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This Quarterly Review is published by the Research and Statistics Function of the Federal Reserve Bank of New York. Among members of the function who contributed to this issue are DAVID C. BEEK *(on bank lending to developing countries, p.1);* JOSEPH SCHERER *and* CARL J. PALASH *(on the "underspending" in the Federal Budget, p. 13);* WILLIAM C. MELTON *(on the risk structure of bond yields, p. 21);* M. A. AKHTAR *(on corporate income taxes in selected foreign countries, p. 27);* CHARLES M. LUCAS, MARCOS T. JONES, *and* THOM B. THURSTON *(on Federal funds and RPs, p. 33); and* RONA B. STEIN *(on the economy of New York City, p. 49).*

An Interim Report of Treasury and Federal Reserve Foreign Exchange Operations for the period February through April, 1977 begins on page 60.

Commercial Bank Lending to the Developing Countries

The enormous expansion of commercial bank lending to the developing countries during the last several years has generated a great deal of discussion and concern.[1] In 1976, some $20 billion of bank credits was extended to these countries, about three times as much as in 1973. By the end of 1976, the total outstanding debt of the LDCs to both private and public lenders reached about $180 billion, compared with roughly $75 billion in 1972. This rapid buildup of debt has understandably raised questions about the pace of lending and the ability of the developing countries to service their debts.

Most of the discussion of the LDC debts has overlooked an important development: the strong growth performance of the developing countries as a group over the last fifteen years. The real domestic product of the LDCs grew by nearly 6 percent annually during the thirteen years before the quadrupling of OPEC oil prices in 1973-74 and by a somewhat lower but still very respectable rate of nearly 5 percent during the last three years, despite this being a period marked by widespread economic dislocation and recession. These rates exceeded the average growth of both the industrialized countries and the centrally planned economies by a significant margin. The achievement has also been impressive by historical standards, considering that real output in the developing countries increased by only 2 percent annually during the first half of the century.

This rapid growth was to a great extent made possible by large inflows of external finance. Such funds supplemented these countries' domestic savings and thereby allowed them to import substantially more than they exported. The inflows from abroad generally averaged about 20 percent of the LDCs' gross domestic investment and 4 percent of their gross domestic production. In the early 1960's, the inflows comprised mainly official assistance, private direct investment, and trade credits. But in the late 1960's and early 1970's an increasing proportion of such flows consisted of commercial bank loans.

This change in the source of LDC financing went largely unnoticed until 1974 following the quadrupling of OPEC oil prices and the subsequent slowdown in the industrial countries. Because of the huge increase in their import costs and the adverse developments in their exports, the developing countries required still larger capital inflows to finance their planned levels of imports and to maintain the momentum of their development programs. Official assistance was inadequate to meet this greatly increased need, and thus the higher income LDCs turned for funds to the large commercial banks. Consequently, most of them were able to maintain high, although reduced, growth right through the world recession and the period of adjustment to the higher oil prices.

Commercial bank lending to the LDCs also benefited the industrial countries in certain respects. It provided their private financial sectors with a relatively new source of growth and earnings, and it also helped maintain foreign demand for their exports during the recession. Nevertheless, the rapid growth of bank lending introduced a new element of uncertainty and instability into the international and domestic financial situation. On the one hand, a very sharp curtailment of bank lending could make it difficult for some countries to make payments on their external obligations; on

[1] In this article, the designations "developing countries" and "LDCs" (i.e., less developed countries) are used interchangeably. The coverage here excludes countries in Southern Europe as well as the oil-producing countries that are members of OPEC (Organization of Petroleum Exporting Countries).

the other hand, a widespread interruption of interest and amortization payments could cause liquidity problems for some of the world's largest commercial banks.

Fears of defaults are exaggerated

The severe recession of 1974-75 served as a reminder of the years before World War II, when many foreign governments defaulted on their external debts during the 1920's and when several domestic bank closures produced a domino effect on the United States banking system in the early 1930's. The danger of default now is much less than it was in the 1920's, since today the debt is held by fewer lenders and international cooperation is stronger. In that earlier period, individual investors held much of the external debt in the form of bonds and there was no ongoing relationship between the borrower and the lender. In such a situation, it was very difficult to restructure or reschedule a country's debt when payment problems arose. Nowadays, large commercial banks do most of the private lending, and they maintain a continuing interest in and relationship with the borrowing country.

Furthermore, when repayment problems arise now, the borrower can seek help through various international organizations. There is also much greater recognition of the need to maintain lending to the debtor countries and to allow their exports reasonable access to markets in the industrial countries. During the 1930's, many industrial countries stopped lending to the LDCs and also erected barriers against the LDCs' exports, thus making it practically impossible for them to service their debts.

Although current fears of widespread defaults appear exaggerated, legitimate reasons for concern do exist. Commercial bank lending to developing countries has grown at a very rapid rate. Furthermore, the loans are highly concentrated on both the borrowing and the lending sides. Mexico and Brazil, for example, account for one half of United States bank claims on the nonoil LDCs, and most of the lending to the developing countries is done by a small number of large banks. This concentration of lending to the stronger economies and by the larger banks may be desirable from the viewpoint of repayment capacity, lending experience, and country expertise, but not necessarily in terms of portfolio diversification and risk dispersion.

Bank lending before the oil price increase

The large commercial banks have been active in the developing countries for many decades, but their lending activities remained rather modest until the late 1960's. Previously, they kept mainly to their traditional role of financing foreign trade, which by its very nature was considered to be short term, self-liquidating, and relatively secure. The banks engaged in some project financing, particularly if it involved home-based multinational corporations. In many developing countries, however, the large national development projects were financed by government-sponsored development banks, and much of the external financing was done through the World Bank and foreign assistance programs. In the mid-1960's, however, several major changes occurred in the world economy that greatly expanded the commercial banks' traditional role of financing short-term trade and provided them with the new role of financing development projects and payments imbalances. These changes included the worldwide expansion of multinational corporations, the growth of the Euro-currency markets, the shifts in official aid programs, and the sharp acceleration of world trade.

The late 1960's and early 1970's was a period of rapid expansion for the multinational corporations in the LDCs. It was natural for them to turn to the large international banks to finance their foreign operations, which frequently included medium-term financing for physical facilities as well as short-term trade financing. Moreover, in many LDCs it was common for the government to restrict the multinationals' access to domestic financial markets and to force them to borrow funds from abroad. The government thereby tried to increase the net inflow of foreign capital with minimal cost or risk to itself. The multinationals were attracted mainly to developing countries that had either large natural resources to develop, cheap and efficient labor to employ, or potentially large domestic markets to exploit.

In the 1950's and early 1960's, the multinationals focused heavily on Western Europe and those LDCs with large mineral resources, but in the late 1960's they turned increasingly to those higher income and fast-growing countries in Latin America and East Asia that had strong growth potential and also were receptive to foreign capital. Foreign investment in Latin America had been high for a long time, but it was stepped up briskly in the late 1960's, particularly in Brazil. Furthermore, an increasing amount of this foreign investment in Latin America went to manufacturing rather than mining. At that time attention also shifted to East Asia, where Korea, Taiwan, Hong Kong, and Singapore emerged as attractive centers for the manufacturing and exporting of labor-intensive goods —particularly textiles, leather goods, and more recently electronic equipment.

The late 1960's and early 1970's also witnessed the rapid growth of the Euro-currency markets, making it possible for the multinationals to obtain dollar financing in spite of the capital controls that the United

States had imposed on outflows of funds. Up until January 1974, when these controls were finally removed, most foreign lending by United States banks was done through foreign branches.

Branches spread from the original center—London—to the Bahamas, Panama, Hong Kong, and Singapore. These regional centers helped satisfy the demand for financing in their areas by facilitating the flow of funds from the industrial countries to the Latin American and East Asian countries. During this time, European and Japanese banks joined the American banks in expanding their lending activities in the developing countries.

Many higher income LDCs were compelled to seek greater private financing from abroad in the late 1960's, a period when the industrial countries and international agencies were making revisions in their official aid programs. The United States not only continued to keep assistance at a modest level (which meant little, if any, increase in real terms) but, in addition, concentrated it in the lower income countries. Although other industrial countries increased their foreign aid, most of them also concentrated it in the poorer countries.

The World Bank continued to lend money to all its creditworthy LDC members but raised its interest charges to reflect the cost of the funds it borrowed from the private financial markets. Therefore, the advantage of borrowing from the World Bank instead of from the Euro-currency markets diminished for many developing countries, particularly since the World Bank restricted its loans to projects that it had approved. Furthermore, the more creditworthy LDCs found that they could obtain large amounts of Euro-currency credits at relatively small premiums above the prevailing minimum lending rate.

At the same time, the higher income countries were charting increasingly independent development strategies and adjustment policies, partly to free themselves from what they felt to be constraints set by the international lending agencies. As far as the International Monetary Fund (IMF) was concerned, some countries preferred to borrow from commercial banks rather than to meet the even stricter conditions on economic performance that the IMF mandates as a country's borrowing from it increases. Some of the higher income LDCs also found it possible and convenient to use the proceeds of balance-of-payments loans to finance their ordinary government expenditures.

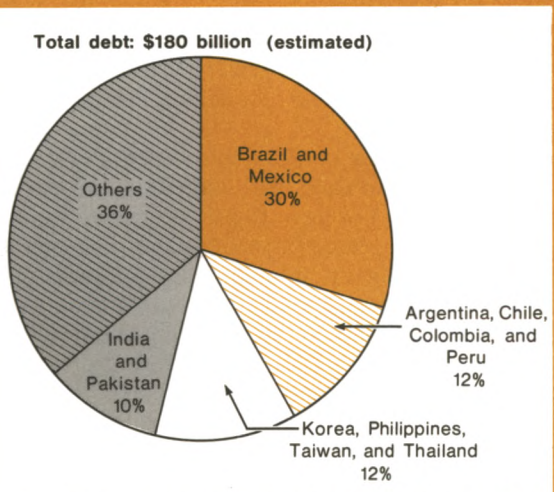
Commercial bank lending to the LDCs was boosted further by the acceleration of world trade—particularly during the commodity price boom that began in 1972 and lasted until 1974. Between 1965 and 1974 the non-oil LDCs quadrupled their merchandise exports in nominal terms, from $25 billion to nearly $100 billion per year. In contrast, during the previous decade, they increased their export proceeds by less than one half. The 1965-74 surge in the LDCs' exports was part of a worldwide expansion of trade, for, in those same years, the industrial countries also quadrupled their annual export earnings. The increase, of course, reflected partly the accelerating inflation during the late 1960's and early 1970's, but also the growing economic strength of Europe and Japan which resulted in much greater demand for the traditional exports of the LDCs.

It was also at about this time that a number of Latin American and East Asian countries began to emerge as major exporters of manufactured products. Then, in 1973 and 1974, the major copper-exporting countries—Chile, Peru, Zaire, and Zambia—all enjoyed

Chart 1

Distribution of External Debt of Nonoil Developing Countries

Year-end 1976



Sources: Based on data from the International Monetary Fund, the World Bank, and the Bank for International Settlements.

The LDC indebtedness is concentrated mostly in a small number of higher income countries. Over one half of the total is held by ten countries in Latin America and Asia; nearly a third is held by Brazil and Mexico alone. Much of the debt of these higher income countries is owed to commercial banks. The debt of India, Pakistan, and "others" is owed mainly to foreign governments and international organizations.

temporary booms. And Argentina, Brazil, Mexico, the Philippines, and Thailand experienced a surge in demand for their agricultural and mineral products. These developments greatly increased their capital needs and, since direct investment was inadequate, there was greater recourse to borrowing in the Euro-currency markets.

The oil price increase and the recession

A new and greater impetus to commercial bank borrowing by the LDCs came with the 1973-74 oil price rise and the subsequent recession in the industrial countries. The abrupt oil price increase raised the oil import costs of the LDCs by nearly $10 billion. These higher oil costs accounted for about one half of the $20 billion jump in the average annual deficit of the LDCs between 1971-73 and 1974-76; the worldwide inflation and the recession in the industrial countries accounted for most of the other half. During 1974, the year when import prices of the LDCs rose the most rapidly, their nonoil imports expanded by 50 percent in dollar terms but very little in real terms. In 1975, during the depth of the recession, their earnings from merchandise exports actually dropped. As a result, the current account deficit of the LDCs as a group widened from $10 billion in 1973 to $30 billion in 1974 and $38 billion in 1975.

Many LDCs delayed putting into force strong adjustment measures to reduce their deficits until late 1975 and early 1976. Quite a few had overexpanded during the previous period of boom and found it politically or economically difficult to adjust their living standards or growth targets. Some probably also underestimated the depth and duration of the recession and hoped to ride it out by borrowing heavily from abroad while awaiting a revival of their export markets.

A number of developing countries continued to borrow large amounts from commercial banks in 1976 despite the adjustments they made in economic policies and the improvements they realized in their export performance. Some countries took advantage of the continuing easy money market conditions in the industrial countries to rebuild their official reserves to a safer level. During 1974 and 1975 they had added very little to reserves, but in 1976 they increased them by over $10 billion. While much of the 1976 expansion in reserves resulted directly from foreign borrowing, some countries also gained reserves by running current account surpluses.

Overall, during the three years following the oil price increase, the nonoil LDCs as a group obtained an estimated $60 billion in commercial bank credits or about one half of their *gross* external financial requirements (*i.e.,* their amortization payments and other capital outflows as well as their current account deficits). Of this amount, publicly announced borrowings from the Euro-currency markets alone totaled nearly $30 billion, a sharp rise from the previous three years when total new Euro-currency credits were less than $10 billion.[2]

The debt in perspective

These and other borrowings caused the nonoil LDCs to more than double their total external debt from some $75 billion in 1972 to an estimated $180 billion last year. To a large extent, the rapid growth reflects the high inflation that prevailed during this period. Between 1972 and 1976 the LDCs' import and export prices both doubled in dollar terms, so that the real debt of the LDCs as a group—*i.e.,* nominal debt deflated by the changes in the dollar prices of either their aggregate exports or imports—increased by only a fifth over the period 1972-76.

The LDCs' debt also appears less excessive when looked at in light of the size of their export earnings or their domestic production. Between 1972 and 1976 the developing countries increased their aggregate exports by two and a half times, about the same rate as their outstanding debt in nominal terms. Similarly, their real GNP in constant dollars rose by a fifth during this four-year period, *i.e.,* at about the same rate as their real debt.

Another measure of debt burden, the widely used public debt service ratio, also indicates that the aggregate burden may not have grown excessively since the early 1970's. The percentage of export earnings that is used to make annual interest and amortization payments on long-term public debt now stands at about 12 percent, only slightly higher than it was five years ago. This ratio, however, understates the total debt-servicing burden since it does not take into account interest and amortization on short-term debt and on long-term private debt that is not publicly guaranteed. (No precise debt-servicing figures are available on nonpublicly guaranteed debt, which comprises about one third of the LDCs' total debt. Much of it is owed to commercial banks and is likely to mature within the next several years.)

[2] Some of the higher income LDCs may be overall debtors, but they also hold assets in the form of loans and credits to other countries. Brazil and Korea, for example, have established their own export-import banks to provide export credits—particularly to smaller and poorer countries with limited access to private credit. In some cases they have acted as financial intermediaries, borrowing at short term from the Euro-currency markets and lending at long term to other countries. These export credits are not yet significant in the aggregate, but they may become so as the higher income LDCs expand exports and compete more directly with the countries that are already industrialized.

Outstanding External Debt of the Nonoil Developing Countries

Year-end 1976; estimated

Debt	Billions of dollars
By source	
International institutions*	27
Governments	48
Commercial banks	80
Other private sources	25
Total debt	180
By type	
Long-term public†	120
Long-term private	20-25
Short-term public and private	35-40
Total debt	180

* Includes approximately $7 billion outstanding to the International Monetary Fund.

† Public debt or private debt which has an original or extended maturity of over one year and which is publicly guaranteed by the government of the borrowing country.

Sources: Based on data from the International Monetary Fund, the World Bank, and the Bank for International Settlements.

By the end of 1976, total long- and short-term disbursed debt of the nonoil LDCs is estimated to have been about $180 billion. Nearly half was owed to commercial banks in the industrial countries, and most of the other half was owed to foreign governments and international institutions. By far the largest part of the debt consisted of private and public long-term obligations (maturities of more than one year), while the rest consisted of up to $40 billion of short-term debt—mainly liabilities to commercial banks. American banks accounted for over half of all the commercial bank lending; Canadian, European and Japanese banks accounted for most of the remainder.

The debt burden of these countries in the aggregate thus appears not to have risen nearly as rapidly as their nominal debt, but the situation varies widely from country to country. For example, the debt service ratio on long-term public debt for the higher income LDCs is about twice as high as for all the LDCs. At the same time, the developing countries differ greatly in their debt-servicing capacity, depending on a large number of domestic and external factors. These include not only the size of export earnings, but also the level of domestic savings, the dependence on imported goods, and the outlook for export and income growth. Political and social conditions and institutional factors are also important.

Perhaps the key factor is the quality of economic and financial management. Especially important is the adoption of sound budgetary, monetary, and exchange policies, the maintenance of efficient price and tax systems, and the proper structuring of debt maturities and repayment schedules. All of this implies a realistic evaluation of a country's export potential and import needs, as well as the tailoring of a country's investment projects, development strategies, and social welfare programs to its debt-servicing ability.

The managerial aspects are not easily measured, but clues are available from a wide range of economic indicators. Among them are the size of the fiscal deficit relative to domestic income, the growth of the monetary aggregates, the relation of the current account deficit to export earnings, and the projected ratio of debt-service payments to export earnings.

Any rigid or uniform application of risk evaluation or debt indicators to all countries is likely to give misleading results. Even among countries with similar debt burden ratios there is a wide range in their capacity to contract and to service debt as well as in their ability to adapt their institutions to changing economic conditions. The higher income Latin American countries historically have been able to sustain high debt levels relative to their export earnings. Countries in South America also seem to have had a relatively high tolerance for, and adaptability to, domestic inflation; in contrast, the more prosperous East Asian countries put much greater emphasis on domestic price stability. Yet both groups of countries have performed well in terms of domestic growth and export expansion.

Disparities in growth

As commercial bank lending to the developing countries expanded, it became very concentrated among the higher income countries in Latin America and East Asia. Most of them had achieved exceptionally strong rates of income and export growth during the late 1960's and early 1970's, and they were apparently able to achieve even more rapid growth as a result of their ready access to private credit. These higher income LDCs had been expanding significantly faster than the lower income countries in earlier years, and this divergence increased dramatically after the advent of large-scale private lending to them.

Real growth in the higher income LDCs accelerated from a 6 percent annual rate in the early 1960's to over 7 percent in the early 1970's. In the lower income countries, it slowed considerably, from 4 percent to less than 2 percent, during the same period. The dif-

ference between these two groups of countries is even more striking when the two aspects of their economies most directly dependent on private external financing —manufacturing and imports—are compared. Between 1965 and 1973, industrial production and real imports increased by nearly 9 percent per year in the higher income LDCs; in contrast, they grew by less than 4 percent in the lower income countries.

Even these figures insufficiently highlight the performance of the largest debtors. Of the one hundred or more LDCs in the world, ten countries accounted for the bulk of the commercial bank claims on developing countries at the end of 1976: Mexico and Brazil for about a half of the total, and eight other higher income countries in Latin America and East Asia (Argentina, Chile, Colombia, Peru, Korea, the Philippines, Taiwan, and Thailand) for much of the other half. The relatively strong economic position of these countries is illustrated by the fact that they have only a quarter of the LDCs' population but over one half of their combined gross national product.

On the whole, it was this small group of ten or so high-performing countries that benefited from the explosion of commercial bank lending to the LDCs in the past decade, and not the many poor and populous countries in Africa and the rest of Asia. The lower income countries continued to rely mainly on the traditional sources of external finance—official loans or outright grants—to underwrite their deficits. In general, these poorer countries have had to remain content with the moderate real growth of official assistance during the past six years.

