be some comparatively minor flows from other countries. On an annual basis, total flows from abroad might increase from about $4-6 billion in the first years to $6-9 billion in the later years. Most would go into equities, some into interest-yielding investments, and some into real estate. While actual developments might well prove to be significantly different from these guesstimates, the figures nonetheless provide some conjectural amounts against which to pit the outflows into foreign assets from U.S. pension funds.

In an earlier *Review* article, it was suggested that outward flows would gradually increase over the current decade from the approximately $2¾ billion estimated for 1980 but would remain below $10 billion into the middle of the decade.[17] Information on outflows since then indicates that thus far this prediction has been borne out. The estimates of flows into the United States developed above therefore point to the probability of a fair degree of balance between capital inflows from foreign pension funds and capital outflows from U.S. pension funds. The impact on U.S. markets should consequently be close to a wash in dollar terms, but the inflows should also have the beneficial effects of adding depth and liquidity to capital and real estate markets because of the larger number of participants and the different considerations that often motivate foreign investors. Moreover, the foreign and domestic pension funds should each be securing a portfolio that, according to their managers' respective perceptions, is a better portfolio, that is, one that will provide higher yields and/or be subject to less risk in terms of volatility.

Finally, the present analysis indicates that during the foreseeable future the international capital transactions by these particular institutional investors will remain small relative to total U.S. international capital flows. The findings also suggest that the transactions will tend to produce, over reasonable intervals of time, roughly equal supply and demand for the dollar. They should, therefore, not have any long-term destabilizing effect on the dollar exchange rate.

Edna E. Ehrlich

[17] Article cited in footnote 1.

Social Security in Germany and the United Kingdom

The United States is not alone in its difficulties with social security finances. The problems faced by the U.S. system—disproportionately high benefits relative to contributions, as well as unfavorable demographic developments and the impact of simultaneously high rates of inflation and unemployment—plague the social security systems of all industrial countries.

The European experience with social security is instructive for the United States because many solutions proposed for this country have received a trial abroad. The social security financial crisis now faced by the United States began in Europe during the 1970s. All four major countries (Germany, France, Italy, and the United Kingdom) made fundamental reforms or substantial adjustments to their social security programs.

Efforts to limit the growth of social security in Germany and the United Kingdom—the focus of this article—are of particular interest to the United States. In Germany, the authorities viewed the financial problem as essentially short term. Therefore, they employed short-term measures such as interfund transfers and temporary limits on the increase in benefits. In contrast, the authorities in the United Kingdom viewed their problem as one of long-term inadequacy in the existing system. They undertook a comprehensive reform to shift a large part of the burden of old-age pension provisions from the public to the private sector.

Both countries still face questions about the solvency of their systems. The German pension funds are threatened in the near term; they may deplete their liquid reserves by early 1984. In the United Kingdom, the security of social security finances as the reform is phased in over the longer term remains unclear.

This article provides historical perspective on the difficulties of the social security systems in Germany and the United Kingdom, describes what was done, and suggests what kind of lessons can be drawn.

Social security abroad

Social security systems vary widely among industrial countries in organization, coverage, benefits and their adjustment, as well as funding.[1] Social security systems in Europe are generally more comprehensive than in the United States. Social security there includes extensive health and disability insurance, unemployment compensation, and family allowances in addition to the old-age pension program, the predominant element in the U.S. social security system. Most important is the far larger public-sector role in providing health care and health insurance in major European countries. European unemployment and disability benefits also tend to be more generous.

The author would like to express her appreciation to Lynn Ellingson, Lillian Liu, and Daniel Wartonick of the Social Security Administration's Comparative Studies Staff for helpful assistance and advice. They bear no responsibility for the contents or the views of this article.

[1] This section draws heavily on the excellent *Social Security Programs Throughout the World,* a biannual publication of the U.S. Department of Health and Human Services, Social Security Administration, Office of Policy, Office of Research and Statistics, Research Report No. 58.

Table 1

Old-Age Pension Insurance Systems

Date of first law indicated in parentheses

Earnings related	Dual system
Belgium (1924)	Canada (1927)
Germany (1889)	Sweden (1913)
Italy (1919)	United Kingdom (1908)
Japan (1941)	
Switzerland (1946)	
United States (1935)	

Source: See footnote 1 in text.

There are two main models for old-age pension insurance (Table 1). A social insurance system, where contributions and benefits are based largely, if not entirely, on earnings, is found in the United States and Germany. The second model, a dual system which provides a basic benefit to all contributors regardless of earnings *and* an earnings-related benefit, is found in the United Kingdom. A few countries have old-age pension insurance systems fitting into neither category. France, for example, combines a social insurance system with a mandatory private pension program. In addition to the main systems, there are frequently special funds for certain occupational groups: miners in Germany, for example, or farmers in France.

Comparability of social security finances across countries is also complicated by accounting differences. In Germany, pension, unemployment, and health insurance form separate and identifiable funds, much as they do in the United States. In the United Kingdom, however, a single social security contribution covers all programs and all programs are part of the central government budget.

The size of social security contributions and spending varies across countries. As Table 2 shows, total social security contributions in Germany are much higher relative to GNP than in the United States or the United Kingdom.[2] When a broad definition of social security expenditures is used, spending is also higher as a share of GNP in Germany. In all three countries, social security spending currently accounts for around a third of overall government expenditures.

Funding

Sources of funding vary considerably across countries but differ from the U.S. system in two important ways. First, tax rates for total social security programs are generally much higher abroad and social security contributions from employers are often larger than those from employees. Contribution rates for old-age, survivors', and disability insurance—rates roughly comparable to the U.S. social security tax—are also generally higher abroad (Table 3).

Higher social security contribution rates reflect the higher level of social security expenditures relative to GNP in many countries, including Germany. A smaller tax base, however, not greater expenditures, accounts for higher contribution rates in the United Kingdom. The ceiling on covered wages in the United Kingdom is low relative to average income when compared with the United States, and contributions are optional for those with incomes below a floor.

When the focus is narrowed to old-age and survivors' pensions alone, the relationship between contributors and beneficiaries also explains higher contribution rates. Data on the ratio of all workers of all ages to nonworkers over 65 (the dependent elderly) suggest that the United States faces a more favorable balance between workers and "dependents" than Europe (Table 4). The difference in the ratios is expected to narrow in the 1980s, as the U.S. ratio continues to decline, while those of Germany and the United Kingdom should rise somewhat. The relatively favorable U.S. situation reflects the higher U.S. birth rate and the impact of immigration.

Second, in every European country except France, the social security system relies on some funding from the general revenues of the central government. In Germany, general revenues in principle fund only that part of social security which consists of payments to noncontributors. In practice, the Germans have found it difficult to hold the subsidy within that bound. In the United Kingdom, the government's grant from general revenues in 1982 amounted to 13 percent of social security expenditures, a share recently lowered from 18 percent.

European social security systems, like the U.S. system, operate on a pay-as-you-go basis. In the postwar period, virtually every industrial country has operated its social security system on a pay-as-you-go rather than on a funded basis, especially since high rates of inflation dissipated whatever reserves there were in

[2] Comparisons of government spending across countries are sometimes difficult because the organization of government differs across countries. The most useful comparison, therefore, is of spending at all levels of government, that is, the total spending of Federal (central), state (regional), and local governments plus the social insurance funds. Social security spending includes social assistance (welfare benefits and housing allowances, for example), which accounts for about a third of the figure for the United States and the United Kingdom and only a fifth of the figure for Germany. Germany still has relatively higher spending if social assistance is eliminated.

Table 2

Social Security Contributions and Expenditures*

In percent

Country	1965	1970	1975	1980	1982
			Contributions as a share of general government receipts		
Germany	26.4	29.0	32.8	36.1	36.9
United Kingdom	14.2	12.8	16.1	15.4	16.3
United States	16.1	19.5	23.6	24.3	26.4
			Contributions as a share of GNP/GDP†		
Germany	9.3	10.9	13.4	15.5	16.2
United Kingdom	4.7	5.2	6.5	6.2	6.9
United States	4.4	5.9	7.2	7.7	8.4
			Expenditures as a share of general government expenditures		
Germany	30.6	29.1	31.5	34.1	34.6
United Kingdom	19.5	20.8	19.9	26.0	29.5
United States	19.2	24.0	32.0	33.2	33.9
			Expenditures as a share of GNP/GDP†		
Germany	10.6	10.5	14.3	15.3	16.2
United Kingdom	6.9	7.9	9.1	11.3	13.3
United States	5.4	7.8	11.4	11.1	12.0

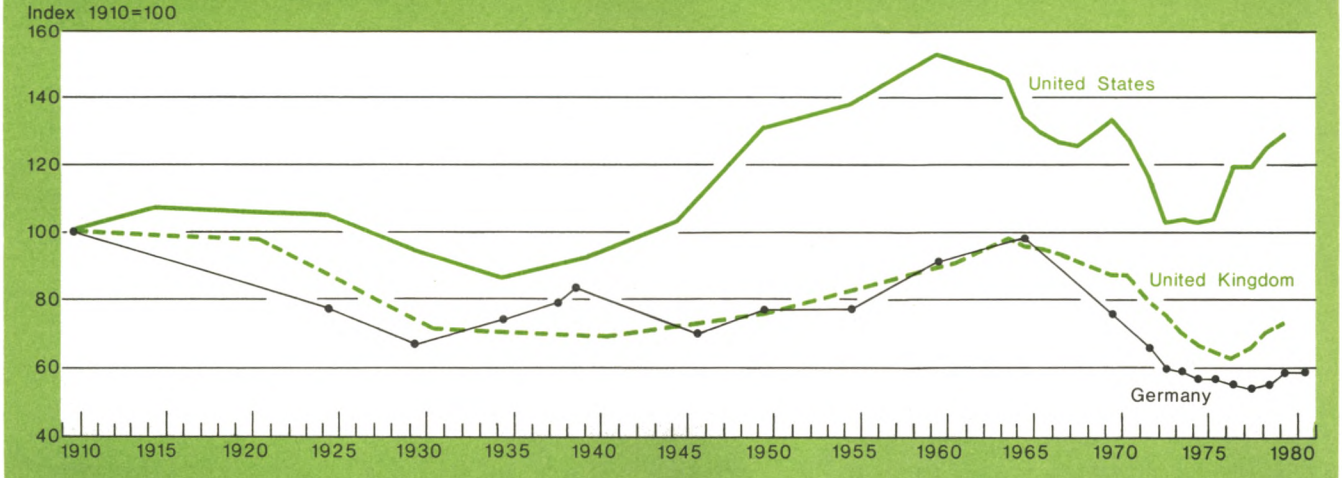
*Social security revenues and expenditures are broadly defined. See footnote 2 in text.

†GDP=gross domestic product; GNP=gross national product.

Sources: Office for Economic Cooperation and Development (OECD), *National Accounts 1963-1980,* and staff estimates for 1982.

Chart 1

Index of Live Births



Sources: Bureau of the Census, Statistical Abstract of the United States; Federal Statistical Office, Statistical Yearbook of the Federal Republic of Germany, and the United Kingdom Central Statistical Office, Annual Abstract of Statistics.

Table 3

Sources of Old-Age Insurance Funding

Country	Contribution rate in percent* Employee	Employer	Government	Contribution for:
Belgium	7.00	8.86	Annual subsidies (about 20 percent in 1982)	Old age and survivors
†Canada	1.80	1.80	Cost of universal pension, any deficit, some income-tested benefits	Earnings-related benefit
France	4.80	8.20	None	Old age and widows
Germany	9.00‡	9.00‡	Annual subsidy (about 14 percent) plus contributions of workers on maternity leave or unemployment	Old age, disability, death
Italy	7.15	17.16	Lump-sum subsidy plus cost of means-tested benefits	Old age, disability, death
§Japan:				
Employee insurance:				Old age,
Men	5.30	5.30	20 percent	disability,
Women	4.55	4.55	of benefits	death
National insurance	¥5,220 monthly		33⅓ percent of benefits	—
Sweden	0	21.15	30 percent of universal pension benefits	Old age, disability, death
Switzerland	4.70	4.70	20 percent of old-age, 50 percent of disability, plus some means-tested benefits	Old age, disability, death
United Kingdom	9.00‖	11.95‖	13 percent of costs plus full cost of means-tested allowances	Old age, disability, unemployment, sickness, death
United States	5.40	5.40	Cost of means-tested benefits**	Old age, survivors, disability

*1981 contribution rates still in effect or more recent rate, where available. Except for Italy, Belgium, and Sweden, every country has a ceiling on covered earnings.

†The rate is low because the system is young and has a large accumulated surplus.

‡Rises to 9.25 percent for employer and employee in September 1983.

§Earnings-related scheme can be contracted out (see United Kingdom discussion in text) if private benefits meet social security benefits. The employee contribution then falls to 3.7 percent for men, 3.0 percent for women, and the employer contribution falls to zero.

‖The employer contribution includes 1.5 percent national insurance surcharge. The surcharge is scheduled to fall to 1 percent in August 1983. If the earnings-related portion is contracted out (see United Kingdom discussion in text), the employee rate drops to 6.9 percent on all but the first £32.50 a week of covered earnings. For the employer, the rate falls to 7.9 percent on all but the first £32.50 a week.

**Supplemental social security.

the years following World War II.[3] An old-age insurance program of some sort had been in effect in most countries before World War II. In practice, such programs were never more than partially funded.[4]

The role of private pensions

Social security pension plans also vary across countries in the degree of integration with private pension plans. In the United States and Germany, social security and private pension systems are not formally integrated. About 50 percent of workers in the United States and about 60 percent in Germany are covered by private pensions.

In the United Kingdom, private pensions are an alternative to the earnings-related social security pension, which serves as a minimum standard. Around 45 percent of workers are covered by private pension plans through the contracting-out option described on page 24.

By contrast, private pensions are mandatory for around 80 percent of workers in France. In a plan that resembles the dual social security system described above, the social security fund in France provides a flat-rate benefit and the private pension an earnings-related benefit. Switzerland is considering a similar plan.

Private pension benefits are generally not indexed, although German employers are required by a 1974 law to review pensions every three years and adjust them for at least half the loss in purchasing power. In France, some indexation occurs through the practice of *répartition*.[5]

In all three countries, private pensions replace between 10 and 20 percent of average wages. Thus, they are an important supplement to social security benefits, pushing overall replacement rates toward 70 percent in Germany and France and toward 50 percent in the United Kingdom. Replacement rates in the United Kingdom and France are expected to rise further as the private pension plans mature over the next decade.[6]

Table 4

Ratio of Workers to Dependent Elderly, 1950-90

Country	1950	1960	1970	1980	1990
United States	7.15	5.51	5.15	4.95	4.70
Germany	5.95	5.09	3.71	3.46	3.87
United Kingdom	5.22	4.56	4.05	3.66	3.73

The dependent elderly are nonworkers over age 65.

Source: International Labor Organization (ILO), *Labour Force Estimates and Projections, 1950-2000* (second edition).

A comparison of the European situation with the United States.

In Europe, the picture of social security funding problems frequently offered has been analogous to the standard portrayal of the U.S. situation. That portrayal contends that:

- the present temporary solvency problem was caused by uncontrollable factors like the recession,
- no problem exists in the medium term as scheduled tax increases restore solvency, and
- a long-run solvency problem exists because of unfavorable demographic factors.

The belief that social security faced only a short-run crisis may account for the belated response in many countries to persistent social security problems.[7]

The timing of the three stages of the funding problem in the standard portrayal differs significantly between Europe and the United States. The short-term crisis which has beset Europe since the mid-1970s is believed to be the result of the sharp slowdown in economic growth after 1974-75 and unfavorable developments in the age structure of the population. Over the period 1950-75, the population over 65 grew 2 to 3 percent in the major European countries, while the working population aged 15 to 65 years increased only slightly.

Relief from the short-term crisis was anticipated to

[3] Canada, Japan, and Sweden have accumulated large surpluses because their systems are fairly young, but even these countries do not operate their systems on a funded basis.

[4] In Germany, for example, reserves ranged from coverage of ten years in 1917 to essentially no coverage in 1924.

[5] Max Horlick, "Private Pension Plans in West Germany and France" (Research Report No. 55, Social Security Administration, Office of Policy), October 1980. Under *répartition*—a version of pay-as-you-go—pension fund revenues are redistributed to pensioners according to the number of "pension points" accumulated, points being determined from earnings and length of service. Partial indexation occurs as wages rise, provided no serious imbalance between pensioners and contributors develops.

[6] Leif Haanes-Olsen, "Earnings-Replacement Rate of Old-Age Benefits, 1965-75, Selected Countries", *Social Security Bulletin* (January 1978).

[7] A discussion of trends in social security over the 1970s in a large number of countries is contained in Ilene R. Zeitzer, "Social Security Trends and Developments in Industrialized Countries", *Social Security Bulletin* (March 1983).

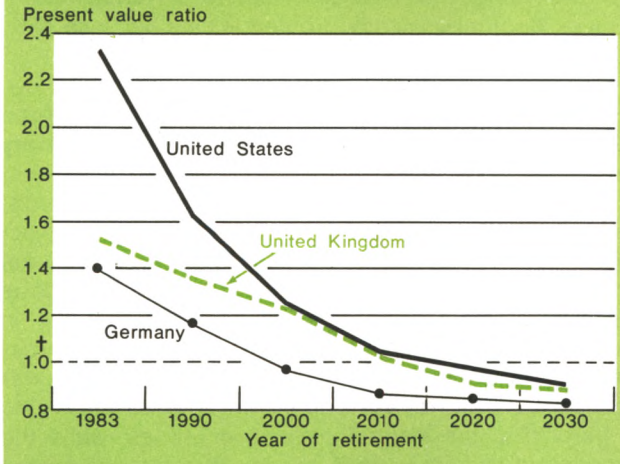
come by the 1980s at the latest. A slowdown in the growth of the elderly population to a rate matching that of the working-age population was expected to stabilize social security finances. War and depression in the first half of the century had thinned the generations retiring after 1975. The postwar baby boom in Europe—delayed relative to the United States by the economic dislocation after World War II—would just be entering the labor force (Chart 1).

This medium-term relief was expected to be followed by a serious crisis in the next century. The eventual retirement of the baby boom generation combined with the low birth rate in recent years would lead to a new and serious funding problem.

In reality, the short-term crisis has not passed in many countries. The medium-term outlook is clouded, even gloomy. In part, the continuing crisis results from the return to recession after the second oil-price shock. But it also reflects the failure to perceive the problems of the mid-1970s as more than temporary imbalances.

Chart 2

Ratio of the Present Discount Value of Benefits to Lifetime Contributions Plus Interest*



*Estimates computed for a 65-year-old single male retiree with average lifetime earnings. The U.S. estimates are an update of those presented in Capra, Skaperdas, and Kubarych (Autumn 1982 issue of this Review). The calculations for Germany and the United Kingdom are described in a memorandum which can be obtained from the author.

†When ratio is 1.0, the present value of expected benefits equals accumulated employer-employee contributions plus interest.

The imbalance between benefits and contributions

In a recent article, Capra, Skaperdas, and Kubarych (Autumn 1982 issue of this *Review*) questioned the standard portrayal of the U.S. social security system's financial troubles. In their view, the fundamental problem is that retirees can expect to receive benefits far in excess of lifetime contributions plus interest.

The critique of the standard portrayal applies to Europe as well as the United States.[8] A comparison of the ratio of benefits to combined employer-employee contributions for representative pensioners in the United States, Germany, and the United Kingdom illustrates some common elements as well as some differences in U.S. and European social security problems (Chart 2). The hypothetical individual in all three countries is a single male with average income throughout his working lifetime.[9]

Current retirees in all three countries appear to be treated relatively favorably. The present discounted value of the benefits received by a retiree at the start of 1983 is more than twice the value of his lifetime contributions with interest in the United States and about 1.5 times his contributions in Germany and the United Kingdom. Relatively higher contribution rates and real interest rates in the past account in large part for the lower benefit to contribution ratios in Europe. The ratio for the United Kingdom is also relatively high because current retirees made no contributions before the start of the current system (1948) and the basic benefit increased sharply in 1975.

In the longer run, the ratios show a decline in every country, although those of the European countries stabilize at a level somewhat below that of the United States. The U.S. ratio declines rapidly and stabilizes after 2030 at 0.90. Germany's ratio falls more slowly and remains around 0.85 after 2010. In the United Kingdom, the ratio declines still more slowly, a result of the gradual phasing-in of the 1975 reform, until it falls below 0.90 around 2025.

[8] In an analysis similar to Capra, Skaperdas, and Kubarych, evidence that current retirees in Germany receive larger benefits than their contributions is found in Klaus-Peter Koppelmann, *Intertemporal Income Distribution in the Statutory Pension Insurance of West Germany, Studies in Applied Economics and Statistics,* volume 8 (van den Hoeck & Ruprecht, Goettingen, 1979).

[9] In the United Kingdom, the representative individual elects to remain in the social security system. The British situation differs in another important respect. Unlike the United States and Germany, social security contributions include unemployment, sickness, and disability insurance as well as old-age pension insurance. For an individual who remains in the social security system, it seems reasonable to compare the benefits to contribution ratio to the long-run share of pension outlays in total National Insurance Fund expenditures. In the 1971-81 period, this share was 70 percent. The lower expected United Kingdom ratio is taken into account in Chart 2.

The imbalance between benefits and contributions plays a major role in the short-term and the medium-term financial difficulties of social security in all three countries. This problem of imbalance is especially important and persistent in the United States. In the longer run, however, the imbalance is eliminated as the ratios fall below 1. By then, other factors, primarily unfavorable demographic conditions, threaten the solvency of all three old-age retirement systems.

Reasons for the difficulties abroad

To a large extent, the current imbalance between benefits and contributions in Europe reflects the generous policies of the late 1960s and early 1970s. The changes in those years moved social security increasingly away from a program in which benefits were related to contributions to a program which extensively redistributed income. The introduction of minimum pensions and the extension of benefits to those whose contributions were too low to qualify for regular pensions are examples of such changes.

Benefits to contributors were also increased sharply in the early 1970s, especially through early retirement programs in Germany and through the adoption of a generous inflation adjustment standard in the United Kingdom. Contribution rates, while high, failed to rise sufficiently to compensate.

Inflation's effects on private savings, especially private pensions, have also played a role. Since private pensions are usually not indexed, they tend to lose real purchasing power. Moreover, interest rates on savings instruments abroad, while not limited by ceilings like Regulation Q, have at times been low relative to inflation. This problem has been more acute in the United Kingdom, where inflation has been higher. The erosion of the real value of pensions and other forms of saving has no doubt increased the pressure on governments to improve social security benefits.

To a lesser extent, the difficulties are the result of an unanticipated increase in life expectancy, especially an increase in the probability that large numbers of workers will live long enough to retire. Around 1930, life expectancy for men at age 20 was roughly 67 years in both Germany and the United Kingdom. It had reached 70 years by 1950 and nearly 71.5 years by 1978, owing in part to a considerably reduced death rate among those aged 45 to 60.[19] Gains in life expectancy for women have been even more substantial as the risks of childbearing have declined.

Social security problems have been greatly aggravated by weaker economic growth after 1973. Both Germany and the United Kingdom experienced a greater slowdown than the United States after the bout of inflation and recession resulting from the first oil shock in 1973. The problems that the slowdown produced in the two countries, however, have been different. In Germany, slower growth was accompanied by a lasting rise in the unemployment rate but relatively low inflation. In the United Kingdom, the slowdown produced a later, but swift, rise in unemployment, and a continuation until 1982 of the relatively rapid inflation experienced since the 1960s.

Germany

The source of the German social security problem lay in the rapid expansion of benefits in the early 1970s. The scope of the social insurance program was increased, reaching housewives, the handicapped, and other low contributors to the system. Germany introduced a minimum pension for those over 65 whose contributions were too low to qualify for a regular social security pension. In 1972, the German government moved forward the adjustment of pensions for inflation by six months.

The expansion of benefits did not immediately drive the old-age pension fund into deficit. It did lead to a rapid rise in real pension benefits per recipient between 1968 and 1972 (Chart 3).

The benefit change having the largest effect, however, was early retirement with full benefits. In 1973, the German government began to offer early retirement to a broader class of workers, a possibility formerly available only to workers in especially hazardous occupations. Germany offered full retirement benefits to men with thirty-five years of service from age 63 on—two years before the statutory retirement age. The offer of full retirement pensions at age 63 was considerably more liberal than the newly introduced early retirement option in the United States. U.S. workers aged 62 and over could retire early, but with an actuarially reduced pension.

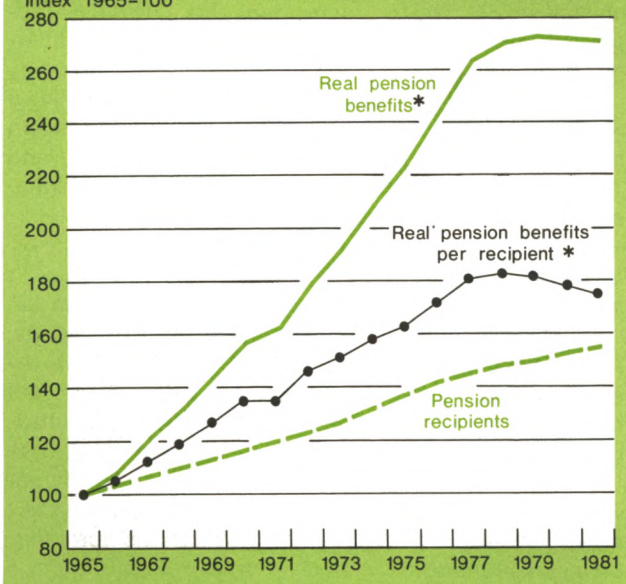
Another measure to facilitate early retirement was included in 1974 legislation tightening regulation of private pensions. The new law permitted private pension plans to offer flexible retirement benefits from age 63 on. Thus, it provided an additional inducement to early retirement for the 60 percent of workers covered by private pensions.

The German authorities apparently expected the possibility of elective early retirement to have little impact on the work effort of older workers. The prediction proved to be incorrect. The number of pension recipients continued to grow rapidly between 1974 and 1977 (Chart 3), even though the number of persons

[19] The comparable numbers for the United States are 64 in 1920, 66 in 1950, and 68 in 1978.

Chart 3

Real Pension Benefits in Germany



* Deflated by the consumer price index.

Sources: Federal Statistical Office, Statistical Yearbook of the Federal Republic of Germany; Deutsche Bundesbank, Monthly Report.

aged 65 declined. As Table 5 shows, labor force participation rates among men aged 55 and over dropped quickly in the 1970s.

The surplus in the pension funds for wage and salary earners disappeared in 1975, when the effects of benefit changes and the 1974-75 recession began to appear. Depressed revenues, the result of the elimination of nearly 2 million jobs in the recession, and unabated growth of expenditures quickly dissipated the reserves of the combined wage and salary funds set by law at one year's outlay.

Further strain on the system resulted from the rapid rise in unemployment among older workers, a group facing special difficulties in finding new employment without retraining or accepting large wage cuts. Beginning in 1976, older workers could retire as early as age 60, or up to five years early, provided they met certain requirements on length of employment and period of unemployment.[11] Indeed, it is possible if not sanctioned for workers to leave their employment voluntarily at age 59, collect unemployment benefits for a year, and thus qualify for full pension benefits at age 60. In addition, more generous interpretations of early retirement provisions for those with health or disability problems contributed further to a rapid decline in labor force participation by older workers.

Encouraging older workers to leave the labor force was in part motivated by rising youth unemployment. Unemployment among both older and younger workers reflects a more general structural unemployment problem. Because older unemployed workers are often low skilled or possess obsolete skills, they may compete directly with younger workers for unskilled jobs.

Early retirement has proven to be an expensive way to solve the problem of structural unemployment. It not only adds to the current pension burden but to the future burden as well, as early retirement provisions are likely to be difficult to remove.

The wage inflation of the early 1970s, aggravated by the oil-price shock in 1973, haunted the German social security system later through the long lags built into the benefits adjustment scheme.[12] The calculation of social security benefits involves two kinds of adjustment. To determine the initial level of benefits, past earnings are revalued to present-day levels. Revaluation is necessary because incomes from past years have low purchasing power today, even at modest rates of inflation. Germany revalues an individual's past earnings according to the growth of average wages. Then, to maintain the purchasing power of benefits in subsequent years, increases in benefits are tied to the rate of growth of average wages over a period of 2½ to 3½ years earlier, depending on the particular fund.

The lagged relationship to wage increases was intended to smooth out fluctuations in aggregate demand, but in 1976 it had unforeseen negative consequences. The rapid growth of wages in 1973 and 1974 (around 10 percent) spilled into the social security system just as wages began to decelerate sharply in the German economy. The system's reserves fell $2.5 billion or 15 percent in 1976 and continued to fall in 1977. With reserves falling at such a rapid rate, the financial problems could no longer be ignored.

[11] A more complete discussion is contained in Martin B. Tracy, "Flexible Retirement Features Abroad", *Social Security Bulletin* (May 1978), pages 18-36.

[12] The Germans distinguish between benefits adjustment (*Dynamisierung*) and indexation (*Indexierung*). In Germany, increases in pension benefits are linked to increases in wages, but each year's increase must be approved by parliament through passage of a Pension Adjustment Law (*Rentenanpassungsgesetz*). Indexation, which is prohibited in Germany by the 1948 Currency Law, implies automatic increases as the price level rises. In the United States, for example, social security benefits increase automatically without Congressional action.

The United Kingdom

Like the United States and Germany, the United Kingdom experienced an expansion of social security benefits in the early 1970s. Many features of the expansion in the United Kingdom resemble those in Germany. For example, in the early 1970s, the United Kingdom introduced a minimum pension for those over 80 who had work experience too short or income too low to qualify for a social security pension.

Unlike Germany, however, the expansion did not result largely from a sense of considerable prosperity and overoptimistic predictions of continued rapid growth. The expansion in the United Kingdom had its roots in the growing disparity between the well-being of those retired and those still working.

The old-age pension system in the United Kingdom had struggled for over two decades before the 1975 reform with inadequate pension provisions, little inflation protection, and a growing government share in support for the aged. The system in effect from the early 1960s until 1975 consisted of two tiers: a flat-rate benefit provided by the government to all and an earnings-related benefit intended for those not covered by a private pension plan. These benefits provided one of the lowest earnings-replacement rates in Europe.[13]

The problem became painful by the late 1960s. The government's review of public pensions for inflation adjustment every two years was too infrequent. Real social security pension benefits per recipient stagnated between 1965 and 1971 (Chart 4), despite average real growth of 2.5 percent in the economy. Inflation had depleted the purchasing power of savings and private pensions, which were not indexed. With both public and private pensions unable to provide adequate support for the elderly, some expansion of pension benefits seemed inevitable, but the role of the public sector was unclear.