An improved economic outlook

In recent months the economic outlook of the LDCs has improved greatly. As a group they cut their current account deficit from $38 billion in 1975 to an estimated $25 billion last year, and at the same time they resumed higher economic growth. Nevertheless, they are still confronted with serious problems and they are by no means assured of the external financing they need.

The lower deficits last year resulted largely from a resurgence of the LDCs' export earnings that accompanied the economic recovery of the industrial countries and the upward trend in commodity prices. Most importantly, the improved economic positions of the developing countries also reflect the impact of adjustment policies that were undertaken by most of the major borrowers. The countries differed greatly in the timing, stringency, and nature of their stabilization programs, and this naturally has resulted in varying rates of progress toward strengthening their external positions. By the end of 1976, however, most had either reduced their external deficits considerably or had adopted programs to do so.

The East Asian countries were among the first to put adjustment programs into effect. Most of them had experienced severe deteriorations in their current account positions in 1974 and 1975 as a result of a marked increase in their import costs and a slowdown in their export earnings. Most also suffered rates of very high inflation in the first half of 1974, but by early 1975 nearly all had sharply slowed inflation through tight monetary and fiscal policies.

Taiwan chose to adjust quickly to the rise in oil prices by trimming its nonoil imports and reducing its external deficit. As a result, it suffered a very steep, although temporary, slowdown in real growth—from a nearly 12 percent annual rate in the early 1970's to very little growth during 1974 and 1975. South Korea, on the other hand, decided to adjust more slowly. In 1975 it borrowed heavily from abroad to finance imports and to maintain income growth, thereby enabling it to wait for a revival of the export markets to correct the external imbalance. Consequently, Korea's economy continued to move forward with a nearly 10 percent real rate of growth right through the period of oil price adjustment and economic recession. Last year both Korea and Taiwan witnessed a rapid expansion of their export sectors; each realized a 50 percent increase over 1975 in export receipts. As a result, Korea's current account deficit was slashed from $2 billion in 1975 to nearly zero last year, and Taiwan's economy resumed double-digit growth.

The Philippines benefited from the sugar export boom in 1974 but suffered large deficits after prices fell abruptly the following year. For a while, the country tried to maintain its high imports by borrowing from foreign commercial banks, but in 1976 it instituted a stabilization program in agreement with the IMF. By the end of last year, it too began to achieve substantial progress in its external account. Meanwhile, it continued to expand at a 5 percent rate, nearly the same as in the previous two years.

The Latin American countries generally waited much longer than those in East Asia to implement comprehensive adjustment programs. Some of them held off until they were threatened with economic disorder. Argentina, Chile and Peru made policy adjustments during the course of 1976, after having had difficulty in rolling over maturing bank credits. In the end, all three countries improved their external positions considerably. Argentina reversed its current account balance from a $1½ billion deficit in 1975 to a $½ billion surplus last year, Chile moved into small surplus, and Peru cut its current account deficit in half.

Brazil and Mexico, the two major borrowers from

United States and other foreign banks, seemed to be doing reasonably well early in 1976, although both of them were still running large current account deficits. Brazil's economy continued to grow at a real average annual rate of 8 percent during the last three years, a performance substantially lower than the 10-12 percent rate of previous years although still high by any standard. Rapid growth was maintained despite the oil price increase and economic recession abroad, but at the cost of accelerating domestic inflation, large current account deficits, and more foreign debt. Mexico also maintained fairly strong domestic growth during most of this period, but it too had to borrow heavily from abroad.

By the end of 1976, however, both countries took action to close their deficits. During the last half of 1976, Mexico experienced a crisis: confidence in the peso deteriorated and heavy outflows of capital occurred. As a result, the Mexican authorities floated the peso late last August, and for a time it was at a dollar rate equal to only about 50 percent of its previous value. Then, in December, Mexico enacted a comprehensive stabilization program in agreement with the IMF as a condition for receiving financial support from the Fund. Brazil had tightened economic policy somewhat in 1975, but it had eased up when its domestic growth was threatened. In the latter half of 1976, with the current account deficit continuing at the high level of the previous two years, the Brazilian authorities again took measures to slow domestic inflation and reduce the external deficit.

Strengthening the international system

The experience of the last several years indicates that the high-growth developing countries generally possess a substantial amount of economic resilience. Though most were hard hit by the economic recession in the industrial countries and were seriously affected by the higher oil prices, many of them were able to maintain remarkably strong income growth by borrowing heavily from abroad. Despite these achievements they remain quite vulnerable to external shocks and to adverse developments in the industrial countries.

There are new risks inherent in the deeper financial involvements between the industrialized countries and the rapidly growing LDCs, as well as in the economic vulnerability of one side to adverse developments on the other side. The large borrowing countries that have geared their development plans and economic policies to continuously high export growth and large capital imports would be particularly hard hit if their export earnings or their ability to borrow were drastically cut.

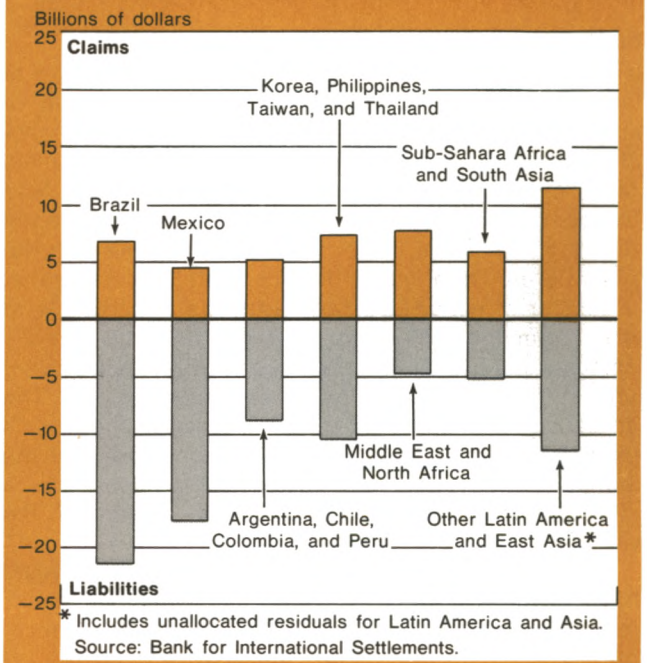
The need for large-scale lending by commercial banks to developing countries is likely to continue. There are at least three reasons for this. First, the developing countries' need for external development capital is expected to continue for an indefinite period. Second, the LDCs will from time to time require temporary financing to carry them through periods of economic recession or downswings in commodity prices. Third, the OPEC surpluses are likely to last for some time. A substantial part of these surpluses will probably continue to flow into the industrial countries' banking systems and from there, in one way or another, to the developing countries.

Commercial bank lending, however, cannot be expected to reduce the need for a continuing or even

Chart 2

Nonoil Developing Countries: Claims on, and Liabilities to, Foreign Banks

Year-end 1976



* Includes unallocated residuals for Latin America and Asia.

Source: Bank for International Settlements.

The LDCs, aside from their large liabilities, also have large claims on banks in the industrial countries. The combined bank liabilities of the ten higher income countries in Latin America and East Asia, as reported by the Bank for International Settlements, exceed their overall assets at foreign banks by about $30 billion. In contrast, the lower income countries in Asia and Africa generally have more assets at foreign banks than they have liabilities.

increased flow of official funds. In any case, new official approaches would seem to be required to strengthen the international financial system in ways that would protect both lending and borrowing countries against unexpected disruptions of financial flows.

Within the industrialized countries, central banks act as lenders of last resort to the private banks when the danger of a major loan default threatens the liquidity and the stability of the banking system. If the IMF's ability to act as an international lender of last resort for member countries were enhanced, it could then more readily protect the international financial system if a debtor country were faced with involuntary default as the result of a sudden drying-up of foreign credit. While no such situations appear to be on the immediate horizon, knowledge that the Fund could act promptly and effectively in such cases would greatly reduce apprehension about the potential dangers in the present system.

More resources for the IMF?

If the Fund is to take on an enlarged role of lender of last resort to the world, it needs to be assured of adequate resources to deal with any massive financial disruption. At the same time, the present rules place strict quotas on the amount the Fund can lend to member countries. It is generally acknowledged that the quotas are in many cases out of line with the potential needs of individual economies. In particular, a number of major LDC borrowers are now eligible to draw from the IMF—even over two or three years—amounts equivalent to only a fraction of their current annual deficits and their refinancing requirements. The so called "Witteveen proposal" to enlarge the Fund's lending capacity that is now being considered by the industrial and oil-producing countries would be a significant step toward meeting the needs of the world's financial system.

The unusual developments of the last several years have increased the involvement of commercial banks in lending to individual countries for overall balance-of-payments support. The purpose of balance-of-payments lending is to bridge a country's financing gap for several years while it reduces its current account deficit to a sustainable level. A country that requires such financing also needs to assure lenders that it will adjust both its domestic and external economic policies in order to narrow its deficit.

Experience has shown that, in this kind of situation, the IMF, as an international institution, can properly provide outside advice and establish lending conditions. The Fund helps to design and oversee the policy programs necessary to accomplish a deficit country's adjustment. Of late, the Fund's role in this process has been strengthened because of the increasing trend toward "parallel financing"—an arrangement in which some private loans are made contingent upon the borrowing country's meeting credit conditions laid down by the IMF.

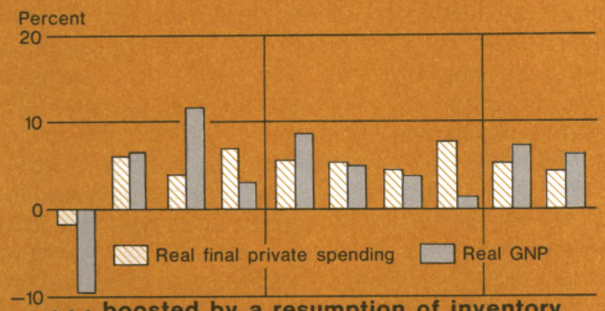
Certain problems, however, can arise when integrating private and official actions. Parallel financing, if carried to an extreme, could become a credit allocation system, in which private lenders would be encouraged to stay with an "approved list" of countries. This might well conflict with the efficient operation of the market system. Parallel financing could also lead the banks to relax their own credit judgments, *i.e.,* it could cause them to believe that an implied approval of a country's policies by an official institution such as the IMF somehow ensures them against losses on loans made to that country.

Beyond this, greater attention also needs to be given to the external financing of the lower income countries that have little access to private credit. The scope for expanding the flow of official assistance to these countries, both directly from aid-giving nations and through the international lending agencies, would seem to be substantially greater now that the higher income LDCs can increasingly finance their development programs through private channels. It is to be hoped that a larger flow of official assistance to the very poor countries may help make it possible for them to start moving toward faster economic growth and thus eventually to gain access to private capital markets. A recent commitment made by the industrial countries at the London economic summit to increase their aid is a modest beginning toward this end.

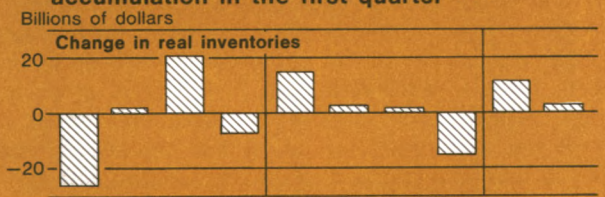
David C. Beek

The business situation
Current developments

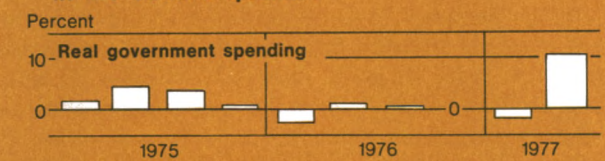
Chart 1
As the growth of real final private spending slowed somewhat in the first half of 1977, gross national product rose briskly · · ·



· · · boosted by a resumption of inventory accumulation in the first quarter · · ·



· · · and a surge in government spending in the second quarter.



All data are expressed as annual rates of change in levels denominated in 1972 dollars.
Source: United States Department of Commerce.

The performance of the United States economy during the first half of 1977 showed considerable underlying strength and resiliency. After snapping back quickly from the depressing effects of the most severe winter in many years in the eastern half of the nation, economic activity continued to post solid gains through the spring. At the same time, prices, aggravated by some special factors, rose appreciably more rapidly than in 1976.

With the approach of summer, the ongoing expansion seemed to be settling down to a more sustainable pace. But it also appeared to have become more broadly based, and upward price pressures appear to have slackened. Consequently, prospects seem good for further increases in activity during the remainder of the year, although probably at a more moderate rate than that of the first half.

The resurgence in economic activity during the late winter was not in itself surprising. Signs of a pickup were clearly evident late last year following the much discussed "pause" in the rate of advance. Hence, a rebound from the temporary setback dealt by the bitter winter weather in the East and Midwest was generally expected. The stamina that the economy displayed on the rebound, however, surprised all but the most optimistic observers. Back in early February, amidst widespread layoffs and disruptions to production in the wake of curtailments of natural gas supplies to industry and scattered blizzards, many analysts were looking for first-quarter growth in real gross national product (GNP) no better than half the 7.5 percent annual rate of growth eventually shown in revised data for the period.

To be sure, a significant part of the first-quarter gain

in real GNP represented a resumption of inventory accumulation following a small reduction in stocks during the preceding quarter. Real final spending in the first quarter rose at a much more moderate annual rate of 3.8 percent, nearly a full percentage point less than its average rate of advance since the current recovery got under way in the spring of 1975, although probably close to the economy's longer run growth potential. That figure, however, understates the strength of private demands in the first quarter. Total final sales were held down by a decline in real expenditures on goods and services on the part of state and local governments as well as the Federal Government. (The well-publicized shortfall in Federal outlays is analyzed in the article beginning on page 13). As may be seen in Chart 1, real *final private* spending increased in the first quarter at an annual rate of 5.3 percent, only slightly below the average rate of increase during the current economic expansion.

The growth of real final private spending slowed to an annual rate of 4.4 percent in the second quarter of 1977. Real GNP continued to rise strongly—at a 6.4 percent annual rate, according to preliminary estimates—spurred by a substantial increase in outlays by all levels of government as well as by a further advance in the rate of inventory accumulation. Residential construction activity also quickened significantly in the second quarter. The slowdown in the rate of growth of real final private spending reflected smaller increases in both personal consumption expenditures and business fixed investment than in the first quarter.

The economy's advance was much less dependent upon the automotive sector in the second quarter than in the first three months of the year. New domestic car sales rose strongly over the first quarter, reaching a near-record annual rate of 10.1 million units in March. While domestic car sales settled back to a 9.3 million rate in the second quarter, sales of imported cars surged, capturing 21 percent of the market in April and May as compared with the roughly 15 percent share of recent years. Sales of imports declined somewhat in June as sales of domestic models picked up. Altogether, sales of new domestic and imported cars in the second quarter totaled 11.7 million units (annual rate), exceeding the record high yearly sales rate of 11.4 million reached in 1973. For the first half as a whole, new car sales nearly matched the 1973 rate.

In the consumer sector, the rise in spending on automotive products accounted for more than half the first-quarter increase in real consumption expenditures. During the next three months, consumers' outlays on automotive products are estimated to have remained practically unchanged from the first-quarter level. On the other hand, household purchases of other consumer durable goods—such as furniture, appliances, and TV sets—rose briskly in the second quarter. Consumers' outlays for nondurable goods actually increased more than their spending on durables during the first half of the year. The bulk of the increase in spending for nondurables, however, was dissipated in higher prices, especially for foods. In real terms, consumption of nondurable goods barely inched upward in the first half.

Consumer spending appears likely to advance in real terms in the months ahead. The much slower rate of increase in food prices that seems to be in the offing should help to strengthen consumer confidence and to leave a larger part of incomes available for discretionary spending. Purchases of household durable goods are likely to be stimulated as the many housing units started in recent months are completed and readied for occupancy. At the same time, consumer spending may be restrained somewhat as households seek to restore the balance between their savings and their disposable incomes. The savings rate has already recovered substantially from the abnormally low 4.1 percent rate in the first quarter. Nevertheless, at 5.5 percent the estimated second-quarter savings rate was still below the average of about 6 percent over the past quarter century. With incomes continuing to grow, a further rise in the savings rate would be consistent with moderate growth in personal consumption expenditures during the second half of 1977. It is unlikely, however, that consumer spending will resume the position of leadership in the economic advance that it occupied in the first two years of the current recovery, when real consumption rose at an average rate of 6 percent per year.

Another reason for expecting a slowing in the rate of GNP growth lies in the behavior of business inventories. After a slight reduction in the level of inventories in the fourth quarter of 1976, investment in inventories accounted for nearly half the rise in real GNP in this year's first quarter and contributed more than one eighth of the second-quarter increase, according to still incomplete data (middle panel of Chart 1). Despite the first-quarter buildup, business sales rose so strongly that manufacturing and trade inventories were equal to only 1.43 months of sales in March, down from 1.46 at the end of 1976 and one of the lowest levels since the Korean war. With inventory accumulation increasing rapidly and sales declining slightly, by the end of May the inventory-sales ratio climbed back to 1.46, where it had stood at the completion of the mild inventory correction late last year. Hence, the overall level of inventories

in May (the latest data available) appeared to be reasonably well balanced with sales. If this apparent balance is to be maintained, the inventory sector is unlikely to contribute much thrust to GNP in the months ahead.

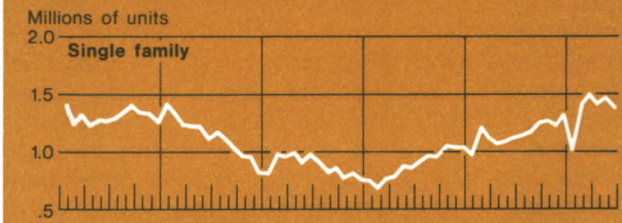
Government spending for goods and services continued relatively sluggish through the first three months of 1977, actually declining a bit in real terms. In the second quarter, however, government spending increased significantly in real terms for the first time since the third quarter of 1975 (see the bottom panel of Chart 1). The past quarter's upsurge in government spending was pronounced, accounting for nearly a third of the growth in real GNP. It was, moreover, spread among state and local governments as well as both defense and nondefense spending by the Federal Government. As indicated on page 17 of the following article, the "underspending" in the defense sector appears to have ended in the second quarter, and various advance indicators of defense spending point to further sizable increases ahead. Despite the continuing fiscal problems of certain localities such as New York City and the apparently continuing "underspending" on Federal grants, state and local governments as a whole are enjoying growing budgetary surpluses. And their revenue positions stand to benefit further as the countercyclical revenue-sharing funds legislated in the Tax Reduction and Simplification Act of 1977 come on stream. Thus, it appears likely that government spending will be supportive of GNP growth in coming quarters.

Consumer outlays on new homes have contributed significantly to the current upswing. Recovering quickly from the effects of the extreme cold early this year, private housing starts in March jumped to a seasonally adjusted annual rate of 2.1 million units, a level not seen since the boom of early 1973. The pace has moderated somewhat since then—particularly in the West, where incipient signs of speculative fever in the housing market had been discerned—but starts in the second quarter were running 31 percent above year-earlier levels. While single-family housing has been in especially strong demand, apartment building in recent months has also emerged from its doldrums of the previous two years. Rising rents, declining rental vacancy rates, and ample availability of mortgage financing suggest the likelihood of a further step-up in building activity in the multifamily sector in the months ahead (see Chart 2).

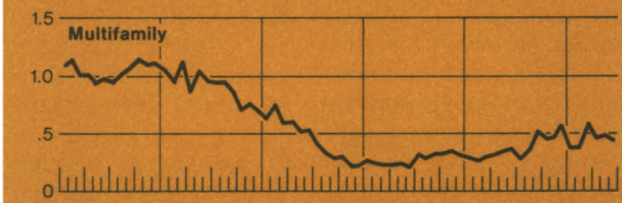
Capital spending has yet to display clear signs of breaking out of its relatively sluggish growth pattern. While real nonresidential fixed investment rose at an annual rate of 19 percent in the first quarter of 1977—by far the largest rise in the current expansion—the

Chart 2

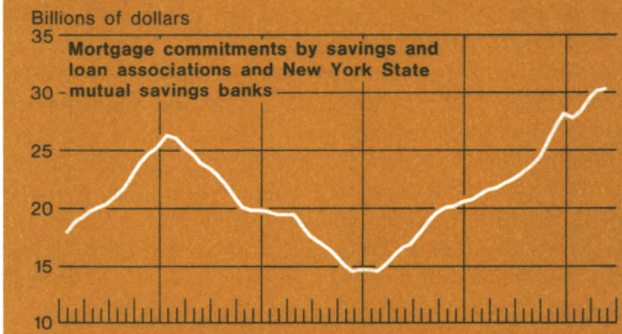
Single-family housing starts have been running near record levels . . .



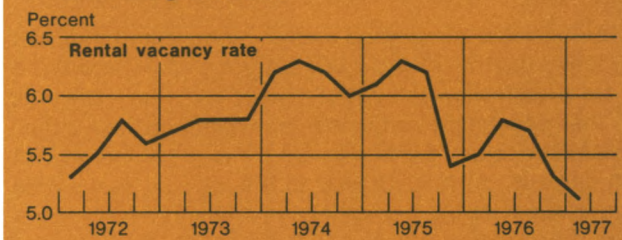
. . . but construction of apartment buildings is still well below previous highs.



With mortgage commitments up sharply . . .



. . . and the rental vacancy rate down, apartment building should move upward in coming months.



All data are seasonally adjusted.

Sources: United States Department of Commerce, Federal Home Loan Bank Board, and Savings Banks Association of New York State.

second-quarter increase was only half as large. As in the case of consumer spending, the gain in capital spending in the second period was less concentrated in automotive purchases than during the first three months of the year. Moreover, real plant construction activity picked up in the second quarter, after showing virtually no growth over the preceding four quarters.

The May-June Department of Commerce survey of planned expenditures for plant and equipment suggests an increase of 6-8 percent in real spending this year over 1976. Several private surveys indicate larger advances, but the Commerce survey has a relatively good track record. Some advance indicators of capital spending look stronger. For example, manufacturers' capital appropriations in the first quarter were 30 percent above the year-earlier level. In April and May, real contracts and orders for plant and equipment averaged 11 percent above the first-quarter average. However, the strength of this official leading indicator of economic activity was exaggerated by a bunching of large contracts for power plants. New orders for nondefense capital goods rose strongly in June after showing little growth from January through May. In short, the outlook for the hitherto lagging business capital spending sector does show indications of strengthening, but the extent of that strengthening is by no means certain.

A decisive resurgence of capital outlays to levels consistent with the sustainable expansion required to absorb the unemployed will depend on a further strengthening of business confidence. A number of factors have acted to inhibit such confidence, including the uncertainties surrounding environmental regulations, tax policies, and the energy situation. The most pervasive influences, perhaps, have been those associated with the threat of inflation, with the distortions and complications it brings to calculations of costs and profits, and with the spectre it evokes of restrictive policies and the possibility of direct controls.

Prices were generating rather gloomy news during the early months of the year, but the picture appeared to be brightening somewhat toward midyear. The rise in the seasonally adjusted consumer price index, which had been contained to a monthly average of 0.4 percent in 1976, jumped to 0.8 percent per month during the first four months of this year. In large measure, the step-up in the inflation rate was due to advances in food prices that were related to weather conditions. Consumer food prices had remained practically flat last year but went up by an average of 1.3 percent during the January-April period. Retail food prices rose more slowly in May and June, and the rate of advance in the prices of nonfood commodities had also moderated since a burst of increases in January and February. Nevertheless, the rises in the overall consumer price index of 0.6 percent in May and June were considerably faster than the average rate of increase last year.

Recent movements in wholesale prices may presage some relief from rapidly rising prices at the retail level, especially for food. Spiraling food prices were largely responsible for pushing wholesale prices up at an average monthly rate of 0.9 percent during the January-April period. As farm prices retreated thereafter, the wholesale index rose by only 0.4 percent in May. In June, when the decline in farm prices was joined by decreases in prices of processed foods and feeds and a sharp drop in raw industrial commodity prices, the overall index of wholesale prices fell 0.7 percent.

Nevertheless, the price situation leaves no room for complacency. It will take some time before the moderation in wholesale food prices is fully reflected at the retail level. In any event, 1977 as a whole is bound to witness a significantly greater rise in prices than did 1976. As a result, there is danger that the excessive increases in consumer prices so far this year could lead to a step-up in wage demands, and thus place additional upward pressure on production costs and, in turn, on prices.

The demand for labor was very strong during the first half of 1977. Payroll employment swelled by an average monthly rate of nearly 300,000, an impressive performance by any standard. As a result, the proportion of the adult population gainfully employed has climbed to within 0.2 percentage point of its record peak in early 1974, when the last recession was just getting under way. The unemployment rate has been generally on the decline since last fall, from 8 percent in November to 6.9 percent in May, but edged upward to 7.1 percent in June. The sharpness of the November-May decline may in part have reflected statistical difficulties. The seasonal adjustment procedures used at present may tend to lower the seasonally adjusted unemployment levels unduly in the early part of the year and to raise them in the latter part of the year. Given this apparent bias in the seasonal adjustment, the jobless rate could prove to be rather sticky over the balance of the year.

On the "underspending" in the Federal budget

In the summer of 1976, the slow pace of the business recovery raised important questions about the underlying strength of the economy. There was a good deal of speculating about what might be going wrong. One apparent clue surfaced when the Federal Government budget for the fiscal year ended in June 1976 indicated that spending was $8.8 billion lower than expected.

It was widely anticipated that spending would be back on track by October, when the Federal Government was to introduce a new dating for its fiscal year. (The first fiscal year on the new basis, fiscal 1977, began on October 1, 1976 and will end on September 30, 1977.) These expectations did not materialize and the underspending persisted into fiscal 1977, the current fiscal year. However, the large increase in Federal Government purchases of goods and services in the April-June quarter seems to indicate that the shortfall, at least in some categories of spending, might be ending. Questions about the underspending and its economic effects nevertheless remain.

Interest in the shortfall has focused mainly on its possible downward impact on economic activity, particularly over the short run. There are, of course, other issues concerning the underspending. For one, there is the question of whether the size of Federal spending is already too high relative to that of the private sector. To many who take this view, the shortfall is a welcomed development, despite its possible short-run dampening effects on the economy. For another, there is also the question of determining the appropriate amount of fiscal stimulus with the economy operating below capacity while inflation is still rapid. This article does not explore these two issues but is restricted to the direct impact of the shortfall on the pace of the expansion.

A close look at the underspending problem turns up some surprising information. Shortfalls in Federal spending were very common in the past. Also, part of the current underspending is not in spending *per se* but in the so-called "offsetting receipts"—revenue netted against certain spending categories in the budget—and some of the offsets have been larger than estimated.[1] Furthermore, it appears that the economic effects of current Federal underspending have probably been exaggerated.

Perhaps the most important consequence of the shortfall controversy will be to accelerate the pace at which the Office of Management and Budget introduces improved spending controls into the Executive Branch. Such a development would have been inevitable in any event, since the Congress has begun to monitor budget matters much more closely under the provisions of the Congressional Budget and Impoundment Act of July 12, 1974.[2]

Understanding the shortfall

Underspending implies that Federal outlays are running below some target. That target is the cumulative amount of spending needed at any point during the

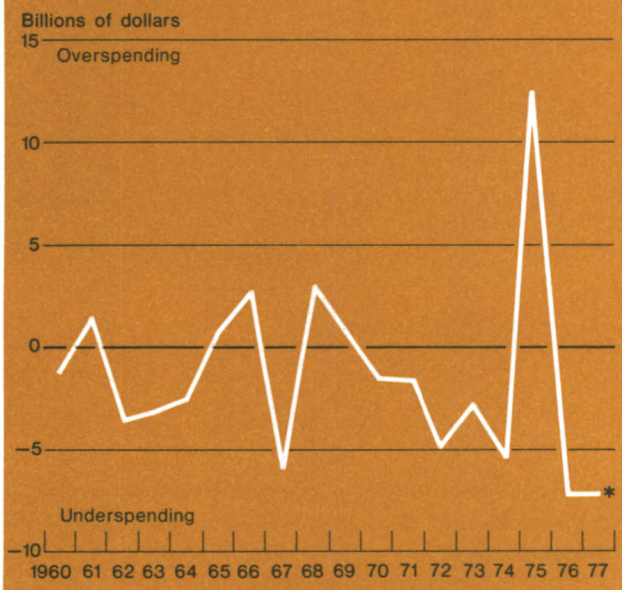
[1] Offsetting receipts cover a wide variety of items, including repayments of loans, interest payments on loans, rents, sales of products, and insurance payments by veterans.

[2] For an explanation of the new Congressional budget procedures, see Joseph Scherer, "New Directions for the Federal Budget?" in this Bank's *Quarterly Review* (Spring 1977), pages 1-10.

Chart 1

Amount of Federal Underspending or Overspending

Fiscal years 1960-77



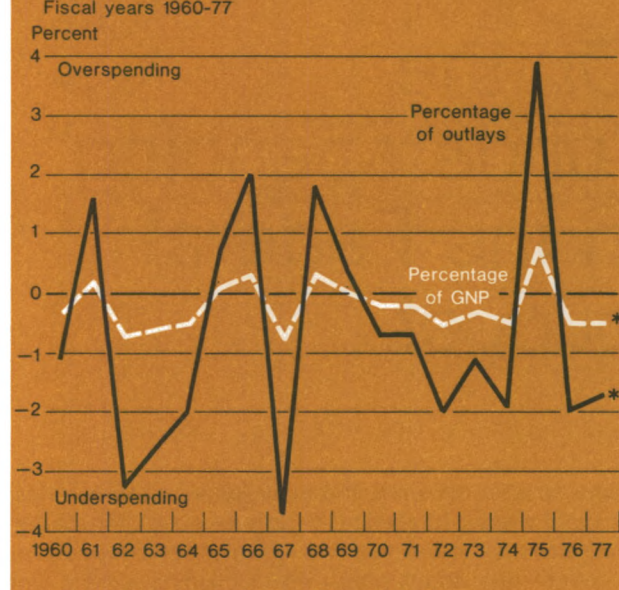
Calculations by the Federal Reserve Bank of New York.

* Basic data for 1977 are from the Office of Management and Budget, Mid-Session Review of the Fiscal 1978 Budget (July 1, 1977).

Chart 2

Federal Underspending or Overspending as a Percentage of Total Budget Outlays and of GNP

Fiscal years 1960-77



Calculations by the Federal Reserve Bank of New York.

* Basic data for 1977 are from the Office of Management and Budget, Mid-Session Review of the Fiscal 1978 Budget (July 1, 1977).

fiscal year if the total in the official budget is to be met by that fiscal year's end. There are two aspects of estimating any shortfall: to calculate how much of a shortfall has already occurred and to determine whether the underspending will continue and what its ultimate size will be. Analyzing both aspects necessarily involves a number of uncertainties.

The Administration can measure any current shortfall by comparing actual spending totals for any month with the estimates it previously made for that month. When a shortfall turns up, the Government can then identify the particular spending categories in which it has arisen. It is much more difficult for outsiders to spot possible shortfalls during a fiscal year, since the official budget presents no monthly distribution of Federal spending. Analysts can attempt to fill this information gap in several ways. One is to apply seasonal adjustments to reported monthly expenditures. The purpose is to see whether or not expenditures are tending to run at a monthly rate that seems plausible in light of the annual estimates given in the budget. Another is to calculate the percentage of the total year's spending represented by the period for which actual data are in hand and to compare this percentage with the percentages for similar periods in previous years. Neither of these methods provides sure answers.

Answers are uncertain since both techniques assume a normal pattern of Federal spending to which incoming data for a current year can be compared. However, the pattern of spending within a fiscal year is not consistent. Experience shows, for example, that the proportion of yearly spending can shift several percentage points from the first half of a fiscal year to the second half, and vice versa. Since a single percentage point of the current budget, that for fiscal 1977, is worth about $4.1 billion, the range of error by any method of estimating a shortfall—or of estimating an overage—can be very large. Consequently, the underspending in fiscal 1977 cannot be verified with much certainty by outside analysts.

Spending shortfalls have occurred in eleven of the seventeen years from fiscal 1960 to 1976, or about two thirds of the time (Chart 1). Moreover, when the

eleven shortfalls over this period are calculated as a percentage of the budget for the entire year or as a percentage of GNP, they are relatively as large or larger in earlier years than they have been in the seventies (Chart 2). On such calculations, the shortfall registered in fiscal 1976, as well as the estimated shortfall for the current fiscal year, seems no larger than other recent—and unnoticed—ones, *e.g.,* those registered in fiscal 1972 and 1974.

The economics of the shortfall

Most discussions of the shortfall have simply drawn the following conclusion. Because Federal spending is running below target, ergo, the budget is or will be less stimulative than planned.

In reality, the effects of a shortfall on the economy are much more complicated. One of the first qualifications to be made about the significance of a shortfall is that it may make a considerable difference in which categories of spending the shortfall occurs, for all categories may not have the same economic impact. For example, one standard version of macroeconomic theory says that changes in spending on goods and services have a larger impact than equivalent changes in spending on transfer payments. The explanation offered is that direct expenditures have an immediate and full influence on economic activity whereas, while transfer payments increase personal income, some spending out of these transfers may be saved.

Shortfalls that arise from offsetting receipts generally can be expected to affect the economy more slowly and less strongly than reductions in actual spending. This is especially true for financial offsets, such as loan repayments. They do not affect the nation's income stream, although in time they could affect the economy indirectly to the extent that they influence financial market conditions.

The impact of underspending for grants-in-aid to state and local governments may depend importantly on the particular grant involved, the reason for the shortfall, and the resultant change in spending by the lower levels of government. If there is a delay or reduction in those grants that require matching funds by the lower levels of government, the shortfall probably reduces state and local government spending as well. In contrast, some lower governmental units might assume the entire funding on their own. If the Federal shortfall is only a temporary delay in paying funds, the impact will be short-lived. In general, the economic effects of a shortfall arising from grants-in-aid cannot be determined simply on *a priori* grounds.

Another critical question in determining the effects of underspending concerns the extent to which the shortfall involves spending in real terms. Indeed, some impact on real Government spending seems implicitly assumed in all of the discussions about the present shortfall. But there is the possibility that the underspending reflects a misestimation of the impact of inflation on Government spending. That is, the actual rate of inflation may turn out to be lower than the expected rate of inflation, and thus the budget's estimates of how much particular programs cost would be too high. In that case, *real* spending is no different from that implicit in the Government's programs, and the underspending is simply a forecasting error of what goods and services were likely to cost in the marketplace. Such a shortfall would seem to have no direct impact on the physical volume of business activity.

The importance of underspending can also be approached in another way. That way is to use the data in the Federal sector of the national income accounts (NIA) as opposed to the official budget. The Federal sector of the NIA adjusts the amount and the timing of some official budget data and eliminates purely financial transactions. The President's Council of Economic Advisers made a calculation on both bases in its 1977 annual report. The comparison showed that the combined spending shortfall in the official budget for fiscal 1976 and for the July-September transition period between the "old" and the "new" dating of fiscal years was $11.4 billion. The shortfall as measured in the Federal sector of the NIA was only $6.2 billion.

Regardless of the composition of underspending, the resulting lower Federal deficit reduces the Trea-

Table 1

Relationship between the Administration's February and July Estimates of Federal Budget Outlays for Fiscal 1977*

In billions of dollars

Budget items	Amount
February budget estimate	416.6†
Withdrawal of proposals to stimulate the economy	— 3.2
Underspending	— 7.0
July budget estimate	406.4

* Fiscal 1977, on the Government's new dating, began on October 1, 1976 and will end on September 30, 1977.

† The estimated budget outlays as presented in February were, for technical reasons, $0.8 billion higher. This change is unrelated to the amount of underspending.

Source: The July 1, 1977 Budget Review issued by the Office of Management and Budget.

Table 2

The $7 Billion Underspending in the Federal Budget during Fiscal 1977

In billions of dollars
− = spending less than budgeted
+ = spending more than budgeted

Type of outlays	Amount
Defense:	
Military personnel	−0.5
Operation and maintenance	−0.8
Procurement	−0.2
Research and development	−0.5
Military assistance	−1.1
Subtotal	*−3.1*
Nondefense:	
Farm price supports	+1.6
Energy Research and Development Administration	−0.4
Petroleum storage program	−0.1
Water resources	−0.3
Subtotal	*+0.8*
Transfers:	
Medicare	−0.4
Veterans programs	−0.4
Social security	+0.7
Federal employee retirement and disability	−0.3
Unemployment insurance	−0.2
Other	−0.4
Subtotal	*−1.0*
Grants:	
Sewage plant construction	−0.5
Highway improvement and construction	−0.2
Community development block grants	−0.2
Local public works	−0.2
Educational programs	−0.5
Training and employment	−0.8
Antirecession fiscal assistance	−0.4
Medicaid	−0.4
Subtotal	*−3.2*
Interest:	
Interest on public debt	−0.3
Subtotal	*−0.3*
Other:	
Export-Import Bank	−0.4
Mortgage credit and insurance programs	−0.7
Miscellaneous	+0.9
Subtotal	*−0.2*
Total underspending	**−7.0**

Source: The net estimates of budget underspending are based on the differences between the February 1977 and the July 1977 versions of the fiscal 1977 Federal budget. These differences are given in the July 1, 1977 Budget Review issued by the Office of Management and Budget. The classifications shown here, however, are based on those of the Federal sector that is presented in the national income accounts (NIA). The reallocations of the outlays to the NIA basis were made by the authors of this article.

sury's borrowing needs and, consequently, helps to keep interest rates below the levels they might otherwise be. Such a tendency should stimulate spending by the private sector. In addition, a lower Federal deficit could serve to dampen inflationary expectations which, in turn, might also spur private demand. In time, effects of this kind could offset much of the short-term impact of the shortfall on economic activity.

It can thus be seen that the economic impact of a shortfall in Federal spending may be many-sided and depends on a host of factors. The direct effects on economic activity can vary considerably according to where the shortfall occurs. Understanding on goods and services might have a significant impact on the economy; a shortfall that arises from offsetting receipts that are higher than expected and from financial transactions may have relatively little effect. To the extent that the shortfall is merely a redistribution of total spending within the fiscal year, its significance would be short-lived. The shortfall's real influence would also be reduced substantially if it arose from a lower than expected rate of inflation. Finally, the direct short-term economic impact of a shortfall in Federal spending could, after a while, be partly offset by increased private expenditures induced by a reduction in interest rates and inflationary expectations that would tend to flow from the resulting reduction in the Federal deficit.

Measuring the underspending

The Administration estimated last February that total expenditures in fiscal 1977 in the unified budget would be $417.4 billion. In April, the estimate was revised downward by $9.3 billion, largely because of the perceived underspending. In the midsession review in July, the Administration reduced its estimate of fiscal 1977 outlays an additional $0.9 billion for the same reason. Part of the combined $10.2 billion downward revision—$3.2 billion—was due to the elimination of a portion of President Carter's stimulus package. Hence the spending shortfall that can be inferred from the latest estimate of the budget amounts to $7 billion (Table 1). For the purposes of analyzing the shortfall in more detail and identifying its economic impact with more precision, it is useful to reclassify the shortfall data into the categories shown in Table 2.