Despite the comparatively low social security benefits in the United Kingdom, the common view of Conservative and Labor governments alike was that the public sector was being asked to bear too large a share of the pension burden. The heavy reliance on social security pensions and the slow spread of private pension plans led to a search for social security reform. This view held even though the social security system as a whole (excluding health) had usually been in surplus.

While long-term reform plans were being drawn, accelerating inflation spurred changes in the procedures by which initial benefits were calculated and then increased in subsequent years. In the United Kingdom, social security benefits were not and still are not indexed automatically. Instead, they are reviewed and, if necessary, adjusted in a discretionary fashion as part of the budget process. The United States adjusted pensions for inflation in the same way until 1975. In 1973, the United Kingdom increased the frequency of reviews from every two years to every year. Pensions were to rise by the higher of the increase in the wage index or the price index, a generous practice by international comparison that added an estimated 10 percent to pensions between 1973 and 1976. Real benefits per recipient rose rapidly over this period (Chart 4).

Methods to alleviate financial difficulties

The methods used to alleviate the financial difficulties of social security once the crisis arrived will be familiar to those following the social security discussion in the United States:

- In both countries, social security taxes have been raised. The rise in Germany has been modest, amounting to only ½ percentage point. In the United Kingdom, the overall contribution rate has risen more substantially.

Table 5

Labor Force Participation of the Elderly

In percent

Country	1960	1970	1975	1980*
United States:				
Ages 55-64	60.1	60.5	56.8	55.9
Male	84.7	80.8	74.7	72.1
Female	37.0	42.2	40.7	41.5
Ages 65 and over	19.1	16.0	13.1	12.5
Germany:				
Ages 55-64	52.1	52.0	45.4	44.7
Male	82.0	82.2	71.8	67.8
Female	27.8	29.9	27.3	28.5
Ages 65 and over	14.1	11.7	6.9	4.6
United Kingdom:				
Ages 55-64	†	63.8	61.6	64.0
Male	†	91.2	88.3	88.4
Female	†	39.1	37.6	41.4
Ages 65 and over	13.1	11.0	8.2	7.7

*Actual numbers for 1979 for the United States and OECD estimates for the United Kingdom.

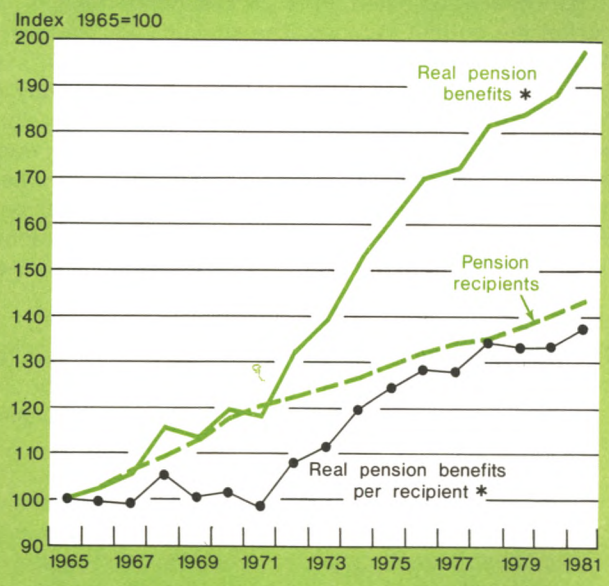
†Not available.

Sources: OECD, *Demographic Trends 1950-1990* (1979); recent data: ILO, *Yearbook of Labour Statistics.*

[13] Jonathan Aldrich, "The Earnings of Replacement of Old-Age Benefits in 12 Countries, 1969-80", *Social Security Bulletin* (November 1982), page 5. Moreover, unlike Germany and the United States, social security benefits are taxable in the United Kingdom.

Chart 4

Real Pension Benefits in the United Kingdom



* Deflated by the consumer price index.

Sources: United Kingdom Central Statistical Office, Monthly Digest of Statistics and National Income and Expenditure.

- Both Germany and the United Kingdom have also moved to limit the inflation adjustment of benefits. In Germany, this has taken the form of temporary, but very effective, measures. In the United Kingdom, adjustment has been permanently set by legislation to a lower path.
- Finally, the United Kingdom has embarked on an ambitious program to shift the burden of pension provision from the public sector to the private sector, with the government providing protection against inflation.

Germany

Following the rapid rundown of reserves in 1976 and 1977, the government took a number of measures to restore balance in the social security funds in 1977 and 1978. The measures taken reflected the widely held view that the funding problems of the mid- to late 1970s were temporary. Economic growth was expected to return to its long-term trend, bringing a reduction of unemployment. Short-term demographic developments would turn in Germany's favor by the late 1970s as the less numerous generations born in the 1920s began to retire and the postwar baby boom came of age. Therefore, the solutions were temporary in nature or easily reversible.

The most important action was to place ceilings on the increase in pensions for 1979, 1980, and 1981 of 4.5 percent, 4.0 percent, and 4.0 percent, respectively, well below the scheduled increases of around 6 percent. Pensions rose over the three years less than the cumulative rate of price increase. The cap on benefits increases was, however, understood as strictly temporary, and a return to benefits adjustment on the basis of wage growth occurred as planned in 1982.

In other measures in 1977 and 1978, the government postponed the date of inflation adjustment by six months, reversing the 1972 change. It transferred responsibility for some contributions from the pension fund to the health fund. It also scheduled an increase in the pension contribution of ½ percentage point to 18.5 percent in 1981.

The combined effect of the measures taken in 1977 and 1978 and improved economic growth in 1979 and early 1980 led to a return to surplus in 1980 and some modest buildup in reserves in 1980 and 1981. The Deutsche Bundesbank estimates that the measures saved the social security fund close to DM 35 billion in 1981.[14] By 1981, the federal government could cut its grant to the social security fund to reduce its own budget deficit and could rescind the scheduled increase in the contribution rate.

The capping of benefit increases was particularly effective. Real pension benefits per recipient declined between 1978 and 1981, stabilizing real total benefits despite a rising retired population (Chart 3).

The improvement was only temporary, however. The 1981-82 recession produced a dramatic rise in unemployment. Social security revenues stagnated. More fundamentally, the favorable demographic developments expected for the late 1970s were in part offset by a sharp fall in the average age of retirement for men.[15] The Deutsche Bundesbank recently estimated that in 1980, the average age of retirement for men was just under 59 years of age, while the average for women was just above 60.[16] Finally, as wages

[14] Deutsche Bundesbank, "The Finances of the Statutory Pension Insurance Funds Between 1978 and 1981", *Monthly Report* (April 1982), page 15.

[15] Curiously, Germany encourages deferment of retirement with a bonus system more generous than that in the United States. A worker may receive an addition of 7.2 percent of his benefit for each year worked after the age of 65 until the age of 70. The bonus, which was legislated before 1974, appears to conflict with the early retirement programs.

[16] Deutsche Bundesbank, *op. cit.*, page 16.

gradually decelerated, pension benefits increased faster than payrolls under the lagged adjustment process employed in Germany. The pension fund therefore tends toward deficit in periods of wage deceleration.

With unemployment predicted to average between 9 and 10 percent in 1983, the near-term outlook for the combined wage and salary pension funds has deteriorated. The German government again faces grim predictions of depleted reserves, perhaps as early as the spring of 1984. Some measures to tighten social security have already been put in place. Pension recipients will now have to pay part of their own health insurance premiums, a reduction of about 1 percent of pension, with increases in their share scheduled for 1984 and 1985. The date for upward adjustment of benefits has been postponed by six months, for a second time, until July 1983. These modest measures are expected to save the funds around $1.5 billion.[17] In addition, the social security contribution has been raised to 18.5 percent effective September 1983.

In his May 1983 state of the nation address, Chancellor Kohl recommended measures to secure the finances of the social security system in the short and the long term. To relieve the short-term liquidity problems, he suggested broadening the wage base on which pension contributions are paid to include bonuses and sick pay, eliminating the lag in the inflation adjustment of pensions and tightening some qualifications for early retirement.

For a long-term solution, he outlined three broad principles:

- benefits must continue to be related to contributions,
- inflation adjustment should be tied to aftertax rather than pretax workers' incomes, and
- the amount of funding from general revenues should fluctuate less from year to year.

United Kingdom

The long-term structure of the old-age pension system in the United Kingdom was established in the ambitious 1975 reform. Because of the arrangements to determine and adjust benefits, however, questions about the ultimate size of the long-term social security burden remain.

After the recession in 1975, the United Kingdom made some changes in the social security system analogous to those made in Germany. To cope with the rising number of unemployed persons, a new law permitted workers to retire one year early and to receive higher benefits if the job was filled by an unemployed person.

The United Kingdom also scaled back its adjustment of pension benefits, often through changes in the adjustment method. In 1976, the government switched from adjusting pensions for past inflation to adjusting them for projected price increases. This, along with discretionary adjustments, reduced pensions by as much as 10 percent by 1981. In 1980, the government made a general commitment to adjust for price inflation only rather than raising pensions by the higher of wage or price increases. Price changes were to be measured over a two-year period, which would allow the government to adjust pensions to expected inflation in the upcoming (fiscal) year but would also permit the government to correct its forecast errors in the next adjustment. In a move that will incorporate the recent good inflation performance into benefit increases, the 1983-84 government budget announced a return to adjustment of social security pensions for past price inflation.

Unlike Germany, however, the United Kingdom looked for more fundamental reform of its old-age pension system. The search, which was interrupted by changes in government,[18] culminated in a reform bill in 1975. The reform retained the two-tier system of basic benefit and earnings-related supplement but will produce a major increase in the level of benefits when fully in operation, albeit at higher contribution rates.

The basis of the reform was a transfer of more responsibility for providing pensions to the private sector. The reform approached social security as an old-age annuity program which the private sector could provide. The failure of the previous system, which also had allowed employers to substitute private pension insurance for the earnings-related social security benefit, was seen to lie in the inability of private insurers to guarantee the purchasing power of future pensions.[19] The government plan, therefore, called for the continuation of a government-run basic benefit program but offered employers the option to replace the earnings-related social security plan with a private

[17] German Institute for Economic Research, "Expenditure Reductions in the Statutory Pension Insurance", *Weekly Report* 41/82 (October 14, 1982).

[18] Comprehensive reform bills were offered in 1969 and 1973 but were soon withdrawn by new governments.

[19] One proposal to enable private pension insurers to guarantee the purchasing power of pensions would have the government issue indexed bonds to pension funds. The United Kingdom has begun to issue them on a modest scale. See James Pesando, *Private Pensions in an Inflationary Climate; Limitations and Policy Alternatives* (Economic Council of Canada, 1979).

pension plan, that is, to "contract out" of the earnings-related portion of social security.[20] The government would assume responsibility for the inflation adjustment of these private as well as social security pensions.

To contract out of the earnings-related portion of the social security system, a company's pension plan must provide on a funded basis the earnings-related benefits which would otherwise be paid by social security. In return, the firm receives a rebate on social security contributions of 7 percent of covered wages. Of this 7 percent, the company keeps 4.5 percent and returns 2.5 percent to the worker. As foreseen by the British Government Actuary, the rebate will be reduced over the next thirty years from 7 percent to an estimated 4.8 percent. The first reduction, to 6.25 percent, took place in April 1983.

The major inducement to contract out resulted from a rise in the social security contribution rate combined with the rebate for contracting out. In addition, if a firm found the advantages of contracting out smaller than anticipated, the employer could "buy back" into the social security system at favorable terms anytime in the first five years of the new plan until March 1983. Since the method of calculating the buy-back differed from the actuarial method used to calculate the 7 percent tax abatement, many contracted-out employers could reenter the state scheme for less than the accumulated 7 percent abatement. New terms effective April 1983 are less favorable.

Another major inducement to contract out was that contributions made by members to a private scheme are tax deductible, while social security contributions are not. Further, if an employee leaves a firm before being vested in the company pension plan, his contributions can be used to buy back into the social security system. Thus, the new system provided "portability", the ability to accumulate pension benefits despite changing employers. Lack of portability contributed to a low average level of pension benefits by penalizing those who changed jobs frequently.

Contracting out was initially very popular. In April 1978, when the new scheme began, 10.3 million out of 11.8 million pension scheme members (44 percent of the work force) were contracted out of the new earnings-related component.[21] Virtually all firms in the public sector and nationalized industry contracted out as did most large companies. By contrast, most smaller firms elected to join the government's earnings-related plan.

The success of contracting out as a means of preventing a rise in the social security burden will hinge on the United Kingdom's success in controlling inflation over the next few decades, especially since the government will bear the burden of adjustment of pensions after retirement.[22] The effect of recent and future reductions of the contracting-out rebate and less favorable buy-back provisions on employers' decisions to contract out are still unclear.

Hemming and Kay feel that the government's obligation to make up the gap between the social security benefits formula and the formula used in computing pensions granted by firms is a substantial, but hidden, burden. Benefits under the earnings-related portion of social security are based on the best twenty years of earnings revalued to today's wages. Benefits to be paid out by the private contracted-out pension plan are required to be based only on average lifetime earnings, revalued to today's wages. The government will make up the difference between social security and private benefits.

In the first twenty years of the plan, social security benefits and private benefits will be identical since only the years after 1978 count in computation of benefits under the reformed system. As the system matures, however, the benefits will diverge. If earnings grow significantly over the typical work career, the social security system will once again be burdened by large unfunded liabilities, precisely the situation that the British government had sought to avoid.

The reform program in the United Kingdom raises a number of interesting questions about the nature of social insurance pensions and the distribution of the burden of their cost. The United Kingdom program appears to be based on the belief that the role of government pension insurance today is to enforce a minimum standard for pension coverage, to cover those workers who cannot efficiently be covered by the private pension system, and to protect the purchasing power of future pension benefits from erosion by inflation. In doing so, it appears that the United Kingdom also intends to make the long-run funding of the pension system more secure by forcing private accumulation. If successful in its aims, the 1975 reform will substantially increase the burden on the generation currently working relative to past and future generations, because today's workers will be financing their own as well as the previous generation's retirement.

[20] The basic benefit would provide approximately 100 percent of earnings up to a lower earnings limit (currently £1,690 per year), while the earnings-related component is equal to 25 percent of earnings between the lower earnings limit and seven times this level.

[21] Wyatt International Newsletter, "Contracting-out of U.K. Social Security—Time for a Change?" (June 1981).

[22] R. T. Hemming and J. A. Kay, "The Costs of the State Earnings-Related Pension Scheme", *Economic Journal* (June 1982).

Conclusion

The experiences of Germany and the United Kingdom offer valuable lessons for the United States. Moreover, their experiences have much in common with those of other major European countries. Briefly summarized:

- The short-term financial problems have not ended as expected because of much weaker than anticipated economic growth and the resulting transfer of some of the burden of unemployment to the social security pension fund through early retirement.
- The adoption of short-run palliatives as a solution to the financial problems of the 1970s has not shown more than temporary success, and delays in reforms have made necessary fundamental revision more difficult.
- While not exactly alike, the German experience with benefit adjustment on the basis of wages has been no more favorable than the U.S. experience with price indexing in the last eight years. Both Germany and the United Kingdom have moved to reduce the generosity of inflation adjustment.
- Even longer term reforms carry with them considerable uncertainty, since the potential costs of providing for a sizable elderly population are so large.

The significance of the success or failure in controlling social security deficits extends far beyond the problems of annual financing. Because of their size, rescuing social security programs from insolvency can significantly affect a government's overall fiscal policy stance. This is clear from the large share of social security contributions and expenditures relative to general government receipts and expenditures (Table 2). Since social security's difficulties are exacerbated by slow economic growth, a funding crisis is likely to occur at an inopportune time. For example, increases in social insurance charges in Germany in 1981 blunted some of the expansionary impact of the January 1981 income tax reduction.

One strength of the United Kingdom reform is that it is set out in a unified way to secure adequate pension provision for the elderly from combined private and public insurance. In the United States, the social security retirement fund, the safeguards on funding introduced in the Employee Retirement Income Security Act of 1974, and the development of the Individual Retirement Account are trying to meet this goal separately. The situation in Germany is similar to that in the United States.

There may be limits on the private-sector role, however. A conservative view of social security is that it should provide protection from risks against which private markets cannot insure. In the late nineteenth and early twentieth centuries, when the financial stability of both firms and financial institutions was less than it is today, social security provided a commitment to future payment no private pension plan could have offered.[23] One social security system that has had to make good on that commitment is the German system, which survived the 1923 hyperinflation and the 1948 currency reform. To the extent that this purpose still has relevance today, there will be a limit to the increase in the role of the private sector.

[23] Of course, a sufficiently diversified portfolio of assets may have in some cases avoided the problem. This may have required investment in real as well as financial assets. Pension fund investments, however, may be restricted to financial instruments. See the article beginning on page 1 of this *Review* for a discussion of foreign pension fund investments.

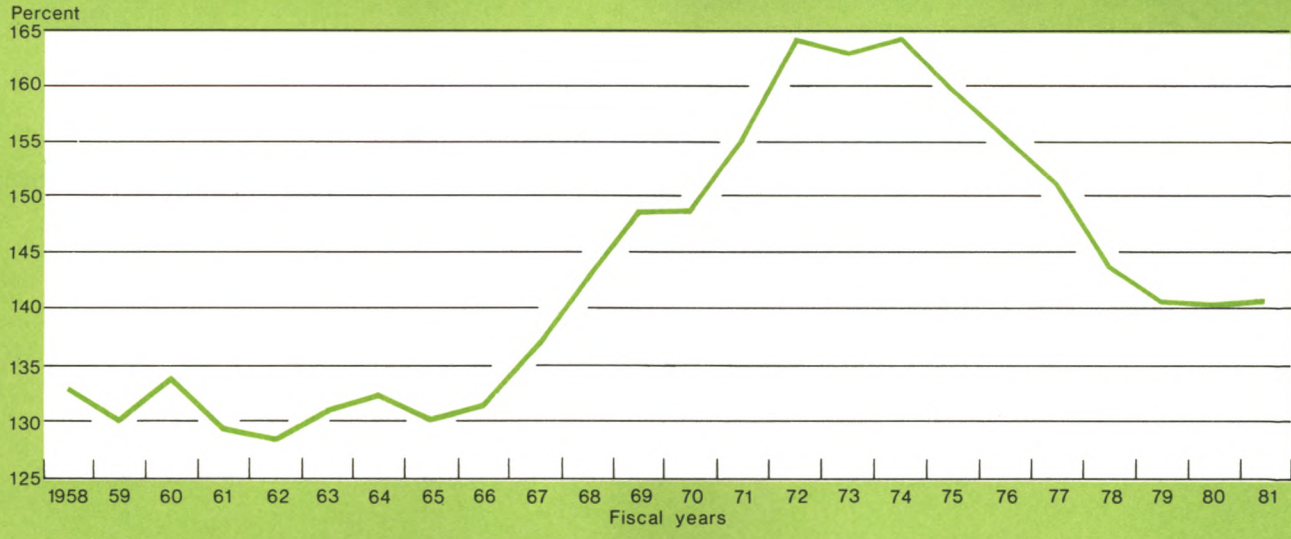
Christine Cumming

Charts on New York State and Local Government Spending

Per capita spending by state and local governments in New York has long exceeded the average in the rest of the United States. In 1969, for example, state and local governments in New York spent $1.49 for every dollar spent elsewhere. Moreover, before the fiscal crisis in 1975, New York's expenditures grew faster than the average so that by 1974 it was spending $1.64 for each dollar spent in the rest of the nation. Since the fiscal crisis, however, the gap has narrowed appreciably.

Chart 1

New York's Per Capita State and Local Government Expenditures as a Percentage of the Rest of the United States



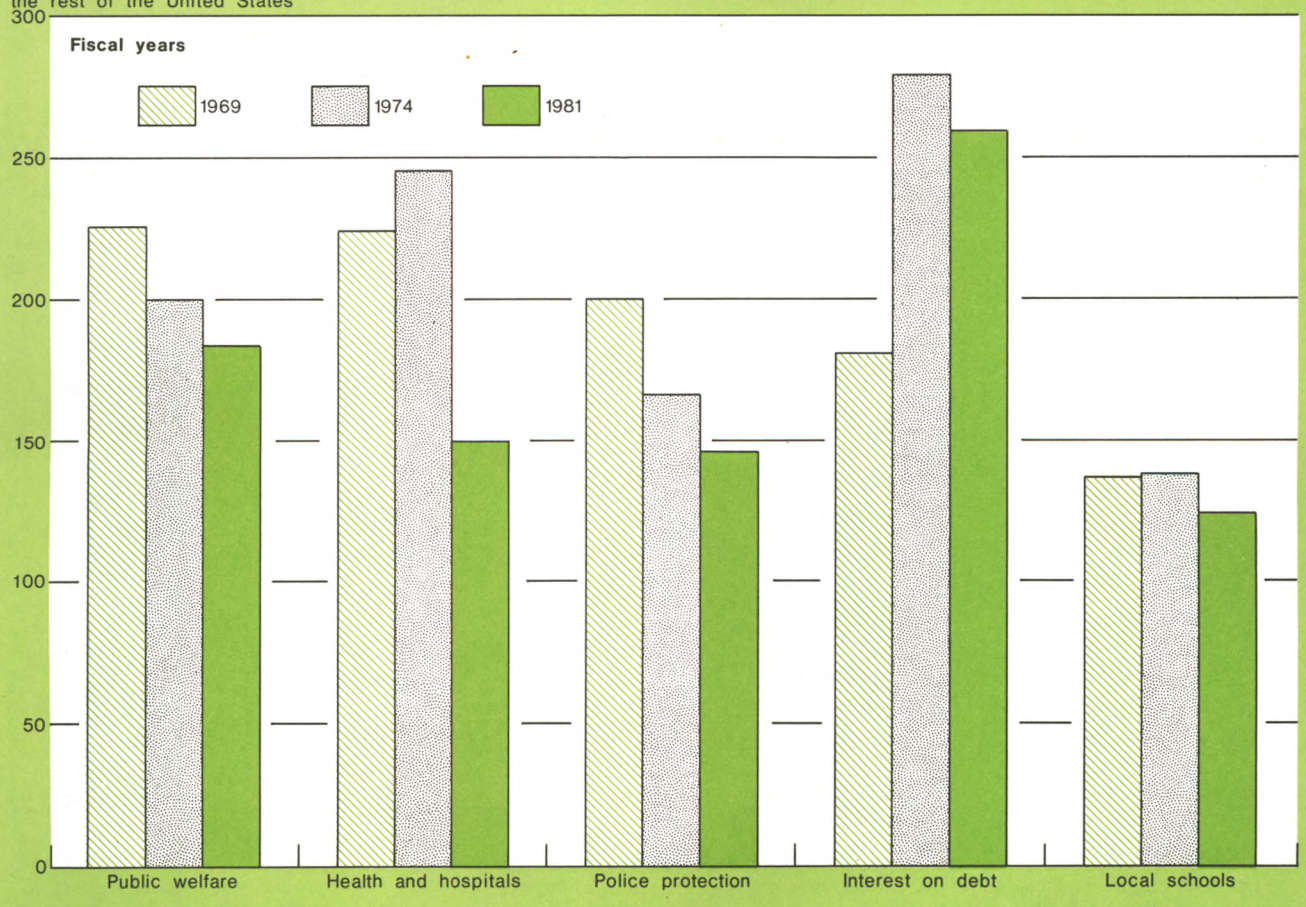
Sources: U.S. Department of Commerce, Bureau of the Census, Governmental Finances, various years, and Statistical Abstract of the United States, 1982-83.

In which areas did New York's spending grow faster than the rest of the nation's before the fiscal crisis, and in which areas has New York's expenditure growth slowed since then? The five main categories in which New York's state and local government spending most exceeded the per capita average elsewhere in fiscal year 1969 were public welfare, local schools, health and hospitals, police protection, and interest on the general debt. Prior to the 1975 fiscal crisis, a major reason New York's total spending expanded faster than the rest of the nation's was much more rapid growth of its state and local government expenditures on health and hospitals and interest payments on the debt.

Between fiscal 1974 and 1981, however, New York's per capita expenditures converged toward the national average in each of the five categories. This accounted for much of the lessening of the gap between total per capita expenditures in New York and elsewhere in the nation from 1974 to 1981. Despite the slower growth in recent years, however, New York's per capita spending in 1981 for these five categories still exceeded the average in the rest of the country by amounts ranging from 24 percent more for local schools to more than double for interest payments.

Chart 2

Spending Categories in which New York was Highest, Compared with the Rest of the United States

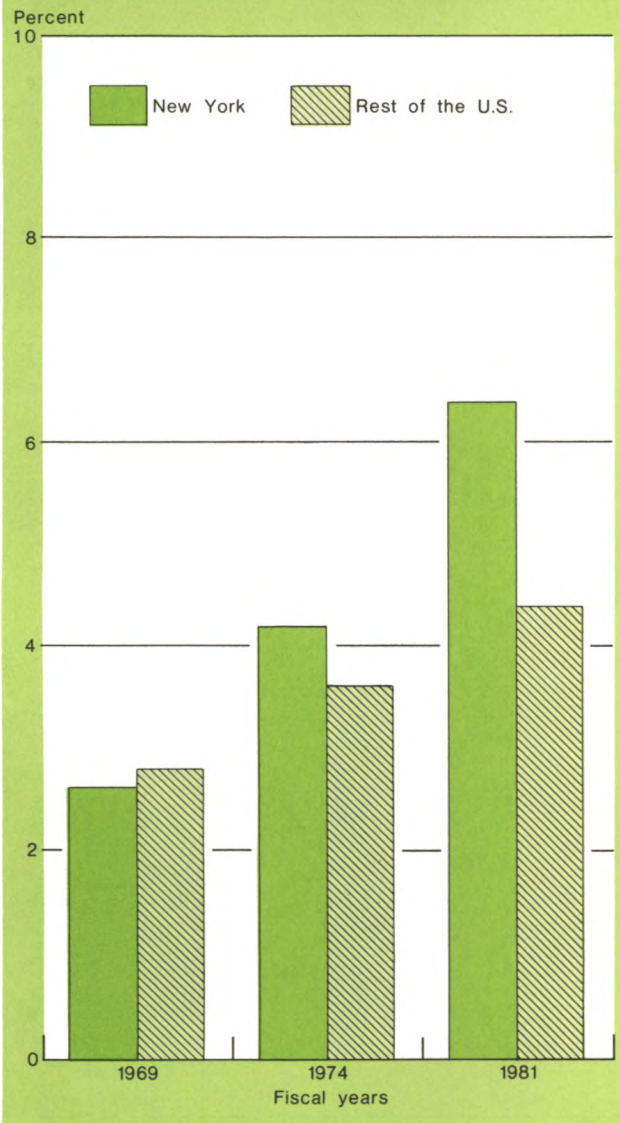


Source: U.S. Department of Commerce, Bureau of the Census, Governmental Finances, various years.

New York's continuing high level of interest payments relative to other states reflects both greater per capita debt outstanding in New York and a higher average interest rate per dollar of this debt. The latter rose to 2 percentage points above the rest of the nation in 1981 from 20 basis points below in 1969. This rise is, in part, a reflection of New York's higher borrowing costs following its fiscal crisis. In New York State's most recent bond offerings, however, its costs were more in line with other states' debt offerings.

Chart 3

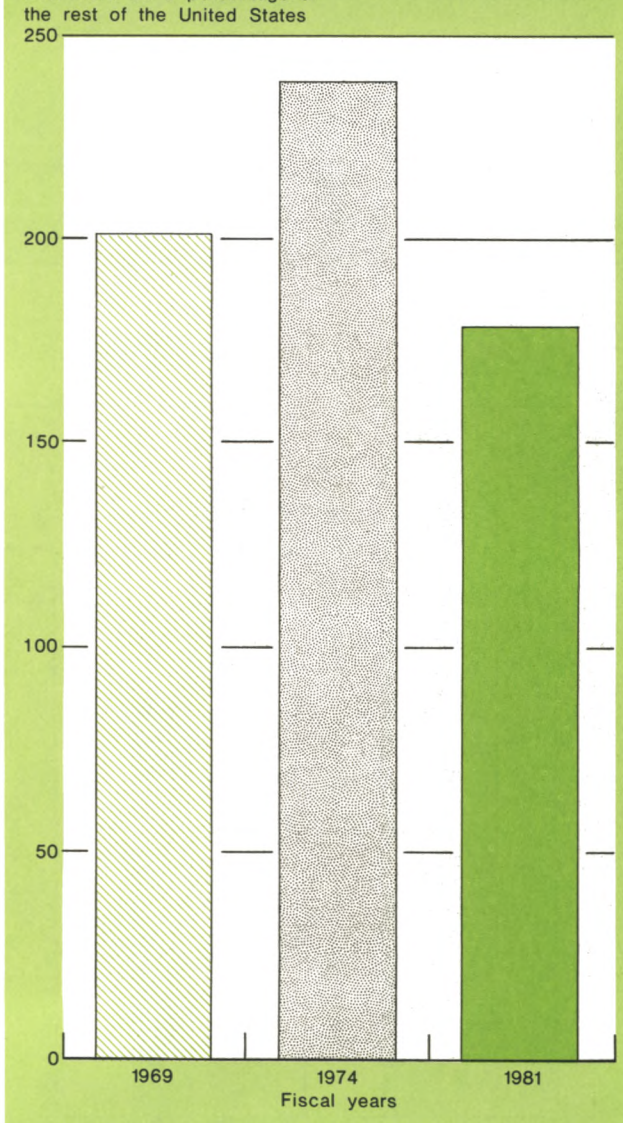
Average Interest Rate on State and Local Debt



Source: U.S. Department of Commerce, Bureau of the Census, Governmental Finances, various years.

Chart 4

Per Capita State and Local Debt



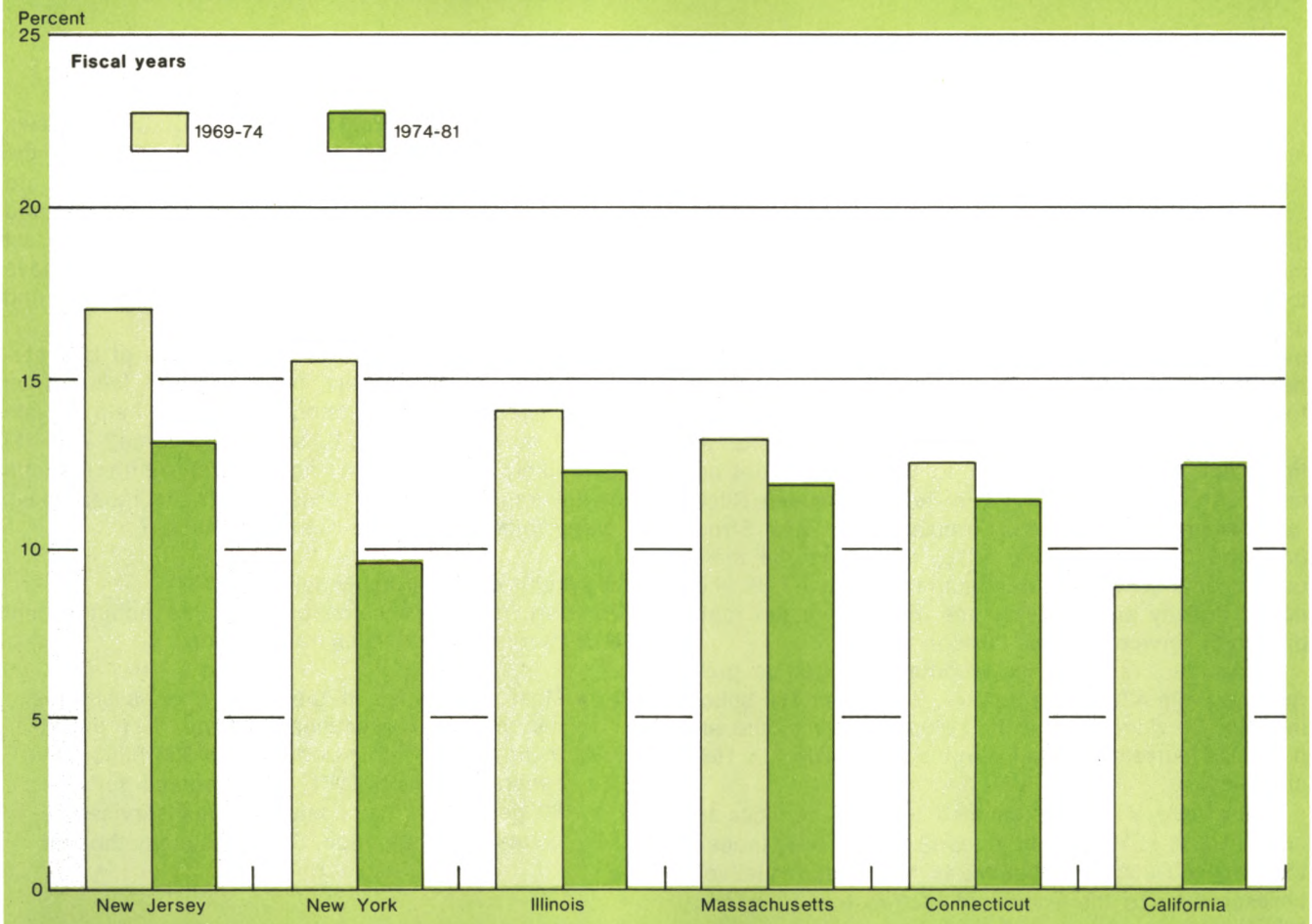
Source: U.S. Department of Commerce, Bureau of the Census, Governmental Finances, various years.

While New York's state and local spending exceeded the rest of the nation's for most categories, there were a few major areas in which New York spent less. New York's per capita expenditures on highways and institutions of higher learning were lower both before and after the fiscal crisis, and in 1981 its spending on parks and recreation was also less.

Compared with five other highly urbanized states, New York's growth of state and local spending was the second fastest from 1969 to 1974. Following its fiscal crisis, however, New York dropped to last place, based on the 1974-81 increase in spending. This was largely due to a marked slowing in New York's expenditures during fiscal 1977 and 1978. Using the budgets of New York State plus New York City as a rough indicator since complete state and local expenditures figures are not available, the growth of New York's governmental spending appears to have slowed further since fiscal 1981. Despite its slower growth in the period since 1974, however, New York still spends more than the rest of the nation on a per capita basis and also per dollar of personal income.

Chart 5

Annual Average Growth of Per Capita Spending



Source: U.S. Department of Commerce, Bureau of the Census, Governmental Finances, various years.

U.S. International Trade in Services

International trade in services has been getting a lot of attention. At last year's ministerial meeting of GATT (General Agreement on Tariffs and Trade), the United States emphasized the need to resolve the problem of protectionist policies in the services sector. The media have also played up the importance of services to the U.S. balance of payments. And many analysts are looking to the growing domestic services economy in the United States to become a dominant force internationally—one in which the United States is thought to enjoy a competitive advantage.

U.S. services trade emerged in the mid-1970s as an important positive contributor to the U.S. current account. An earlier article in this *Review* (Reuven Glick, "U.S. International Service Transactions: Their Structure and Growth", Spring 1978) described the many components of services trade and their role in U.S. economic activity and analyzed the reasons for the rapid growth of services income through 1977.

Since then, net services income continued to grow rapidly. From $21 billion in 1977, it reached $39 billion in 1981. Services were a major contributor to the annual U.S. current account surpluses recorded in 1980 and 1981.

Some analysts had presumed that net services income would follow a continued upward trend. Indeed, the services account appears to have been relatively unresponsive to the economic factors that have contributed to a widening U.S. merchandise trade deficit (chart). For example, over the last two years, as the dollar appreciation contributed for a time to an expanding deficit on merchandise trade (see Robert A. Feldman, "Dollar Appreciation, Foreign Trade, and the U.S. Economy", Summer 1982 issue of this *Review*), the surplus in services income rose.[1] However, the conditions that imparted much of the past upward momentum to net services income have changed and the surplus in services transactions turned down last year. Moreover, some of the past growth may have been illusory because of reporting inconsistencies and incomplete data.

This article highlights the main features of U.S. services trade over the past five years and focuses on two questions: (1) What economic factors help explain recent movements in U.S. services income? And (2) is it likely that services income will return to sufficiently rapid growth to offset, as in the recent past, large projected merchandise trade deficits?

Highlights of U.S. trade in services

To start, there are some basic points about recent U.S. international services transactions:

- Most of the rise in the U.S. services surplus has been in investment income. Net investment income almost doubled to $33 billion between 1977 and 1981. It accounted for over 80 percent of the cumulative *net* services receipts over the period. Such frequently thought-

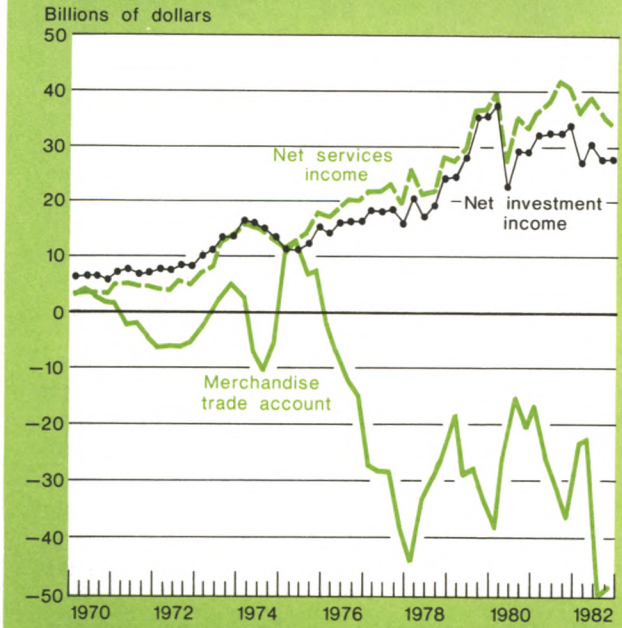
[1] Statistical tests suggest that changes in the net investment income component of services transactions induced by movements in exchange rates and U.S. and foreign real incomes are much smaller than the corresponding changes in the merchandise trade balance. See Allen J. Proctor, "A Forecasting Model of the Services Account of the U.S. Balance of Payments: Preliminary Results" (Federal Reserve Bank of New York Research Paper No. 8237, December 1982).

of services trade as tourism, shipping, consulting, and construction *reduced* net services income by a small amount.

- Last year net investment income fell (by $4 billion to $29 billion) because of a substantial decline in net *direct* investment income (see box for definitions). Net direct investment income had been the major, and a steadily growing, source of services income. It reached $32 billion and accounted for almost all net services income in 1979. But, over the past three years, net income from direct investment dropped to $18 billion.
- In contrast to direct investment, net *financial* investment income has been rising sharply. It jumped from roughly zero over the 1978-80 period to $9 billion in 1981 and then rose further to $11 billion in 1982. However, problems of measurement and definition, which may affect both direct and financial investment income, are especially severe for the latter, and the published figures may overstate the growth of net financial income.

U.S. Merchandise Trade and Services Accounts

Seasonally adjusted annual rates



Source: Survey of Current Business.

Since investment income accounts for most of the income earned from U.S. services trade and has shown larger movements in dollar value, it is the focus of the rest of this analysis. The next section analyzes which economic factors help explain recent movements in net investment income by examining direct investment income first, then financial investment income.

Sources of change in investment income

Direct investment income

During recent years the movements in net direct investment income have generally tracked the movements in the U.S. net foreign asset position in direct investment (Table 1). In 1979, rising net income was associated with an increase in the U.S. net asset position. Then, as the net asset position dropped off in 1981 and 1982, so did net direct investment income.

The net asset position has not, however, been the only factor influencing the size of net direct investment income flows. U.S. income payments to foreigners, after rising $4 billion in 1980 to a level of $10 billion, fell by an equal amount over the next two years. U.S. receipts from foreigners fell by $14 billion during the three years to 1982, virtually all of which took place over the last two years. World economic activity, exchange rates, and oil-price developments have all had significant effects on direct investment income receipts and payments.

The recession in the United States contributed to declining income payments over the last two years even though foreign direct investment holdings in the United States continued to rise. However, the recession abroad reduced U.S. direct investment income receipts even more. Earnings on U.S. manufacturing operations abroad, which have been declining in profitability for a number of years, weakened further during the recession. By 1981, manufacturing industries held over two fifths of direct investment assets outstanding but produced only about one fourth of direct investment income (Table 2).

By contrast, the petroleum sector has contributed over a third of income receipts since 1979 even though less than a fourth of U.S. direct investments is in this sector. This income stream has been influenced mainly by developments in international oil markets. Large oil-price increases in 1979 tended to raise direct investment income in 1979 and 1980, because they provided inventory profits and wider profit margins since contract prices lagged increases in market prices. The industry's overseas earnings rose from $6 billion in 1978 to $13 billion in each of the three following years. Then, when the market price of oil

Table 1

Direct Investment and Financial Investment: Outstanding Stocks and Income Flows

In billions of dollars

Stocks and flows	Direct investment					Financial investment				
	1978	1979	1980	1981	1982*	1978	1979	1980	1981	1982*
U.S. net foreign asset position	120	133	148	137	126	— 44	— 38	— 26	23	60
U.S. net income receipts	21	32	28	24	18	— 1	— 1	2	9	11
U.S. assets	163	188	216	227	225	285	323	391	490	604
U.S. income receipts	25	38	37	32	24	17	26	36	54	62
U.S. liabilities	42	54	68	90	99	329	361	417	467	544
U.S. income payments	4	6	10	8	6	17	27	33	45	51

Stocks are measured as of the end of the year.

* Preliminary.

Source: *Survey of Current Business* (August 1982 and March 1983).

Table 2

Contribution of Selected Industries to U.S. Direct Investment Abroad and U.S. Income Receipts

In billions of dollars

Sector	Stocks 1980	Income 1980	Stocks 1981	Income 1981	Stocks 1982	Income 1982
Total U.S. investment abroad	216	37	227	32	225*	24*
Petroleum	48	13	52	13	†	†
Manufacturing	89	11	92	8	†	†
Other	79	13	83	11	†	†

* Preliminary.

† An industry breakdown for 1982 is not yet available.

Source: *Survey of Current Business* (August 1982 and March 1983).

fell last year, income receipts dropped to an estimated $10 billion.[2]

Another important, separate reason for the drop in direct investment receipts involves the increased use of finance subsidiaries by U.S. firms. Such transactions are made by U.S. firms *either* to raise funds abroad for their U.S. domestic operations *or* to reduce the use of U.S. source funds for their operations abroad. In particular, U.S. direct investment income receipts were reduced by an increasing volume of interest paid on borrowings by U.S. nonbank parent companies through financing subsidiaries located in the Netherlands Antilles (box). These essentially financial transactions reduced direct investment receipts by $1 billion in 1981 and by an estimated $2 billion last year.

Finally, foreign currency valuation effects also contributed to the decline in the dollar value of direct investment income receipts from nonoil industries.

[2] Losses resulted from reselling crude oil, since the contract prices that some subsidiaries paid to buy crude oil were sufficiently above the prevailing market prices. In addition, margins on refining and sales operations were compressed.

Because income of foreign subsidiaries is usually earned in foreign currencies, it translated into fewer dollars after the dollar appreciation of the last two years.[3]

In sum, the balance on direct investment income declined from $28 billion in 1980 to $18 billion last year. We would very roughly allocate the $10 billion decline in the net income over the two years as follows: $3 billion to the petroleum sector, $2 billion to the impact of recession in other sectors, $3 billion to valuation effects from dollar appreciation, and $2 billion to foreign financing activities of U.S. firms.

Financial investment income

U.S. net financial investment income has grown rapidly over the past five years (Table 1). Both receipts and payments have at least tripled as both asset and liability stocks and their respective rates of return have increased. Higher interest rates applicable to assets than to liabilities and an expanding net foreign asset position fueled the growth in *net* financial investment income. However, as discussed below, some of this growth may be illusory as the rise in the net asset position may be erroneous.

Many types of U.S. international financial transactions have raised both U.S. assets and liabilities and reflect the large role the United States plays as both a giver and a taker of funds from the rest of the world. After the major oil-price increases of the 1970s, for example, the United States incurred liabilities as it received funds from oil-producing countries drawn by the relative safety and depth of U.S. markets. At the same time, the United States acquired assets by providing funds to oil-consuming countries. In other words, the banks and financial markets provided intermediation services to the rest of the world, raising both assets and liabilities.

Assets and liabilities also have grown when U.S. nonbank residents placed funds at higher yields in the Eurodollar market and U.S. corporate borrowers tapped various Euromarkets as a source of funds. Such round-trip flows could be advantageous to all parties because the Eurodollar market has been free of the reserve requirements and interest rate restrictions on deposits that have applied in the United States (see Edward J. Frydl, "The Eurodollar Conundrum", Spring 1982 issue of this *Review*).

Rising average rates of return on these growing stocks of claims and liabilities added further to financial income receipts and payments. Interest rates on the outstanding stocks of claims and liabilities (both almost entirely denominated in U.S. dollars) generally rose from 1978 to 1981. Over this period, for example, interest rates on U.S. ninety-day Treasury bills increased from around 6 percent to as much as 15 percent. Other interest rates, such as Eurodollar bid rates and certificate of deposit (CD) rates, also rose. The implied average rates of return on U.S. foreign asset and liability stocks in 1981 were about 11 percent and 10 percent, respectively, or at least 4 percentage points higher than in 1978.[4] Last year, however, the average yields dropped about ½ percentage point, as interest rates remained high through the first half of the year but fell in the second half.

While both receipts and payments rose, *net* financial income grew because the differential between the average returns on assets and on liabilities widened. Since interest rates applicable to particular assets and liabilities may differ, changes in the composition of total stocks have affected average rates of return. This has been particularly important during the four years to 1981.

During those years, the composition of asset and liability stocks shifted away from international claims and liabilities of the U.S. Government[5] and toward those

[3] There are some more complicated accounting effects in addition to these valuation effects. Because of accounting procedures determined by the Financial Accounting Standards Board, some balance-sheet items of U.S. subsidiaries are exposed to foreign exchange rate variation and some effects of this exposure are included in the subsidiaries' income statements. Consequently, depending on the composition of an individual balance sheet, accounting gains or losses may occur when the dollar appreciates. Accounting procedures have been changed (FASB-8 was supplanted by FASB-52), and U.S. multinationals are presently phasing in new procedures. Nevertheless, the numbers reported by the Commerce Department attempt to retain the conventions of FASB-8. The total effect on U.S. direct investment income receipts from the translation of all subsidiaries' income statements into dollars depresses income when the dollar appreciates.

[4] Most interest income receipts and payments are not reported directly to the U.S. Government. Rather, receipts and payments are estimated by the Commerce Department by applying a range of interest rates to assets and liabilities with a range of maturities and other characteristics. The implicit average rate of return, derived by dividing total income receipts by the stock of total assets, and similarly by dividing income payments by the stock of total liabilities, is one way of representing the estimated average yield of all these interest rates.

[5] Reflecting the international role of the dollar as a reserve currency, most U.S. official liabilities, which are at market terms in the form of Treasury bills, notes, and bonds, are held by foreign governments as official reserves. U.S. official assets consist of relatively small holdings of official reserves: gold, special drawing rights, the U.S. reserves position in the International Monetary Fund, and foreign currency. Most other U.S. official assets are government aid-related loans to foreign governments. Since U.S. official assets and liabilities partly consist of the U.S. Government's and foreign governments' official reserves, respectively, exchange market intervention can alter U.S. asset and liability stocks. As an example, when foreign governments intervened in 1981 to resist the decline in their currencies, the decline in their official reserves was reflected in a drop in their holdings of U.S. Government securities.

of the private sector. U.S. private claims have earned more than official (Government) claims, an average difference of 4½ percentage points in 1978. Surprisingly, the average return paid on private-sector liabilities has actually been less than on official sector liabilities, because of the maturity structure of U.S. Government securities that foreigners hold and because earnings on equity include only the dividend component of the yield. In 1978, the difference was 1 percentage point on average. As a result, movement away from official and toward private assets and liabilities has tended to increase net financial investment income. From 1978 to 1981, private claims rose from 74 percent of total assets to 80 percent, and private liabilities rose from 54 percent of total liabilities to 66 percent. Moreover, the average interest gap between private and official assets rose to 9 percentage points in 1981, and for liabilities the gap rose to 2 percentage points, further enhancing net income growth.

Last year, however, relative movements in the average rates of return on assets and liabilities swamped the effects of a continuation of the compositional shifts toward private claims and liabilities. The average return on total assets fell by roughly 1 percentage point from the previous year as the return to private claims fell 1.3 percentage points, their first annual average drop over the five years to 1982. By comparison, the average interest on liabilities remained about the same. Thus, the spread between assets and liabilities

Investment Income: Definitions and Balance-of-Payments Conventions*

Direct investment is defined as ownership of 10 percent or more of the means of control over an enterprise abroad either through *direct* funding of foreign operations or through equity claims. To the extent that U.S. foreign operations are financed using funds raised outside the United States, they are not considered a part of the U.S. direct investment stock. The flow of U.S. direct investment income receipts from foreigners is in the form of profits and interest derived from the stock of U.S. investments abroad. Profits retained by a foreign subsidiary as well as dividends paid are included in income. The flow of U.S. direct investment income payments to foreigners represents similar earnings by foreigners on their ownership of enterprises in the United States.

Financial investment income is a composite of income from several types of international financial transactions, including principally interest and dividends on portfolio investments. Most financial income receipts and payments are earned from the claims on and liabilities to foreigners on the books of U.S. banks. Receipts and payments are also earned from other activities, including U.S. Government loans to other countries, foreign holdings of U.S. Government securities, U.S. nonbank borrowing from bank offices located abroad, U.S. purchases of foreign bonds and sales of domestic bonds abroad, and similar transactions in equity securities (ownership of less than 10 percent is treated as financial investment).

There can be a fine line between direct and financial investment income. U.S. nonbank parent companies' borrowings from financing susidiaries had a large impact on direct investment and direct investment income over the last two years and serve as a good example to highlight this point.

In 1981 and 1982, U.S. nonbank parent companies borrowed from foreigners by issuing bonds outside the United States through U.S. financing subsidiaries in the Netherlands Antilles, who, in turn, re-lent the funds to the U.S. parent. This type of "indirect" borrowing increased roughly fourfold from 1980 to 1982 and reflected efforts to raise funds from foreigners without incurring U.S. withholding taxes on interest payments to foreigners. Although they resemble "financial" transactions, loans between a parent and its subsidiary (also called intercompany accounts) are classified as direct investment in the U.S. balance of payments. More specifically, subsidiaries' loans to domestic parent companies are treated as negative U.S. direct investment abroad (a negative direct investment capital outflow) and the interest paid by the parents on the loans is recorded as a negative item in U.S. direct investment receipts. If, however, U.S. parent companies were to borrow directly from foreigners rather than through foreign subsidiaries, financial investment and income would be affected instead.

More generally, the stock of U.S. direct investment abroad changes as funds are transferred between the parent and its subsidiaries. Such transfers mean that direct investment stocks can move somewhat independently of the value of plant and equipment controlled abroad by U.S. firms. Part of what appears to be a slowing in U.S. direct investment abroad in 1981, and disinvestment in 1982, reflects movements in intercompany accounts that are somewhat independent of decisions to add to plant and equipment abroad controlled by U.S. resident firms.

* See the June 1978 issue of the *Survey of Current Business* for detailed and more technical definitions, and the Spring 1978 issue of this Review for more discussion.

in 1982 fell to roughly its 1978 level. Although net financial investment income still grew, it did so at a slower rate.

The other major factor in the rise in net financial investment income has been the sharply rising recorded U.S. net foreign asset position. Moreover, rising interest rates, even without a differential between the average rates of return on assets and liabilities, would increase net financial investment income when the U.S. net asset position is positive. In 1981, the U.S. net position in financial investment stocks turned positive for the first time in over twenty years. The rising position, however, must be viewed with caution.

In principle, the changes in net financial investment stocks that contributed to this increase in net income should mirror the current account plus net direct investment capital flows. Put another way, if U.S. exports of goods and services plus direct investment capital inflows exceed U.S. imports of goods and services plus direct investment capital outflows, the United States must be accumulating financial claims on foreigners, which is equivalent to a rise in the U.S. net financial asset position.[6]

In practice, the data do not reflect this. Errors and omissions in the balance of payments have been large at times and may result in an overstatement of the net asset position and, therefore, of net financial investment income. For the period 1979 to 1982, errors and omissions averaged about $30 billion per year. If, in a given year, all of this were attributable entirely to measurement errors from current account or direct investment transactions, there would be no effect on the U.S. net asset position, although the current account or net direct investment inflows would be larger than recorded. Alternatively, if errors and omissions were attributable to measurement errors from financial investment, the U.S. net foreign financial asset position would be lower by an additional $30 billion in net liabilities. This is especially important since reported income payments and receipts are estimated from reported stocks and interest rates applicable to various components.

While it is impossible to identify those components of the balance of payments from which errors and omissions emerge, there is some circumstantial evidence of substantial errors and omissions in measuring financial investment transactions. Increased public familiarity with international financial markets and numerous financial innovations in the past several years are increasing the number of financial transactions that occur outside the domestic offices of U.S. banks. These transactions may not be reported so completely as U.S. banking transactions. Taking the errors and omissions of $29 billion in 1980 as financial liabilities held through the following year and the 1981 average return paid on recorded liabilities of about 9.5 percent would lower 1981 net financial income about $3 billion. More striking, taking the average return on liabilities, and the errors and omissions accumulated since 1978 as financial liabilities, the 1981 U.S. net financial asset position would be roughly $100 billion lower and net financial income would move from $9 billion to less than zero. The 1981 current account surplus of $5 billion would swing to deficit. In short, continuing errors and omissions make it difficult to interpret current account behavior. While the above example presents the extreme case for the potential overstatement of net financial investment income, errors and omissions have undoubtedly had a sizable impact on its growth.

1983 and beyond

The near-term action in U.S. international services trade will remain in investment income. Domestic regulation, some overt protection on the part of both the United States and countries abroad, and natural restraints—such as insufficient familiarity with language, sovereign laws, culture, and other special factors important to providers of services—limit the potential for growth of noninvestment services income.

Recovery abroad is the key to a rebound in direct investment income receipts over the next year or so. However, most analysts expect the pace of economic activity to be weaker than in past recoveries. And, as the U.S. economy recovers, some of the gains to net direct investment income will be offset by rising income payments.

High levels of interest rates and expansion of U.S. lending to foreigners are the keys to continued growth of net financial investment income. But a moderate or even weak recovery and lower inflation, both here

[6] This is an accounting identity and is not meant to imply causation. That is, a surplus on current account and net direct investment capital inflows do not *cause* U.S. net financial claims to rise. Rather, the surplus should, in principle, coincide with net financial capital outflows, or an increase in the U.S. net foreign financial asset position, because of double-entry bookkeeping in the balance of payments. Frequently, however, economic analysis has used the assumption that goods markets are slow to adjust while financial markets adjust rapidly. If true, some causality in the short run can be argued. In this case, one part of the current account, the trade balance, can be taken as largely predetermined. Consequently, a trade deficit, for example, other things being equal, could force a drop in the U.S. net financial asset position. With a floating exchange rate and no official intervention, exchange rates and interest rates would adjust to provide incentives for money managers to shift the necessary amount of funds. Interbank flows (often between offices of the same banking family) appear to have been the most sensitive to small differences in the rate of return and hence are often viewed as adjusting to other balance-of-payments flows in the short run. Alternatively, authorities might intervene to resist the rate movements and to absorb the required shift in net asset positions in official accounts.

and abroad, reduce the likelihood of any significant increase in interest rates. Current debt problems may discourage U.S. banks from rapidly expanding lending to foreigners.

For the services balance to offset a $15 billion widening of the U.S. merchandise trade deficit this year—and many analysts are projecting a larger deterioration—net investment income growth would have to be unprecedented. The economic environment does not appear to be conducive to supporting such rapid growth. Hence, the U.S. current account deficit should be considerably larger than the $8 billion recorded in 1982.

Further ahead, however, two-way growth of both direct and financial investment is likely; asset and liability stocks will grow as will income receipts and payments. Some potentially important forces are:

- Two-way diversification of investment portfolios internationally (see articles by Edna E. Ehrlich in this issue and the Autumn 1981 issue of this *Review*).
- Financial deregulation which may make the United States more competitive as an intermediation center.
- At the same time, such deregulation provides opportunities for foreign banks and other financial institutions to develop U.S. operations.
- The rebuilding of official reserves from their current low levels and official financing of developing countries through multinational institutions.
- But a larger share of assets and liabilities may be those of the U.S. Government which could narrow interest differentials that generated net income.
- And sustained lower inflation would eventually mean lower nominal returns on assets and temper the expansion of receipts and payments.

Ultimately, the expansion of U.S. *net* investment income will rest on the expansion of the U.S. net foreign asset position in both direct and financial investment: Will the United States be a growing creditor to the rest of the world as before the dislocations of the 1970s? If U.S. current account deficits persist, the U.S. net foreign asset position should turn down, eroding the earnings potential of net investment income in the future. The recorded position, however, may not capture the turnaround if errors and omissions continue to be large. Still, we may not get back to the position of being a rapidly growing net creditor soon. A country in current account surplus is generating domestic savings in excess of that required to finance domestic investment and government budget deficits. However, U.S. Federal Government budget deficits could remain large for some time. And, even if the budget deficits are brought under control, a recovery of domestic investment could absorb the additional funds made available for a number of years. The relative political stability of the United States could continue to favor a net inflow of funds to this country. It may be some time before the stylized version of the United States as a growing creditor country reemerges, fueling long-run investment income growth.

Robert A. Feldman and Allen J. Proctor

Monetary Policy and Open Market Operations in 1982

Monetary policy in 1982 was directed at continuing to restrain inflation while providing a foundation for sustainable economic growth. Substantial progress was made in reducing inflation. The pace of price increase slowed, by some measures, to less than one third that seen at its peak. However, economic activity, which had sagged sharply late in 1981, began 1982 on a weak note and showed little vigor over most of the year. At the year-end, the economy seemed poised for recovery, with much of the inflationary momentum of earlier years wrung out, though financial market participants remained deeply concerned by prospects of huge Federal budget deficits projected for 1983 and beyond. Open market operations during the year took place against a background of financial strain and concern about the creditworthiness of borrowers, both domestic and international. The year was punctuated by several prominent financial failures which highlighted the desirability of reforms in market practices and of increased Federal Reserve surveillance of the Government securities market.

The Federal Reserve's selection and pursuit of monetary growth objectives was complicated by two developments during the year. One was an apparently strong precautionary demand for liquidity in the highly uncertain economic and financial climate. Over the year, the velocity of money declined to an unusual extent, even for a recessionary period. For another, flows of funds associated with regulatory decisions and institutional arrangements distorted the monetary data, particularly M-1, in the fourth quarter. In responding, the Federal Reserve benefited from the credibility it had gained in its sustained effort to break the inflationary momentum of the 1970s. The markets accepted the logic of permitting money growth above the Federal Open Market Committee's (FOMC's) ranges for a time and of placing less emphasis on M-1 in reaching decisions late in the year.

As it turned out, M-1 grew by 8.5 percent from the fourth quarter of 1981 to the fourth quarter of 1982, compared with the FOMC's growth range of 2½ to 5½ percent.[1] Through the third quarter, M-1 was only

Adapted from a report submitted to the Federal Open Market Committee by Peter D. Sternlight, Executive Vice President of the Bank and Manager for Domestic Operations of the System Open Market Account. Christopher J. McCurdy, Research Officer and Senior Economist, Open Market Operations Function, and Kenneth J. Guentner, Chief, Securities Analysis Division, were primarily responsible for preparation of this report, with the guidance of Paul Meek, Vice President and Monetary Adviser. Connie Raffaele, Robert Van Wicklen, and Catherine S. Ziehm, members of the Securities Analysis Division staff, participated extensively in preparing and checking information contained in this report.

[1] This report uses the definitions of the aggregates as they applied in 1982, as well as the seasonal factors and benchmarks in place at the time. In February 1983, new benchmarks and seasonal factors were introduced. In addition, two changes were made to the definitions of the broader aggregates. For one, balances in IRA (individual retirement accounts) and Keogh plans at depository institutions and money market mutual funds were removed from the monetary aggregates. For another, balances in tax-exempt money market funds, which were not previously included in the aggregates, were treated in a similar fashion to taxable money market funds: balances in general purpose and broker/dealer funds entered at the M-2 level; balances in institution-only funds entered at the M-3 level. Under the new definitions, growth of M-2 came out very slightly above the upper end of the FOMC's range at 9.3 percent, while M-3 grew 10.1 percent. The month-to-month pattern of M-1 growth was modified somewhat, but for the year as a whole the rate of growth did not change.