The shortfall in the defense sector of the budget, $3.1 billion, comprises about one half of the total. Defense spending, to the extent that it involves purchases of goods and services, can have a relatively large economic impact. This is particularly true for defense purchases of privately produced goods and services. Thus, the $1.5 billion underspending in such categories as procurement, operation and maintenance, and research and development is potentially the most im-

portant component of the total shortfall. However, preliminary NIA data on the speedup in Federal defense purchases during the April-June quarter suggest that most of the underspending in this sector took place before then. Therefore, the bulk of the economic impact from underspending in defense is no longer being felt.

The underspending in military payrolls is relatively small and of minor economic significance. The half a billion shortfall in this category reflects the experience during much of last year, when there was a low rate of recruiting for the armed forces. The Administration reports a shortfall of $1.1 billion on outlays in another category of military spending, military assistance. This underspending reflects a procedural change in the management of the military assistance trust fund. The change has led to a slowdown in the number of transactions processed this year, so that underspending here merely involves the recording of purchases and sales, which has no economic impact.

Purchases of nondefense goods and services are now calculated to be $0.8 billion higher than in the February estimate. Underspending for some nondefense items—mainly construction projects—should be more than offset by the unexpected increase for farm price supports, which amounts to $1.6 billion. The supports have complex effects on the income stream because, if such loans were not made available, farmers might still keep crops in storage rather than sell them in the open market. Yet, since the farm products in question have already been produced, the direct effect on the GNP lies in the past.

Underspending on transfers is anticipated to be only about $1.0 billion in fiscal 1977. Its economic impact should be minimal: the amount of money involved is small and a shortfall in transfers has only indirect effects on spending.

Delays in grants

Among the remaining spending categories, a sizable shortfall exists in Federal grants, which can have a significant impact on state and local government spending. But much of the $3.2 billion underspending there appears to reflect legislative delays and, therefore, is very likely to be made up. This is particularly true of grants for public works and for manpower training and employment programs. Other grants, such as those for sewage plant construction, are lower than expected partly because of delays resulting from adverse weather conditions last winter. There also appear to be shortfalls in educational programs as a result of slow drawdowns of Federal grants by local school authorities. Taken as a whole, there would seem to be some deflationary impact from the delayed flow of grants, which appears to have continued through the past quarter.

Interest payments on the public debt are currently expected to be $0.3 billion lower than in the February budget projection. The estimated deficit for fiscal 1977 was too great, and the projected level of interest rates was too high.

Finally, the activities of the Export-Import Bank, which provides loans for United States exports, as well as Government activity under mortgage credit programs, are considered purely financial transactions. The shortfall in these categories amounts to $1.1 billion. The bulk of $0.9 billion overspending included in the "miscellaneous" category shown at the bottom of Table 2 comes under the heading of offsetting receipts, which also are at most of secondary importance in their direct impact on economic activity.

In summary, about 30 percent of the Administration's estimated shortfall occurs in defense (excluding military assistance), and underspending in this category, especially for hardware, tends to dampen GNP directly. Since it seems that most of the shortfall on defense is over, its major economic impact has probably already occurred. Nearly 50 percent of the shortfall occurs in grants, which can have a noticeable though probably indirect effect in holding GNP down. But the effect of the current shortfall in grants cannot be determined with precision: the legislation for public service jobs and countercyclical aid has already been passed, and disbursement of the funds could proceed more quickly or more slowly than the Administration's estimate assumes. The remaining portion of underspending is scattered in rather small separate amounts and with varying effects.

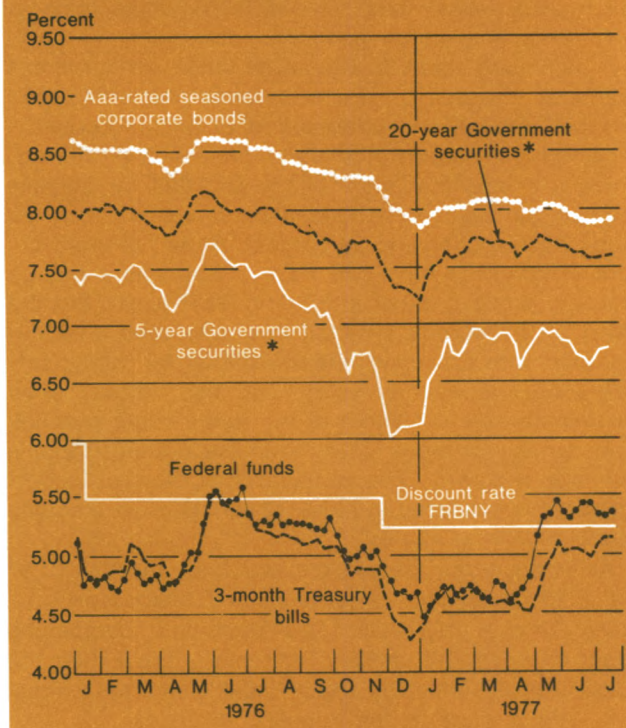
All in all, it thus seems that the total shortfall of $7 billion in the budget is not a major influence on economic growth this year. The immediate dampening effect on economic activity, moreover, could over the longer run be offset by the shortfall's indirect effects that tend to work in the opposite direction.

Joseph Scherer and Carl J. Palash

The financial markets Current developments

Chart 1

Recent Changes in Interest Rates



*These yields are adjusted to five- and twenty-year maturities and exclude bonds with special estate tax privileges.

Sources: Federal Reserve Bank of New York, Board of Governors of the Federal Reserve System, and Moody's Investors Service, Inc.

Short- and long-term interest rates moved in opposite directions during the spring and early summer. Rates on short-term instruments started to rise in late April when the Federal Reserve began to supply reserves less generously in response to sharply higher growth in the monetary aggregates. The Federal funds rate, which had been in the area of 4⅝ to 4¾ percent since December 1976, moved up to 5⅜ percent by the end of May and then fluctuated narrowly around that level into July (Chart 1). The advance in other short-term rates at first lagged the upturn in the funds rate, but most rates soon moved into line.

In the meantime, yields in the long-term debt markets were generally declining from April through the middle of July, after a steep upswing in the early months of the year. The capital markets rallied briefly in mid-April when President Carter announced his decision to eliminate the tax rebate program from the Administration's fiscal stimulus package. The announcement had a positive effect on the markets by allaying fears that fiscal policy might prove too stimulative and that enlarged Treasury borrowing would put upward pressure on yields. Increasing concern over inflation and reports of rapid growth in the monetary aggregates halted the rally by late April. But, when inflationary pressures appeared to be ebbing and the spurt in money stock growth subsided, yields began to edge down again. While there was some upward movement in yields early in July, at midmonth yields on most long-term securities were close to their January levels.

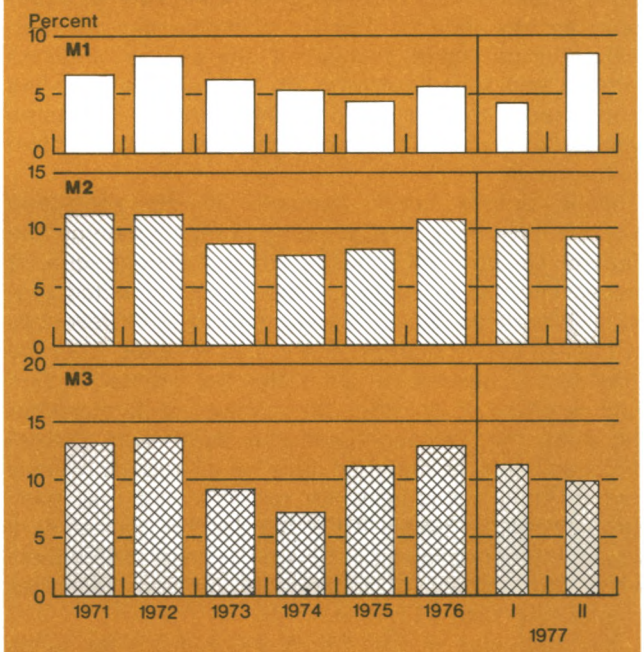
The Federal Reserve's decision to tighten its provision of reserves starting in late April did not represent any fundamental change in the overall thrust of monetary policy. However, the rapid expansion in the monetary aggregates in the spring (the increase for M_1

reached nearly 20 percent at an annual rate in April) was clearly inconsistent with the Federal Reserve's longer run objectives. While money stock growth did slow to a modest pace over the May-June period, as was expected, the rate for the second quarter as a whole was nevertheless still rapid, with M_1 rising by 8½ percent (Chart 2). The Federal Reserve's decision to seek a higher trading range for rates on Federal funds during this period, a time of rather strong advance in business activity, was designed to insure that growth in the money stock would not exceed the System's long-term targets for too long a time. Continued rapid expansion in the monetary aggregates would risk exacerbating inflationary expectations—expectations that could in turn both push up long-term yields and undermine the sustainability of the continuing recovery.

A better way of gauging the thrust of monetary policy is to look at the Federal Reserve's one-year target ranges for various monetary aggregates, which the Federal Open Market Committee began to announce publicly in mid-1975. At that time, the FOMC indicated its intention to lower these targets to levels consistent with noninflationary growth of the economy. The approach toward that objective has been gradual, however, in recognition of the need to sustain advances in business activity when inflationary momentum remains strong. Since then, Federal Reserve officials have reaffirmed this approach on many occasions. Consistent with this general policy, the FOMC voted to reduce the upper boundaries of the growth ranges for M_2 and M_3 by ½ percentage point at its April meeting, when it set the one-year targets applying to the first quarter of 1977 through the first quarter of 1978. This brought the M_2 and M_3 ranges to 7 to 9½ percent and 8½ to 11 percent, respectively. At the same time, the FOMC left the M_1 target range unchanged at 4½ to 6½ percent.

Since the beginning of the year, the economy has expanded briskly, and short-term credit demands have finally begun to show some of the strength normally associated with a cyclical upswing. Reflecting and supporting sharply higher sales of automobiles and other consumer goods, consumer instalment loans have registered unusually large gains all year. To service customers, finance companies, in turn, have stepped up their borrowing by raising substantial amounts of funds in the commercial paper market. Nonfinancial corporations have also been very heavy borrowers in the commercial paper market so far in 1977. Indeed, while monthly movements were erratic, commercial paper issued by nonfinancial corporations over the January-June period advanced at an annual rate of nearly 40 percent.

Chart 2
Growth of the Monetary Aggregates
Seasonally adjusted



The annual growth rates represent the percentage change from the fourth quarter of one year to the fourth quarter of the next. The quarterly growth rates represent the percentage change from the preceding quarter, expressed at annual rates.

Business borrowing at commercial banks, although less robust, also picked up substantially in the first half of 1977. Commercial and industrial loans (excluding bankers' acceptances) at all commercial banks rose at a 14 percent annual rate over the January-June period, compared with an increase of less than 4 percent in the last half of 1976. Not all banks have shared in this gain; in particuar, from data available for major New York City banks, it appears that business borrowing at money-center banks has shown little growth on balance this year. In previous upswings, business borrowing at the larger banks also generally lagged borrowing at other banks. This time, however, the lag appears to be somewhat more prolonged, partly reflecting the ample liquidity of large corporations.

The relative weakness in business loan demand experienced by major commercial banks was probably an important reason why they did not raise their prime lending rates by as much as the advances registered in many other short-term interest rates during the spring. Most banks did boost their prime rates

in May by ½ percentage point to 6¾ percent, but other short-term rates generally rose by ¾ percentage point over the April-May period. In June, one major bank refrained from increasing its prime rate to 7 percent, as was indicated by its guideline tied to commercial paper rates; instead, it altered the guideline formula and kept its rate at 6¾ percent. Later in the month, still another major bank reduced its prime rate to 6½ percent, but most other banks did not join in the move.

While private credit demands in the short-term markets have been strengthening in recent months, the Federal Government's budget in the second quarter moved into surplus. The surplus in part reflected seasonal influences, which always tend to swell revenues in the April-June quarter. But it also resulted from the President's decision to drop the tax rebate. In line with its efforts to lengthen the maturity of its outstanding debt, the Treasury used the surplus to redeem large amounts of maturing bills at its regular weekly and monthly auctions, while raising some new cash through coupon issues. Over the second quarter as a whole, the net paydown of bills came to over $9 billion, while the amount of marketable coupon securities outstanding rose $5 billion.

The reduction in the Treasury's demand for funds in the second quarter helped to alleviate upward pressure on short-term rates at a time when private credit demands were building. The net paydown of maturing bills served especially to temper the rise in Treasury bill rates. While rates on three-month bills advanced about 50 basis points in May, for example, rates on private money market instruments of the same maturity increased about 75 basis points. The modest amount of funds raised by the Treasury through coupon issues also had a beneficial effect on the long-term debt markets.

Private credit demands in the capital markets have varied considerably among sectors in recent months. In the corporate sector, the volume of new offerings so far this year has been running well below the levels of the past two years, a period when corporations were rebuilding their liquidity positions by reducing their reliance on short-term sources of funds. The volume of new equity issues has also been at a modest level in recent months, partly reflecting the general decline in stock prices this year.

In contrast, state and local governments have been borrowing heavily in the long-term debt markets. Indeed, the volume of new municipal offerings was at a record pace in the first half of 1977. In part, the huge volume of offerings represents advanced refundings of outstanding issues which were offered when rates were relatively high but are not yet eligible to be called. Even when this portion is excluded, however, the volume of new municipal issues has been unusually large this year.

Property-casualty insurance companies and open-end mutual funds have provided strong buying support for new municipal bond issues in 1977, while commercial banks have stepped up their purchases in recent months. In addition, investors in general have been attracted to municipal securities by the improvement in the financial condition of municipalities and by several recent court decisions protecting sources of revenue earmarked for bond repayment and prohibiting state legislatures from violating covenants on outstanding securities. These latter developments have led to sharp declines in the yields on lower quality issues and to the upgrading of quality ratings on securities of a number of municipalities, including those of New York City and New York State. As a result, spreads between yields on high- and lower quality municipal securities have continued to narrow from the record high levels reached in the summer of 1976. (For a further discussion of recent movements in the risk structure of yields in the municipal as well as other sectors of the bond market, see the following article.)

Recent behavior of the risk structure of bond yields

In recent years the financial markets have been buffeted by a variety of shocks: the Penn Central crisis in 1970, the oil embargo in 1973, the failure of Bankhaus Herstatt and the Franklin National Bank in 1974, the financial problems in New York City and New York State. All these disturbances affected market confidence in various ways, and some of them significantly increased the interest yields required to sell risky bonds relative to those of less risky bonds.

Bonds that are similar in all respects except for their creditworthiness (risk of default) differ in yield, and these differences in yield constitute the risk structure of bond rates. No single yield spread represents adequately the diversity of risk structures in the bond market as a whole. Movements of yield spreads on various types of bonds during the past several years illustrate the contrasting ways in which different risk structures can behave. For example, the spread between the yield on Moody's seasoned Baa-rated industrial bonds and the yield on seasoned Aaa industrial bonds reached a post-World War II peak in January 1976 at 193 basis points (1.93 percentage points). Since then, it declined to 101 basis points by early July of this year. The Baa-Aaa spread for seasoned utility bonds peaked a year earlier in January 1975 at 258 basis points and has declined to 90 basis points. In contrast, the Baa-Aaa spread for new municipal bonds peaked less than a year ago in August 1976 and is down to 80 basis points.

The risk structure, on any measure, is generally believed to vary with the business cycle. Conventionally, it is thought that spreads tend to narrow during recoveries and to increase during recessions as investors reassess the relative creditworthiness of bonds in light of changing economic developments. Although the movement of risk structures during the recent recovery broadly conforms to this pattern, there have been substantial differences in behavior between different sectors of the bond market.

In part, these differences reflect investors' changing assessments of the relative riskiness of different corporations and different municipalities. The yields observed in the bond market, however, like prices in any other market, are also determined by the interactions of supply and demand. While investors' perceptions of the risk differentials between various issues have an important influence on the structure of rates, supply forces may also have an influence. If, for example, the supply of new issues of high-quality bonds is small relative to the supply of new issues of lower quality bonds, the yield on the high-quality bonds would probably decline relative to the yield on lower quality bonds until a new equilibrium in the rate structure is reached. In this case, a widening of the yield spread between lower and high-quality bonds would not indicate that investors had become more concerned about the creditworthiness of lower quality issues.

At the same time, of course, issuers react to market yields by controlling their supplies of bonds to minimize their financing costs. The result of this interdependence of the yields and the quantities of bonds marketed is that it is often difficult to determine to

what extent changes in relative supplies are influencing yield spreads and to what extent changing risk appraisals are doing so.[1]

The measurement problem

Measurement of the risk structure of bond yields involves several conceptual difficulties.

The conventional way of comparing bonds with different coupons and due dates is to use the yield to maturity, but this approach has important limitations. It makes no distinction between interest income from coupons and their reinvestment and the implicit interest income that arises when a bond sells at a discount. Since capital gains income is taxed at preferential rates, this distinction is important when determining the aftertax rate of return on bonds. And in calculating the yield to maturity, all coupons are assumed to be reinvested at the current yield to maturity. In practice, future reinvestment yields are highly uncertain, so that the return on a high coupon bond over time is riskier than that on a low coupon bond.

Clearly, then, to the extent that yields on future reinvestments differ from the current yield, bonds selling at par and those selling at discounts below par, or at premiums above par, are not comparable even if they have identical maturities, call protection, and present yields. This naturally creates some imprecision when using yields to maturity to calculate rate spreads.

In addition, there are difficulties in using composite indexes of yields to maturity on bonds in a given quality category (e.g., Moody's composite yields) to measure the risk structure. Unless the bonds in the category are truly homogenous in terms of creditworthiness—an ideal which can only be approximated —the representativeness of the composite may be distorted by variation in the quality of the issues of which it is made up.[2]

These problems are important to keep in mind when discussing the behavior of the risk structure. But they principally affect narrow comparisons, especially those between yields on bonds of similar quality. They are less important for comparisons of yields on bonds of widely different quality, for example, those on Baa bonds with those on Aaa bonds.

The risk structures of industrial bonds, utility bonds, and municipal bonds are displayed in the accompanying charts that cover the period from 1953 through the second quarter of this year. Cursory inspection reveals that the tendency for the yield spreads to increase during recessions and to decline during recoveries is not uniform for the three sectors. In considerable part, this behavior is due to various disturbances which have left their marks on the risk structure in recent years.

Industrial bonds

The risk structure of industrial bonds is shown in the middle panel of Chart 1. To a much greater extent than in other sectors, the striking association between peaks of the Baa-Aaa yield spread on industrial bonds and periods of recession accords with the view that yield spreads narrow during recoveries and widen during recessions. There also appears to be an upward trend in the Baa-Aaa spread. Closer inspection shows that it is largely due to the wide spreads of 1970-71 and 1975-76, both of them periods that include or immediately follow recessions when yield spreads ought to have increased. Considering that the most recent recession was the severest in the postwar period, there would appear to be little evidence of a trend in the industrial Baa-Aaa spread.

While movements of the Baa-Aaa spread seem to conform to recessions and recoveries, there is substantial lack of conformity at certain times, suggesting that other forces not cyclical in nature may be at work. For example, the spread began to decline two quarters before the end of the 1957-58 recession. This may well have been due to the fact that, in the second and third quarters of 1958, a great many new issues of high-quality industrial bonds (Aaa and Aa) appeared, so that the Aaa industrial bond rate rose 43 basis points during the two quarters while the Baa rate was almost unchanged, leading to a marked decline in the Baa-Aaa spread.