Chart 1

Annual Range and Actual Growth of M-1

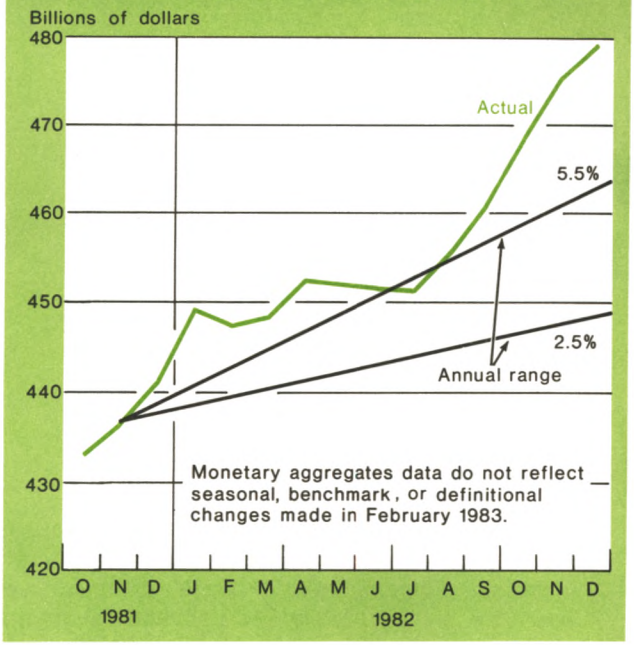


Chart 2

Annual Range and Actual Growth of M-2

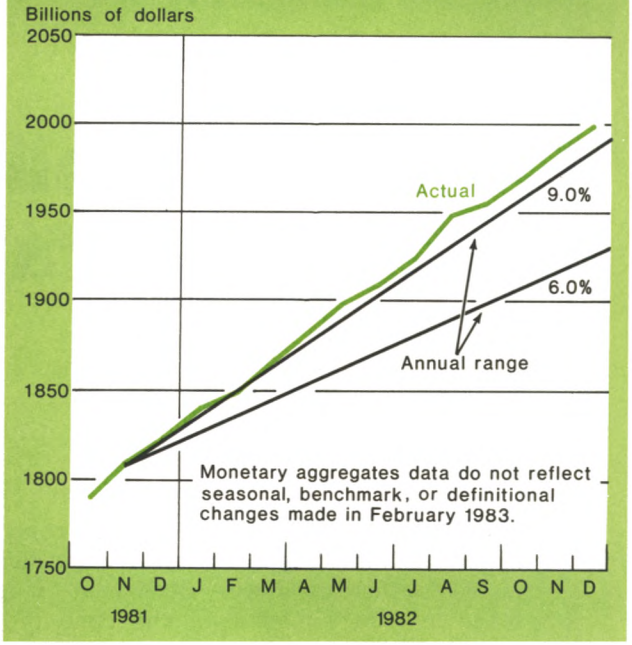


Chart 3

Annual Range and Actual Growth of M-3

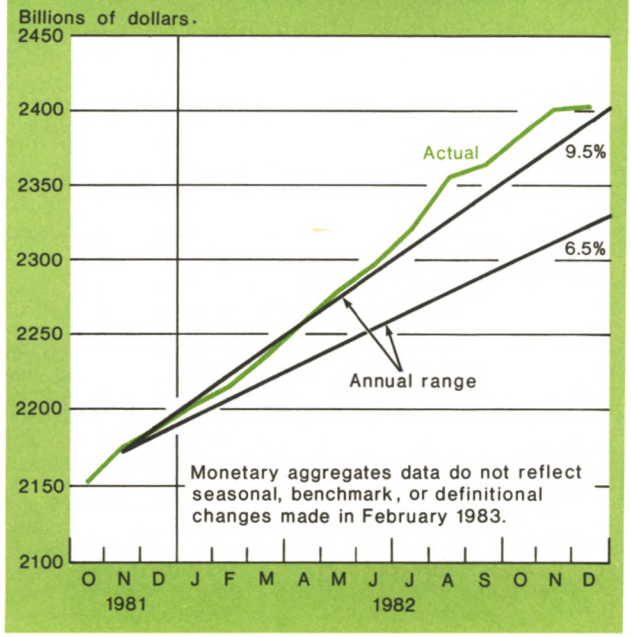
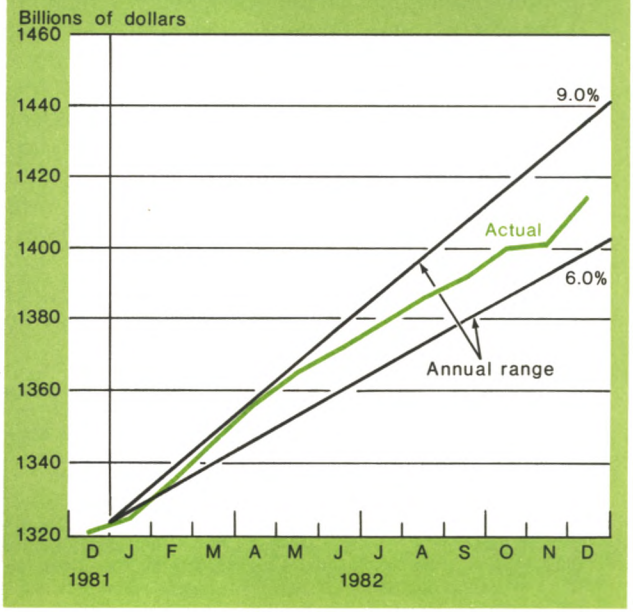


Chart 4

Annual Range and Actual Growth of Bank Credit



slightly above its range, expanding at a 5.8 percent rate from the last quarter of 1981. There was a particular surge in M-1 in the fourth quarter, as it grew at about a 16 percent rate. In part, the more rapid growth reflected shifts of funds out of maturing all savers certificates (ASCs) beginning in October, preparation by consumers and businesses for new deposit accounts initiated late in the year, and a response to lower interest rates. M-2 expanded by 9.8 percent over the year, somewhat above its 6 to 9 percent growth range. M-3 also exceeded somewhat its range of 6½ to 9½ percent, growing by 10.3 percent. Meantime, bank credit increased by 7.1 percent and ended the year within its associated range of 6 to 9 percent (Charts 1-4).

Interest rates rose very early in the year amid the Federal Reserve System's response to money growth late in 1981 and in January 1982 that was above the FOMC's objectives. But rates generally remained below their previous peaks and showed little change over the rest of the first half. Meantime, money growth moderated, with M-1 working back within its range by midyear while the broader aggregates were only slightly over path at that point. Against this background, and also in light of renewed recessionary forces and fragile financial markets in the second half, a more accommodative Federal Reserve posture was appropriate in the latter part of the year, leading to a substantial decline in rates (Chart 5). The amount of discount window borrowing generated by the reserve paths dropped noticeably, and beginning in July the Board of Governors of the Federal Reserve System approved seven cuts in the discount rate, by ½ percentage point each time, reducing the rate to 8½ percent in mid-December.

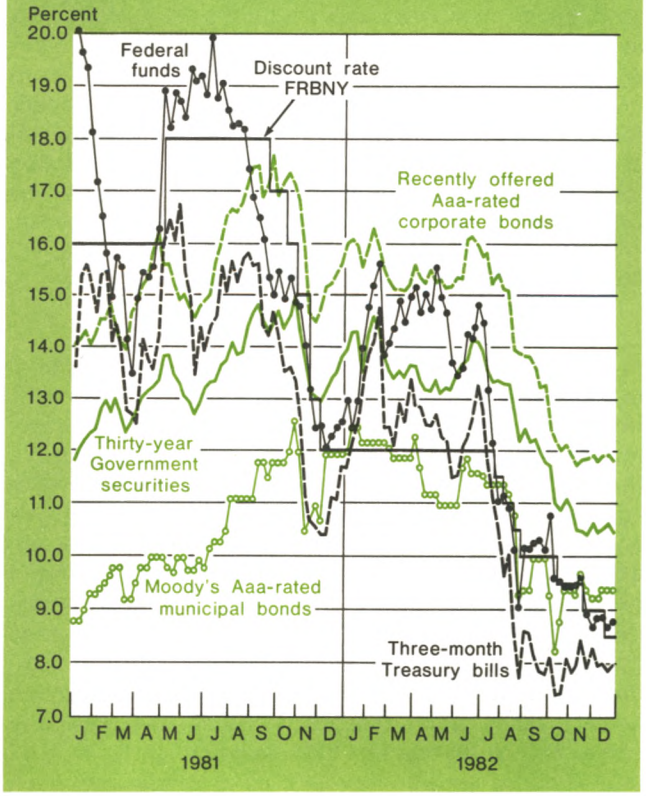
The economy

The nation labored in an extended recession during 1982. Real gross national product (GNP) fell by about 1 percent from the last quarter of 1981 to the final quarter of 1982. Indeed, taking a longer run view, the level of real activity at the end of the year was slightly below the level at the end of 1979, as a sharp but brief recession in 1980 was followed by a short-lived recovery. Consumer spending grew at a modest pace in 1982. With unemployment rising and confidence falling, consumers displayed a marked reluctance to take on debt and often held back on purchases of durable goods. Sales of domestically produced automobiles fell to the lowest level in many years, and spending on other durables declined in real terms. Only late in the year did activity in the interest-sensitive sectors show some life, as mortgage interest rates fell and auto makers offered attractive financing rates. During the year, businesses found their inventories uncomfortably high and production was cut back below levels needed to meet current demand. With factory utilization rates down, firms saw little need to spend on plant and equipment. Real spending on capital projects declined substantially.

U.S. trading partners were also in recession. Composite industrial production among six major industrialized nations abroad declined, putting a crimp in U.S. exports. Moreover, the dollar was strong during much of the year, reducing the competitiveness of U.S. goods. Developing nations, many of which relied on commodities exports, also met setbacks resulting from disinflationary forces in the industrialized nations. The current account balances of oil-exporting nations eroded, as oil consumption declined due to the widespread recession and the conservation of oil stemming from the more than tenfold increase in the price of oil in the last decade. Nonoil-developing countries also suffered from the slack demand in the industrialized nations, and their current

Chart 5

Selected Interest Rates



account balances remained in deficit. Some developing nations that had been able to borrow readily in earlier years found lenders reluctant to maintain the flow of new credit or, in some cases, to roll over maturities. The adjustment process required the cooperation of private lenders and official lending agencies but, with debt service large and increasing as a percentage of export earnings, forced retrenchment became widespread.

The good news was that inflation subsided appreciably in 1982. The rate of consumer price inflation fell for the third year in a row. The consumer price index rose slightly less than 4 percent from December 1981 to December 1982, the lowest increase since 1972 when price controls were in effect. In 1979-80 the rates of increase had been around 12 to 14 percent. Part of the decrease reflected declines in the cost of home ownership, energy, and food—typically volatile components. Eliminating some of the volatile items to get an "underlying" rate of inflation suggests a more moderate pattern of disinflation. Nevertheless, the progress was substantial. Unit labor costs in the private nonfarm economy rose by 4.8 percent in the period from the fourth quarter of 1981 to the fourth quarter of 1982, about half the increase in 1981. In part, this reflected a slower rise in compensation per hour worked as well as a welcome increase in productivity, compared with a virtually flat performance in 1981. Many analysts felt that both the moderation in compensation and the productivity gains would continue in 1983 and would serve to dampen inflationary forces further. On the other hand, there was widespread concern that large budget deficits, persisting long into a recovery period, could undermine the progress on inflation and impair the recovery process.

Monetary policy and implementation

Longer run objectives

In February the Committee adopted the annual monetary growth ranges it had tentatively set in July 1981. In doing so, it noted that M-1 had grown fairly rapidly in late 1981 and into early 1982. It seemed possible that this bulge reflected a temporary shift in consumers' preferences toward holding highly liquid balances as a precautionary measure in the uncertain economic and financial environment. The rapid growth had taken place in a period of rising interest rates and declining real output. Much of the increase consisted of an expansion in negotiable order of withdrawal (NOW) accounts, which show less transaction activity than demand deposits. Since M-1 was well above its fourth-quarter 1981 average early in 1982 and because growth for 1981 as a whole had been fairly slow, the Committee indicated that an outcome in the upper part of its 2½ to 5½ percent range would be acceptable.

At the same time, the Committee expected that M-2 growth would come out near the upper end of its 6 to 9 percent range. A significant part of individuals' savings was included in M-2, and it seemed possible that increased incentives to save could boost growth. The range represented somewhat slower growth than that actually achieved in 1981, continuing the FOMC's efforts to restrain money growth and inflation. (The growth range for M-3—6½ to 9½ percent—represented a marked slowing, compared with growth of slightly over 11 percent in 1981.) However, later in the year, as the recession continued and inflation declined sharply, the FOMC accepted somewhat faster growth to foster economic recovery.

After its opening bulge, M-1 grew at a very modest pace well into the year. By July it was back within the annual growth range, while M-2 and M-3 hugged the top ends of their ranges through midyear. In July the Committee reaffirmed its ranges for 1982 but adopted a more flexible approach toward its growth objectives. The FOMC noted the continuing strong demand for liquidity that it had seen earlier in the year, as NOW accounts made up a substantial portion of first-half M-1 growth. For the balance of the year, the FOMC noted that growth around the top end of the ranges would be fully acceptable. In addition, growth above the top end of the ranges would be tolerated for a time if it appeared that precautionary demands for liquidity were contributing to strong demands for money. Late in the year, with distortions arising in M-1, the Committee retained the broad framework of monetary targeting but placed greater emphasis on the broader aggregates.

Shorter run objectives

The Committee's flexibility extended to its selection and pursuit of shorter run growth objectives. For the most part it continued to specify short-run growth objectives designed to bring the aggregates back over a period of a few months toward their stipulated ranges. At the same time, the Committee did not find it so necessary in an environment of economic weakness and receding inflation to respond strongly to every temporary surge in money growth. At times, it chose monetary growth rates for the intermeeting paths that allowed for temporary deviations in money growth.

For example, at the March meeting, the Committee adopted a 3 percent growth rate for M-1 from March to June, a rate that would bring M-1 back close to the annual growth range. However, because of uncertainties about the seasonal adjustment of money in April,

which is heavily influenced by flows of funds related to tax payments, the Committee allowed for fairly rapid growth of M-1 in April, while maintaining a 3 percent objective for the quarter. The Committee thus guarded against a situation in which a "blip" in the money supply would lead, through the reserve path procedures, to a temporarily more stringent provision of nonborrowed reserves and a brief but sizable increase in borrowing and market pressures.

M-1 did indeed show a substantial increase for the month of April as a result of a run-up early in the month; it then retreated late in the month. Because the paths had allowed for rapid growth in April, the mix of borrowed and nonborrowed reserves was altered only moderately. The markets reacted well throughout this episode. The widely anticipated spurt in money, viewed by many as tax related, did not rekindle inflationary expectations. The Federal funds rate remained about 15 percent while most other rates, including long-term bond yields, fell over the month. The market seemed to appreciate that quick responses to every deviation were not necessary to the credibility of the System's long-term commitment to moderate money growth and to dampen inflation.

Late in the year the FOMC adapted the short-run objectives in light of developments deemed likely to cause severe distortions in the money data. At the October meeting, the Committee concluded that M-1 was not likely to be a reliable guide to policy over the near term. Consequently, the money objectives for the fourth quarter were specified in terms of growth of M-2 and M-3 at rates of 8½ to 9½ percent (later, in November, put at 9½ percent).

The unreliability of M-1 arose from two sources. In October about $31 billion of twelve-month ASCs matured, suggesting a transitional impact on M-1 as funds were redistributed to other assets. Over the rest of the fourth quarter, another $10 billion in ASCs was set to mature, presenting the same difficulty in assessing how much of the observed increases in M-1 reflected temporary parking of funds, transactions balances, or liquidity preferences. Concentrating on M-2 abstracted from these distributional problems.

Another impending influence undermining reliance on M-1 was the Congressional mandate to permit depository institutions to offer new Federally insured accounts similar to and competitive with money market mutual funds. Since the new account—eventually called the money market deposit account (MMDA)—had certain restrictions on access, it would not be treated as a transaction deposit in M-1 but would be included in M-2. The new law also permitted the introduction of other accounts without access restrictions, which were included in M-1. Therefore, it appeared that M-1 could be either augmented or diminished by reallocations of funds, depending on the introduction of the new accounts, the attractiveness of the accounts with and without access restrictions, the rates offered on the alternatives, and the allure of insurance. Temporary parking of funds in M-1 accounts preparatory to placement in MMDAs was also considered a possible distorting factor. While M-1's usefulness over the near term was questionable, most of the reallocation was expected to take place within M-2, possibly making it a more reliable policy guide, but in fact the MMDAs proved to be so popular that by the final weeks of 1982 and into early 1983 M-2 was being substantially distorted.

The extraordinary popularity of MMDAs followed as a consequence of aggressive initial bidding for these accounts by depository institutions after their introduction on December 14. A few institutions briefly offered rates over 20 percent, more than double the rates paid by money market funds. The MMDAs attracted about $90 billion during their first two weeks and in excess of $200 billion by the end of January 1983. A substantial part of these inflows represented switching from other components of M-2 (including noninstitutional money market funds) and some from M-3. However, some of the inflows also represented switching from market instruments, although the proportion was difficult to gauge with any precision.

Implementation

Open market operations in 1982 continued to be aimed at achieving nonborrowed reserve levels stemming from the reserve-path targeting procedures. These procedures, more fully described elsewhere,[2] are sketched here. After each meeting the staff derived total reserve levels consistent with the growth of aggregates voted by the Committee. First, it applied the relevant required reserve ratios to the desired levels of reservable deposits in the aggregates. To this were added the required reserves needed for the projected growth of certificates of deposit (CDs), Treasury balances, and other non-M-2 liabilities. An expectation for excess reserves was added to these required reserve levels to make up the intermeeting total reserve path. The intermeeting nonborrowed reserve path was obtained by subtracting from the total reserve path the level initially assumed by the Committee for borrowing. The total reserve path essentially reflected the

[2] See for example: Paul Meek, *U.S. Monetary Policy and Financial Markets* (Federal Reserve Bank of New York, 1982); "Monetary Policy and Open Market Operations in 1980", this *Quarterly Review* (Summer 1981) pages 56-75; and "Monetary Policy and Open Market Operations in 1979", this *Quarterly Review* (Summer 1980), pages 50-64.

demand for reserves consistent with the Committee's monetary objectives, while the nonborrowed reserve path embodied the System's supply schedule.

Each week the actual levels and projected behavior of money and reserves were compared with the Committee's specifications and the reserve paths. As money and the associated demand for reserves tended to rise above (fall below) the total reserve path, then the supply of reserves tended to result in a higher (lower) level of borrowing. Because of administratively controlled access to the Federal Reserve discount window, raising or lowering the pressure to borrow was transmitted to the market for overnight lending of reserves, the Federal funds market. As banks, for example, were forced to the window, they turned more aggressively to the funds market and bid up the funds rate. The opposite happened when banks found that nonborrowed reserves were more plentiful. Over time, banks' efforts to adjust their balance sheets and the associated money market pressures worked toward returning money growth to the desired rates.

With the shift in emphasis to M-2 late in the year, the paths reflected primarily the M-2 growth rate approved by the FOMC; variations in M-1 were accommodated. In the weekly reevaluation of the paths, when M-2 ran above its indicated growth rate, the paths usually generated additional borrowing commensurate with the overrun. When M-2 growth appeared slower than the Committee was prepared to see, the paths tended to generate a reduction of borrowing.

The use of M-2 in this way tended to produce more muted responses since the average level of required reserves was about 2 percent of the average level of M-2, compared with a ratio of about 9 percent for M-1. Moreover, the extent of any "automatic" response depended on the distribution of strength among different types of deposits, since some nontransactions balances have low reserve requirement ratios and many have none at all. Consequently, there was a need for discretionary adjustments to the paths to generate appropriate variations in reserve pressure. In the closing weeks of the year and into January 1983, when there was very substantial shifting of funds associated with the introduction of MMDAs and new super NOW accounts, the paths were adjusted weekly to accommodate the ongoing shifts and in effect to maintain the initial-path borrowing level contemplated at the December meeting.

Judgmental adjustments to the paths were also made on a few occasions over the first part of the year to speed the return of money growth to the desired rate. In January the nonborrowed reserve path was lowered to apply more pressure on the banking system when money growth was unacceptably rapid. In July, two upward adjustments were made when money proved to be unexpectedly weak. Such judgmental shifts were also made to avoid situations when a mechanical adherence to the path procedures could produce unwanted results. Thus, when money growth was acceptably above the rates incorporated in the paths in September, the nonborrowed reserve path was raised to prevent a shift toward even higher borrowing levels than those that had emerged. From time to time, adjustments to the nonborrowed reserve path were also made when it appeared that there were shifts in the demand for borrowing or that computer-related problems pushed borrowing to unintended levels.

Over the second half of the year the Committee gradually lowered the initial level of borrowings used in drawing the path. By the end of the year the implied borrowing level was about $200 million, and the Federal funds rate was generally expected to trade around the discount rate. By using this approach, the Committee avoided Federal funds trading far below the discount rate, as had happened in the spring and early summer of 1980 when path borrowing fell to $75 million to $100 million. The approach used in late 1982 tended to focus market attention on the discount rate. Sentiment waxed bullish or bearish on prospects for such cuts, usually with each cut generating expectations of further cuts.

The actual focus of System open market operations was attainment of an average level of nonborrowed reserves for each statement week. Projections of nonborrowed reserves availability remained subject to error. On average, the reserve forecast errors were little changed from the 1981 experience. The average absolute forecast error at the beginning of the week was a little over $600 million and declined over the week to about $130 million on the last day. Given the short-term ebb and flow of funds in the banking system from day to day and week to week, the Trading Desk relied extensively on temporary injections and absorptions of reserves to try to hit the objective. Repurchase agreements (including those arranged on behalf of both the Federal Reserve System and foreign central bank customers) and matched sale-purchase transactions in the market amounted to about $310 billion, compared with about $270 billion in the previous year. The number of market entries fell, however, to 143 from 153 in the previous year. The Desk used outright transactions to address seasonal and secular reserve needs, such as supporting the growth of currency in circulation. Outright purchases of Treasury securities amounted to $19.9 billion, slightly over half in the market and the rest from foreign accounts. Outright

sales of securities in the market and to foreign accounts totaled $8.6 billion, while redemptions came to $3.2 billion. On a net basis, outright holdings increased by $8.1 billion.

The financial markets

Interest rates moved up early in the year and then showed little net change over the rest of the first half of the year. In the latter part of 1982 they fell, as private credit demands softened with the economy while inflationary pressures receded and monetary policy was more accommodative. On the other hand, borrowing by the Treasury and state and local bodies was extremely heavy, far surpassing that of earlier years. Nevertheless, a surge in public borrowing late in the year was accommodated at the lower yields that reflected the state of the economy. Throughout much of the year, the atmosphere in the credit markets was fragile, reflecting several financial failures and anxieties about the possibility of other problems.

Rates varied over a moderate range in the early part of the year. The System's pursuit of its nonborrowed reserves objectives in January primarily affected the short-term markets. The three-month bill rate at auction rose from 11.69 percent in late December 1981 to the year's high of 14.74 percent in February, while longer term rates rose slightly. The credit markets showed little overall trend through the end of June. Business demands for short-term credit remained strong. However, that demand did not so much reflect spending for investment purposes as it did efforts to maintain working capital in a poor business climate.

The financial markets rallied dramatically over the summer. Short-term yields fell the farthest, as is typical of recessions (Chart 6). The Federal funds rate fell from the area of 15 percent in late June to around 10 percent two months later (Chart 7). The relaxation of pressure in the money market reflected the decline in discount window borrowing imposed on banks by the Federal Reserve. The discount rate was lowered in four stages from 12 percent to 10 percent by late August.

Treasury bill rates fell sharply. The three-month rate dropped by 5 to 6 percentage points over the summer. The market for short-term private debt, notably bank CDs, was beset by several worries and the overall rate declines during the summer were somewhat smaller than those on Treasury debt. Early in July, Penn Square Bank, N.A., in Oklahoma failed as a result of losses on energy-related loans. Several large banks in other parts of the country also suffered losses on loans they had purchased from Penn Square Bank. Investors holding the CDs of some of

Chart 6

Yield Curves for Selected U.S. Treasury Obligations

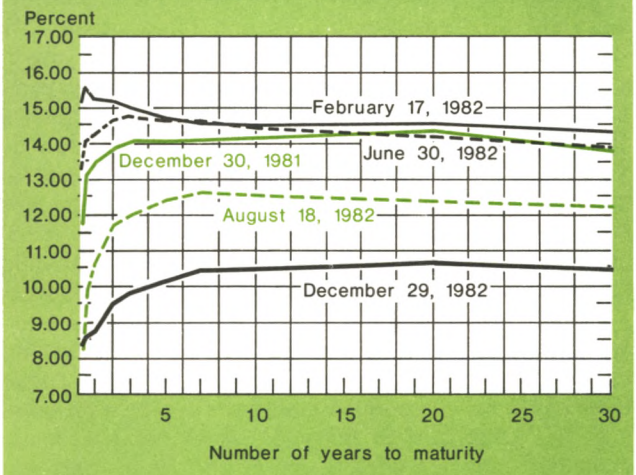
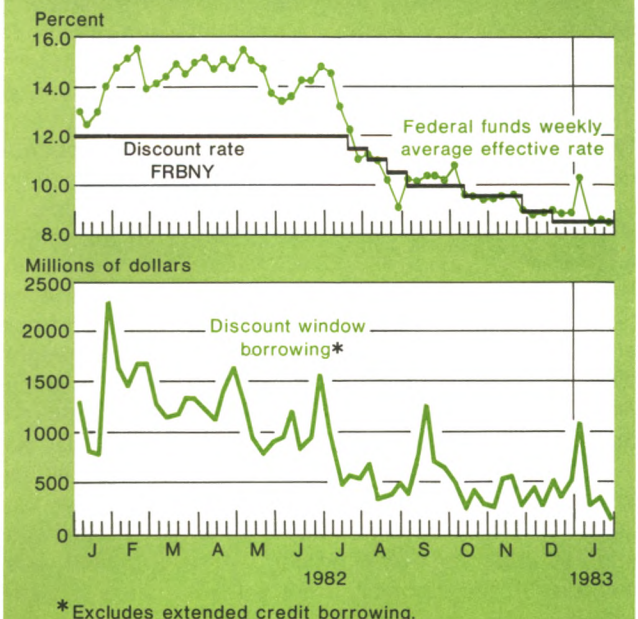


Chart 7

Money Market Conditions and Borrowed Reserves



*Excludes extended credit borrowing.

those banks became reluctant to maintain those holdings, so that yields on their CDs rose well above those of other major banks. Later in the summer, when the foreign loans of banks worried the markets, Treasury issues—considered the safest and most liquid of securities—attracted demand. The spread between the yield on three-month bills and three-month CDs widened to about 3 percentage points from an average of about 1 percentage point earlier in the year. The anxieties associated with both sets of problems gradually quieted down over the rest of the year, as it appeared that the problems with energy loans at major banks would be manageable while progress was made in restructuring the loans of certain hard-pressed nations. By the end of the year the yield spread had narrowed to about ½ percentage point.

Long-term rates declined more gradually, as businesses restructured their balance sheets by selling long-term debt and paying down short-term debt. Business loans and commercial paper issuance dropped over the latter part of the year, while bond issuance expanded considerably. Late in the year, corporations also tended to rely more on long-term bonds than on intermediate-term issues, as investors became more willing to extend out along the upward sloping yield curve to improve their returns. For the year, gross proceeds from the public issuance of bonds by corporations amounted to about $43 billion, compared with about $38 billion in 1981, even though issuance early in the year had fallen well below that in the early part of 1981.

Treasury borrowing expanded sharply to finance a widening deficit, which in part reflected the effects of the recession on spending and receipts. The Treasury raised about $160 billion of new cash through issuance of marketable debt in 1982, up from about $90 billion to $100 billion in the two previous years. Participants expressed concern about the extent of the financings and the market's ability to absorb the debt. While a sizable amount of paper was floated in the third quarter when rates fell sharply, rates flattened out in the fourth quarter when the rapid pace of sales continued and market participants came to feel that further accommodative moves by the Federal Reserve might be nearing an end. The Treasury placed heavy reliance on the coupon sector where new cash raised amounted to about $95 billion. The Treasury continued to use its regular schedule of coupon offerings although a few long-term bond issues had to be omitted when the legal limit was reached on its ability to sell bonds with interest rates over 4¼ percent. After the limit was enlarged in the summer, bond sales resumed in September.

Gross issuance of tax-exempt bonds was very large as well. States and localities tapped the intermediate- and long-term sectors for about $76 billion, compared with about $48 billion in 1981. Activity was particularly hectic toward the close of the year, as borrowers attempted to sell issues before the legislated introduction of mandatory registration of tax-exempt securities. Issuers felt the cost of registration would be considerable. (In the "lame duck" session of the Congress in December, the registration deadline was postponed until mid-1983.)

Financial problems

Several incidents in the spring and summer cast a long shadow over the market for Treasury securities. The first of these was on May 17, when Drysdale Government Securities, Incorporated (Drysdale) failed to make sizable accrued interest payments on Treasury securities "borrowed" through reverse repurchase agreements. The interest payments, reported to be about $190 million, were to be made mainly through Chase Manhattan Bank and, to a lesser extent, through Manufacturers Hanover Trust Company and United States Trust Company to a number of dealer firms from which the securities had been obtained. The inability of Drysdale to make good on its transactions, along with an initial report that Chase would not cover the amount owed, caused considerable concern over the possibility that a number of major Wall Street firms might suffer severe losses. This threatened to disrupt the orderly functioning of trading and the securities clearance process as well as to undermine the ability of dealers to continue to function in a jittery marketplace.

In actions addressed specifically to the Drysdale problem, the New York Reserve Bank (1) hosted an informational meeting on the evening of May 17, initiated by Chase, between Chase and several dealer firms involved in the Drysdale problem, (2) held a meeting on May 18 with the New York Clearing House banks in which the Federal Reserve expressed its concern about the orderly functioning of the markets and noted its role as lender of last resort to commercial banks facing unusual liquidity demands, (3) informed primary dealers of the meeting with the Clearing House banks, and (4) held the securities and funds transfer wires open later than usual to facilitate the workings of the market. In meeting reserve needs on Tuesday and Wednesday of the May 19 statement week, the Desk acted a bit more promptly than usual to fill projected reserve needs and to forestall undesired financing pressures.

The crisis was substantially relieved on May 19 when Chase announced that it would make good on the interest owed on transactions that were made through it and would assume Drysdale's positions to unwind them. (Manufacturers Hanover and United States Trust

had already announced a similar policy on interest payments.) On May 20, the Desk informed dealers that for the next few days the FOMC would permit a more flexible policy in lending them securities from the System Open Market Account. The expanded facility, intended to ease the unwinding of very large short positions taken over from Drysdale by other market participants, was continued until May 28.

Drysdale had built up very large positions by "borrowing" securities under repurchase agreements (RPs) in a manner that tended to generate working capital. Dealers frequently employ RPs in which they sell securities temporarily, against payment of money, and agree to repurchase them at a later date. This transaction is called a reverse RP from the viewpoint of the firm temporarily obtaining the securities and is commonly employed as a means of "borrowing" securities to cover a short sale. Under the standard market practice at the time, the firm receiving securities under an RP paid funds equal to the market price of the securities but without allowing for the accrued interest on coupons. Drysdale used RPs to borrow Treasury coupon securities with high accrued coupon payments coming due. It then sold the securities short, receiving the market value of the securities *including* the value of the accrued coupon. By establishing large short positions in high coupon issues, Drysdale was able to generate excess cash, which in turn provided the margin necessary to set up long positions through purchases of securities financed through RPs. At the time the firm failed, Drysdale had gross short positions of about $4 billion and gross long positions of about $2½ billion. Apparently because of trading losses in its position management, the firm had lost the working capital obtained through the reverse RP stratagem and was thus unable to meet its obligations to pay the value of coupons coming due May 17. This little known and inadequately capitalized firm was able to build up such large positions by arranging its transactions through intermediaries (primarily Chase Manhattan Bank) who saw themselves in a passive role and did not appreciate the risk exposure involved. Firms providing the securities considered themselves to be dealing with Chase (or the other banks) rather than with the undisclosed party on the other side of the banks' transactions (*i.e.,* Drysdale).

In August, following general agreement within the dealer community, the Federal Reserve Bank of New York began taking account of the value of the accrued coupon when arranging RPs. The Bank also informed reporting dealers that it expected them to include the value of the accrued coupons when they arranged RPs with their customers beginning in early October. This change in market practices was quickly accepted, and the changeover occurred with virtually no problems. The Bank also took a number of other steps to improve market practices and to enhance its monitoring of the markets. It strengthened the unit devoted to surveilling the dealers and market developments, appointing a senior officer to head the group and expanding its size. The Bank notified the dealers that it planned to review standards of capital adequacy. It addressed the problem of credit exposure in "when issued" trading (*i.e.*, forward trading in not-yet-issued securities for delivery on the date of issue), proposing to the dealers several alternative methods of reducing the exposure.

While the Drysdale episode dramatized the importance of credit evaluation of counterparties in RPs and the necessity for proper collateralization of these agreements, another problem later in the summer pointed out the importance of liquidity in RPs. In August, Lombard-Wall, Inc., filed for bankruptcy while it had sizable amounts of RPs outstanding. In handling the affairs of the company, the court required many of the firm's RP customers to hold the securities rather than to sell them out. The standard market view of the RP had been that the party holding the securities could sell them if the other party failed to perform, thereby being assured of liquidity at the maturity of the contract and protection against the possibility of adverse price movements on the securities. Reflecting its concern about the legal status of RPs, the Federal Reserve Bank of New York filed an *amicus curiae* brief with the court handling the Lombard-Wall case, arguing that it is preferable for the orderly functioning of national financial markets that RPs be regarded as purchase and sale transactions rather than as secured loans, the unwinding of which might be subjected to a stay in bankruptcy proceedings.

Meantime, uncertainties about the RP instrument prompted a number of participants to reconsider their involvement in providing funds in that market. A few found other investment outlets for their funds, such as short-term bills; others restricted the number of parties they dealt with, and some pursued a diversification among firms. While there did not seem to be a severe lasting impact on the total size of the RP market, in the closing months of 1982 and into 1983 the RP rate tended to run higher in relation to other short-term rates than might otherwise have been expected. Legislation to preserve the traditional characteristics of RPs in bankruptcy proceedings was introduced in the Congress late in 1982 but failed to win passage when the bill it was attached to did not gain final approval. Similar legislation was introduced in early 1983.

Conducting open market operations

January through March

Open market operations early in the year were conducted against a background of strong money growth which began in late 1981 and spilled over into 1982. As the year began, the System resisted the undesired strength of the monetary aggregates through the Trading Desk's pursuit of a nonborrowed reserve path which was lowered several times to speed the return of money growth to within the longer term ranges specified by the Committee. By early February, incoming data indicated that money growth was moderating.

At its December 21, 1981 meeting, the Committee had specified growth for the November-March period at annual rates of 4 to 5 percent for M-1 (redesignated from M-1B) and 9 to 10 percent for M-2 (table). The target for M-1, consistent with an earlier Committee decision, no longer reflected the shift adjustments for conversion of outstanding interest-bearing assets into NOW accounts. In setting the M-1 target, the Committee took account of the relatively rapid growth that had already taken place through the first part of December and concluded that actual money growth might need to be evaluated in light of the behavior of NOW accounts. The Committee assumed an initial level for adjustment and seasonal discount window borrowing of $300 million for constructing the nonborrowed reserve path.

Money growth in January ballooned as a $10 billion increase during the first week of January did not wash out over the month. M-2 growth rose moderately above its January path. With the aggregates showing considerable strength, the demand for total reserves moved well above the total reserve path for the period, the six weeks ended February 3. As the period progressed, the nonborrowed reserve path was lowered in three stages by a total of $303 million relative to the total reserve path to accommodate temporary bulges in borrowing and to speed the return of money to path. Borrowing consistent with achieving the nonborrowed reserves objective rose sharply to about $1.5 billion in the final two weeks of the period. Open market operations accordingly absorbed reserves somewhat more than seasonally over the month. According to latest available information, total reserves finished $670 million above path; nonborrowed reserves finished the period approximately $40 million above the downward revised path.[3] The weekly average Federal funds rate increased to about 14¾ percent in the final week, compared with a range of about 12½ to 13 percent in the first half of the intermeeting period (Chart 7, top panel).

At its February 1-2 meeting, the Committee selected short-run objectives envisaging no further growth of M-1 over the February-March interval and an 8 percent growth rate for M-2 for the period. The Committee also indicated that some decline in M-1 would be acceptable in the context of reduced pressure in the money market. The initial borrowing level was continued at $1.5 billion.

During the first subperiod after the February meeting, the four weeks ended March 3, incoming data indicated a decline in M-1 for February at a modest rate and below-path growth for M-2. The demand for total reserves fell below the total reserve path, but discount window borrowing in the middle weeks of the subperiod nonetheless bulged to $1.7 billion (Chart 7, bottom panel). In the third week this was $400 million above the level consistent with achieving the nonborrowed reserve path. To allow for the unintentional overshoot in borrowing, the nonborrowed reserve path was lowered by $100 million in the final week, leaving average borrowing for the subperiod implied by the path at about $1.5 billion. For the period, total reserves averaged $80 million below path while nonborrowed reserves were virtually on path. The Federal funds rate averaged around 14 percent in the final two weeks of the subperiod, after climbing to over 15½ percent earlier.

In the second subperiod, the four weeks ended on March 31, both M-1 and M-2 were below path for the two-month period ended in March despite upward revisions over the interval. Open market operations had to adjust to a decline in borrowing which, in the first two weeks, ran below path levels. To allow for this, the nonborrowed reserve path was raised by a total of $80 million and, late in the subperiod, the path was raised a bit further because of the slow growth of M-2 by not taking all of the potential technical path adjustments indicated. During the interval the nonborrowed reserves objectives were generally consistent with average borrowing for the subperiod of about $1.2 billion to $1.3 billion. Even so, the Federal funds rate rose during March, reaching about 15 percent on average in the final week, partly because market participants were anticipating a money supply bulge in April which might exert pressure on short-term rates. Total reserves ended $120 million below path on average, while nonborrowed reserves ended $60 million above path.

Over the quarter, interest rate movements were influenced by monetary developments and concerns

[3] This report uses latest available data on reserves throughout; revisions from originally available estimates are generally small.

about the Federal deficit. Yields on long-term fixed-income securities moved higher in the first half of January in the wake of the rapid rise in money and short-term rates. Although rates on long-term taxable issues remained below the record levels registered in the fall of 1981, municipal bond yields set new record highs early in the month. In view of large prospective Treasury cash needs, investors saw no need to rush to buy securities and the Treasury's financings encountered mixed receptions. The prospect of continued heavy Treasury borrowing halted a brief market rally in early February.

Financial markets did take brief encouragement from Chairman Volcker's February 10 Congressional testimony, indicating that money growth high in its range—or temporarily above—would be acceptable. Then in late February in the midst of further evidence of economic weakness, decelerating inflation, and a decline in money from its high January level, interest rates once more began to decline. This rally halted in early March when investor support faltered and attention focused again on the large Federal deficits.

Corporate borrowers took advantage of temporary dips in rates to rush a large volume of issues to market in late February and early March, ending the lull in issuance that had existed since December. The municipal sector outperformed the taxable sectors in this period but shared in the mid- and late-March weakness. There were some downgradings of commercial paper issuers during the quarter (most notably of Ford Motor Credit Company) and yield spreads between top-rated instruments and lesser regarded instruments increased, but there was no sense of widespread problems.

April through June

A bulge in M-1 in early April receded as the quarter went along, but signs of strength reemerged as the quarter drew to a close. In late April, Desk operations had to pump in reserves to offset a sharp run-up of Treasury balances at the Federal Reserve. After mid-May, the Desk also had to bear in mind the disturbed conditions in the securities markets following the collapse of Drysdale. Desk operations were conducted flexibly in view of the sensitive state of financial markets, but without setting aside the System's basic reserves objectives.

As part of its continuing effort to achieve its annual monetary objectives, the Committee at its March 29-30 meeting called for M-1 growth at a 3 percent rate and M-2 growth at an 8 percent rate over the second quarter. The Committee noted that M-2 would probably be less affected over the period than M-1 by deposit shifts related to the April tax date and by changes in the relative importance of NOW accounts as a savings vehicle. It was also recognized that M-1's growth since the fall could be traced almost entirely to extraordinarily rapid growth in NOW accounts, which have a slower transactions turnover and might also reflect increased precautionary demands by the public. The Committee was willing to accept a shortfall in M-1 growth, in the context of appreciably reduced pressures in the money market and relative strength of other aggregates. The reserve paths subsequently incorporated the Committee's initial borrowing assumption of $1,150 million.

Policy was implemented in this period against a background of a sluggish economy and evidence of receding inflation. Mindful of the possibility that M-1 growth might be spurred by precautionary and liquidity concerns, as well as seasonal adjustment uncertainties related to the April tax date, the Committee was willing to tolerate temporary spurts in money growth. In line with this decision, the reserve paths were constructed to allow a bulge in M-1 in April, followed by no additional growth in May and June. Implemented in this fashion, the reserve-targeting procedure prevented a transitory spurt in money growth from transmitting undesired pressures to the money markets. At the same time, persistent money strength would still generate appropriate market pressures through increased borrowing.

Estimates of the aggregates as they emerged during the first subperiod—the four weeks ended April 28—revealed M-1 growth in April somewhat above path and M-2 growth just slightly above path. Reflecting the strength of the aggregates in early April, the demand for total reserves in the first subperiod was above path and the weekly implied borrowing levels consistent with achieving the nonborrowed reserve path average rose to about $1.4 billion in the final two weeks. In the final week, the Desk was unable to offset fully severe reserve drains due to high Treasury balances because of a temporary collateral shortage in the market.

In late April the Desk encountered heavy reserve drains, stemming from a sharp rise in Treasury balances at the Federal Reserve. The Treasury's balance at the Federal Reserve rose as high as $12.4 billion on April 29, compared with a normal targeted balance of about $3 billion. To counter the reserve drain, the Desk bought outright about $5 billion of Treasury securities. In addition, on April 29 it arranged a record $8.7 billion of RPs in the market, consisting of one- and four-day fixed-term agreements to offset short-lived reserve drains. These efforts fell short of the indicated reserve need, so that borrowing at the discount window rose.

Specifications from Directives of the Federal Open Market Committee and Related Information

Date of meeting*	Specified short-term annualized rates of growth for period indicated (percent) M-1	M-2	M-3	Consultation range for Federal funds rate (percent)	Initial assumption for borrowings in deriving nonborrowed reserve path (millions of dollars)	Discount rate on day of meeting and subsequent changes (percent)	Notes
12/21/81.....	November to March						
	4-5	9-10	—	10-14	300	12	In setting the M-1 targets, the Committee took account of the rapid M-1 growth which had already taken place in early December and noted that interpretation of actual money growth might require taking account of the significance of fluctuations in NOW accounts.
2/1/82.....	January to March						
	0	8	—	12-16	1,500	12	The Committee indicated that some decline in M-1 would be acceptable in the context of reduced pressure in the money market.
3/29/82.....	March to June						
	3	8	—	12-16	1,150	12	Some shortfall in M-1 from the 3 percent growth rate objective was deemed acceptable by the Committee in the context of appreciably reduced pressures in the money market and relative strength of other aggregates. Moreover, the Committee noted that deviations from the short-run growth objectives should be evaluated in the light of the probability that M-2 would be less affected over the period than M-1 by deposit shifts related to the April tax date and by changes in the relative importance of NOW accounts as a savings vehicle.
5/18/82.....	March to June						
	3	8	—	10-15	800	12	
6/30/82.....	June to September						
	5	9	—	10-15	800	12 11½ on 7/19/82 11 on 7/30/82 10½ on 8/13/82	The Committee noted that somewhat more rapid growth than indicated in the short-term objectives would be acceptable depending on evidence that economic and financial uncertainties were leading to exceptional liquidity demands and changes in financial asset holdings.

Specifications from Directives of the Federal Open Market Committee and Related Information *(continued)*

Date of meeting*	Specified short-term annualized rates of growth for period indicated (percent) M-1	M-2	M-3	Consultation range for Federal funds rate (percent)	Initial assumption for borrowings in deriving nonborrowed reserve path (millions of dollars)	Discount rate on day of meeting and subsequent changes (percent)	Notes
8/24/82.....	June to September						
	5	9	—	7-11	350	10½ 10 on 8/26/82	Money growth somewhat greater than the short-run objectives was again viewed as acceptable, depending on evidence that economic and financial uncertainties were leading to exceptional liquidity demands and changes in financial asset holdings.
10/5/82.....	September to December						
	—	8½-9½	8½-9½	7-10½	300	10 9½ on 10/8/82	The Committee agreed that it would tolerate growth somewhat above the target range in the event of unusual precautionary demands for money and liquidity and that there was a need for flexibility in responding to M-1 developments because of probable distortions in that measure stemming from institutional developments.
11/16/82.....	September to December						
	—	9½	9½	6-10	250	9½ 9 on 11/19/82 8½ on 12/13/82	The Committee decided that much less than usual weight be placed on movements in M-1 during the fourth quarter because of continued difficulties in interpreting that aggregate.
12/20/82.....	December to March						
	—	9½	8	6-10	200	8½	The Committee's short-term objective for M-2 growth allowed for modest shifting into the new MMDAs from non-M-2 instruments; greater growth was acceptable if analysis of incoming data indicated that the MMDAs were generating more substantial shifts of funds into broader aggregates from market instruments.

* When meetings cover two days, first day is given.

For the subperiod, total reserves exceeded path by about $150 million on average: nonborrowed reserves averaged approximately $60 million under path and borrowing about $210 million over path. The Federal funds rate generally averaged between about 14½ percent and 15¼ percent during the subperiod.

In the three weeks ended May 19, the monetary aggregates weakened relative to the associated path levels. Consequently, the implied average borrowing level for the subperiod fell to about $1.1 billion by the final week. However, the Committee at its May 18 meeting decided to aim for a nonborrowed reserve level consistent with $800 million of borrowing for the week, in line with the average of the first six days. (Retention of the original nonborrowed reserves objective would have implied a sharp increase in borrowing on the final day.) Largely as a result of the change, nonborrowed reserves over the three-week period averaged about $110 million above the path set earlier in the week; total reserves were a shade below path.

Desk activity during the latter part of the May 19 statement week sought to cushion the immediate market impact of the failure on Monday, May 17, of Drysdale to make sizable accrued interest payments on borrowed Treasury securities. As described earlier in this article, this collapse threatened to disrupt securities trading and the ability of dealers to continue to finance their positions. On Tuesday and Wednesday of the May 19 statement week, the Desk acted a bit more promptly than usual to fill projected reserve needs. To forestall undesired financing pressures, it also resolved doubts regarding the size of reserve needs on the side of meeting indicated needs fully.

At its May 18 meeting, the Committee retained the 3 percent M-1 and 8 percent M-2 growth rate objectives set in March for the second quarter. Given April developments and the likely indications for May, reserve paths were drawn up based upon a decline in M-1 in May and modest growth in June.

Early in the six-week period ended June 30, estimates of the aggregates were generally on, or slightly above, path. However, in early June greater strength in the aggregates pushed the May-June growth rates for M-1 and M-2 moderately above path. In line with these developments, the demand for total reserves generally ran slightly above path during the period, producing some upward pressure on rates at a time when market participants were expecting rates to fall. In the last two weeks of June, however, the estimates of M-1 were revised downward closer to path, although the stronger performance of earlier weeks continued to affect reserve needs in the period because of lagged reserves accounting. In view of this and the proximity of the July Committee meeting, not all technical adjustments to the reserve paths were taken. Implied borrowing in the final two weeks rose only to a level of about $1 billion, compared with the $800 million initial assumption adopted at the May meeting.

The complications that arose around the quarter end serve to illustrate some of the operational issues involved in implementing policy. As is typically the case in the June 30 statement week, window-dressing pressures developed, with the end-of-quarter publishing date in this case coinciding with the week's settlement date. Banks typically build up excess reserves on an end-of-quarter statement publishing date and the path allowed for this likelihood. In these circumstances, the Desk responded to a moderate estimated reserve need by adding reserves in size on each day before the weekend. Even so, the money markets remained firm and borrowing bulged to $2 billion on Friday, June 25. After the weekend, with borrowing averaging well above the implied path level, the Desk had to allow for the reserves already provided through the window, being willing to permit nonborrowed reserves to come out below the objective. Otherwise, reserves would have been much more plentiful than was consistent with the degree of restraint being sought at that time. When projections of a reserve surplus were confirmed by an easier money market early on the final day, the Desk absorbed reserves. However, the funds rate firmed again late on the final day, reflecting as it turned out a reserve shortfall and even higher excess reserve holdings by banks than had been allowed for.

In the following statement week, encompassing the Independence Day holiday weekend, the Desk again allowed for excess reserve holdings above normal. Moreover, to forestall unwanted firming in the money market, the Desk responded to estimated reserve needs by supplying reserves abundantly on each day. Nevertheless, borrowing ran high as the banking system sought even larger excess reserves than expected to accommodate the financial flows and uncertainties of the week. The funds rate eased only grudgingly during the week until late on the settlement day when it dropped to as low as 2 percent. For the period, total reserves were above path by $110 million while nonborrowed reserves fell $80 million short of path.

In the money markets over the period, the Federal funds rate dipped to around 13½ percent in early June from the 14½ to 15 percent area prior to the May meeting. As money strengthened, the funds rate firmed to somewhat over 14 percent later in the month and still higher in the June 30 statement day week.

Interest rates worked irregularly lower during the early part of the quarter but then turned around sharply in June. In April and early May, the markets were

buoyed by continued indications of economic weakness and very encouraging inflation statistics, which buttressed the view that interest rates were significantly higher than seemed consistent with the economic fundamentals. The Treasury's quarterly refunding auction in early May of $9.25 billion of notes met good demand even though the size of the operation was somewhat more than had been anticipated. Despite the decline in rates, corporate and municipal new issue volume was only moderate as many treasurers hoped for better opportunities down the road.

Despite the nervousness in financial markets resulting from the Drysdale incident, price changes in the immediate aftermath of the incident were modest. In fact, Treasury bill rates benefited as investors exhibited greater concern than usual over safety and liquidity. However, as heavy prospective third-quarter Treasury financing needs drew nearer, without the expected decline in short-term rates, market sentiment deteriorated and yields moved sharply higher in June. Debt ceiling constraints forced the Treasury to reduce the size of two bill auctions and to postpone the four-year note auction scheduled for late in the quarter. Legislation to enlarge the debt ceiling was passed on June 23, the same day that saw final passage of a budget resolution, but these events provided only modest support to the markets amid lingering doubts that the Congress would achieve its goals for reducing the deficit.

July through September

Open market operations were conducted against a troubled financial background, while money growth was restrained in July but strengthened in August and September. Financial markets had to cope with several well-publicized bankruptcies and growing concerns regarding the banking sector's loan exposure to hard-pressed domestic and international borrowers. Large loan losses suffered by several major banks highlighted the potential for difficulties in this area, and some major banks encountered investor reluctance to purchase their CDs. Nevertheless, the markets for fixed-income securities were able to sustain a strong rally in the face of a substantial volume of Treasury, corporate, and municipal debt offerings.

At its meeting of June 30-July 1, the Committee specified third-quarter growth for M-1 and M-2 at annual rates of about 5 percent and 9 percent, respectively. Somewhat more rapid growth was acceptable, depending on evidence that economic and financial uncertainties were leading to exceptional liquidity demands and changes in financial asset holdings. It was noted that seasonal uncertainties, together with increased social security payments and the initial impact of the tax cut on cash balances, might lead to a temporary bulge in M-1 in July. Using likely indications of July growth, the reserve paths for July and August allowed for a temporary bulge in M-1 in July and reflected the Committee's $800 million initial borrowing assumption.

There was a large increase in M-1 in the first week of July, but the bulge was less than had been anticipated at the time of the meeting and incoming data suggested no further strength as July progressed. By the end of the first subperiod—the four weeks ended July 28—M-1's July growth was modest. M-1 was well below path, and M-2 was expected to be close to path in July. In these circumstances and in view of the sensitive conditions in financial markets, the nonborrowed reserve path was raised by $85 million during the interval to accommodate the resumption of money growth. With the weakening in money growth, total reserves ran $120 million below path for the subperiod. The average level of borrowing implied by the nonborrowed reserve path declined to about $630 million in the final week, down from $800 million initially. Reflecting this and a cut in the discount rate on July 19 from 12 to 11½ percent, the money market eased markedly. The average Federal funds rate fell steadily from 14.47 percent in the first week to 11.02 percent in the last week of the subperiod.

Early in the second subperiod, the four weeks ended August 25, data indicated additional weakness in M-1. Therefore, an additional upward adjustment of $100 million was made to the nonborrowed reserve path. Moreover, against the background of continuing economic weakness, the discount rate was trimmed by 1½ percentage points to 10 percent in three ½ percentage point moves by the end of August. Despite some strengthening of M-1 and M-2 in the first half of August, these aggregates remained below path. Consequently, the demand for total reserves in the subperiod ran $240 million below path. Reflecting this and upward adjustments to the nonborrowed reserve path, the average borrowing level for the subperiod implied by the reserve paths declined to $410 million in the final week.[4] In line with these events and the discount rate cuts, the Federal funds rate declined to around 10 percent or a bit lower as the period progressed, compared with just over 11 percent in the first week of the subperiod.

[4] Part of the decline in implied borrowing reflected a $61 million upward adjustment made to the nonborrowed reserve path to account for the reclassification of borrowing by a merged bank to the extended credit category, which occurred on August 9. For reserve path construction purposes, extended credit is treated as a source of nonborrowed reserves since such borrowing does not result in normal reserves adjustment pressure on the banks involved.

At its August 24 meeting the Committee retained its third-quarter monetary growth rate objectives of 5 percent for M-1 and 9 percent for M-2. The reserve paths allowed for more rapid growth than projected for August. While the September M-2 path growth rate appeared lower than was likely to occur, the directive allowed for acceptance of some above-path growth of this aggregate. The nonborrowed reserve path reflected a $350 million initial borrowing level.

In the six-week intermeeting period ended on October 6, M-1 strengthened in August and came in above path in September. Meanwhile, M-2 came in slightly below the August path level but was estimated to be moderately above path in September. Actual borrowing was frequently bolstered by special-situation borrowing, which was not considered to be reflective of normal reserves availability pressures. In practice, some allowance was made for this in adjusting the paths; however, it was usually difficult to ascertain the exact magnitude of the special-situation borrowing, complicating the determination of appropriate Desk action.

In the three weeks ended September 15, the demand for total reserves ran $120 million above path, reflecting M-1 strength in August. Nonborrowed reserves averaged $60 million below path. Further appreciable strengthening appeared for September in the three weeks ended October 6. By the middle week of the second subperiod, it was clear that mechanical adherence to reserve path procedures would result in a borrowing gap in the final two weeks of around $900 million (even before any allowance for special-situation borrowing), implying considerable upward interest rate pressure. The Committee reviewed recent developments at a conference call on September 24. It was the Committee consensus that some accommodation of the more rapid growth of money was consistent with the directive adopted at the August meeting in view of the strength in NOW accounts, the overall background of weakness in the economy, and the fragility of worldwide financial conditions. Hence, the nonborrowed reserve path was adjusted to limit implied borrowing to the $500 million to $550 million area. Average nonborrowed reserves were just slightly above the adjusted path; total reserves finished about $570 million above path.

The strengthening of money growth in August and September arrested the substantial easing trend in the money markets which had characterized July and August. In the six weeks following the August 24 meeting, the weekly Federal funds rate fluctuated in a range of about 10⅛ to 10⅜ percent until the week of October 6, when the funds rate jumped to about 10¾ percent.

Despite strong crosscurrents—and indeed partly because of them—the fixed-income securities markets rallied sharply during the quarter, with many rates dropping to their lowest levels in about two years. Many short-term rates, notably on Treasury issues, reached their lowest levels in mid-August when widespread concerns over creditworthiness and liquidity were greatest. Longer term rates continued to decline through the quarter's end, however, despite some occasional backups. Price gains were supported early in the period by slow M-1 growth, a sluggish economy, and cuts in the discount rate. Although money growth strengthened in August and September, most market participants felt that the weak performance of the economy would moderate private credit demands and keep System policy from a tighter course.

In the quarter, financial markets witnessed a heightening of concern about the quality of U.S. bank loan portfolios. The failure of Penn Square Bank in Oklahoma in July had cast a shadow on a number of major commercial banks that had participated in loans initiated by Penn Square. In September, anxiety mounted as Mexico's deteriorating financial situation underscored the sizable exposure of banks through foreign loans in a deteriorating world economic situation. Rates on three-month CDs rose to a spread of about 3 percentage points over Treasury bills in September, compared with about 1 percentage point earlier in the year.

The Treasury sold to the public $230 billion of debt in the quarter, while raising about $55 billion of new cash (exclusive of foreign gross purchases of about $3 billion). Nevertheless, yields on three-year Treasury issues declined about 3¼ percentage points over the quarter to about 11½ percent, while thirty-year bond yields declined about 2⅛ percentage points to 11¾ percent. Corporate debt issuance picked up significantly in August and September, while municipal borrowing was substantial throughout the quarter. The substantial volume of new issues generally met good receptions.

October through the year end

In formulating monetary policy in the fourth quarter, the Committee concluded that M-1 would be subject to unusually large uncertainties over the remainder of the year (and for at least some time in 1983) because of the substantial effects of maturing ASCs and the introduction of new money-market-type accounts. Accordingly, the FOMC decided to accommodate M-1 changes during the balance of the year, looking instead to M-2 which was expected to be affected to a much smaller extent by these developments. The resultant reliance upon M-2 for drawing reserve paths implied

that equivalent money deviations from path would generate smaller changes in borrowing pressure, since the average M-2 reserve requirement was about 2 percent compared with 9 percent for M-1.

At its October 5 meeting, the Committee set monetary objectives over the September-to-December period for M-2 and M-3 growth rates in a range of 8½ to 9½ percent. The paths were constructed on the basis of quarterly growth rates of 5 percent, 9½ percent, and 8½ percent, respectively, for M-1, M-2, and M-3. However, deviations in the M-1 growth rate would be accommodated. The reserve paths were drawn up with a monthly growth pattern which reflected projected slow growth for the broader aggregates in October but large increases in M-1 as a result of the maturing ASCs. The nonborrowed reserves objective incorporated an initial borrowing assumption of $300 million.

Early in the October-November intermeeting period, available data on the monetary aggregates indicated that M-1 in early October was stronger than had been anticipated at the time of the October meeting. Non-M-1 components of M-2 appeared sufficiently weak, however, to compensate for the M-1 strength, so that estimates of M-2 indicated a close-to-path performance for that aggregate. In these circumstances, and in line with the Committee's desire to accommodate variations in M-1, adjustments were made to the paths to leave seasonal and adjustment borrowing around $300 million. Total and nonborrowed reserves averaged about $30 million and $40 million below path, respectively. By the second subperiod, the three weeks ended November 17, M-1 in October appeared to be considerably stronger and estimates of M-2 in October also were revised upward to levels above those built into the path. The directive, however, called for toleration of somewhat more rapid growth of the broader aggregates if economic and financial uncertainties led to exceptional liquidity demands. Thus, in addition to accommodating M-1 developments, path adjustments were taken so as to result in only a modest widening of the implied borrowing gap to about $340 million for the second subperiod. As the subperiod progressed, actual borrowing ran high, largely reflecting a $3 billion bulge in borrowing on November 10 which automatically carried into the November 11 Veterans Day holiday. In the final week (November 17), the nonborrowed reserves objective for the week was set consistent with borrowing in that week of $550 million. For the subperiod, nonborrowed reserves were essentially equal to the revised path while total reserves were $150 million above path.

Conditions in the money market during the intermeeting period generally moved in line with developments in money growth. Federal funds traded around the discount rate, which was cut from 10 to 9½ percent on October 8. With M-2 close to path during the first subperiod, the Federal funds rate eased from slightly above 9½ percent at the period's outset to slightly below 9½ percent in the middle weeks of the period. Consistent with the strengthening in M-2 and higher borrowing levels in the second subperiod, the funds rate backed up to slightly over 9½ percent in the November 17 week.

At its November meeting, with institutional developments continuing to cloud the interpretation of M-1, the Committee reaffirmed its earlier decision to respond flexibly to M-1 developments, continuing to focus primarily on M-2 and to some extent on M-3. The Committee established monetary objectives of 9½ percent growth rates for both M-2 and M-3 over the September-to-December period and opted for an initial borrowing assumption of $250 million.