During the first half of the sixties, bond rates were quite stable, and the Baa-Aaa spread drifted slowly downward until early 1966. At that point, bond rates started to rise sharply in reaction to inflationary pressures and a tightening monetary policy. The spread increased sharply as well. With the onset of the 1969-70 recession, the spread advanced to levels previously seen during the 1957-58 and 1960-61 recessions.

In part, the sharp increase in the Baa-Aaa spread in 1970 was in accord with the pattern observed in previous recessions. Since the spread surpassed earlier recessionary levels, however, even though the

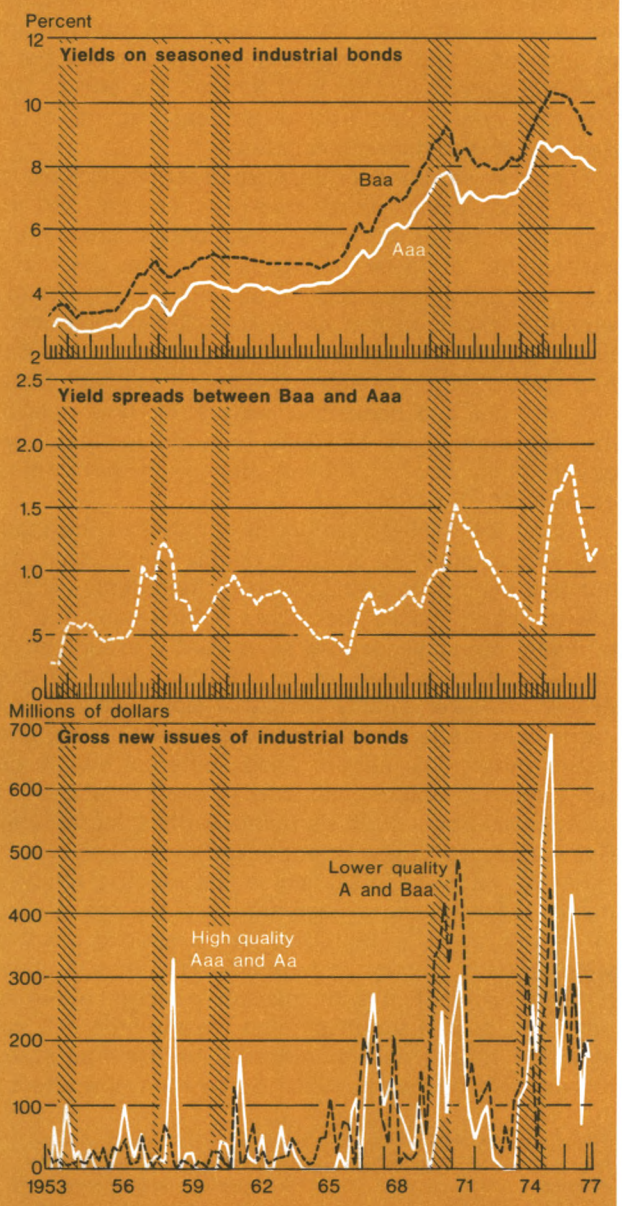
[1] There are also serious problems of data availability. For example, data broken down by market sector and by rating category are available only for gross new issues of bonds, although new issues net of retirements would be a more appropriate indicator of changes in supplies.

[2] This problem is aggravated by the fact that to keep the average maturity of the composite reasonably constant requires continual revision of the sample of bonds in the composite. Changes in quality ratings of individual bond issues may also alter the sample. Moreover, Moody's composite yields are based on bond prices on the New York Stock Exchange and may be unrealistic if the bonds used in the index are traded infrequently on the Exchange.

Chart 1

Industrial Bonds

Yields and new issues



Shaded areas represent periods of recession as defined by the National Bureau of Economic Research.

Source: Moody's Investors Service.

1969-70 recession was the mildest of the postwar period, other forces also seem to have assisted the advance. One factor was fear of a liquidity crisis after the financial collapse of the Penn Central railroad in June 1970. In addition, though issues of both high-quality (Aaa and Aa) and lower quality (A and Baa) bonds increased markedly during this period, the supply of lower quality issues outstripped the supply of high-quality issues from the first quarter of 1970 through the first quarter of 1971. Consequently, investors were confronted with a mix of new issues of considerably lower average quality than prevailed during the fifties and sixties.

The Baa-Aaa spread declined from roughly the end of 1970 to the end of 1974. Over this period as a whole, the Baa rate changed little while the Aaa rate advanced. What is curious about the latter part of the period is that the spread continued to decline for three quarters into the 1973-75 recession as the Aaa rate rose faster than the Baa rate. This decline greatly contrasted with its behavior during earlier postwar recessions. Part of the explanation may be that new issues of high-quality industrial bonds increased a good deal in 1974 after remaining at low levels during 1973, and this increase may have delayed a rise in the spread. Additionally, the bond market may have been slow in perceiving the recession, because many economic indicators did not begin to deteriorate as early as is usual in an economic downturn.

Beginning in the fourth quarter of 1974, however, the spread increased abruptly, as the Aaa rate started to decline gently while the Baa rate moved sharply upward. Given the severity of the most recent recession, the steep increase in the yield spread is not surprising. The recession exposed a number of weaknesses in the financial structure of corporations and increased public awareness of the deterioration in their liquidity and capital positions. The failure rate of corporations rose considerably during the 1974-75 period, highlighted by the bankruptcy of one of the nation's leading retail firms.

The Baa-Aaa spread peaked in the first quarter of 1976—a full four quarters after the end of the recession. Since then, the Baa-Aaa spread has declined a good deal. The economic recovery has continued and corporations have greatly improved their balance-sheet positions, thus restoring investor confidence.

Utility bonds

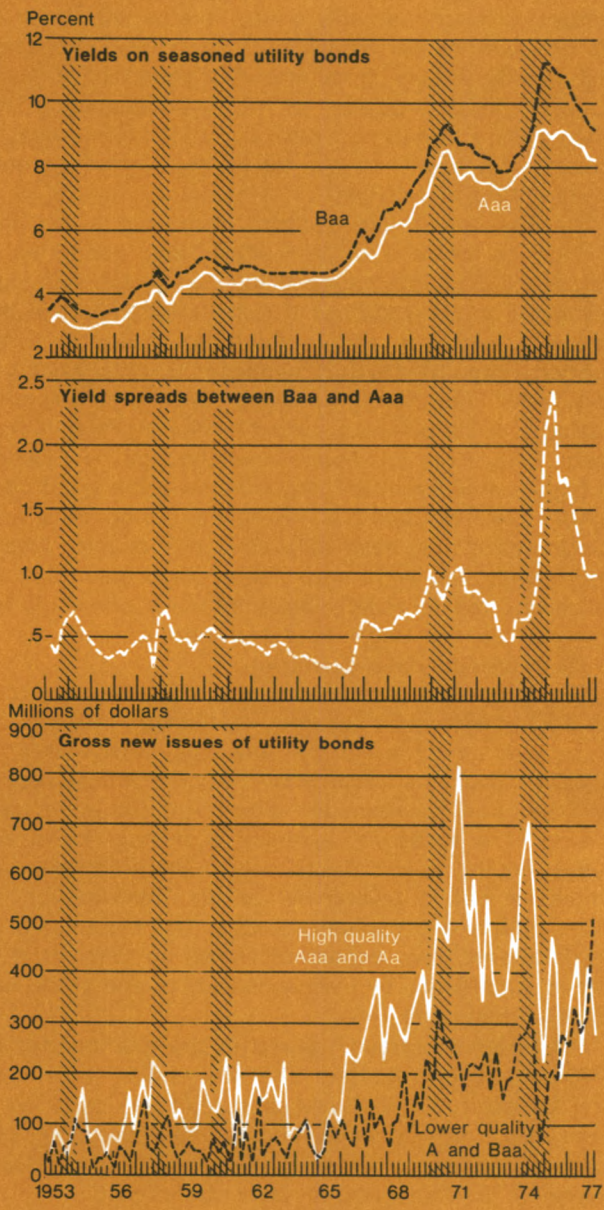
The risk structure of utility bonds is shown in Chart 2. The Baa-Aaa spread displays a positive trend, but this is due in large part to the wide spreads of 1970-71 and especially 1974-76, as was the case for industrial bonds.

One of the striking contrasts between the utility and

Chart 2

Utility Bonds

Yields and new issues



Shaded areas represent periods of recession as defined by the National Bureau of Economic Research.

Source: Moody's Investors Service.

industrial risk structures is that, prior to 1966, the utility risk structure showed little cyclical variation while the industrial risk structure displayed a pronounced conformity to the business cycle. During this period, issues of high-quality utility bonds generally exceeded issues of lower quality bonds, but the differences were not great. In particular, the small supply of both high- and lower quality issues of utility bonds from the second half of 1963 through the end of 1965 probably contributed to the gradual decline of the Baa-Aaa spread during this period.

The downward drift of the spread terminated abruptly in 1966, when yields rose significantly and the volume of issues of high-quailty bonds greatly surpassed that of lower quality issues. This imbalance prevailed through the second quarter of 1975. While it would be expected that larger supplies of high-quality bonds would have had a depressing effect on the Baa-Aaa spread, in fact the spread increased greatly beginning in 1966 and peaked in early 1971. It is possible that the high levels of yields required to float lower quality utility bonds inhibited their issue during much of the 1966-75 period.

During the 1969-70 period, in contrast to the industrial sector, supplies of lower quality utility issues did not rise enough to equal those of high-quality issues. Lower quality issues did increase, however, and this probably put some degree of upward pressure on the Baa-Aaa utility spread. More important was the large excess of lower quality industrial bond issues, compared with the large excess of high-quality utility bond issues during this period. These different supply patterns seem to help explain why the industrial Baa-Aaa spread was about 50 basis points wider than the utility Baa-Aaa spread when both peaked in early 1971.

Falling capacity utilization in the electric utility industry following the oil embargo and the sharp runup in energy prices in late 1973 had a special effect on yield spreads among utility bonds. The drop in utilization, in conjunction with investor concern about the adequacy of fuel supplies, must have contributed substantially to the rapid increase in the Baa-Aaa spread in late 1974 and early 1975.[3] Since then, the effect of

[3] Telephone company bonds constitute a large proportion of Aaa-rated utility bonds, so that their yields have a large weight in the composite Aaa utility yield. Inclusion of these bond yields in the Aaa composite may make the Aaa group somewhat unrepresentative of bond yields on other utilities, which were much more severely affected by the fuel crisis than telephone companies. To see how unrepresentative the Baa-Aaa spread might be, the spread of the Baa yield over the Aa yield was calculated. (Aa-rated utilities by and large do not include telephone companies and mostly include electric utility companies.) The Baa-Aa spread turns out to behave very much like the Baa-Aaa spread, so that the latter seems to picture adequately the behavior of the utility yield spread during the period examined.

lower capacity operation as well as the effect of less than projected demand for electricity undoubtedly has been mitigated somewhat through rate relief from regulatory agencies. As a result, the utility Baa-Aaa spread has narrowed considerably after reaching its peak in the first quarter of 1975. Although the utility spread peaked at a much higher level than the industrial Baa-Aaa spread, it began to decline rapidly a full year before the industrial spread did, so that both have been of roughly equivalent magnitude during 1975-77.

Municipal bonds

The market for state and local government bonds—municipals—is affected by a set of factors different from those that influence the risk structure of the corporate sectors. While strength or weakness in the local economy can affect the general ability of state and local governments to service their debt, there has been little cyclical movement in the municipal risk structure in the postwar period. The greatest movement has occurred in the last several years as a result of the financial problems affecting several large state and local governments.

The middle panel of Chart 3 displays the risk structure of municipal bond yields. The Baa-Aaa spread was in a downward trend from approximately the middle of the 1950's until the middle of the 1960's. There is some suggestion that the recessions of 1957-58 and 1960-61 increased the spread somewhat, but overall there is little relation to business cycles during the period covered in the chart.

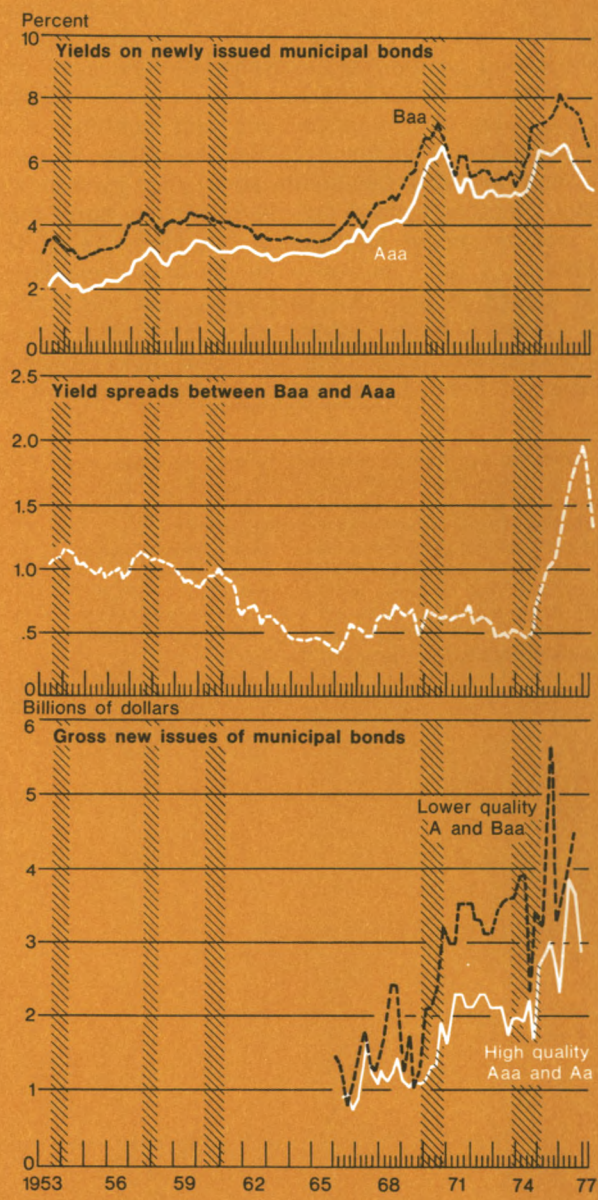
The major change in the risk structure started in late 1974, when the Baa-Aaa spread began a rapid rise. It was about this time that investors began to realize the magnitude of the financial problems facing New York City. In early 1975, when the city found itself unable to roll over maturing short-term debt, the spread increased still further. While a variety of emergency measures were being taken to prevent a default by the city, investors became aware that a number of other municipalities also were faced with serious financial difficulties. This additional uncertainty fueled further increases in the Baa-Aaa spread until it reached by far the highest level of the postwar period.

The Baa-Aaa spread finally began to decline in late 1976 and fell sharply in early 1977. Probably the most important factors responsible for the decline were the more conservative approaches many municipalities, including New York City, began applying to their budgets, as well as the improvement in their underlying financial conditions. In addition, the narrowing of the spread was assisted by a court decision in November 1976 that prohibited New York City from continuing its

Chart 3

Municipal Bonds

Yields and new issues



Shaded areas represent periods of recession as defined by the National Bureau of Economic Research.

Sources: Moody's Investors Service and Securities Industry Association.

moratorium on repayments of principal to holders of certain of the city's notes. Another decision in April of this year upheld the constitutionality of the Municipal Assistance Corporation (MAC) for the City of New York.[4] The market was also buoyed by an April decision of the United States Supreme Court that reaffirmed an existing covenant in bonds previously issued by the Port Authority of New York and New Jersey. This decision was interpreted as increasing the value of a covenant and thus contributed to general market confidence. In May the ratings of some MAC and New York City bonds were raised by Moody's.

Other factors supporting the municipal bond market include recent changes in tax laws. As of the beginning of 1977, several channels of tax avoidance were closed to individual taxpayers, and this reform drew relatively more investments to tax-exempt municipal obligations. In addition, the recent rapid growth of tax-exempt bond funds, which make investment in municipals much more attractive to middle-income and upper income individuals, had the same effect.

[4] The Municipal Assistance Corporation for the City of New York, a corporate governmental agency and instrumentality of the State of New York, was created in June 1975 for the purposes of assisting the city in providing essential services to its inhabitants without interruption and of reestablishing investor confidence in the soundness of the obligations of the city. To carry out these purposes, MAC is empowered, among its duties, to issue and sell bonds and notes and to pay or lend funds received from any such sale to the city and to exchange MAC obligations for obligations of the city.

A look ahead

In recent years the risk structures of yields on industrial, utility, and state and local government bonds have behaved rather differently. There are two principal reasons. First, the risk structure in the industrial sector appears to be much more sensitive to the business cycle than those in the utility and municipal sectors. And—importantly—recent shocks to the financial markets have apparently affected the risk structures of the various sectors of the bond market in different ways.

It might, nevertheless, be expected that rate spreads will narrow as the present recovery proceeds, but the outlook may not be that easy to appraise. For one thing, capacity utilization of utilities remains extraordinarily low and, to the extent that economic recovery does not restore this utilization rate to something approximating pre-1973 levels, the risk structure of utility bonds presumably will not return to the smaller rate spreads which prevailed in the 1960's. And, while the economic recovery ultimately will assist state and local governments to service their debts more easily, the problems of many of the nation's older urban centers are too complex to warrant a clear prediction of the effect of prosperity on the risk structure of municipal bonds.

William C. Melton

Taxation of corporate income: Some European approaches

The corporation income tax has long been a subject of dispute in the United States as well as in other countries. Controversy here can be expected to grow in the next several months after President Carter presents his tax reform proposals to the Congress. It is likely that special attention will be focused on the problem of the double taxation of corporate dividends: dividends are now taxed once when the corporation pays taxes on its total profits, then again when stockholders pay taxes on the dividends they receive. Double taxation not only raises a question of equity, but the important economic question of whether double taxation has a major adverse effect on capital investment. In light of these concerns, it seems worthwhile to review how the double taxation problem is handled in the revenue systems of other developed countries.

There are two basic approaches to the corporate income tax. One—essentially that in force in the United States—is to tax income as each separate economic unit receives it (the "separate entity" or "classical" system). If this principle of taxation is considered legitimate, it in effect denies that there are grounds for criticizing double taxation.

The other approach is the one in force in most industrial countries. It works to combine the corporate and individual income tax so that any double taxation of dividends is either fully or partially eliminated (the "integrated" system). This is accomplished through a split rate arrangement or through an imputation (dividend credit) arrangement. The split rate method takes the form of a lower corporate income tax rate on distributed profits than the rate on retained profits. Under the imputation method, a variety of techniques are used to allocate or credit to the shareholder some or all of the tax the corporation pays on distributed profits. In general, the shareholder adds his gross, *i.e.,* pretax, dividends to his other income. He computes his taxes at the rate applicable to his income bracket and then deducts the credit he receives for part or all of the taxes the corporation pays on the profits that have been distributed to him.

In recent years, industrial countries abroad generally have moved toward imputation. Countries that are now using one or another form of it include Canada, France, Germany, Japan, and the United Kingdom. Fiscal experts believe that an imputation system makes investment in corporate stock more attractive than either a separate entity or a split rate tax system does.

This article is confined to describing corporate taxation in three European countries—France, Germany, and the United Kingdom. Their basic corporate tax systems are quite similar: all three countries utilize a credit or imputation mechanism to provide tax relief on dividend distributions to corporate shareholders. There are, however, several important differences. (A summary of the main features of corporate taxation in the three countries is presented in the table.)

After the corporate tax systems of the three coun-

Corporate Taxation in France, the Federal Republic of Germany, and the United Kingdom, 1976-77

Main features	France	Germany	United Kingdom
General provisions			
Basic structure	Dividend credit*	Mixed: split rate† and dividend credit*	Dividend credit*
Corporation tax rate	50 percent	Retained: 56 percent Distributed: 36 percent	52 percent
Dividend credit on net dividends	50 percent	56.3 percent	49.3 percent
General treatment of intercorporate dividends	Participation exemption (with 10 percent or more ownership)	Same treatment as other shareholders	Exempt
International provisions			
Jurisdiction	Territorial	Global	Global
Resident corporations:			
Subsidiary dividends	Exempt; equalization tax on redistributions which may be reduced under some treaties	Taxed except where exempt by treaties; foreign tax credit	Taxed; foreign tax credit; ACT‡ on redistributions, not reduced by foreign tax credit
Branch profits	Exempt; equalization tax on redistributions	Taxed; foreign tax credit	Taxed; foreign tax credit; ACT‡ on redistributions, not reduced by foreign tax credit
Portfolio investment dividends	Taxed; foreign tax credit; dividend credit available for redistributions	Taxed; foreign tax credit; lower rate on distributions	Taxed; foreign tax credit; ACT‡ on redistributions, not reduced by foreign withholding tax
Nonresident corporations:			
Subsidiary dividends	Corporation tax plus withholding tax of 25 percent (reduced under many treaties); no dividend credit	Corporation tax plus withholding tax of 25 percent; no dividend credit at present	ACT‡; no withholding tax; generally no dividend credit
Branch profits	Corporation tax plus withholding tax of 25 percent on distributions (reduced under some treaties); no dividend credit	Corporation tax of 50 percent plus withholding tax of 25 percent; no dividend credit	Corporation tax; no withholding tax; no dividend credit
Portfolio investment dividends	Corporation tax plus withholding tax of 25 percent (reduced or eliminated under most treaties); dividend credit to many countries under treaties	Corporation tax plus withholding tax of 25 percent (reduced under some treaties); no dividend credit at present	ACT‡; no withholding tax; dividend credit to some countries under treaties

* Imputation or dividend credit system = allocation, or imputation, to the shareholder of credit for some or all of the corporation tax on distributed profits.

† Split rate system = a lower corporate income tax rate on distributed profits than on retained (or undistributed) profits.

‡ ACT = advance corporation tax (United Kingdom).

Source: Compiled from various national and international publications.

tries are outlined, some of the international ramifications of these systems will be explored. Particular features of a country's corporate tax system may have significant consequences for international capital flows, insofar as tax considerations govern the relative advantages of investing at home or abroad and the extent to which investment funds from abroad are attracted.

France

France abandoned the separate entity tax system in 1965. At that time it introduced integration at the shareholder level by means of an imputation mechanism. French corporations usually pay a 50 percent tax on profits realized on their operations in continental France. French residents (both individuals and corporate shareholders) who own less than 10 percent of a company's shares receive a credit against their own income tax of 50 percent of the dividends they receive. This arrangement is called the *avoir fiscal, i.e.,* dividend credit. It is worth noting that there is no withholding tax on domestically earned dividends paid to residents.

Domestic intercorporate dividends are exempt from the corporation tax if the "parent" holds 10 percent or more of the shares of the "subsidiary". When the dividends received from the subsidiaries are paid out to the shareholders of the parent corporation and the corporation tax has been paid, the dividend credit becomes applicable.

Dividend distributions from corporate profits that are taxed at less than 50 percent or are not taxed at all—such as dividends emanating from operations abroad—are subject to a compensatory or equalization tax *(précompte mobilier)* at the corporate level. The rate of the *précompte mobilier* is the same as that of the *avoir fiscal.* Since the basic French corporation tax is territorial in nature, *i.e.,* it applies only to income earned domestically, an equalization tax is deemed necessary on income arising from foreign sources. The *précompte mobilier* is also due on dividends arising out of domestic profits that were realized more than five years ago, even if such profits were fully taxed. This provision is designed to induce corporations not to defer distributions too long.

Initially, the French imputation system denied the dividend credit to nonresident shareholders, but subsequently, through bilateral treaty arrangements, it was made available to many foreign portfolio investors but not to French subsidiaries of foreign corporations. All dividends paid to nonresident shareholders are, as a rule, subject to a 25 percent withholding tax at the source, but this rate has been reduced in most of the treaty arrangements, or even eliminated for some portfolio investors.

French branches of foreign corporations are liable for the French corporation tax and, after deduction of the corporation tax, a branch profits withholding tax at the rate of 25 percent. The withholding tax is, however, often lowered by tax treaties. In addition, the withholding tax on profits distributed to French residents, through head offices abroad, is wholly refundable.

Germany

Effective January 1, 1977, Germany moved from a split rate system to a mixed system that combines features of the split rate and the dividend credit systems. Thus, the new German tax arrangement provides relief at both the corporation and shareholder levels. The worldwide income of German corporations is subject to a 56 percent tax (formerly 52.53 percent) if retained and to 36 percent (formerly 15.45 percent) if distributed. This lower tax rate on distributed profits than on retained profits—the split rate element—provides relief at the corporate level and is one of the main distinguishing features of the new German system *vis-à-vis* the imputation systems used in France and the United Kingdom. On the dividend side, resident shareholders are entitled to a tax credit that is equivalent to their prorated share of the income tax paid by the distributing corporation. There is a 25 percent withholding tax at the source on dividend payments, which is later offset against the income tax liability of resident taxpayers.

Intercorporate dividends of resident corporations are treated in essentially the same manner as dividends received by resident individuals. Specifically, such dividends plus the amount of taxes paid on them must be included in the taxable income of the receiving corporation. In turn, that corporation is entitled to a credit for the taxes already paid on those dividends. Unlike French corporations, German corporations also pay taxes on income earned in foreign countries. However, German corporations receive a tax credit for foreign income taxes paid by their subsidiaries abroad except where treaty arrangements exclude foreign source dividends from taxable income.[1]

Dividend distributions to nonresident shareholders (individual or corporate) do not give rise to any tax credit for the corporation taxes paid. Furthermore, nonresidents generally are not entitled to any refund of the 25 percent withholding tax on distributed dividends. Thus, the new tax system effectively discriminates against nonresident shareholders since they are not entitled to the same tax relief available to residents.

[1] A special relationship known as *organschaft* between resident corporations permits profits and losses of a resident subsidiary to be offset by the parent corporation if the parent corporation owns more than 50 percent of the subsidiary, and if the latter operates as though it has "no will of its own".

The German government is expected to renegotiate treaty arrangements with many countries regarding the withholding tax. It is probable that the new treaties will alleviate a part of the extra tax burden on nonresidents.

German branches of foreign corporations are taxed at a flat rate of 50 percent (formerly 50.47 percent) on both retained and distributed profits. There is also a 25 percent withholding tax at the source on dividends. Thus, like the French system, the benefits from the new German system are not passed on to branches of foreign corporations.

United Kingdom

In 1965, the United Kingdom (U.K.) switched from an imputation system to a separate entity system. In 1973, however, after only eight years of experience with the latter, the U.K. readopted the imputation system, although in a substantially different form than before 1965. Under the 1973 tax law, the worldwide income of U.K. corporations (whose management and control is exercised from the U.K.) is taxed at a uniform rate, currently 52 percent.

A unique aspect of the new system is that, unlike those of France and Germany, dividend payments give rise to an advance corporation tax (ACT). Under this system, when a U.K. corporation distributes its profits as dividends, it is required to make an advance tax payment at a specified rate. (For the fiscal year 1977-78, this rate is likely to be 33/67, or just under 50 percent.) The corporations are allowed, within limits, to offset the ACT against their own tax liability for the current, or two preceding, or any succeeding periods. Resident shareholders in effect are entitled to treat ACT as a dividend tax credit: shareholders gross up, *i.e.,* add together dividends received and the advance corporation tax payments, and then apply the ACT as a credit against their tax liability. Intercorporate dividends are exempt from the corporation tax and from the ACT.

In principle, the U.K. system seeks to avoid any international double taxation of profits by granting credit for taxes paid abroad. The ACT system, however, generally does not allow any tax credit resulting from taxes paid abroad to be offset against the portion of tax (the first 33 percentage points) that is covered by the advance corporation tax. This ensures that the dividend credit to the shareholders is paid into the U.K. treasury. Thus, the ACT formula can erode most of the foreign tax credit.

Dividends paid by the U.K. corporations to nonresident shareholders involve ACT payments. Nonresidents generally are not entitled to a dividend credit with respect to the ACT; however, unlike France and Germany, there is no withholding tax at the source. As in the case of France, several tax treaties (renegotiated since 1973) provide a dividend credit to foreign portfolio investors. The new treaty with the United States, which is not yet in force, will accord a partial relief to parent companies as well.

Both dividends and retained profits of U.K. branches of foreign corporations are taxed at the regular corporate tax rate (52 percent), but there is no withholding tax at the source and no ACT requirement. The tax treatment of branch profits is similar to the treatment in France and Germany since distributed and undistributed earnings are taxed equally. Because there is no withholding tax, however, the effective tax burden on branches is lower in the U.K.

International implications

There are three major international issues that have arisen in connection with corporate tax policies in France, Germany, and the United Kingdom.[2] The first has to do with discrimination, that is, with any policy that restricts to residents the tax relief resulting from the imputation system and therefore acts to the detriment of nonresidents. The second or neutrality issue is related to another aspect of discrimination. This concerns the tax treatment of investment abroad. The third issue, tax harmonization, is interrelated with the first two. It is exemplified by the tax proposals of the European Economic Community (EEC) that are designed to promote free movement of capital within the Community.

When France, Germany, and the United Kingdom moved to the imputation system, all three initially restricted tax relief to resident shareholders. However, as noted above, France and the United Kingdom have already extended tax relief to nonresident portfolio investors under treaty arrangements, and Germany may do the same. This, of course, still leaves most nonresident corporations having direct investments without any dividend credit. In France and the United Kingdom, such discriminatory treatment of nonresidents has been justified on the basis that it minimizes the revenue loss almost always accompanying a switch to the imputation system because of the partial or full relief of a second taxing of dividends. Both countries wanted to minimize potential revenue loss; they also wanted to restrict to residents alone the benefits that result from

[2] There are, of course, many important domestic issues at stake, such as the impact of changes in corporation taxes on corporate financing and on capital formation. The discussion here is limited to the main international questions. Some of the domestic aspects of alternate proposals for corporate tax integration in relation to the United States are taken up in Martin Feldstein and Daniel Frisch, "Corporate Tax Integration: The Estimated Effects on Capital Accumulation and Tax Distribution of Two Integration Proposals", *National Tax Journal* (March 1977).

the revenue loss to the government. The revenue loss argument seems to have been somewhat less important in Germany, but the relevance was recognized insofar as the change in the tax system was coupled with increased corporation tax rates.

Another important consideration underlying the discriminatory treatment of nonresidents in all three countries seems to have been the desire to promote investment in common stocks (equities) by residents. The separate entity tax system tends to discourage dividend distributions and to encourage financing through retained earnings over outside financing. Moreover, it tends to favor financing by bonds or loans over equities since interest payments are deductible as a business cost. The split rate system also favors bond financing over equity financing, although to a lesser extent. By contrast, the imputation system tends to put equity and bond financing on a more equal footing. If the dividend credit is restricted to residents only, as is essentially true in the three countries dealt with here, it makes domestic equity investment more attractive. In fact, encouraging equity investments by French residents was one of the primary reasons why France moved from the separate entity to the imputation system in 1965.

Neutrality and taxes

Turning now to the matter of international corporate tax neutrality in relation to investment income from abroad, a tax is considered neutral if it does not alter the taxpayer's choice between investing at home and investing in foreign countries. Under a neutral tax policy, net rates of return and investment decisions are not affected by tax factors because there is no tax burden differential between domestic and foreign investment.[3] (In other words, international tax neutrality requires integration of the foreign corporation tax with the domestic personal income tax.) Neutrality therefore promotes efficient resource allocation on a worldwide basis. As opposed to this "world efficiency" orientation, tax policy may be designed to promote national gains by creating tax differentials which discourage individuals and corporations from investing abroad. The extreme case of nonneutrality is represented by the so-called "national efficiency" criterion that aims at maximizing gains for the nation as a whole. Under this criterion, the gross return (pretax) on domestic investment must equal the net (after foreign taxes) return from foreign investment, assuming no other costs or benefits are associated with foreign investment.

In the United Kingdom, discussions of corporate tax reform concentrated heavily on the issue of tax neutrality between investments at home and abroad by domestic corporations. As things turned out, the present imputation system with the ACT tends to discriminate against foreign investment by U.K. corporations, especially in high tax countries. However, the tax system also fails to meet the criterion of "national efficiency" because it usually provides larger credits on foreign taxes paid on income earned abroad than would be necessary to equalize the net returns from investment abroad with the gross return on domestic investment.

The question of tax neutrality has not received much attention in France. This is mainly due to the territorial nature of the French tax system. It exempts foreign income of French corporations from corporation taxes, whereas the concept of tax neutrality usually assumes that income from abroad is taxed. Exempting investment income from abroad is not fully consistent with international tax neutrality unless all countries grant the same exemption. The French *précompte* on redistributions from foreign source income is also inconsistent with tax neutrality, because the foreign corporation tax is not integrated with the domestic personal income tax. Moreover, as is the case in the United Kingdom, the French tax system does not meet the national efficiency criterion; depending on the foreign corporation tax rate, the net return on foreign investment may be different from the gross return on domestic investment.

German taxation of investment income from abroad is somewhat more in line with international tax neutrality than that in France and the United Kingdom. However, several German treaty arrangements that use exemptions and reduced tax rates result in a discriminatory treatment of foreign investment income earned in some countries as compared with others. In some cases, the treaties also lead to less than complete integration of foreign corporation taxes with the domestic personal income tax. In addition, in many cases the foreign tax credits that Germany grants are not equal to the taxes paid, which is also inconsistent with the principle of tax neutrality.

Promoting tax harmony

The proposals to harmonize tax systems in the EEC also have had a bearing on tax policy discussions and decisions in France, Germany, and the United Kingdom. After considering the split rate and the separate

[3] International tax neutrality may be defined as "capital-export neutrality"—neutrality in the treatment of income from domestic and foreign sources in the capital-exporting country—or as "capital-import neutrality"—neutrality in the treatment of income of investors from different countries that arises in the capital-importing country. In the present context, capital-export neutrality is the relevant concept. For a detailed analysis of international tax neutrality, see Mitsuo Sato and Richard M. Bird, "International Aspects of the Taxation of Corporations and Shareholders", IMF *Staff Papers* (July 1975), and Richard M. Bird, "International Aspects of Integration", *National Tax Journal* (September 1975).

entity systems, the EEC recently decided to adopt the dividend credit system as a means of tax harmonization that would achieve and maintain the free flow of capital among member countries. The choice of the imputation system is justified mainly in terms of its neutrality with respect to different types of corporate financing and to various legal forms of business organization, as well as its ability to reduce double taxation of dividends—thereby lessening the comparative disadvantage for small shareholders—and to encourage equity investments by medium-size savers.

In France, the imputation system had been adopted long before the current EEC position was agreed on, partly for some of the same reasons. The U.K. choice of the imputation system was influenced by the EEC, whose position had been well formulated by 1973. Clearly, the adoption of the new tax system in Germany was also influenced by a desire to facilitate the harmonization of corporate tax systems within the EEC.

Although all three countries have imputation systems, it cannot yet be said that there is a free flow of capital among them. This is due not only to the obvious differences among their corporate tax systems, but also to their substantially different economic regulations, for example, the extent and impact of their foreign exchange controls. Thus, even widespread adoption of partial imputation systems is not enough to ensure that the EEC will achieve free movement of capital among its member countries. Apart from harmonizing their regulations, what is required is that taxation of foreign and domestic investment income be made neutral, at least with respect to the Common Market members themselves. While none of the three tax systems currently meet this test, the system recently adopted by Germany meets it better than the systems now used in France and the United Kingdom. Attaining movement of capital free of tax distortions among member countries of the EEC still seems to be distant, inasmuch as the adoption of internationally neutral corporate taxation may involve significant revenue losses as well as considerable administrative and technical difficulties.

M. A. Akhtar

Federal Funds and Repurchase Agreements

The markets for Federal funds and repurchase agreements (RPs) are among the most important financial markets in the United States. Using these instruments, many banks, large corporations, and nonbank financial firms trade large amounts of liquid funds with one another for periods as short as one day. Such institutions provide and use much of the credit made available in the United States and typically manage their financial positions carefully and aggressively. The interest rate on overnight (one day) Federal funds measures the return on the most liquid of all financial assets, and for this reason is critical to investment decisions. That is, financial managers compare this rate to yields on all other investments before choosing the combinations of maturities of the financial assets in which they will invest or the term over which they will borrow.

The Federal funds market is also important because it is related to the conduct of Federal Reserve monetary policy. The interest rate on Federal funds is highly sensitive to Federal Reserve actions that supply reserves to member commercial banks, and the rate influences commercial bank decisions concerning loans to business, individual, and other borrowers. Moreover, interest rates paid on other short-term financial assets —commercial paper and Treasury bills, for example— usually move up or down roughly in parallel with the Federal funds rate. Thus the rate also influences the cost of credit obtained from sources other than commercial banks.

Frequently, the Federal funds market is described as one in which commercial banks borrow and lend excess reserve balances held at the Federal Reserve, hence the name Federal funds. While banks often use the Federal funds market for this purpose, growth and change in the market have made this description highly oversimplified. Many active market participants do not hold balances at the Federal Reserve. These include commercial banks that are not members of the Federal Reserve System, thrift institutions, certain agencies of the United States Government, and branches and agencies of foreign banks operating on United States soil. Moreover, this broad set of market participants borrows and lends amounts far beyond the modest total of excess reserve balances. Currently, borrowings of Federal funds outstanding average $45 billion to $50 billion daily.

A closely related market for short-term funds is the market for RPs involving United States Government and Federal agency securities.[1] This market includes many of the same participants that trade Federal funds, but it also includes large nonfinancial corporations, state and local governments, and dealers in United States Government and Federal agency securities. The RP market has expanded rapidly of late, and its workings are perhaps less widely known than those of the Federal funds market.

Although the Federal funds and RP markets are distinct, they share many common features. Both, for example, primarily involve transactions for one business day, although transactions with maturities of up to several weeks are not uncommon. In both markets, commercial banks that are members of the Federal Reserve System can acquire funds not subject to re-

[1] The term "Federal agency" is used here in its popular meaning, which refers both to Federal agencies, such as the Commodity Credit Corporation, and to Federally sponsored quasi-public corporations, such as the Federal National Mortgage Association.

serve requirements. A lesser known but nevertheless very important common element is the fact that transactions in both markets are settled in what are known as "immediately available funds". Indeed, some observers see the two markets as so closely related that they might appropriately be grouped together under a broader designation—"the markets for short-term immediately available funds". For an elaboration of the nature and uses of immediately available funds, see pages 36 and 37.

The main purpose of this article is to review major recent developments in the markets for Federal funds and RPs. The most significant changes are the dramatic growth of the volume of transactions and of the number and type of institutions active in these markets. At the same time, the language of the market has been changing, mostly because of the evolution in market practices. It is, therefore, necessary to begin with definitions of some terms most frequently used by market participants.

Federal funds

Federal funds transactions are frequently described as the borrowing and lending of "excess reserve" balances among commercial banks.[2] This description of Federal funds was accurate years ago but is now seriously deficient, even though it still appears in the financial press. While such commercial bank use of the market persists in substantial volume, Federal funds transactions are no longer confined to the borrowing and lending of excess reserve balances. Moreover—and this is a key point—a Federal funds transaction does not necessarily involve transfer of a reserve balance, even though such a transfer usually does occur. For example, a commercial bank can borrow the "correspondent balances" held with it by other banks. The execution of such a transaction involves only accounting entries on the books of both the borrower and lender.