The five weeks ended December 22 were characterized by M-2 and M-3 growth which was relatively close to path, while M-1 continued to show considerable strength. By the period's close, M-2 was estimated to be slightly above path for the month of November but a shade below path in the five weeks underpinning reserve needs for the period. M-3 was estimated to be a bit below path in November. During the period, less than the full amount of potential M-2-based technical adjustments were taken, which had the effect of less than fully accommodating the strength in M-1. In addition, stronger than anticipated demands for excess reserves during a period of seasonal churning led to higher than intended levels of borrowing at the discount window and an increase in money market pressures. The nonborrowed reserve path was lowered by $105 million to allow for this rise in actual borrowing. After these adjustments, average borrowing implied by the reserve paths was about $340 million for the period. Implied borrowing levels in the final two weeks of $230 million were about equal to the level consistent with the below-path performance of M-2 in the five weeks determining reserve needs in the period. Total reserves fell about $40 million short of path, and nonborrowed reserves about $50 million below path.

The Federal funds rate edged downward irregularly over the interval, but by less than the discount rate which was cut from 9½ to 9 percent in the first week of the period and then to 8½ percent in the week of December 15. The weekly average funds rate fell from 8.91 percent in the first week to 8.69 percent in the final week, a bit above the new discount rate.

Over the remainder of the year, interpretation of the monetary aggregates data was complicated further by very rapid growth of the new MMDAs which were intro-

duced at banks and thrift institutions on December 14. By late December, it was estimated about $90 billion of these deposits—included in M-2—was outstanding. In early 1983 the MMDAs continued to expand rapidly, while additional uncertainty over interpretation of the alternative money measures resulted from the introduction on January 5 of the new super NOW accounts (included in M-1). At its December meeting the Committee set growth rates of 9½ percent and 8 percent for M-2 and M-3, respectively, from December to March. The M-2 growth rate allowed for modest shifting of funds into the new MMDAs from large-denomination CDs or market instruments (that is, from non-M-2 sources). But the Committee indicated that greater growth was acceptable if incoming data indicated that the MMDAs were attracting more substantial shifts of funds into the broader aggregates from market instruments. As the period proceeded, it became clear that a significant portion of the funds pouring into the new MMDAs was coming from sources outside M-2. Consequently, in line with Committee desires, adjustments were made to the reserve paths to accommodate the emerging growth.

Desk operations in the first subperiod, the four weeks ended January 19, were complicated by year-end pressures and implementation of two mandated reductions of required reserves. (Reserve requirements were ended for the first $2.1 million of each institution's reservable deposits and for personal MMDAs at member banks.) In these circumstances, holdings of excess reserves tended to run well above expected levels (even though higher than normal levels were allowed for in the paths) and required reserve levels were frequently revised, complicating efforts to achieve weekly nonborrowed reserves objectives. Around the year-end, while the Desk frequently more than met the expected reserve needs, the extraordinarily high demand for excess reserves persistently forced discount window borrowing above the levels allowed for in the paths. In the face of these uncertainties, it seemed appropriate to adjust for that borrowing and aim for nonborrowed reserves in subsequent weeks consistent with the initial $200 million borrowing level assumed by the Committee. As underestimates of excess reserves and end-of-week reserve projection errors persisted, borrowing turned out higher than $200 million each week, especially in the week that included the year-end. Despite the Desk's actions to counter the year-end pressures, the Federal funds rate began to firm late in the December 29 statement week with a significant volume of trading in a 10 to 14 percent range in the January 5 statement week. Year-end pressures finally unwound in the final two weeks of the subperiod, and funds eased back to the vicinity of the 8½ percent discount rate. Total reserves averaged about $20 million under path and nonborrowed reserves about $60 million under path.

Yields on most fixed-income securities fell sharply during the first half of October. Markets began to rally in reaction to newspaper articles that strongly suggested the FOMC had decided at its October meeting to ease credit conditions and set aside its M-1 targets at least temporarily. Market sentiment was bolstered further by the ½ percentage point cut in the discount rate on October 8, and a statement by the Chairman indicating that the FOMC would pay less attention to M-1 because of technical difficulties in interpreting its movements. Over the remainder of the quarter, most rates exhibited little overall trend but fluctuated largely in response to speculation regarding possible further cuts in the discount rate. With additional cuts in the discount rate already largely built into the price structure, the two additional reductions that occurred in November and December elicited only subdued market reaction. Very heavy Treasury borrowing, amounting to about $57 billion net in marketable debt over the quarter, contributed to the bottoming-out of intermediate and longer term yields. A very large volume of municipal debt was offered as the year-end approached, and corporate bond issuance was also fairly heavy. Private-sector demand for short-term credit was restrained by the recession. This, combined with a revival of confidence that collective action by banks, national authorities, and the International Monetary Fund would contain the downside risks of country lending, contributed to a considerable narrowing in quality spreads. CDs, for example, were trading by late December at yields only about 50 basis points or so above Treasury bills, compared with about 300 basis points in September.

August 1982-January 1983 Semiannual Report
(This report was released to the Congress and to the press on March 3, 1983.)

Treasury and Federal Reserve Foreign Exchange Operations

The dollar rose against all major foreign currencies from August through mid-November 1982, exceeding the peaks of the previous year and reaching the highest levels on a trade-weighted basis of the floating rate period. The dollar then reversed course through the middle of January, ending the six-month period lower on balance against the Japanese yen and the Swiss franc but higher against most other major foreign currencies.

The dollar was strongly bid in the exchange markets early in the period under review even as U.S. interest rates dropped sharply and as interest differentials favoring dollar-denominated assets narrowed appreciably. In part, bidding for dollars reflected a deepening apprehension about the international banking system. As evidence emerged of the liquidity pressures facing first Mexico and then other developing countries, doubts spread in the markets about the willingness or the ability of one or several of these borrowers to meet their external obligations. In response, individual institutions sought to augment their liquidity positions, especially in dollars, against potential funding or cash-flow problems and in advance of important statement dates, particularly around end-September. In this environment, market participants became wary about the credit exposures of potential counterparties in the interbank market. Their heightened perception of risk was reflected to an extent in the widening yield spread between U.S. Government obligations and private credit instruments.

In part, the dollar's buoyancy also reflected market perceptions that the outlook for the U.S. economy was favorable relative to those for other countries. Inflation in the United States was rapidly receding in product and labor markets, and the previously adverse inflation differentials which the United States had experienced *vis-à-vis* Germany and Japan were quickly eroding. Widely anticipated shifts in balance-of-payments positions against the United States following the dollar's two-year rise were slow to materialize. Moreover, the outlook for economic growth remained more positive for the United States than elsewhere.

Meanwhile, the prospects of recovery in the near term and of looming fiscal deficits over the medium term were seen as limiting the scope of future interest rate declines in the United States. To be sure, Federal Reserve authorities had indicated during the summer that they would tolerate monetary expansion at somewhat higher than the targeted annual rate in view of economic uncertainty and strong liquidity demands. Short-term interest rates had declined from their mid-year peaks in response to the sluggishness of the economy and of credit demands by some 6½ percentage points through late August and then, after some backing-up in September-October, by a further ½ percentage point by late October. In the meantime, the Federal Reserve lowered its discount rate in five

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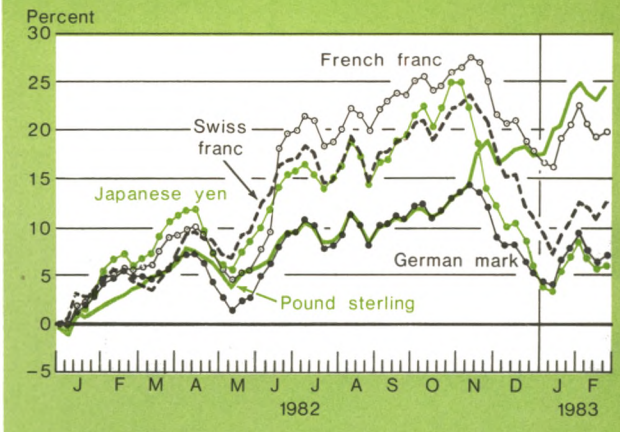
Chart 1

The Dollar Against Selected Foreign Currencies

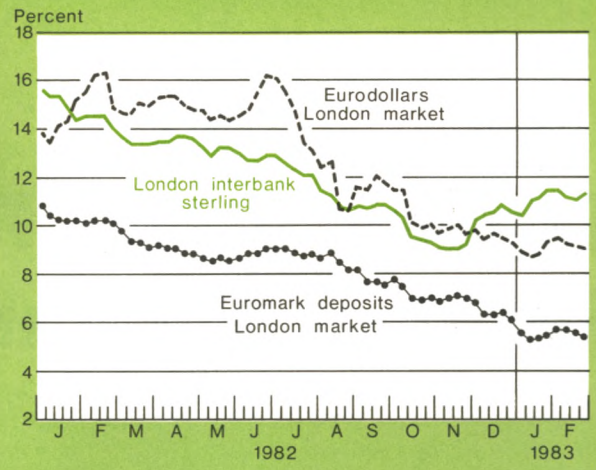


Percentage change of weekly average bid rates for dollars from the average rate for the week of December 28, 1981-January 1, 1982. Figures calculated from New York noon quotations.

Chart 2

Selected Interest Rates

Three-month maturities *



* Weekly averages of daily rates.

Table 1

Federal Reserve Reciprocal Currency Arrangements

In millions of dollars

Institution	Amount of facility January 1, 1982	Bank of Mexico special facility effective August 30, 1982	Amount of facility January 31, 1983
Austrian National Bank	250		250
National Bank of Belgium	1,000		1,000
Bank of Canada	2,000		2,000
National Bank of Denmark	250		250
Bank of England	3,000		3,000
Bank of France	2,000		2,000
German Federal Bank	6,000		6,000
Bank of Italy	3,000		3,000
Bank of Japan	5,000		5,000
Bank of Mexico			
Regular facility	700		700
Special facility	-0-	325	325
Netherlands Bank	500		500
Bank of Norway	250		250
Bank of Sweden	300		300
Swiss National Bank	4,000		4,000
Bank for International Settlements:			
Swiss francs-dollars	600		600
Other authorized European currencies-dollars	1,250		1,250
Total	30,100	325	30,425

steps from 12 percent to 9½ percent in three months. But no fundamental change in Federal Reserve operating procedures had been indicated. Compared with other countries, the decline in U.S. nominal interest rates still lagged behind the reduction of inflation so that real interest rates remained high, both absolutely and relative to other countries. Furthermore, because of the weakness of economies abroad, foreign monetary authorities were expected to take full advantage of any decline in U.S. interest rates that appeared to be sustainable to ease credit conditions in their own economies. These expectations were confirmed when official and market interest rates in major European countries declined in late August and again in October.

For all these reasons, the dollar was bid higher in the exchange markets in frequently active trading through mid-November. The uptrend was uneven. In view of the heightened perception of risk that prevailed at the time and uncertainty over the timing and profile of the anticipated recovery in the United States, the markets were susceptible to abrupt shifts in sentiment or movements in exchange rates. Under these circumstances, the U.S. authorities intervened on one day in early August and on three days early in October, when the dollar was bid up sharply to higher levels in unsettled markets. The Federal Reserve and the U.S. Treasury purchased $57.0 million equivalent of Japanese yen and $45.0 million equivalent of German marks. Of the total Japanese yen acquired, $38.5 million was for the Federal Reserve and $18.5 million for the U.S. Treasury. The German mark purchases were evenly split between the Federal Reserve and the Treasury. At the dollar's peak, it had risen 11 and 7½ percent from late-August levels against the yen and the mark, respectively, to levels not seen in five years or more. Against some of the other Continental currencies, the dollar had moved up to record levels.

By mid-November, the international economic climate had changed significantly. Expectations of a U.S. economic recovery had been disappointed, and recent statistics were suggesting that recession, while deepening further abroad, had not yet ended in the United States. The unemployment rate in the United States had shot up quickly to 10½ percent just before Congressional elections, and a number of political campaigns had focused on economic issues, leaving market operators sensitive to the possibility that more policy initiatives might be undertaken to stimulate the economy. By this time, also, the U.S. trade position had posted several large monthly deficits. The anticipated deterioration in net exports not only appeared to have materialized but, coming at a time of weak domestic demand, suggested that the potential drop into deficit and the resulting drag on the U.S. economy might be far deeper than previously envisaged. Press and official commentary associated the dollar's past appreciation with the weakness of U.S. trade and employment.

In addition, market participants came to the judgment that the prospects and priorities for the international financial system had changed. The immediate risks of a major international loan default receded, as first Mexico and then other countries negotiated adjustment programs with the International Monetary Fund (IMF) and established procedures for arranging near-term financing needs. However, the success of these countries' stabilization programs and of their efforts ultimately to meet their heavy external obligations was seen as requiring a more buoyant international economy and substantially reduced financing costs.

Accordingly, market participants continued to anticipate further easing of U.S. short-term interest rates for a time. But, during the winter, they began to question the scope for further substantial interest rate drops in light of recent behavior of the monetary aggregates. In the event, the Federal Reserve reduced its discount rate in two more steps to 8½ percent by mid-December. But, at least in the market for medium- and longer term securities, the downtrend in interest rates was beginning to meet resistance.

Under these circumstances, market participants were willing to diversify their portfolios by liquidating some of their dollar-denominated assets. Investors chose to realize the capital gains they had earned on their investments in the United States and to participate in the rallies in capital markets abroad that were being triggered by expectations of further interest rate cuts there. In addition, market professionals were willing to take positions on expectations that a long-awaited reversal of the dollar's sustained advance had finally arrived.

Consequently, the dollar declined from mid-November through mid-January by 19 percent against the Japanese yen and by 14½ and 10½ percent, respectively, against the Swiss franc and German mark. Of all the major currencies, the dollar rose only against the pound sterling which, like the dollar, had begun a decline in mid-November and then depreciated more rapidly in response to the prospect of declining oil prices to touch a record low in terms of the dollar by the second week of January.

After mid-January, the decline in the dollar stalled or was partially reversed. Whereas industrial economies abroad remained weak, the first clear signs appeared that the U.S. recession was bottoming out. Moreover, the prospect of large, projected U.S. fiscal deficits, together with the recent, more rapid mone-

tary growth, raised uncertainty whether the Federal Reserve might tighten credit market conditions again. Both Treasury and Federal Reserve officials stressed the longer term need to reduce the deficits and to maintain the anti-inflationary resolve of monetary policy. Thus, expectations faded of further interest rate declines and, in fact, market yields edged up somewhat during January. With interest rates abroad generally holding steady or declining slightly, differentials favorable to dollar assets once again widened. By the close of January, the dollar was trading slightly higher against most European currencies than at the beginning of the six-month period under review. It remained lower, however, against the Japanese yen and the Swiss franc than it had been on July 30. In trade-weighted terms, the dollar rose slightly over the six months. The U.S. authorities did not intervene after early October.

Table 2

Drawings and Repayments by Foreign Central Banks and the Bank for International Settlements under Regular Reciprocal Currency Arrangements

In millions of dollars; drawings (+) or repayments (−)

Bank drawing on Federal Reserve System	Outstanding January 1, 1982	1982 I	1982 II	1982 III	1982 IV	1983 January	Outstanding January 31, 1983
Bank of Mexico	-0-	-0-	+800.0 −600.0	+1,400.0 − 900.0	−217.4	−109.6	373.0
* Bank for International Settlements (against German marks)	-0-	-0-	-0-	-0-	+124.0 −124.0	-0-	-0-
Total	-0-	-0-	+800.0 −600.0	+1,400.0 − 900.0	+124.0 −341.4	−109.6	373.0

Data are on value-date basis.

* BIS drawings and repayments of dollars against European currencies other than Swiss francs to meet temporary cash requirements.

Table 3

Drawings and Repayments by the Bank of Mexico under Special Swap Arrangements

In millions of dollars; drawings (+) or repayments (−)

Drawings on	Outstanding January 1, 1982	1982 I	1982 II	1982 III	1982 IV	1983 January	Outstanding January 31, 1983
United States Treasury special temporary facility for $1,000 million	*	*	*	+ 825.0 − 825.0	*	*	*
Drawings on special combined credit facility:							
Federal Reserve special facility for $325 million	*	*	*	+ 89.8 − 43.8	+211.2	+ 42.0	299.3
United States Treasury special facility for $600 million	*	*	*	+ 166.8 − 81.3	+392.2	+ 78.0	555.8
Total	*	*	*	+1,081.6 − 950.0	+603.5	+120.0	855.0

Data are value-date basis. Because of rounding, figures may not add to totals.

* Not applicable.

Table 4

Drawings and Repayments by the Central Bank of Brazil under Special Swap Arrangements with the United States Treasury

In millions of dollars; drawing (+) or repayments (−)

Drawings on United States Treasury special facilities for	Outstanding January 1, 1982	1982 I	1982 II	1982 III	1982 IV	1983 January	Outstanding January 31, 1983
$500 million	*	*	*	*	+500.0 −500.0	*	*
$280 million	*	*	*	*	+280.0	-0-	280.0†
$450 million	*	*	*	*	+450.0	-0-	450.0
$250 million	*	*	*	*	+250.0 −104.2	−145.8	*
Total	*	*	*	*	+1,480.0 −604.2	−145.8	730.0

Data are on a value-date basis.

* Not applicable.

† This swap drawing repaid at maturity on February 1, 1983.

As discussed in the body of this report, the Federal Reserve and the U.S. Treasury provided credits to Mexico through a combination of long-standing facilities and new arrangements. On the first day of the period under review, the Bank of Mexico repaid a one-day $700 million drawing on its swap line under the Federal Reserve's reciprocal currency arrangement, used to finance a short-run liquidity need. Then, with the Mexican authorities proceeding with discussions with the IMF of a new stabilization program, the Bank of Mexico requested and was granted on August 4 a $700 million drawing on that same swap line. As of January 31, $373 million was still outstanding under that facility. Also, over the August 14-15 weekend, the Mexican authorities arranged a temporary new $1 billion swap facility with the Exchange Stabilization Fund (ESF) of the U.S. Treasury to meet immediate cash needs pending the conclusion of an agreement for a $1 billion advance payment for oil from the U.S. Department of Energy for the U.S. strategic reserves. The Mexican authorities drew $825 million against the ESF facility and then, on August 24, repaid the entire drawing. The Treasury and the Federal Reserve participated on August 30 in a $1.85 billion multilateral financing program for the Bank of Mexico in cooperation with several other monetary authorities, under the aegis of the Bank for International Settlements (BIS), through swap arrangements of $600 million and $325 million, respectively. The Bank of Mexico had outstanding drawings of $299 million on the Federal Reserve and $556 million on the U.S. Treasury under the facility as of January 31.

During the period, the U.S. monetary authorities provided or participated in the provision of short-term bridging credits to Brazil and Argentina also.

With respect to Brazil, the U.S. Treasury provided in October and November $1.23 billion of short-term financing following adoption of economic policies at the October meeting of Brazil's National Monetary Council. The financing was provided under three swap facilities in anticipation of Brazil's drawings under the compensatory financing facility of the IMF as well as on its reserve position with the IMF. The first $500 million facility was drawn on October 28 and November 3 and repaid on December 28. Other facilities totaling $730 million were made available in November and remained outstanding at the end of the period.* Meanwhile, on December 23 the BIS, acting with the support of the U.S. Treasury and monetary authorities in other industrial countries, provided the Central Bank of Brazil with a $1.2 billion credit facility, which was subsequently increased to $1.45 billion. In anticipation of this arrangement, the Treasury through the ESF provided on December 13 an advance of $250 million through a swap arrangement, which has since been repaid. As part of the liquidity-support arrange-

* Of this amount, a swap drawing of $280 million was repaid at maturity on February 1, 1983.

ments for the BIS provided by the participating monetary authorities, the ESF has agreed to be substituted for the BIS for $500 million of the total credit facility in the unlikely event of delayed repayment by the Central Bank of Brazil.

With respect to Argentina, on January 24 the BIS announced, with the support of a group of its member central banks and the U.S. monetary authorities, a $500 million bridging loan to the central bank of Argentina to be repaid by the end of May as other funds become available to that country. In this case, the Federal Reserve has agreed to be substituted for the BIS at its request for up to $300 million of the total credit facility in the unlikely event that the credit remains outstanding for a longer period of time than is now contemplated.

In other operations, the U.S. Treasury redeemed at maturity on September 1 and December 14 German mark-denominated securities equivalent to $671.2 million and $664.1 million, respectively, and on January 26 the Treasury redeemed at maturity the last of its Swiss franc-denominated securities equivalent to $458.5 million. After these redemptions, the Treasury had outstanding $1,275.2 million equivalent of notes (public series), which had been issued in the German market with the cooperation of the German authorities

Table 5

United States Treasury Securities, Foreign Currency Denominated

In millions of dollars equivalent; issues (+) or redemptions (−)

Issues	Amount of commitments January 1, 1982	1982 I	1982 II	1982 III	1982 IV	1983 January	Amount of commitments January 31, 1983
Public series:							
Germany	3,622.3	-0-	−451.0	−1,231.9	−664.1	-0-	1,275.2
Switzerland	458.5	-0-	-0-	-0-	-0-	−458.5	-0-
Total	4,080.8	-0-	−451.0	−1,231.9	−664.1	−458.5	1,275.2

Data are on a value-date basis. Because of rounding, figures may not add to totals.

Table 6

Net Profits (+) or Losses (−) on United States Treasury and Federal Reserve Current Foreign Exchange Operations

In millions of dollars

Period	Federal Reserve	United States Treasury: Exchange Stabilization Fund	United States Treasury: General account
First quarter 1982	-0-	+ 15.9	− 4.2
Second quarter 1982	-0-	+ 1.5	+ 78.5
Third quarter 1982	-0-	− 2.3	+ 89.4
Fourth quarter 1982	-0-	+ 4.3	+ 16.0
January 1983	-0-	+ 0.5	+ 38.3
Valuation profits and losses on outstanding assets and liabilities as of January 31, 1983	−573.7	−965.2	+360.6

Data are on a value-date basis.

In connection with the dollar-support program of November 1978. All these notes are scheduled to mature by July 26, 1983.

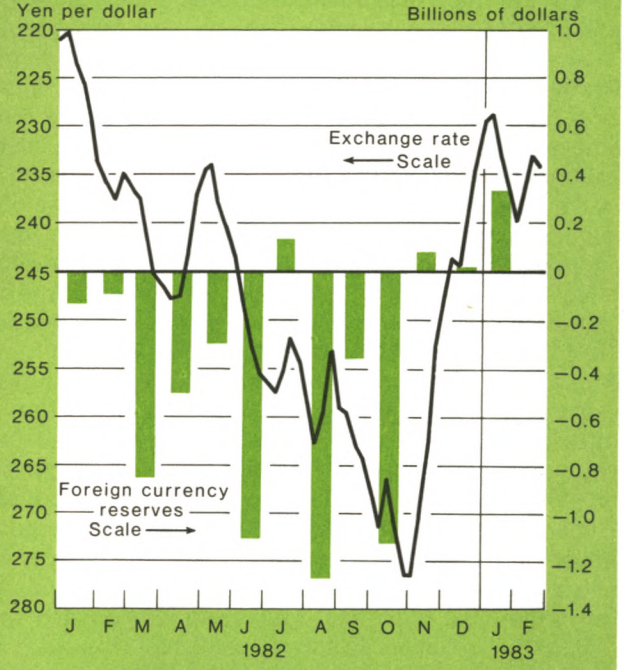
In the six-month period from August through January, the Federal Reserve had no profits or losses on its foreign currency transactions. The ESF recorded a gain of $4.2 million in connection with sales of foreign currency to the Treasury general account which the Treasury used to finance interest and principal payments on foreign currency-denominated securities. The Treasury general account gained $84.9 million on the redemption of German mark- and Swiss franc-denominated securities. Valuation gains or losses, as presented in Table 6, represent the increase or decrease in the dollar value of outstanding currency balances if valued at end-of-period exchange rates as compared with those at which the assets and liabilities were acquired. As of January 31, 1983, valuation losses on outstanding balances were $573.7 million for the Federal Reserve and $965.2 million for the ESF. The Treasury general account had valuation gains of $360.6 million related to outstanding issues of securities denominated in foreign currencies.

The Federal Reserve and the Treasury invest foreign currency balances they acquire as a result of their foreign exchange operations through a variety of investments that yield market-related rates of return and provide a high degree of quality and liquidity. Under the authority provided by the Monetary Control Act of 1980, the Federal Reserve had invested some of its own foreign currency resources and those held under warehousing agreements with the Treasury in securities issued by foreign governments. As of January 31, the Federal Reserve's holdings of such securities was $1,367 million. The Treasury had invested $2,536 million in such securities as of end-January.

Chart 3

Japan

Movements in exchange rate and official foreign currency reserves



Exchange rates shown in this and the following charts are weekly averages of noon bid rates for dollars in New York. Foreign currency reserves shown in this and the following charts are drawn from IMF data published in International Financial Statistics.

Japanese yen

Japan's economic performance, though still impressive by international comparison, had by midsummer fallen short of earlier expectations in many important respects. Externally, exports had declined under the influence of the worldwide recession, increasing barriers to Japanese goods, and import cutbacks by several financially strapped developing countries previously among Japan's fast-growing export markets. Although imports had also dropped and the current account remained in surplus, the trend of continuous trade balance improvement, which had reemerged after the second oil-price rise late in the 1970s, was now broken. Moreover, the current account surplus was overshadowed by large outflows of capital that reflected in part lower interest rates in Japan than in other centers. Internally, efforts to generate a domestic economic recovery faltered, as a modest upturn in consumer expenditures earlier in the year petered out and investment stagnated. With slower than expected growth leading to a renewed shortfall in tax revenues and an overrun in the government's borrowing requirement, Japan's bond market came under pressure while the stock market was depressed by the deteriorating economic outlook. These developments also contributed to the outflows of capital from Japan.

Thus, the Japanese yen had become a victim of repeated disappointment about the prospects for the economy and large net capital outflows. Commercial leads and lags built up strongly against the currency. By end-July it had fallen 20 percent against the dollar from the highs of November 1981 to ¥ 255.60, while easing 8 percent against the German mark. The authorities had intervened at times to cushion the yen's decline, and Japan's foreign currency re-

serves had dropped $3.2 billion during the eight months to $21.8 billion.

Meanwhile, monetary policy was being relied on to provide stimulus to Japan's economy while fiscal policy was constrained by concern over the budget deficit and the commitment to eliminate the borrowing gap by 1984. But the yen's continued weakness greatly reduced the maneuverability of the monetary authorities to respond during the summer months to evidence of a further weakening of demand and a rise in unemployment. The yen's steep fall had boosted the international competitive position of Japanese industry and, in the current recessionary environment, this development was attracting strong criticism from abroad and aggravating trade frictions. Thus, the authorities were reluctant to risk any further easing of interest rates for fear of stimulating even greater outflows of capital, even though a rapid deceleration in inflation had left Japan's interest rates in real terms high by historical standards. Instead, the Bank of Japan kept short-term rates around 7 percent. Against this background the yen remained on offer, fluctuating closely in response to changes in liquidity conditions in the United States. When interest rates abroad fell sharply during mid-August, the yen firmed temporarily only to give way to renewed selling pressures when the downtrend in foreign interest rates later seemed to lose momentum.

During September-October, sentiment toward the yen remained cautious as the markets' earlier presumption that the dollar would soon ease came to be challenged. In the United States, the scope for further interest rate cuts in the near term had come into question. More importantly, the flare-up of debt problems in Mexico and other developing countries triggered a strong demand for dollar-denominated assets, even though market participants were initially concerned about the credit exposures of individual U.S. banks. The Japanese yen became caught up in these concerns. Meanwhile, at home, attention again focused on the government's efforts to wrestle with its fiscal deficit, especially after Prime Minister Suzuki announced that the government's finances were in a "state of emergency" and the goal of balancing the budget by 1984, to which his government had emphasized its strong commitment, would have to be abandoned. Steps were taken to cut some expenditures to make room for selective stimulus via new public works spending and housing loan subsidies. But these measures were viewed as not sufficient either to contain the growing deficit or to revive private demand. In October, the Prime Minister's surprise announcement that he would not seek reelection led to a difficult four-way succession struggle.

In this atmosphere the yen fell irregularly, dropping 9 percent from end-July levels to a 5½-year low of ¥ 278.60 on November 4 against the generally strong dollar. It had weakened also against other currencies, falling 4 percent against the mark by early November. The Bank of Japan at times sold dollars both in Tokyo and in New York to support the currency in the exchange markets. These sales were greater than the $2.8 billion decline in Japan's foreign exchange reserves over the three months to $19.1 billion by end-October. The U.S. authorities joined in concerted intervention operations with the Japanese authorities to counter disorderly markets on August 4 and October 4-6, as the dollar rose sharply. A total of $57.0 million of yen was purchased, of which $38.5 million was on behalf of the Federal Reserve System and $18.5 million was for the account of the U.S. Treasury.

During November the Japanese yen finally began to recover, buoyed at first by a major shift in international investment flows. By this time, the four-month rally in U.S. capital markets showed signs of peaking, encouraging many investors from Japan and elsewhere to take profits on dollar investments and to shift into other markets. Since the Japanese monetary authorities had so far refrained from following interest rate cuts abroad, market participants assessed that there might be considerable latitude now for rates in Japan to ease, generating expectations of potential capital gains. At the same time, the outlook for economic growth globally had deteriorated considerably, and the prospect that Japan's economy would still expand, however slowly, made investment in the stock market in Tokyo relatively more attractive than in other financial centers. Foreign investors, therefore, became large net purchasers of Japanese securities, contributing to a strong rally in the Tokyo stock and bond markets. Long-term bond yields were brought down nearly 1 percentage point in the rally, even though the Bank of Japan's discount rate was unchanged and short-term interest rates held steady. Net overseas investment by Japanese residents declined, and long-term capital outflows slowed. Although these tendencies had begun to appear in earlier months, the turnaround in investment had a particularly strong impact in November, when the long-term capital account registered its first surplus in eighteen months. This news was viewed in the market as evidence that the yen was finally embarked on a sustainable recovery.

Before long, the bidding for yen broadened. Reports circulated that some large Japanese exporting firms, which had postponed dollar sales in earlier months when the yen was weak, had begun actively to sell dollars forward. The election of a new prime minister by an unexpectedly wide margin in late November and Prime Minister Nakasone's first statements affirming

continuation of most of the previous government's policies helped dispel earlier political uncertainties. Japan was seen as relatively free of the immobilizing policy disagreements that were taking place in so many other countries and as continuing to follow a clear and consistent path of macroeconomic restraint. The yen thus came into demand and rose nearly 19 percent against the dollar between early November and early January to ¥ 226.55 by January 10. Against the German mark the currency rose some 10 percent over the same period.

By early January, market participants began reassessing the outlook for further interest rate declines abroad in light of indications that the U.S. economy might be recovering more quickly than had been thought and the prospect that the U.S. fiscal deficit might again exert upward pressure on long-term U.S. interest rates. Meanwhile, expectations had become firmly entrenched that the Japanese authorities would soon lower official short-term interest rates. Also, Japanese institutional investors had already begun to invest once more abroad. After locking in some capital gains on their domestic securities, many took advantage of "partly paid" bonds in the Eurobond market to make an initial instalment on a new issue and, if the yen were to strengthen, benefit from this before completing their subscriptions. Once the balance in the market began to tip against the yen, many traders in the interbank market and on Chicago's International Monetary Market (IMM) who apparently were holding large long yen positions moved to cover their positions. The ensuing selling brought the yen down quickly to ¥ 242.10 on January 24. In these circumstances, the Japanese authorities did not proceed with the discount rate cut which the market had come to expect would occur after Prime Minister Nakasone's visit to the United States. As a result, the Japanese yen moved up to close the period at ¥ 240.90, well below its early-January highs but up almost 6 percent on balance over the six-month interval. The Bank of Japan made only modest intervention sales of dollars in the last three months of the period. Therefore, the country's foreign exchange reserves closed at $19.5 billion, little changed from the end-of-October level but still down $2.3 billion from their end-July level.

German mark

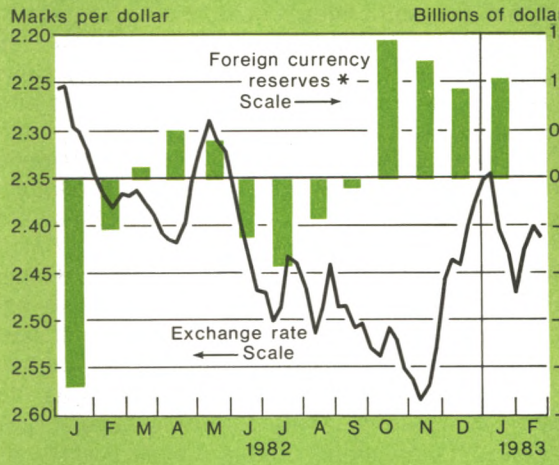
By August 1982 the German mark had strengthened against most foreign currencies, while continuing to decline against the U.S. dollar. The mark's performance *vis-à-vis* other European currencies reflected primarily a moderation of inflation and the greater progress made by Germany than by most of its neighbors in gaining balance-of-payments equilibrium. Capital outflows continued to weigh against the dollar-mark exchange rate, however, attracted by higher U.S. interest rates and concern that Germany was more vulnerable to the political and financial strains then developing. Internally, proposals for dealing with persistently large fiscal deficits had led to protracted debates within Germany's coalition government. Also, financial strains in the private sector had left market participants wary about individual German financial institutions. Moreover, the openness of Germany's economy exposed it to possible disruptions of oil flows arising from conflict in the Middle East, the spread of recession among industrialized countries, and repercussions of economic sanctions adopted by the United States against the Soviet Union.

Consequently, the mark, which had already fallen from its November 1981 high by 11 percent against the dollar to DM 2.4430 by end-July, dropped further to a low of DM 2.5315 by early trading in the Far East on August 11. During August the German authorities continued to sell dollars in modest amounts to facilitate the fixings in Frankfurt. Early in the month the U.S. authorities operated once, purchasing $5 million

Chart 4

Germany

Movements in exchange rate and official foreign currency reserves



See exchange rate footnote on Chart 3.

*Foreign exchange reserves for Germany and other members of the European Monetary System, including the United Kingdom, incorporate adjustments for gold and foreign exchange swaps against European currency units (ECUs) done with the European Monetary Fund.

equivalent of marks for the Federal Reserve and the U.S. Treasury.

The continued decline of the mark through midsummer was one of the complications facing the authorities as they tried cautiously to steer the economy out of protracted stagnation. For almost a year, the Bundesbank had taken advantage of improvements in Germany's external position and price performance, together with the rise in the mark in effective terms, to lower its official discount and Lombard rates. At the same time, fiscal policy was geared to a reduction of the public-sector deficit.

Another complication was an unexpected deterioration in the economic climate in Germany. As foreign demand weakened sharply after midyear, Germany's economic stagnation gave way to recession. The sag in new foreign orders reflected the weakness of the global economy, dwindling Organization of Petroleum Exporting Countries (OPEC) surpluses, and severe financing constraints facing many nonoil-developing countries. Already liquidity difficulties had emerged for a number of firms including AEG-Telefunken, generating talk of the need for governmental action to support the economy and employment. But, at the same time, an accord on the 1983 federal budget reached just weeks before was beginning to be questioned on the grounds that it rested on overly optimistic assumptions for the economy. Thus, prospects grew of enlarged official borrowing needs, and Germany's bond market again had come under pressure.

Against this background, market participants expected that the authorities would take advantage of any opportunity that might arise to lower interest rates and thereby deflect pressure for further fiscal stimulus. When U.S. interest rates resumed their downtrend after mid-August, interest differentials adverse to the mark sharply narrowed. As a result, the interest differential for three-month Eurodeposits shrank to 2½ percentage points from more than 7½ percentage points two months before. Under these circumstances, the mark recovered strongly to DM 2.41. The Bundesbank then moved on August 27, in concert with the Swiss and Dutch central banks, to cut the discount and Lombard rates to 7 percent from 7½ percent and to 8 percent from 9 percent, respectively. The action was described by Bundesbank President Poehl as an important step to provide support to the domestic economy.

Except for the short-lived recovery late in August, the mark continued to decline through early November. Although the mark's continuing weakness during the fall reflected in part the overall strength of the dollar, the situation at home also contributed. The market's expectation that the German authorities would take advantage of any opportunity to cut interest rates in Germany was confirmed by the Bundesbank's action of late August. The renewed drop in economic activity was a source of discouragement in Germany and was reflected in a rise in unemployment close to the psychologically important two million level for September. In October, the government recognized that the weak performance of the economy would necessitate revision of the government's budget forecasts, and debate intensified over the choice to accept a larger than expected deficit or to cut welfare expenditures drastically. The Bundesbank continued to ease monetary conditions after interest rates abroad moved lower and adverse interest differentials began to narrow. Effective October 1, it reduced banks' minimum reserve requirements, thereby releasing about DM 5.5 billion of liquidity on a permanent basis. Effective October 22, the Bundesbank cut its discount and Lombard rates, both by 1 percentage point to 6 percent and 7 percent, respectively.

Thus the mark remained under fairly steady downward pressure against the dollar. It fell to DM 2.6050 in European trading on November 11, shortly after news of the death of Soviet President Brezhnev, down nearly 8 percent from its highs touched in late August. Operating on two occasions early in October when the mark fell abruptly in unsettled market conditions through the low levels of early August, the U.S. authorities purchased a total of $40 million equivalent of marks, shared equally between the Federal Reserve and the U.S. Treasury.

In mid-November, when the demand for dollar-denominated liquidity subsided and sterling came on offer, the German mark appeared to market participants as an attractive alternative currency for investment. Germany's current account was again improving, with most forecasters expecting balance for 1982. The November current account registered one of the largest surpluses on record. In addition, German banks were no longer alone in having international exposures which, even if an immediate problem had been diverted, might impinge on earnings later on. Reflecting the more favorable outlook for the mark and declining adverse interest differentials, German portfolio managers moved quickly to shift funds out of dollars and sterling into mark-denominated investments. Meanwhile, German exporters, who had previously postponed hedging their dollar receipts, moved to sell dollars forward.

In this environment, the German mark strengthened considerably against most currencies. Against the dollar it rose steadily, surpassing by early December its high point of August and moving to a seven-month peak of DM 2.3295 by January 10. At this level, it was up nearly 10½ percent from its mid-November lows. With-

in the European Monetary System (EMS), the mark had previously moved from the bottom of the new intervention points established after the last realignment. Now, as the dollar weakened and funds were shifted into German marks, the mark emerged near the top of the EMS band. As the mark strengthened, it was used increasingly as an intervention currency by other EMS countries.

After January 10, however, the mark lost some of its gains. At this time, the dollar generally rose as signs of a bottoming-out of the U.S. recession and the pressures of large Treasury financing needs seemed to limit prospects for further declines in U.S. interest rates. Moreover, the outlook for the mark was clouded by political uncertainties and capital again flowed out of Germany. In addition, German stock and bond prices dropped, reports circulated in the market that German residents were moving to hedge or repay their Swiss-franc liabilities, and foreign entities postponed planned investments in Germany. At the end of January the mark was trading at DM 2.4735, down about 6 percent from its early-January highs and down about 1 percent from end-July levels.

The earlier strengthening of the mark afforded an opportunity for the Bundesbank again to reduce its discount and Lombard rates a full percentage point to 5 and 6 percent, respectively, on December 3, while providing liquidity to bring short-term interest rates in line with the new Lombard rate. In addition, it announced that it would maintain the 4 to 7 percent target range for the growth of central bank money, continuing to aim at the upper half of the range as long as economic activity remained weak and the inflation performance and external situation permitted. In the wake of these actions, domestic money market rates eased significantly so that, despite some further softening in U.S. rates, the mark's adverse interest differential widened slightly. During January, however, no further cuts in official interest rates were made, though the Bundesbank raised rediscount quotas by DM 4 billion effective February 1.

From August through January, Germany's foreign currency reserves were subject to diverse tendencies. For the most part, the Bundesbank intervened only modestly as a seller of dollars in support of the mark throughout the period, with most of the operations undertaken to settle imbalances at the fixings in Frankfurt. The German authorities also acted as sellers of German marks in modest amounts against EMS currencies and, on occasion, against dollars to alleviate strains within the joint float. Germany's reserves stood at $40.6 billion at end-January, up about $4.1 billion on balance from the $36.5 billion end-July level.

During the period, the U.S. Treasury redeemed at maturity $1,335.3 million equivalent of its German mark-denominated securities. These redemptions, which occurred on September 1 and December 14, left the Treasury with $1,275.2 million equivalent of mark-denominated notes (public series) outstanding.

Swiss franc

For much of the first eight months of 1982, the Swiss franc had declined from its strong levels of late 1981 under the weight of heavy capital outflows. With Switzerland's earlier policies of restraint having moderated inflation and the Swiss economy weakening, the Swiss National Bank aimed at providing sufficient liquidity to prevent any further drag on economic activity by keeping central bank money on a 3 percent targeted average growth path during the year. In the event, central bank money growth had fallen short of the target during the early months, so that fairly substantial injections of liquidity were required during the spring. Interest rates fell and rate differentials adverse to franc placements became extremely wide. In response, foreign official and corporate borrowers placed heavy demands on Switzerland's capital market. These, together with other capital outflows, more than offset the demand for Swiss francs arising from Switzerland's current account surplus. Consequently, by end-July, the franc had fallen 19 percent against the dollar and 8 percent against the German mark from its peak in the closing months of 1981. Meanwhile, Switzerland's foreign exchange reserves had risen to $11.8 billion, largely reflecting the use of foreign exchange swaps to provide liquidity to the banking system.

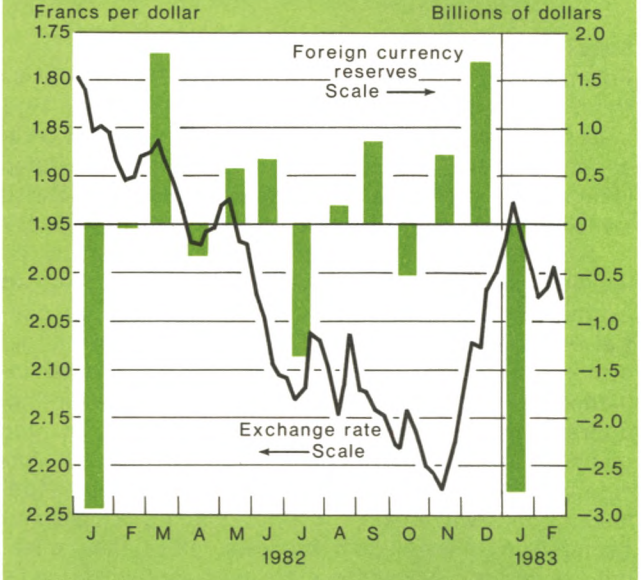
By early August, signs of weakness in Switzerland's economy were spreading. Exports, which had held up well earlier in the year and cushioned the impact of the recession, were falling victim to the sluggishness of demand abroad, especially in Germany, and the lagged effects of the franc's appreciation the year before. Nevertheless, market participants began to sense that the monetary authorities might have less leeway than before to continue forcefully to ease monetary conditions. Inflation, which had slowed to about 5 percent, remained stubbornly high by comparison with both historical experience and other industrial countries. The persistence of inflation in the face of a declining economy partly reflected the impact of recent declines in the franc on domestic prices of imported products. Moreover, the growth of central bank money had begun to rise toward the authorities' target.

As a result, the franc, while fluctuating widely against the dollar in response to day-to-day shifts in current and prospective money market conditions and

Chart 5

Switzerland

Movements in exchange rate and official foreign currency reserves



See exchange rate footnote on Chart 3.

international liquidity strains, traded narrowly against the German mark during August. Although against the dollar the franc had declined a further 4 percent to a low of SF 2.1650, it bounced back quickly later in the month. Under these circumstances, the National Bank joined with other European central banks in a concerted move to take advantage of the continued decline in interest rates in the United States to cut rates in their respective countries, effective August 27. But, in view of the already low level of interest rates in Switzerland, the National Bank cut its discount and Lombard rates only ½ percentage point to 5 percent and 6½ percent, respectively.

After late August, when all currencies were declining against the dollar, the Swiss franc again began to fall more rapidly than the German mark. Although short-term interest rates in Switzerland declined less rapidly than elsewhere, by late October at 3 to 3½ percent they remained the lowest in all the industrialized countries. As a result, nonresidents continued to borrow heavily in the Swiss capital markets and to convert the proceeds to other currencies. To be sure, the attraction of Switzerland as a safe haven increased during the fall, as concern deepened about the potential ramifications of the growing list of international debt problems, and Swiss financial institutions were believed to be less threatened by liquidity strains than many others. But much of the flows into Swiss banks were into dollar-denominated deposits. On balance, therefore, the persistent interest-sensitive capital outflows continued to weigh against the franc.

As the Swiss franc resumed its decline with little apparent resistance from the Swiss authorities, market participants came to the view that the National Bank had put priority on achieving its monetary target for the year and was willing, at least while the Swiss economy was weak, to accept a continued gradual decline of the franc, especially against the mark. On October 22, however, the Swiss National Bank unexpectedly did not join other European monetary authorities in a reduction of official lending rates. Subsequently, senior officials from the Swiss National Bank, while indicating concern that the recession not be exacerbated, underscored the divergent forces operating on monetary policy and pointed to the need to avoid a weakening of the franc and an aggravation of inflation. Before long, most Swiss money market rates steadied or firmed slightly, and by early November the Swiss franc's slide against the mark began to slow. Against the dollar, however, the Swiss franc continued to decline through November 8, when it hit a five-year low of SF 2.2410. By this time the franc was 7½ percent down from end-July levels *vis-à-vis* the dollar and at SF 0.86, down 1 percent against the mark.

Following the shift in sentiment against the dollar around mid-November, the franc rebounded more strongly than other European currencies. As investors sought to shift funds out of dollars and to a lesser degree also out of German marks, Switzerland's traditional role as a safe haven and its relative political stability made the Swiss franc an attractive alternative. Unlike most countries, Switzerland had a sizable current account surplus, buoyed by investment income and tourist receipts. The Swiss government's fiscal discipline compared favorably with the experience of most other countries. Renewed tensions in the EMS prompted some switching of funds out of participating currencies and into the franc. Also, market participants came less to expect further easing of monetary policy. The Swiss National Bank had kept the same 3 percent growth target for central bank money for 1983 as in 1982. Although it again lowered official lending rates on December 3 in coordination with similar measures by other European central banks, the ½ percentage point declines of the bank rate to 4½ percent and of the Lombard rate to 6 percent were again less than those abroad. The authorities were anxious to keep official lending rates above market rates in order to control

better the level of liquidity over month ends and, with the approach of the important end-December reporting date, banks were positioning to ensure adequate levels of cash resources in Swiss francs.

As a result, during December and early January the Swiss currency came into strong demand in the exchanges. As the franc's rise continued and as the dollar depreciated against all currencies, market participants began to worry that much of the earlier borrowings in the Swiss capital markets remained unhedged. Therefore, they came increasingly to expect that, if the dollar were to continue to decline, earlier borrowers of Swiss francs would bid for francs to cover their liabilities. Thus, the upward potential for the franc was seen as greater than for most other currencies, prompting market professionals and participants on Chicago's IMM to take substantial long franc positions. The franc came strongly in demand in the exchanges, rising to SF 1.9150 on January 10 against the dollar, up 14½ percent from its November lows. Against the mark, which was undermined by political uncertainties and expectations that the Bundesbank would again lower official rates, the franc rose to SF 0.8144 on January 21, up almost 5½ percent since early November.

After mid-January, the Swiss franc pared back some of its gains first against the dollar and then against the German mark as well. Money market conditions in Switzerland remained comfortable, and interest rates continued to ease, dropping below 3 percent for three-month Euro-Swiss franc deposits. Though the interest differentials adverse to the franc were not so wide as they had been in mid-1982, the low level of rates continued to provide an inducement to borrowers to raise funds in Swiss francs. As a result, the franc eased back to trade by the end of January at SF 2.0250 against the dollar and SF 0.8187 against the mark. At these levels the franc was down nearly 6 percent against the dollar from its earlier January highs and ½ percent lower against the mark.

Nevertheless, on balance for the six-month period under review, the franc rose 2½ percent against the dollar and 4 percent against the mark to stand near its record high on a trade-weighted basis. Between end-July and end-January, Switzerland's foreign exchange reserves rose $368 million to $12.2 billion in response to foreign currency swap operations, interest earnings on outstanding reserves, and net market purchases of dollars in intervention operations. Intervention by the authorities was infrequent and limited for the most part to replenishing reserves which had been run down by earlier sales to customers.

On January 26 the United States Treasury redeemed at maturity franc-denominated securities equivalent to $458.5 million, thereby completing the redemption of franc-denominated securities totaling the equivalent of $1,203.0 million issued in connection with the dollar-support program of November 1978.

Sterling

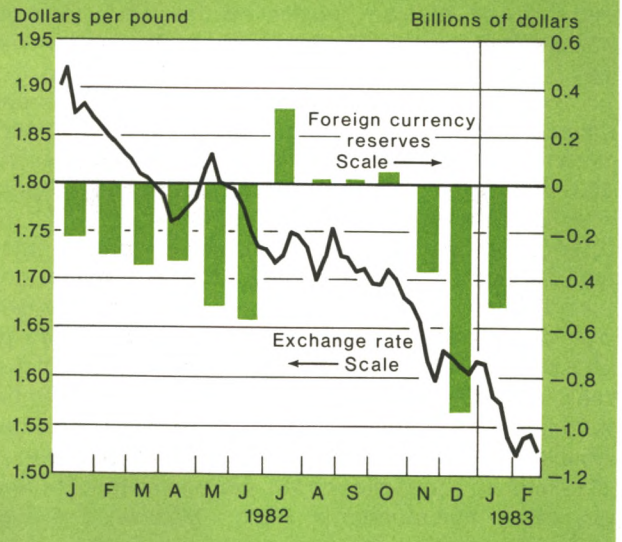
Coming into the period, sterling was trading steadily against other European currencies and declining against the dollar. At end-July the pound was holding around 91.5, according to the Bank of England's trade-weighted effective index, but had eased to $1.7475 against the dollar.

Sentiment toward the pound reflected in part market confidence in the Thatcher government's resolve to maintain the stringent financial policies that were already seen to be producing results. The growth of the monetary aggregates had slowed to the government's 8 to 12 percent target range. Inflation had decelerated to below double-digit rates. And the borrowing requirement of the public sector was declining and apparently falling short of the £9½ billion rate projected for the current fiscal year. To be sure, disappointment had deepened about the prospects that Britain would sus-

Chart 6

United Kingdom

Movements in exchange rate and official foreign currency reserves



See footnotes on Charts 3 and 4.

tain a recovery from its protracted recession, as evidence accumulated that output had posted little gain from its low point of 1981. But progress on inflation, the fiscal situation, and monetary control, together with the decline of interest rates abroad and sterling's stability as measured by the trade-weighted index, were seen in the market as conditions which would permit a further cautious easing of interest rates and help stimulate the economy.

Additional factors also helped sustain sterling relative to most other currencies during the late summer and early fall. There were worries over potential disruption to the flow of oil from the Middle East as the result of fighting in Lebanon and between Iran and Iraq. More important, intensifying financial strains and growing concerns over international credit exposures made traders and investors more conscious about the creditworthiness of counterparties and the safety of their assets. In these circumstances, both Britain's oil self-sufficiency and the favorable reputation of London's financial system made sterling a relatively secure asset. With the market expecting British interest rates to ease —but to ease more gradually than in many other countries—investment funds were attracted to London to take advantage of the perceived potential for capital gains. By late October a major rally had become established in the market for United Kingdom government securities and successive records were being set in British indexes of stock prices, attracting further capital inflows.

These factors did not prevent sterling from easing further against the dollar which was buoyed even more than the pound by concern over liquidity strains. By end-October, sterling had moved irregularly lower by 4½ percent to $1.6725. But, against other currencies, the pound held steady or even strengthened so that, in trade-weighted terms, it rose to 92.5 by end-October. The Bank of England's intervention operations were only partly reflected in the three-month $93 million increase in foreign exchange reserves from July's level of $10.88 billion.

As the autumn progressed, however, concern intensified about the outlook for the economy. Neither consumption nor investment had gained during the early part of the year as had been expected and, with the shakeout of labor continuing, the unemployment rate took a sudden jump to 14 percent in September. As market participants perceived a possible shifting from the policy requirements of fighting inflation to those of rekindling economic growth, currencies thought to be overvalued came under suspicion. Meanwhile, a boom in retail sales led to fears that rising imports might contribute to a deterioration in the British foreign trade balance. Although actual trade figures published toward the end of the year did not show any such deterioration, attention was drawn to a government forecast that Britain's current account surplus, which mainly reflected oil exports, would disappear by 1983. Consequently, considerable commentary focused on Britain's competitive position, all the more so after the Scandinavian devaluations in early October.

The government argued that the problems of unemployment and competitiveness were closely linked: improvement of Britain's trade position required both continued progress on inflation and more rapid deceleration of pay increases. But critics of government policy argued that, despite the recent moderation of labor costs, deceleration of inflation, and depreciation of the pound, British industry over a period of several years had suffered a considerable net loss of competitive position, ground that would be difficult to make up in the future since inflation and productivity were also improving in competitor countries. Early in November, the Confederation of British Industry proposed a major program to create jobs and stimulate the economy, including a sharp cut in interest rates. Some industrialists continued to advocate overt government measures to devalue sterling by 5 to 10 percent. These proposals, coming from a group thought to support the Thatcher program, brought the government's political support into question.

In mid-November, the Chancellor presented a mid-year budget review in which limited fiscal measures were announced to make up for some of the shortfalls in government expenditures and the public-sector borrowing requirement. In this way the government attempted to counteract the tendency for fiscal policy to be more restrictive than intended, aiming new actions at the need to increase the competitiveness of the corporate sector. The accompanying economic projection, however, pointed to a continuing deterioration in Britain's current account, largely because any modest recovery or buildup of inventories was expected to give strong stimulus to manufacturing imports. In the Parliamentary discussion, government officials deflected proposals for explicit action to devalue sterling. But reports that appeared in the press over the November 13-14 weekend left market participants with the clear impression that the British government would prefer a lower, more competitive exchange rate for the pound.

After that weekend, sentiment toward sterling turned decidedly bearish. Foreign investors and British residents, including large institutional investors, began to shift funds out of longer term sterling-denominated securities and into assets denominated in other currencies, taking profits from the recent sharp price appreciation in the London capital market. The pound

also came under broad-based selling pressure from market professionals, corporations, and traders on the IMM. Against the dollar the pound fell to $1.5950 by November 17, while in trade-weighted terms it dropped to 87.8.

Several days after the sharp break in the sterling rate, United Kingdom money market interest rates rose, British banks raised their base lending rates by 1 percentage point or more, and the Bank of England then increased its own dealing rates to reflect the rise. Thereafter, sterling recovered somewhat to trade against the dollar around $1.6332 by end-November. But it had broken stride against other currencies which now were rising against the dollar.

The market for sterling remained unsettled during December. By then, the Labor Party had issued its own policy recommendations, calling for a sharp acceleration in public spending, substantially lower interest rates, and a 30 percent devaluation of the pound over two years. In addition, there was increasing talk that oil prices might decline substantially, raising the possibility of sharply reduced oil-export receipts and government revenues. Investment funds continued to be shifted out of sterling assets, despite a further widening of interest rate differentials favoring the pound. In effective terms, sterling declined.

Against the dollar, however, sterling traded without clear direction until early January, when the pound turned lower once again. Although the Bank of England's intervention during December had been detected in the market, publication in early January of December's official reserves, showing a decline slightly in excess of $1 billion, was a surprise. Political elements also played a role in shaping sentiment, first when strains developed between the United Kingdom and several Middle East oil-producing nations over the Palestine Liberation Organization issue and then as some observers predicted that the Thatcher government would decide to call elections well before the mandated time in 1984. Also, growing expectations of a deterioration in British oil-export revenues as a consequence of OPEC's apparent failure to agree to production quotas added to the bearish sentiment toward sterling. Thus, the spot rate resumed its decline against all currencies, dropping in effective terms as low as 80.6 on January 11.

By mid-January, however, pressures on sterling began to abate. In part, interest rate differentials favorable to the pound had widened further following an additional rise in British banks' base lending rates. Also, the impact of declines in oil revenues appeared to have been largely discounted. Moreover, evidence of increasing support for the government and reaffirmation of its policy approach in a white paper on fiscal year 1983-84 expenditures helped reassure the markets. Thus, on an effective basis, sterling steadied to close the six-month interval at 80.9, a net decline of 11½ percent. However, sterling continued to decline against the dollar which appreciated generally after January 10. The pound set a series of historic lows toward the end of the month before closing near the last of them at $1.5210. With sterling trading more steadily on a trade-weighted basis, the Bank of England scaled back its intervention in January. Nevertheless, Britain's reserves declined by $1.8 billion during the three months of November to January to close at $9.2 billion.

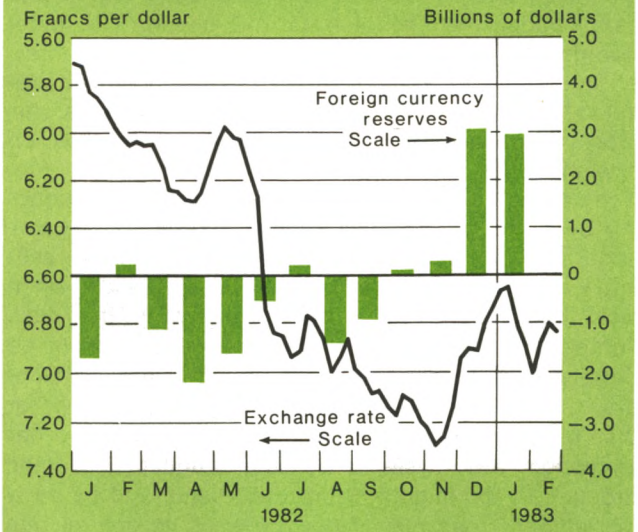
French franc

The French franc was trading firmly near the top of the EMS as the period opened, although at FF 6.8025 it was declining to successive lows against the dollar. The franc had moved to the upper portion of the joint float after its mid-June devaluation, supported by stringent foreign exchange controls and wide favorable interest differentials over most other European currencies. But reflows which in the past had often fol-

Chart 7

France

Movements in exchange rate and official foreign currency reserves



See footnotes on Charts 3 and 4.

lowed such devaluations proved in this instance to be relatively modest, thus limiting the authorities' scope to rebuild reserves or to lower domestic interest rates in an effort to stimulate economic recovery. This cautious response reflected market participants' concern that the franc's new EMS parity rates might not be sustainable in light of France's inflation and its rapidly rising budget and current account deficits.

Inflation in France remained over 10 percent at midyear in contrast to other industrial countries, especially Germany. Although at the time of the June EMS realignment, the French government froze wages and prices for four months, and price and wage increases dropped significantly during the summer, many anticipated pressure for "catch up" increases when the scheme expired at the end of October. Governmental efforts pressing both employers and unions to accept voluntary price restrictions to replace the freeze met opposition.

Meanwhile, French economic policy had continued to stress economic stimulus relative to inflation reduction through the spring, clouding prospects that inflation differentials could be reduced soon. Even if proposals made in June were adopted in the September budget to cut expenditures and increase revenues, the government faced a large and growing fiscal deficit expected in fiscal 1983 to climb over 3 percent of gross domestic product (GDP). Thus, market participants worried that inflationary fiscal pressure would intensify just as the wage and price freeze was being phased out.

Moreover, the French current account deficit had increased sharply and, for the year as a whole, the deficit more than doubled to $12 billion. The deterioration reflected a steep decline in export volumes, an acceleration of imports buoyed by domestic demand pressure, and a shrinking of the invisibles surplus mainly because of rising interest charges on foreign debt.

In this context, beginning in mid-August and extending over the fall and winter months, the franc came under intermittent bouts of pressure. Speculative selling was particularly intense before weekends, when most EMS realignments had occurred in the past. There was concern, not only that the franc might be devalued within the EMS, but that it might be withdrawn altogether from the currency arrangement or that the French authorities might institute a two-tier exchange rate system. By late August the franc dropped to the middle of the EMS band, and by early September it had moved down toward its central rate against the German mark. The Bank of France intervened frequently in the exchanges to support the currency, selling both dollars and German marks. During August-September France's foreign currency reserves declined $2.3 billion to $11 billion, and the authorities announced a ten-year $4 billion syndicated Eurocurrency line of credit to bolster reserves. The franc remained on offer subsequently, but any further decline of the franc against the mark was limited. Against the dollar, however, the franc declined to a low of FF 7.3250 in November, down 7½ percent from its end-July level.

After the dollar turned lower in November, the franc experienced difficulty keeping pace with the strengthening mark. The Bank of France stepped up its intervention, especially in dollars, and the franc emerged along with the mark in the upper portion of the EMS band. At one point in December, however, the franc-mark cross rate fell to a low of FF 2.8385 which was still, however, only ⅛ percent below its bilateral parity.