The most useful description of Federal funds has several elements, some based on regulations, others simply on market convention. In practice, Federal funds are overnight loans that are settled in immediately available funds. Only a limited group of institutions are in a position to borrow in this fashion, mostly commercial banks and some other financial institutions such as agencies of foreign banks. If a member bank borrows Federal funds, Federal Reserve regulations do not require it to hold reserves against the borrowing, as it must for funds acquired in the form of demand or time deposits. But, under Federal Reserve regulations, member banks are permitted to borrow reserve-free funds only from a certain group of institutions. This group includes other commercial banks, Federal agencies, savings and loan associations, mutual savings banks, domestic agencies and branches of foreign banks, and, to a limited degree, Government securities dealers. Market convention has adjusted to these regulatory restrictions, and a Federal funds borrowing has come to mean an overnight loan not just between two commercial banks but between any two of the group of institutions from which member banks may borrow free of reserve requirements. A savings and loan association, for example, can lend Federal funds to an agency of a foreign bank.

This description makes it easy to see that the Federal funds market is by no means limited to the lending of excess reserves. Many of the institutions that participate in the market are not members of the Federal Reserve System and, therefore, do not have reserve accounts. Moreover, the excess reserves of individual member banks are normally very small in relation to their total reserves. The excess reserves characterization of Federal funds borrowing suggests that total activity in the market is likewise rather modest. While this was once true, it no longer is. In recent years, daily outstanding borrowings by member banks in the Federal funds market have approached $50 billion, or about 40 percent more than the *total* reserves they hold. Some individual banks continually borrow as much as four times their required reserves in the Federal funds market.

Fairly recently, banks have begun to borrow immediately available funds for periods longer than a single business day. This form of borrowing was developed by agencies of Canadian banks located in the United States. The transactions are arranged among the same institutions which participate in the overnight market and are similar in all respects except maturity. For these reasons, the transactions have come to be called "term Federal funds" transactions.

The Federal funds and term Federal funds transactions described above are normally "unsecured". This means that the lending institutions have no guarantee of repayment other than the promise of the borrower. For this reason, unsecured Federal funds transactions are done only by institutions that enjoy a very high degree of mutual confidence. At times, however, a lender of Federal funds will ask that the transaction be "secured". This means that the borrower must pledge an asset, usually a Government or

[2] A fundamental difficulty with this notion of Federal funds borrowing is that the use of the term "excess reserves" is very imprecise. No distinction is made between the actual excess reserves held in a bank's reserve account and what might be called "potential" excess reserves. Clearly, an individual bank can control the amount of excess reserves it has available to sell in the Federal funds market most easily by selling assets and converting the proceeds into balances at a Federal Reserve Bank. In this sense, the potential excess reserves of an individual bank are nearly as large as its total earning asset portfolio.

Federal agency security, as "collateral" against the loan. The borrower may either set aside the collateral in a custody account or actually deliver it to the lender. However, secured Federal funds transactions are not very common.[3]

Repurchase agreements

A repurchase agreement (RP) is an acquisition of immediately available funds through the sale of securities, together with a simultaneous agreement to repurchase them at a later date. RPs are most commonly made for one business day, though longer maturities are also frequent. The funds that a member bank acquires in this manner are free of reserve requirements so long as the securities involved are those of the United States Government or Federal agencies. When an RP is arranged, the acquirer of funds agrees to sell to the provider of funds United States Government or Federal agency securities in exchange for immediately available funds. At the maturity of the agreement, the transaction is reversed, again using immediately available funds. Market insiders use different terms to describe the RP, including "repo" and "buy back".

Those who supply or acquire funds view RPs as involving little risk. Transactions are usually arranged only among institutions enjoying a high degree of confidence in one another. In addition, contracts are usually of very short maturity. Protection against any residual risk can be incorporated in an RP contract by establishing a differential—called a margin—between the quantity of funds supplied and the market value of the securities involved. The margin can protect either party to the transaction, but not both. It protects the supplier of funds if the value of the securities exceeds the quantity of funds supplied. It protects the taker of funds if the securities are of less value than the amount of funds supplied. The supplier of funds generally considers the consequences of default by the other party to be minor, because the securities acquired are obligations either issued or guaranteed by the Federal Government. Another element of risk arises from the possibility that the price of the securities may fall between the time the RP is arranged and the time of any default. For this reason, the margin is most often set to protect the supplier of funds.

This article is concerned with RPs involving only United States Government and Federal agency securities, but it should be noted in passing that an RP can involve any sort of asset which the supplier of funds is willing to accept. RPs involving other assets are executed to a limited degree, for example using certificates of deposit of large banks.

Transactions are executed in several ways, but two approaches are most common. One approach is for the securities to be both sold and repurchased at the same price, with charges representing the agreed-upon rate of return added to the principal at the maturity of the contract. The second approach involves setting a higher price for repayment than for selling.

The term "reverse repurchase agreement" is sometimes thought to be quite different from an RP. In fact, it refers to exactly the same transaction viewed from the perspective of the supplier of funds rather than the recipient. Compare the two views of the transaction: The recipient of funds sells a security to obtain funds, and "repurchases" it at maturity by redelivery of funds. In a reverse RP, the supplier of funds buys a security by delivering funds when the agreement is made and "resells" the security for immediately available funds on maturity of the contract. From the perspective of the party acquiring funds, the term "repurchase agreement" seems apt, and from that of the supplier of funds, the transaction is exactly the "reverse". However, whether funds are acquired or supplied, the transaction is usually referred to in the marketplace simply as an RP.

The markets for Federal funds and RPs

There is no central physical marketplace for Federal funds; the market consists of a loosely structured telephone network connecting the major participants. These participants, as already mentioned, include commercial banks and those other financial institutions from which, under Federal Reserve regulations, member banks can buy reserve-free Federal funds. The market also includes a small group of firms that act as brokers for Federal funds. These firms neither lend nor borrow but arrange transactions between borrowers and lenders in exchange for a very small percentage commission.

All major participants employ traders. These individuals make the actual telephone contact on behalf of lending or borrowing institutions, making offers to borrow or lend at specific interest rates. They also negotiate any differences between the rate bid by a borrower and that offered by a lender. Transactions are usually executed in lots of $1 million or more. Frequently, but not always, settlement of the transaction requires transfer of funds over the Federal Reserve wire transfer network, first when the agreement is reached and again the next day when repayment is made.

Many banks, particularly medium-sized and large ones, frequently borrow and lend Federal funds on

[3] Banks chartered in certain states face regulations that require collateral to be provided for the portion of an individual Federal funds transaction in excess of some proportion of the lender's combined capital and surplus.

IMMEDIATELY AVAILABLE FUNDS

The Means of Settlement for Transactions in Federal Funds and RPs

An essential feature of both Federal funds and RPs is that transactions are settled in "immediately available funds". Therefore it is necessary to specify precisely what such funds are. Immediately available funds are two related but distinct types of financial claims: (1) deposit liabilities of Federal Reserve Banks and (2) certain "collected" liabilities of commercial banks that may be transferred or withdrawn during a business day on the order of account holders.

Federal Reserve Banks, of course, are "banks for banks", and deposits are held there mainly by commercial banks that are members of the Federal Reserve System in order to satisfy the reserve requirements imposed on members. These deposits have special features, however. Along with currency and coin, they are the only form of money created directly by a Federal authority. This reflects the fact that these deposits are the direct liabilities of the Federal Reserve Banks. In addition, the Federal Reserve operates a nationwide electronic communications network over which these deposits can be transferred anywhere in the country within a business day. Deposits at Federal Reserve Banks are therefore termed immediately available funds, since they can be converted to cash or transferred anywhere in the United States within a single day on demand.

Immediately available funds also consist of certain collected liabilities of commercial banks. This group of liabilities include a portion of a bank's demand and time deposits, as well as certain other liabilities which are used very much like deposits but which are classed separately for accounting or regulatory reasons. These liabilities are termed immediately available funds because commercial banks permit them to be withdrawn in cash or used for payment without question within a single day. The immediate and unquestioned use of these bank liabilities for payment depends on the fact that they are collected, a feature which can be illustrated by describing how an individual's checking deposit with a bank becomes collected.

Typically, an individual increases his bank balance by depositing checks payable to him drawn on the same or some other bank. When the check is drawn on some other bank, the individual is normally unable to withdraw or otherwise use the funds on the same day that the deposit is made. Frequently, several

days elapse, during which time the credit to the depositor's account is only provisional and the check is in the process of being collected. That is, it is cleared and then payment is received by the depositor's bank from the bank on which the check is drawn. Payment may be received in any one of several forms: a deposit at a Federal Reserve Bank, a collected deposit at another commercial bank, or conceivably in currency or coin. Whatever the case, once collected, the individual's balance can be transferred on his order.

Alternatively, a depositor may receive payment to his account in immediately available funds. In this case, the funds can be withdrawn in cash or otherwise used on the day of receipt with no intervening period for collection. For credit to be received immediately, the deposit must be made in some form other than the common check. The most obvious alternative is cash, used frequently for small deposits but only rarely for sizable transactions because of the risk of loss.

More commonly, when the depositor wishes to receive immediately available funds, the transfer is accomplished through the Federal Reserve electronic communications network. This network is used either within or between Federal Reserve Districts. Any member bank may send or receive immediately available funds—in the form of reserve deposits—to or from any other member bank, and the entire transfer takes place within one business day. The use of the Federal Reserve network can be accomplished indirectly by individuals or institutions other than member banks. This requires the transfer of a depositor's collected balance from one member bank to another, in effect using a reserve balance at the Federal Reserve as a means of payment between banks. If the transaction results in a transfer of funds from one account to another within a single bank, only balance-sheet entries are affected since there need be no actual movement of funds over the Federal Reserve network.

Immediately available funds can be used by a customer of a commercial bank to make payment in any sort of transaction. Among the principal users are sizable financial, business, and government institutions. In practice, such funds are used only for large transactions including, for example, payment for purchase of a financial asset, for raw materials, or for a construction contract. In all these cases, immediately available funds are used as a means of payment because the parties to the transaction wish to use them. Thus, not all transactions involving the use of immediately available funds are related to either the Federal funds or the repurchase agreement markets.

the same day, thereby performing an intermediary function in the Federal funds market. Such banks channel funds from banks with lesser need for funds to banks with greater need for them, frequently borrowing from smaller banks and lending to larger ones. Over the past decade, more medium-sized regional banks have begun to act as intermediaries. In addition, many more banks during this period have come to borrow significantly more than they lend; that is, they have become continual net borrowers.

In recent years a growing portion of the market has consisted of large banks' borrowing of correspondent balances from small banks. Historically, these correspondent balances earned no interest. But both large and small banks have come to regard correspondent relationships as convenient bases for arranging Federal funds transactions. Small banks now intentionally accumulate large balances, selling off daily the excess not needed for the clearing of checks or for other purposes. In such cases, it is not necessary to transfer funds over the Federal Reserve wire transfer network, and reserve balances need not change ownership. Rather, bookkeeping entries are posted by both the borrower and lender to reflect the fact that a noninterest-bearing correspondent demand balance has been converted into a Federal funds borrowing.

No central physical marketplace for repurchase agreements exists either. Transactions are arranged by telephone, largely on a direct basis between the parties supplying and acquiring funds but increasingly through a small group of market specialists. These specialists, mostly Government securities dealers, arrange a repurchase agreement with one party to acquire funds and a reverse repurchase agreement with another party to supply funds. They earn a profit by acquiring funds more cheaply than they supply them.

Large banks and Government securities dealers are the primary seekers of funds in the RP market. Banks use the market as one among many sources of funds, but have a distinct advantage over other institutions as acquirers of funds because they hold large portfolios of United States Government and Federal agency securities. Moreover, because the supplier of funds receives securities, and because member banks acquiring funds need not hold reserves against RPs regardless of the source of funds, the RP market attracts a wider array of participants than does the Federal funds market. Government securities dealers use the market as a source of funds to finance their holdings of Government and agency securities. Many types of institutions supply immediately available funds in this market, but large nonfinancial corporations and state and local governments dominate.

Typically, participants on both sides of the RP market have lists of customers with whom they routinely do business. Each of the largest participants uses an "RP trader", an individual whose job it is to contact other traders and to negotiate the best arrangements possible. A trader begins the day with information on the amount of funds he must supply or acquire. His objective is to arrange transactions at the maximum return obtainable if he is to provide funds and at the minimum cost possible if he is to acquire funds.

With these definitions and descriptions in mind, it is possible to discuss in some detail the roles of the major institutional participants in the markets for immediately available funds. It is appropriate to begin with an examination of the role played by commercial banks, who are currently the most important of those who obtain funds in these markets. Moreover, the reserve position adjustments that banks make in the markets for immediately available funds are important links in transmitting the effects of monetary policy throughout the financial system.

Commercial banks and immediately available funds

Commercial banks are the largest and most active participants in the markets for immediately available funds. Banks use these markets for several purposes, among which is the day-to-day adjustment of reserve positions. Large banks have made such adjustments in the Federal funds market for over fifty years and continue to do so in substantial volume. But commercial bank use of both the Federal funds and the RP markets is best understood in the much broader context of how banks obtain and use funds. In addition, bank operations in the Federal funds and RP markets have been heavily influenced by changes in the regulations that govern bank activities.

The traditional view of banks has been that they accept deposit liabilities from customers and use the funds to lend or invest. In the process, they make a profit by earning more in interest on loans and investments than their cost of operations, including interest they pay on deposits. This approach has undergone significant modification over the past decade at least, particularly at large banks. In place of a passive stance, banks have become active solicitors of funds in the open markets. Moreover, they have developed liabilities in addition to standard demand and savings accounts. Fifteen years ago, for example, banks developed and began to exploit the negotiable certificate of deposit (CD). More recently, Euro-dollars, commercial paper issued by bank holding companies, and other instruments have been developed and used as sources of funds. Large banks set a target for the total amount of liabilities they will attempt to secure, basing that target

on the total of loans and investments thought to be profitable. The overall approach, summarized here in its barest outlines, is generally known as "liability management".

The spread of the practice of liability management has had two related effects on commercial bank activity in the Federal funds market. First, instead of just engaging in relatively small trades for the purpose of making daily reserve adjustments, today banks may rely on this market to meet a desired proportion of liabilities. Thus, they at times borrow amounts that are large relative to their total assets or liabilities. Second, instead of individual banks lending as often as they borrow, some banks are continual net borrowers, while others are continual lenders. The borrowers use the market both to offset the impact on their reserve holdings of day-to-day inflows and outflows of deposits and as an ongoing source of funds to finance loans and investments. The lenders, usually smaller banks, treat Federal funds as a highly liquid interest-earning short-term asset.

Origins of the Federal funds market

Commercial banks were entirely responsible for the origination and early development of the Federal funds market. The market began among a small number of New York City banks in the early 1920's. Some banks frequently found themselves in reserve deficit positions and, therefore, were forced to borrow from the Federal Reserve discount window. Others frequently had unanticipated excess reserve holdings, and these balances did not earn any interest. Under these circumstances, an obvious opportunity for mutual benefit existed, and bank managers devised a mechanism to realize these benefits. They exchanged drafts drawn on Federal Reserve balances and so created the Federal funds market. A lending bank made payment by delivering a draft on a reserve account on the day a borrowing was arranged. Such drafts, in contrast to a common check, could be collected on the day they were presented to the Federal Reserve. To accomplish the repayment, the borrowing bank gave a clearinghouse check made out to the lender to be collected the following day. The repayment check was for a slightly larger sum to reflect the interest due.

This practice spread to other cities in subsequent years, but the amounts traded remained small, and the markets remained largely confined to local areas. Only large banks participated in the market, and transactions were undertaken only to adjust for relatively small deficits or excesses in reserves. Many individual banks found that they were able to lend in the market one day, but had to borrow the next.

Toward the end of the 1920's, the market began to expand to include interregional as well as intracity transactions. Trading of funds between regions was made possible by the Federal Reserve wire transfer facilities, which permitted the movements of funds from one city to another without the use of drafts. By this time, daily borrowing reached about $250 million. With the 1929 stock market crash and the ensuing depression, however, interest rates fell substantially and banks developed a strong preference for holding cash, reflected in large holdings of excess reserves. These developments cut short the growth of the Federal funds market, but the brief appearance of wire trading of Federal funds in the late 1920's set the stage for rapid development of the market after World War II.

Federal funds in the postwar era

In the three decades since the end of World War II, the Federal funds market has changed in at least two fundamental respects. First, both the number of banks participating in the market and aggregate trading volume in Federal funds have grown enormously. Second, most large banks, which formerly alternated between borrowing and lending, have become continual net borrowers, while small banks not previously active in the market have entered the market, primarily as continual lenders.

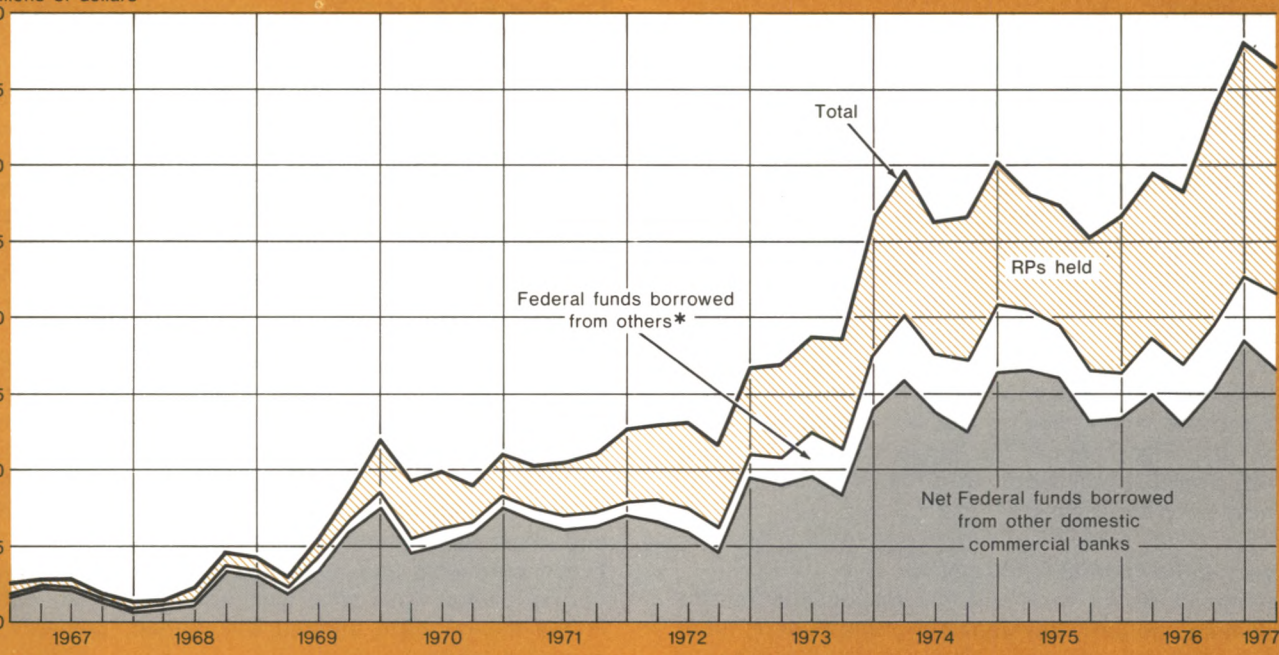
The changing role of the large banks is evidence that liability management has been added to daily reserve position adjustment as a motive for participation in the Federal funds market. A continuous and steady supply of funds is available to large banks once they have established market contacts with sellers. As a result, Federal funds have become an important source of liabilities because of their availability and the low cost of executing transactions over the Federal Reserve wire network, and because these funds are not subject to reserve requirements or interest rate ceilings.

Smaller banks have been introduced to the market primarily through correspondent relationships with large banks. Immediately after World War II, small banks held relatively large amounts of their assets in cash. The practice was understandable at that time, because interest rates were very low and because a high value was placed on liquidity due to the vivid memories of the prewar depression. Interest rates began to rise in the 1950's, however, increasing the interest earnings foregone by holding large amounts of cash. With large banks willing to borrow and interest rates rising, a few small banks began to lend their cash balances to large banks in the form of Federal funds. Such overnight lending provided virtually the same liquidity as cash.