Meanwhile, France's domestic economy, which had shown modest growth during the first half of 1982, stagnated thereafter, disappointing the authorities' hopes of a consumer-led recovery. Real private consumption spending decelerated, most categories of investment expenditures declined, industrial production fell further, and unemployment remained high at around 2 million. The French authorities introduced several new measures over the fall to spur investment and employment and had been quick to lower domestic interest rates when it appeared that exchange market conditions permitted. They had also announced measures to promote exports and slow imports. But at the same time the authorities acted to contain inflationary pressures. They introduced modified price controls following the expiration of the freeze on November 1, and announced in December a substantial reduction of the 1983 M-2 growth target and a tightening of ceilings for growth of bank lending. In remarks before the National Credit Council, Finance Minister Delors stated that monetary policy for 1983 would be geared to defending the EMS parity of the franc and to continuing the battle against inflation, while also permitting a continued decline in interest rates.

In the exchange markets, selling pressures against the French franc faded somewhat in mid-January, as market participants concluded that any EMS realignment would not occur before French and German elections in the spring. As the period drew to a close, the usual month-end demand for francs emerged, enabling the Bank of France to scale back its intervention support and make modest net purchases of dollars. By end-January the franc was trading in the upper portion of the joint float, as it had been when the period opened. Against the dollar the franc was trading at FF 7.0100, 3 percent lower on balance for the period under review but some 4 percent higher

than its early-November lows. Meanwhile, France's foreign exchange reserves increased from the end-September lows to post a net $4.3 billion gain over the six-month period to $17.6 billion.

Throughout the period, French enterprises continued to borrow in foreign markets and to convert the loan proceeds into francs in the exchange market. During February, Finance Minister Delors affirmed that France's public external debt increased during 1982 by $8.8 billion, not including the $4 billion syndicated loan announced in September.

Italian lira

The Italian lira was trading firmly above the narrow EMS band at the end of July, but against the dollar it had fallen to a new low of Lit 1,367.00. The lira sustained its position in the EMS on the basis of seasonal tourist inflows, exchange control measures introduced earlier in the year to discourage unfavorable shifts in leads and lags, and the attraction of high interest rates. Since interest rates elsewhere were trending down, differentials favorable to the lira widened and Italian residents stepped up their borrowings abroad. The Bank of Italy had taken advantage of the lira's relative strength to rebuild foreign currency reserves to a level of $13.9 billion by end-July.

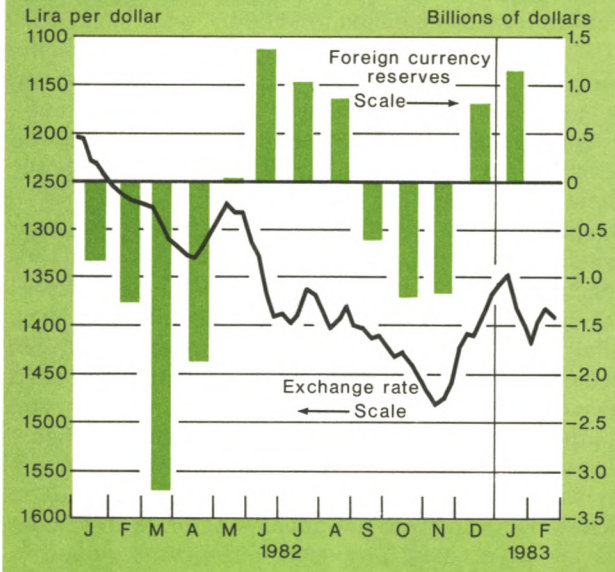
The Bank of Italy's policy of monetary restraint was aimed at reducing Italy's persistent high inflation rate, countering the effects of seemingly uncontrollable fiscal deficits and preventing a sharp drop of the lira which would exacerbate inflation. During the period under review, the Italian economy, like others among the industrialized countries, fell more deeply into recession, thereby complicating efforts to contain the fiscal deficits. But Italy was one of the few industrialized countries not to experience a sharp reduction of inflation. Indeed, the hope for any improvement diminished as proposed programs to rein in fiscal deficits failed to meet parliamentary approval, leading to successive governmental crises and, as negotiations remained deadlocked on reforms to Italy's wage indexation system, the *scala mobile.*

Consequently, the burden of fighting inflation continued to fall to the Bank of Italy, which operated to limit the expansion of credit and to keep liquidity under control. During August and early September, the high interest rates together with tourist inflows remained sufficient to keep the lira firm within the EMS while it continued to decline against the dollar. The lira's relative position within the EMS permitted the authorities to rebuild reserves and to ease short-term domestic interest rates to help take pressure off the weak economy. On August 24 the monetary authorities

Chart 8

Italy

Movements in exchange rate and official foreign currency reserves



See footnotes on Charts 3 and 4.

lowered the discount rate and the base rate for advances by the central bank by 1 percentage point to 18 percent, the first change in nearly 1½ years, and the Italian Banking Association followed by cutting prime rates by 1 percentage point to 20.75 percent. But these cuts were generally more than matched by reductions of official and market rates elsewhere on the Continent so that the lira's wide interest rate differential was largely maintained.

After mid-September, the lira eased back within the EMS while continuing to fall against the dollar through mid-November. With the lira easing and prospects of a resolution of Italy's fiscal and labor problems becoming increasingly remote, the lira became caught up in the pressures within the EMS. As rumors spread of an imminent realignment, the lira was identified as a candidate for downward adjustment, prompting Italian exporters to repay foreign currency debt and to shift into lira financing. Thus, the lira eased back to within the narrow EMS band beginning in mid-October, while also declining to a new record low of Lit 1,489.60 against the dollar in mid-November. The Bank of Italy tightened domestic credit conditions, pushing up short-term in-

terest rates even as comparable rates abroad were declining. The authorities required exporters to borrow 70 percent of their financing needs in foreign currencies. In addition, the Bank of Italy began to intervene heavily and, in the three months of September-November, Italy's foreign exchange reserves dropped $3 billion from $14.8 billion to $11.8 billion.

The firming Italian interest rates, together with the change in sentiment toward the dollar, helped bring the market into better balance after mid-November. By end-December the lira had once again moved above the narrow EMS band, a position it generally maintained through the end of January.

Meanwhile, the pressure of the government's huge financing needs not only added to the strains in Italy's financial markets but also generated an acceleration of total credit expansion, thereby undercutting the Bank of Italy's policy of monetary restraint. Accordingly, on December 23 the authorities announced proposed measures to improve control over money creation in future years by shifting from administrative mechanisms toward monetary base control. The new system was designed in part to force the Treasury to compete for funds with the private sector. In the meantime the government proposed measures designed to hold the 1983 borrowing requirement to Lit 70 trillion, some 16 percent of GDP and, since it had exceeded its legal monthly borrowing limit at the central bank, it asked Parliament to approve a special one-year advance.

In January, agreement was finally reached between Italian employers and labor unions over ways to reform the *scala mobile*. It was agreed to cut automatic inflation-linked wage increases by 15 percent and to undertake further negotiations about the exclusion from indexation of those elements of inflation emanating from future increases in value added taxes, as well as from exchange rate depreciation if inflation exceeds the target rate for the year. The pact raised hopes for reducing inflation and appeared to diminish the threat of industrial strife by clearing the way for negotiations over new three-year wage contracts.

Partly in response to these developments, the Bank of Italy was able first to scale back its intervention support and subsequently to make some net dollar purchases to rebuild reserves, except for a brief time in mid-December. By end-January the lira was trading at Lit 1,418.00, up nearly 5 percent from its November lows. Nonetheless, over the six-month period under review, the lira declined 3½ percent against the dollar and 2½ percent against the mark. Meanwhile, Italy's foreign exchange reserves increased by $2 billion during the last two months of the period to $13.8 billion by end-January.

European Monetary System

Early in August, the currencies participating in the intervention arrangement of the EMS were holding to the pattern that first emerged from the realignment of June 12-13. In this adjustment, the central parities of the German mark and Dutch guilder were revalued by 4¼ percent, those of the French franc and Italian lira were devalued by 5¾ percent and 2¾ percent, respectively, and the bilateral central rates of the remaining currencies were otherwise left unchanged. Since this realignment, the Italian lira had traded above the top of the 2¼ percent limit applied to other EMS currencies, utilizing its freedom to trade in a wider band. The French franc and Irish pound were near the top of the 2¼ percent band, followed closely by the Danish krone. The Belgian franc remained near the middle, while the German mark and Dutch guilder traded at the bottom of the joint float.

This latest parity adjustment was the third in eight months. Yet considerable skepticism remained that, despite major policy adjustments in many participating countries, there was sufficient willingness to harmonize economic policies and to narrow the divergent economic performances to permit even the new currency structure to last. Most participating countries had adopted some degree of restraint during preceding years to stabilize their economies from the ravages of inflation following the oil-price increases of the late 1970s. But substantial inflation differentials remained, and market participants worried that extraordinarily high rates of unemployment in some countries would force the authorities there to compromise these efforts. Moreover, most countries were attempting to bring public-sector deficits under better control but with varying degrees of success, and some found themselves in divisive internal debates over priorities for economic policy. During the period under review, these divergencies reemerged to exert strain on the currency relationships within the EMS. But, as long as another realignment was thought not to be imminent, modest amounts of funds flowed back into those currencies which offered the highest interest rates.

After mid-August, the currencies of France and Denmark began to weaken within the EMS. Both countries had experienced above-average real growth earlier in the year, boosted in part by the continuing impact of earlier fiscal stimulus and reflected in widening trade deficits, together with persistently high inflation. The French government had pledged fiscal restraint and imposed a price freeze following the mid-June realignment, but market participants still doubted that policy priority had in fact shifted from supporting employment to reestablishing internal and external balance to the economy. The Danish govern-

ment was locked in parliamentary debate over budget proposals for 1983, including expenditure cuts and tax increases to curtail the government's borrowing requirement. When the government resigned early in September, speculation developed that a new government might devalue the krone. Under these circumstances, both currencies fell to around the midpoint of the 2¼ percent band toward the end of August amid frequent bouts of rumors that another realignment was imminent. The pressure against the French franc subsided following the government's presentation of a budget early in September which confirmed its determination to contain government spending. The pressures against the Danish krone were renewed during the first half of October by news of devaluations of other Scandinavian currencies before being put to rest by a substantial tightening of Danish monetary and fiscal policies.

The renewed pressures against these two currencies spread to the Belgian franc. The Belgian government had taken forceful action earlier in the year to redress the imbalances in Belgium's economy by devaluation, suspension of wage indexation, a price freeze, and fiscal restraint. Already some progress had become apparent as domestic restraint began to cut into imports, reducing the trade deficit. But Belgium's huge public-sector deficit had yet to decline in the face of a weak economy, and questions remained whether the stabilization policies would be sufficient to offset earlier losses in competitiveness. Thus the Belgian franc became identified in the rumors of realignment as a candidate for devaluation and headed for the bottom of the EMS band, where it traded during the entire second half of the period under review.

Meanwhile, the German mark and Dutch guilder began to move up from the bottom of the band, partly in response to bidding in anticipation of a further realignment. In addition, both countries had comparatively good price and trade performance. Of the two currencies, the guilder was the stronger just as the Netherlands was the only participating country whose current account was in surplus.

By mid-September, all the currencies in the narrow band were clustered closely around the middle of the band. This arrangement contributed to a relatively calm mood in the European markets through October. At this point, the French franc had eased to about parity *vis-à-vis* the German mark, a relationship that the French authorities chose to retain for the rest of the six-month period.

Beginning late November, however, pressures within the EMS became more frequent and intense. The German mark was strengthening as the dollar depreciated generally in the exchanges and the mark moved quickly to the top of the EMS. The guilder had already been trading firmly at the upper limit. Isolated at the bottom was the Belgian franc which at times required intervention support.

Other currencies also became subject to selling pressures at this time. The Irish pound joined the Belgian franc at the bottom of the band temporarily, after the British pound began to drop in the exchanges from mid-November. The French franc came on offer and was given official support to keep pace with the German mark while it rose within the joint float, as concern developed in the market over the adequacy of France's official reserves. Also, the Italian lira weakened, falling toward the middle of the band.

In this environment, expectations revived of an EMS realignment to include revaluation of the German mark and Dutch guilder against the currencies then requiring frequent intervention support either at their mandatory limits or intramarginally. Thus, from late November through December, there was a pattern of intense market speculation ahead of most weekends.

These pressures eased in early January after a meeting of European Community finance ministers passed without a realignment. Thereafter, most market participants concluded that a change of official parities would be postponed at least until after elections were held early in March in both Germany and France. Moreover, after mid-January the mark eased considerably against the dollar and other EMS currencies because of political uncertainties ahead of these elections. Even so, the band continued to be frequently stretched to its limit between the Dutch guilder at the top and the Belgian franc at the bottom.

Against the dollar, the EMS currencies as a group showed little net change over the six-month period under review. All EMS central banks, however, took advantage of the opportunity provided by a worldwide decline in interest rates to reduce their own lending rates during the period. The easing in official and market interest rates came later and was less extensive in the other countries than it was in Germany and the Netherlands.

EMS-related intervention was undertaken fairly constantly during the period and was heaviest during late August-early October and again in late November-mid-January. Although substantial intervention support was conducted in EMS currencies, especially the German mark and the Dutch guilder, sizable amounts were also done in U.S. dollars. Official dollar sales were particularly large, as it turned out, briefly in late August and during the winter months—times when the dollar was declining in the exchange markets.

Canadian dollar

As the period began, the Canadian dollar was recovering from a protracted and deep decline. The Canadian currency touched a historic low of U.S.$0.7683 (Can.$1.3016) late in June, but by the end of July had moved up nearly 4 percent to U.S.$0.7987 (Can.$1.2520). The Canadian dollar continued rising to about U.S.$0.8130 (Can.$1.23) in September, after which it traded for the most part within a 2 percent range around that level for the remainder of the period.

The recovery and subsequent steadier performance of the Canadian dollar reflected the subsiding of concerns that had clouded the currency's prospects for several years. Among these was a long-standing and harsh debate over the appropriate priorities for economic policy. Faced with deepening recession and climbing unemployment, on the one hand, and a persistent double-digit inflation rate fueled by high wage settlements on the other, the government chose to retain a strong anti-inflationary posture for both fiscal and monetary policy. The choice was convincingly evident in a summer budget message which had called for limits on salary increases of government employees and price increases in federally regulated sectors of the economy, as well as other measures designed to brake inflation during the next two years. Moreover, the government's initiative to restrict public-sector wage increases was quickly adopted by some provincial governments and helped set a pattern for private settlements. Monetary policy was also geared to forestalling inflation, including inflationary pressure from a further sharp decline in the Canadian dollar. Thus, interest differentials favorable to the Canadian currency had widened considerably, prompting Canadian provincial governments and some private concerns to borrow more abroad and to convert the proceeds in the exchange market.

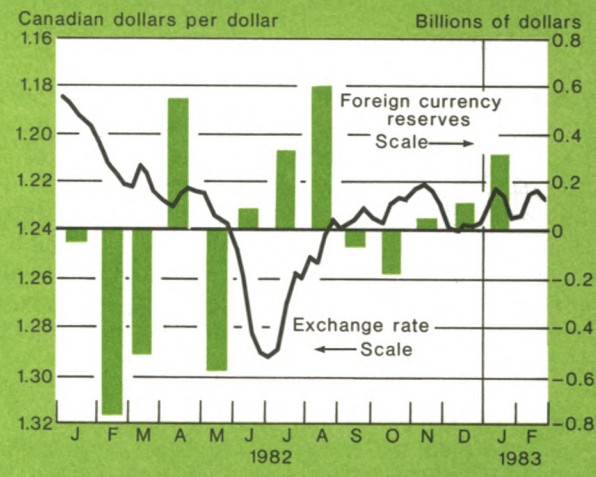
In addition, foreign concerns over Canada's controversial National Energy Policy had also faded. The policy was adopted in the fall of 1980 to stimulate Canadian ownership and development of the nation's natural resources. The pace of implementation had been significantly retarded in 1981, reducing what had been heavy capital outflows. By mid-1982 the government had gone further, with the Foreign Investment Review Agency cutting red tape and long delays in processing applications in an effort to rekindle direct private investment inflows. These developments eased market worries that Canada faced an extended reversal of the capital inflows which traditionally finance development and offset current account deficits.

Moreover, Canada's strong trade performance bolstered the Canadian dollar. Exports overall held steady

Chart 9

Canada

Movements in exchange rate and official foreign currency reserves

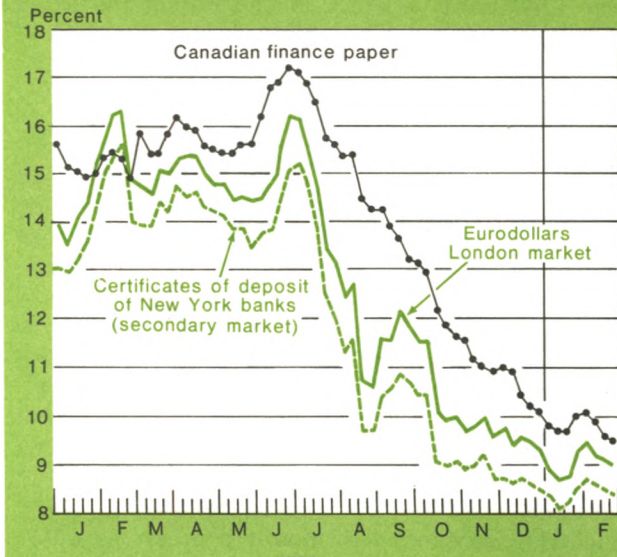


See exchange rate footnote on Chart 3.

Chart 10

Interest Rates in the United States, Canada, and the Eurodollar Market

Three-month maturities*



*Weekly averages of daily rates.

as shipments of automobile, grain, and energy products remained robust enough to offset declines in demand for other products susceptible to declining competitiveness and shrinking foreign markets. Meanwhile, imports had plummeted, reflecting weak domestic demand. Canada's current account was heading toward surplus for 1982, the first since 1973. Just on the basis of the first eight months of the year, Canada's trade surplus had cumulated to double the $5.5 billion total for all of 1981.

Against this background the Canadian dollar continued to move up gradually from early-August levels through the fall. However, it faltered at times when the decline in U.S. interest rates stalled or temporarily was reversed. The Canadian authorities were attempting to maintain a relatively smooth trend for interest rates, so that any temporary increases in U.S. rates resulted in a narrowing of the rate differentials favorable to the Canadian dollar, reawakening concerns that the recession at home would limit the scope of the authorities to follow should U.S. rates continue to rise. But, at the same time, the currency gained support as evidence accumulated that the weakness of the economy was finally showing through in a reduction of inflation and an easing of wage pressures. In late October the government issued an economic statement stressing its anti-inflation posture and including only minor changes to the budget for 1982, easing worries that significant new fiscal stimulus would be announced. The Canadian dollar then climbed to its highest point of the period at U.S.$0.8213 (Can.$1.2176) on November 10, a 6½-month high and a rise of some 2½ percent from end-July.

With the Canadian dollar firm in the exchanges, the Bank of Canada made substantial net purchases of U.S. dollars during August-October. Canadian foreign exchange reserves rose $364 million to $2.4 billion, even though the authorities had by end-October repaid all the $2.4 billion drawings made by the end of June under standby facilities with commercial banks. Also, the government's revolving credit agreement with international banks had been enlarged by $1 billion to $4 billion during September.

After mid-November, the Canadian dollar eased. As a substantial deceleration of inflation in both consumer prices and wage settlements became more fully established and Canada's external position continued to improve, market participants became wary that the principal justifications for high Canadian interest rates would erode. At the same time, real GNP was reported to have declined at an annual rate of 4 percent in the third quarter—the fifth consecutive quarterly decline—while the unemployment rate had climbed to a post-depression high of 12.7 percent in October. Consequently, through early December, the Canadian dollar came off its highs, falling more than 2 percent to U.S.$0.8029 (Can.$1.2455), even as the U.S dollar was declining against most other major currencies.

Beginning early in December, however, the Canadian dollar steadied. Bank of Canada Governor Bouey forcefully ruled out a policy of pushing interest rates lower or depreciating the exchange rate and stressed the importance of consolidating hard-won gains on the inflation front. With the Canadian dollar remaining generally firm through December and January, domestic interest rates declined slightly more than those in the United States. The Canadian dollar closed the six-month period under review at U.S.$0.8086 (Can.$1.2367), down about 1½ percent from its November highs but nevertheless 1 percent above its end-July level. The Bank of Canada was a net purchaser of U.S. dollars over the three months ended in January so that Canadian foreign currency reserves rose $475 million. Over the entire six-month period under review, Canadian foreign currency reserves rose $839 million to close the period at $2.9 billion.

Mexican peso

At midsummer the Mexican authorities were implementing an economic program, announced in April, designed to redress the cumulative effects of several years of large fiscal deficits and aggressive industrialization efforts, slowing oil-export revenues, and heavy servicing costs on Mexico's large external debt. Although the peso had been allowed to depreciate to Mex.$49 by end-July from around Mex.$27 six months earlier, and other measures had been taken to reduce the fiscal and balance-of-payments deficits, concern remained that the policy measures in place were insufficient to meet announced intentions or the problems at hand. Commercial bank and Eurobond lending to Mexico had dried up, significant arrears had developed in private-sector debt payments, and considerable private capital had flowed out of Mexico apparently in expectation of further devaluation of the peso. In addition, Mexican foreign currency reserves had fallen to dangerously low levels over the preceding months. The Bank of Mexico had on three occasions drawn on its swap line with the Federal Reserve to meet month-end liquidity needs. The third of those drawings was for $700 million on July 30, which was repaid the following business day. In view of Mexico's worsening liquidity position and the government's undertaking to speed up implementation of its economic program after the presidential election had been completed, the Bank of Mexico requested, and was granted on August 4, a drawing of $700 million on its swap

line with the Federal Reserve to replenish reserves while an adjustment program was worked out with the IMF. The drawing was for three-month maturity with possible renewal.

As part of its program, the government of Mexico announced a series of increases in prices of basic consumer goods, effective August 1, to reduce large subsidies that had bloated the government's deficit. The prospect of a further acceleration of Mexico's roughly 60 percent inflation rate generated a renewed surge of capital outflows.

With exchange market pressure at an intense level, the Mexican government announced on August 5 the introduction of a two-tier exchange system. Designed to avoid formal exchange controls while nevertheless channeling scarce foreign currency resources to priority uses, a preferential rate of Mex.$49 was established, to apply to the Mexicans' payments of interest and principal on public-sector and "productive" private debt, as well as for "essential" imports. All other foreign exchange purchases were to be executed in a free market where the peso would float. On the inflow side, the proceeds of Mexican exports of petroleum products and new public borrowings abroad were to be converted in the "preferential" market, the free market to receive other sources of revenue. The free market peso rate immediately dropped to over Mex.$70 but the capital flight continued, forcing the peso rate rapidly downward. In response, on August 12 the authorities temporarily closed the foreign exchange market in Mexico and announced that henceforth any withdrawals from deposit accounts at Mexican banks denominated in U.S. dollars (so-called Mexican dollar accounts) would be permitted only in pesos.

Following high-level negotiations that weekend between the Mexican and the U.S. governments, the U.S. Government arranged guarantees from the Commodity Credit Corporation for $1 billion in private credit to finance exports of basic foodstuffs to Mexico during the subsequent year, as well as a $1 billion advance payment by the Department of Energy for oil to be added to the U.S. strategic reserves. To meet immediate cash needs, the U.S. Treasury arranged a temporary swap facility with the Mexican government for $1 billion until August 24, the date on which the Department of Energy advance oil payment would be executed. A drawing of $825 million was made and repaid under this facility. With the emergency funding from the U.S. authorities in place, the government of Mexico reopened the exchange market on August 19, this time on a three-tier basis. The priority rate of Mex.$69.50 was established to apply to withdrawals in pesos from Mexican dollar accounts. When the market reopened, the free market rate fluctuated between Mex.$100 and Mex.$130.

Meanwhile, negotiations with the monetary authorities of other countries proceeded, leading to the conclusion, on August 30, of a $1.85 billion multilateral financing arrangement, with $925 million through the BIS, $600 million from the U.S. Treasury, and $325 million from the Federal Reserve. The funds provided by the U.S. authorities were to be drawn on a *pari passu* basis with those of the BIS. Drawings were to be provided in line with progress toward an agreement between Mexico and the IMF on an adjustment program which would enable Mexico to qualify for drawings under the IMF's Extended Fund Facility.

The provision of official financing dealt with only part of the problem. By this time, considerable worry had developed in the international financial community that Mexico would be unable to service its roughly $80 billion in external indebtedness, and private-sector external finance remained difficult if not impossible to arrange. With a heavy burden of international debt obligations maturing in coming months, Mexico's Secretary of Finance met on August 20 with 115 financial institutions with significant exposure to Mexico to solicit the banks' cooperation in accepting a ninety-day grace period, commencing August 23, in which maturing loans would be renewed for ninety days at current market rates. In return, the Mexican government would bring all public-sector interest arrears current, pay in full at maturity all publicly issued bonds and notes, and develop an economic adjustment program acceptable to the IMF. An advisory group of commercial banks was established to conduct negotiations on debt restructuring and arrange for a new financing of $1 billion from the commercial banks. The response of the banking community to this initiative was positive.

On September 1, however, outgoing President Lopez Portillo surprised the international financial community when he announced in his final state of the nation address decisions to nationalize Mexico's private commercial banks, to impose formal exchange controls, and to adjust interest rates in Mexico. Interest rates on several categories of loans were reduced significantly, while rates on small bank deposits were increased. The new exchange controls had the effect of eliminating the free foreign exchange market, all transactions to be conducted at a new "preferential" rate of Mex.$50 or an "ordinary" rate of Mex.$70. Foreign exchange would be sold to Mexican residents at the ordinary rate as available.

Following these initiatives, interbank trading in pesos continued outside Mexico for a time, even though the free peso market in Mexico was closed. But, before long, virtually all foreign exchange receipts

other than those derived from oil exports or official borrowings were left abroad, either to pay for imports or to be held in liquid form. Thus, there was little foreign exchange available through the official "ordinary" rate market established under the exchange controls. In addition, the overseas branches of Mexican banks encountered considerable difficulty maintaining interbank deposit lines, and the withdrawals at times placed pressure on Mexican foreign exchange reserves. In these circumstances, the peso gradually dropped to Mex.$125.

On November 12, the government agreed in principle with the IMF management on an economic adjustment program which would, if approved by the IMF executive directors, provide Mexico with about $3.9 billion of IMF financing over a three-year period. The program, considerably more stringent than the April one, called for a sharp reduction of Mexico's fiscal deficit as a share of gross national product, progressive reduction of Mexico's net external borrowing though 1985, exchange rate and interest rate policies to assure competitiveness of Mexican exports and to promote domestic savings, and a substantially reduced current account deficit. The program was expected to result in a sharply lower rate of real domestic economic growth at least through 1984. It was designed to reduce drastically Mexico's inflation rate then running at nearly 100 percent, so as to build a foundation from which Mexico could resume the stable and sustainable real economic expansion required to service its external obligations and to meet domestic demands for improved living standards. The letter of intent was signed by the outgoing Lopez Portillo administration but carried the full endorsement of Miguel de la Madrid, scheduled to take office as president of Mexico on December 1.

With the letter of intent signed only about two weeks prior to the expiration of the ninety-day grace period on maturing external debt obligations, the government of Mexico asked international banks to extend the grace period through March 23, 1983 under roughly the same terms as before. During much of the balance of the period under review, the government worked with the banks on the outlines of a program for dealing with Mexico's external indebtedness and financing needs through 1983, to include not only public-sector needs but also arrears of interest payments on private-sector debts. The main elements in the proposal involved restructuring about $20 billion in public-sector debts and the raising of $5 billion of new money from the banks to meet Mexican financial needs for 1983. Any new funds were to be drawn in phase with the availability of funds under the IMF agreement, *i.e.*, subject to the condition that Mexico remain in compliance with the economic adjustment program agreed with the IMF. It was also envisaged that banks would maintain the level of their interbank deposits with Mexican banks operating in overseas markets.

The new president, in his inaugural address, endorsed the undertakings Mexico had made with the IMF, while also indicating that the exchange controls would be modified. On December 13 and December 20, respectively, a presidential decree was signed and Bank of Mexico procedures were published to establish exchange controls intended to direct more foreign exchange into Mexico's official reserves and banking system. Toward this end, effective December 20 two separate markets were established, one controlled and the second free of controls. The controlled market was to include all commercial exports, the foreign currency costs of border trading firms, all operations with respect to public and private debt, costs of diplomatic and consular services, and contributions by Mexico to international organizations. The Bank of Mexico specified initial buying and selling rates for the controlled market at Mex.$95.00-95.10 with the rate to be depreciated steadily in line with the inflation differential between the United States and Mexico, calculated initially at an annual rate of about 50 percent. It was intended that over time the controlled and free market rates would converge. The free market was intended for all transactions not specifically eligible for the controlled market. It was initially set up with guidance from the central bank to facilitate an orderly opening, the guidance to be eliminated as soon as possible. When the market opened on December 20, the rate was set at Mex.$148.50-150.00. The free market eliminated the special border zone for foreign exchange established in early November. After some nervousness, markets settled down and the peso quotations on the interbank market in the United States moved in line with the free market rate in Mexico.

On December 23, 1982, the IMF announced that its execuitve board had approved the Extended Fund Facility for Mexico, and initial drawings under the facility were made immediately thereafter. The Bank of Mexico, using the proceeds of these borrowings, made partial repayment of its drawing on its regular swap line with the Federal Reserve in December and January so that, as of January 31, $373 million was outstanding.

For the remainder of the period under review, the peso traded relatively quietly and narrowly in the overseas interbank market, quoted generally in line with the free market rate in Mexico. Between December 20 and January 31, 1983, the free market rate in Mexico was adjusted toward the controlled market on three occasions to Mex.$147.90-149.40 at the close of the period, while reflows of capital—largely from individuals

—permitted the Mexican commercial banks to purchase a sizable amount of dollars in the free market through end-January. At the same time, the controlled rate was adjusted lower daily to Mex.$100.46, a depreciation of 5½ percent as compared with the December 20 level.

The steadiness of the rate in the U.S. overseas interbank market during this interval reflected general market perception that the de la Madrid administration had made an effective beginning on dealing with the problems at hand. This positive response helped Mexico husband its reserves and, by the close of the period, a small amount of the combined $1.85 billion U.S.-BIS credit facility remained to be drawn. Negotiations were not yet complete on the debt restructuring or on details of the $5 billion loan, but a total of about $4.7 billion in new money had been pledged by banks that were participants in those negotiations. These matters remained of critical priority, however, as signs of stress were accumulating in Mexico. Production bottlenecks were widespread, due to limited availability of imported goods. In addition, commercial banks abroad remained concerned about the need to deal with overdue principal payments on private-sector debt. Thus, more work remained to be done before all necessary elements of a successful adjustment program could be said to be in place.

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