By the early 1960's, banks of all sizes and types had become familiar with the advantages of participation

Chart 1

Federal Funds and RPs Held by 46 Large Domestic Commercial Banks



*Includes borrowings from those institutions other than domestic commercial banks from which member banks may borrow free of reserve requirements.

in the Federal funds market. Two major rulings by bank regulators in these years also served to encourage trading of Federal funds.

In 1963, the Comptroller of the Currency issued rulings that eliminated restrictions on the amounts that a nationally chartered bank could lend to any one bank. Formerly, unsecured lending to a single borrower in Federal funds had been restricted to 10 percent of the lending bank's combined capital and surplus. Though this limit applied to all nationally chartered banks, it effectively restricted the activities only of the small banks in this group. The 1963 ruling declared Federal funds transactions to be purchases and sales, not borrowings and lendings. In so ruling, the Comptroller effectively removed the restrictions that had kept small banks from placing relatively large amounts of funds in the Federal funds market.

In 1964, a ruling by the Federal Reserve Board made it clear that member banks could legally purchase correspondent balances of nonmember banks as Federal funds. Prior to this ruling, the practice of purchasing correspondent balances had not been as widespread.

Together these rulings served to encourage the sale of Federal funds by small banks, and to reinforce the spread of liability management techniques among large correspondent banks. Small banks were now in a position to ask their correspondents to engage in Federal funds transactions under the threat that their funds would otherwise be moved to a competitor. Faced with a potential loss of balances, large correspondent banks began to buy Federal funds regularly in large amounts from small banks.

The net purchases of Federal funds by large commercial banks have increased enormously since the regulatory changes. But as the lower two segments of Chart 1 show, the growth has occurred sporadically. Spurts of rapid growth in this market have generally taken place during periods when short-term interest rates were either rising rapidly or at high levels. The Federal funds rate, as Chart 2 shows, has reached several postwar peaks in the last fifteen years. At such times, large banks sought funds most aggressively. They put considerable effort into developing new correspondent relationships and into attracting larger amounts of funds from existing ones. Smaller banks were induced to increase their lending by the high interest rates offered. The volume of funds traded in the market declined somewhat during periods of

lower short-term interest rates, but once developed, the correspondent relationships have tended to remain active.

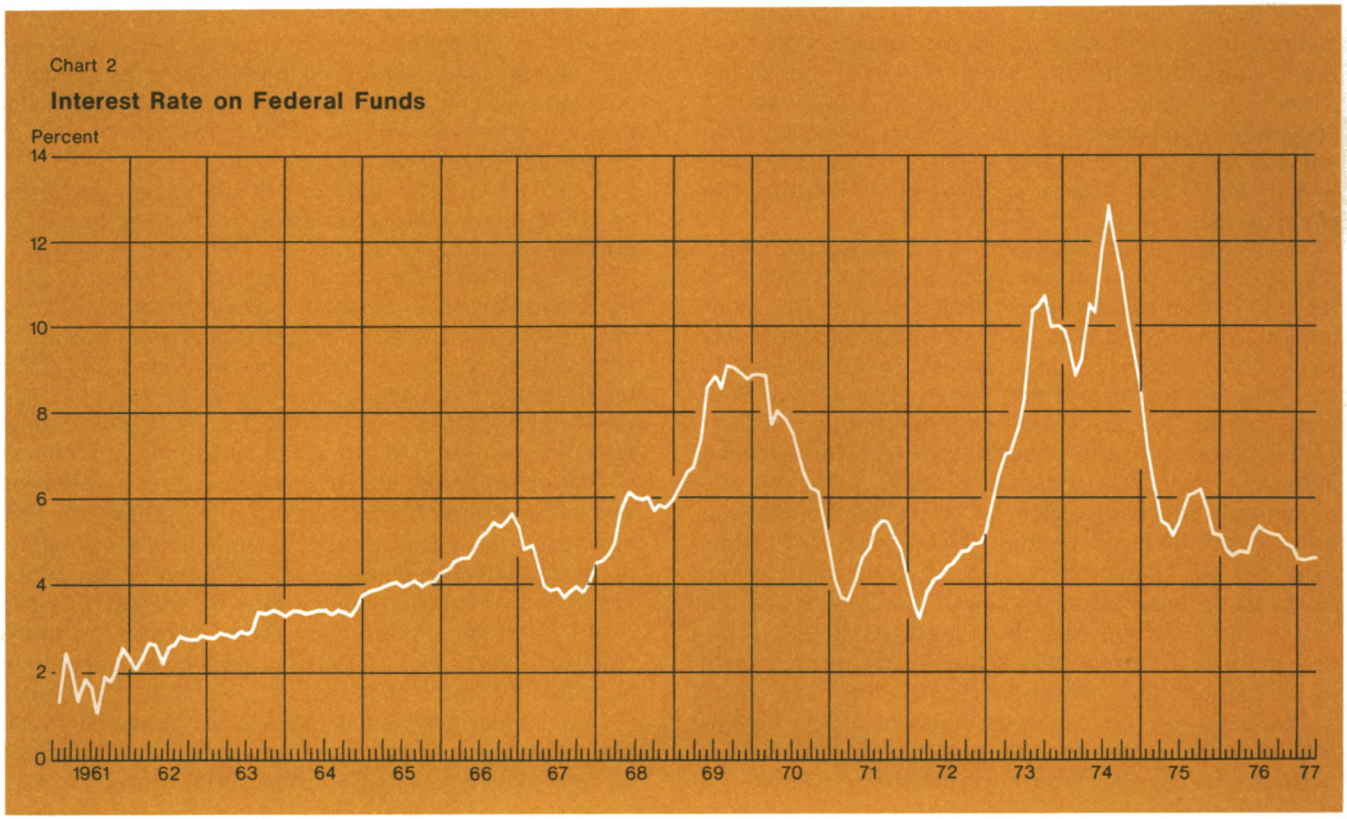
The rapid postwar development of the Federal funds market led to a reversal in 1965 of the long-standing relationship between the Federal funds rate and the Federal Reserve discount rate. Prior to that time, the discount rate had served as an effective ceiling on the Federal funds rate. This was because many banks borrowed Federal funds only occasionally and in relatively small amounts, and were therefore able to accomplish such short-term adjustments at the discount window as an alternative to Federal funds borrowing. This use of the discount window occurred whenever the Federal funds rate approached the discount rate. As banks turned to the discount window, demand for Federal funds diminished, and upward rate pressures slackened.

With the rise in liability management practices in the early 1960's, banks borrowed Federal funds more frequently and in larger amounts. Such borrowing could not be done at the discount window, which has always been available only for short-term adjustments by individual banks. As a result, banks using the Federal funds market for liability management purposes continued bidding for Federal funds as the rate rose to and exceeded the discount rate. This happened for the first time in 1965, when tightening monetary policy pushed the Federal funds rate upward. The Federal funds rate has been above the discount rate for much of the period since.

Another significant change in the market came in 1970. Federal Reserve Regulation D, which specifies those deposits of member banks that are subject to reserve requirements, had previously exempted Federal funds borrowing from reserve requirements so long as the lender was a commercial bank. An amendment to the regulation, along with a formal interpretation, extended the exemption to several other types of nonbank institutions, including agencies of the United States Government, savings and loan associations, mutual savings banks, as well as agencies and branches of foreign banks operating in this country. By 1970, some banks had already begun to borrow Federal funds from these nonbank institutions, and the regulatory change removed any doubt that the practice was acceptable. This change was particularly important, for it provided explicit regulatory approval for banks to borrow Federal funds from selected lenders outside the banking community, just as banks do by issuing CDs, demand de-

Chart 2

Interest Rate on Federal Funds



posits, or any other type of liability.

Commercial banks are able to obtain immediately available funds through repurchase agreements as well as through Federal funds transactions. The growth of RP activity by commercial banks, like that of Federal funds, has been influenced by regulatory changes. In 1969, Federal Reserve Regulation D was amended to restrict the exemption from reserve requirements only to those funds raised through RPs involving United States Government or Federal agency securities. This action practically eliminated bank trading in those RPs which involve other sorts of financial claims. At the same time, however, it removed any question about the status of RPs involving Government securities.

Recent developments in the banking sector

Some rather dramatic events occurred in the markets for immediately available funds beginning in 1973. Monetary policy was tightened that year in response to rapid inflation and a booming economy. The tightening placed severe pressure on the banking system—which had a limited supply of funds and faced strong demand for loans, particularly from businesses. Under these circumstances, banks with a strong liability management orientation turned to any and all potential sources of funds. In early 1973, large banks began to borrow heavily in the CD market. This borrowing was facilitated by the suspension in May 1973 of interest rate ceilings on all maturities of large denomination CDs. From early 1973 through mid-1974, CD borrowing jumped by about $38 billion. Large banks sought short-term open market funds to meet loan demands much more heavily than before, taking in about $18 billion of additional Federal funds and RPs during the same period.

The United States economy went through a sharp recession between late 1973 and early 1975. Demand for credit from commercial banks as well as other lenders remained strong for a time, but progressively weakened through the later stages of the downslide and into the recovery which began in mid-1975. With loans contracting, large banks gradually reduced their lending rates and also sought liabilities with lessened intensity. Their CDs dropped sharply, falling by $28 billion between early 1975 and late 1976. Commercial bank acquisition of Federal funds and RPs, however, did not follow the pattern set in the CD market. Holdings of these funds declined by only about $4 billion in late 1974 and 1975, then grew by about $17 billion in 1976. This reflected a continuing basic growth of the markets for Federal funds and RPs.

The basic growth also was manifest in the continuing entry of banks into the markets for immediately available funds. Call reports of member banks of the Federal Reserve System show that in 1969 about 55 percent of all member banks either bought or sold Federal funds. By 1976, the proportion of member banks that was in the market had climbed to 88 percent. Most of the new entrants to the market were small banks.

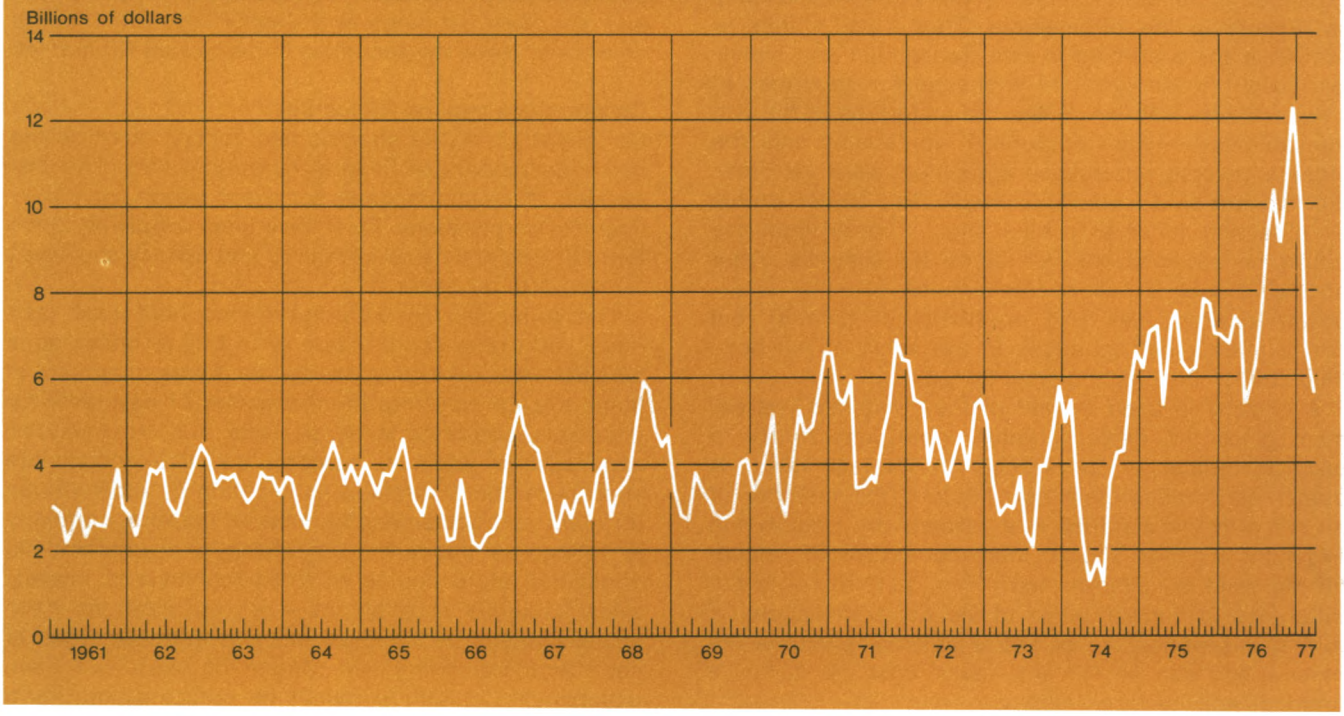
Thus, even in the early 1970's many commercial banks were newcomers to the markets for immediately available funds. These markets broadened and deepened in stages which typically occurred in periods of high interest rates. The concentration of entry in such periods is due at least partially to sizable start-up expenditures for trading in immediately available funds. Start-up costs are incurred mostly by borrowers, and mainly involve expenses of finding and establishing a trading relationship with potential suppliers of funds. The expenditures are more easily justified when interest rates (and potential earnings) are high. Once established, trading relationships tend to remain active even after interest rates fall.

Other developments also contributed to the greater acquisition of Federal funds and RPs by banks during 1975 and 1976. In 1974, the Treasury changed the way it handled its deposits at commercial banks (Tax and Loan Accounts). Such accounts had been held at banks for decades. Beginning in August 1974, however, most of these balances were transferred to the twelve Federal Reserve Banks. This reduced the volume of Government and agency securities that commercial banks were required to hold as pledged collateral against Treasury deposits. Once free from this purpose, these securities were available for use in the market for repurchase agreements.

With loan demand light in 1975, commercial banks began to accumulate large amounts of additional Government and agency securities. The process was significantly aided by the large amounts of new Government securities the Treasury sold in order to finance the sizable deficits the Federal Government was running. These securities were heavily used by large banks to acquire funds in repurchase agreements since they could be financed in this way at a cost below their interest yield. At about the same time, the effects of the recession led corporations to reduce inventories and expenditures for fixed plant and equipment. This enabled corporations to begin to rebuild their liquidity, partly through the purchase of Government securities and also by supplying funds to the RP market. The use of RPs grew rapidly as corporations increasingly came to view repurchase agreements as income-generating substitutes for demand deposits at commercial banks.

Quite separately, small banks and nonbank financial institutions were also increasing their offerings of immediately available funds. Both types of insti-

Chart 3
Dealer Positions in United States Government and Federal Agency Securities



tutions experienced a decline in loan demand from corporate and other borrowers with the onset of the recession. But individuals stepped up their savings in the form of deposits with small banks and with nonbank thrift institutions. With increasing deposit inflows and declining demand for loans, these institutions looked for alternative investments and became active suppliers of immediately available funds.

The role of Government securities dealers

Government securities dealers are the second major group of participants active in the markets for immediately available funds. Dealers are in the markets primarily to acquire funds, but they also supply funds under some circumstances. In some ways dealers act as financial intermediaries, but their operations also have speculative features. Dealers earn income in two ways: "carry income" and "trading profits". Carry income (or loss) refers to the difference between the interest yield of a dealer's portfolio and the cost of the funds which support that portfolio. Trading profits refer to the gain (or loss) a dealer earns by selling securities for more (or less) than he paid for them.

Government securities dealers often hold sizable positions in United States Government and Federal agency securities. These positions are highly leveraged in that the dealers borrow a very high percentage of the cost of purchasing securities. The search for low cost money to finance his position is a central part of the operations of any successful Government securities dealer. This search led the dealer community to promote the use of the repurchase agreement shortly after World War II. RPs were offered mainly to large corporations, which found them attractive because the short maturities of the RP contracts made them much like demand deposits, with the added advantage of earning income. The use of RPs by dealers has expanded ever since, in part because more corporations and others have come to accept the repurchase agreement as a reliable short-term money market instrument. Dealers have also come to vary the size of their positions much more than before, in response to the greater variability of interest rates and securities prices in recent years. These larger swings in position, which are evident in Chart 3, have been accompanied by higher average positions, which in turn have contributed to the increased use of RPs by dealers.

Because of greater interest rate variability, and in an effort to broaden their activities, Government se-

curities dealers have developed new trading techniques and expanded the use of others. One of the greatly expanded techniques enables dealers to act essentially as brokers in the RP markets. They obtain funds in exchange for securities in one transaction and simultaneously release funds in exchange for securities in a separate transaction. When the maturities of the two transactions—one a repurchase agreement and the other a reverse repurchase agreement—are identical, the two are said to be "matched". The dealer profits by obtaining funds at a cost slightly lower than the return he receives for the funds he supplies. After arranging such a pair of transactions, a dealer is exposed to credit risk (the possibility of default), but not to market risk (changes in the value of the portfolio due to changes in market prices).

A commonly used variant of the "matched" agreement gives the dealer greater opportunity to try to take advantage of movements in interest rates. A dealer may deliberately not "match" the maturity of an RP with the maturity of a reverse RP. Usually the RP is for a period shorter than the reverse RP, establishing what is called a "tail". The "tail" refers to the difference in the maturities of the two transactions. If during this period the dealer is able to refinance the reverse RP with an RP at a lower cost, he makes a profit; if not, he loses money.

Another use of the reverse RP has been developed more recently. Reverse RPs are now used frequently to facilitate "short sales" of Government and Federal agency securities.[4] In the past, dealers wishing to establish such positions had to borrow securities from commercial banks, usually at an interest fee of 50 basis points (½ percent). Now dealers often acquire securities elsewhere under reverse RPs and frequently through this device reduce the cost of obtaining securities for the purpose of short sales.

Use of the reverse RP to facilitate the short sale has led to the appearance of a new subsector of the repurchase agreement market, known as the "specific issue market". The subsector has developed because, for purposes of a short sale, a dealer tries to obtain the exact issue whose price he expects to fall. In a usual reverse RP, the specific securities to be exchanged are rarely discussed (though their maturity should exceed that of the reverse RP), since the parties to the agreement are primarily concerned with the cost of the money involved. The placement of securities in the specific issue market is advantageous for both principals to the transaction. Since it is apparent that the dealer is interested in a particular issue, the holder of the securities is able to negotiate with the dealer and can often get funds at a slightly lower cost than if he were to place the securities in the overall RP market.

[4] The dealer does not own the securities that he promises to deliver in a short sale. He "covers" the short by buying in the open market the particular security he has promised to deliver. Trading profits can be earned during periods of falling securities prices if the securities that were sold short become available at below-contract prices prior to the agreed-upon delivery date.

Corporations and the RP market

Up to this point, the analysis has concentrated on the major demanders of Federal funds and RPs. The discussion of major nonbank suppliers begins with nonfinancial corporations. They have been supplying funds through RPs against Government and agency securities for about thirty years.

The principal reason corporations hold cash and other short-term liquid assets is to bridge timing gaps between receipts and expenditures. Large quantities of funds are accumulated in anticipation of payments for dividends, corporate taxes, payrolls, and other regular expenses. In addition, corporations also accumulate short-term liquid assets in anticipation of expenditures for plant and equipment. In general, corporate liquidity is related to economic conditions and expectations about the future course of the economy and interest rates. Liquidity is often low—*i.e.*, corporations have small amounts of liquid assets and large amounts of short-term borrowing—in periods of rapid economic expansion. Liquidity is rebuilt by reducing short-term borrowings and acquiring liquid assets during an economic slowdown or the early stages of an expansion.

Corporations have traditionally held significant amounts of their liquid assets in the form of demand deposits at commercial banks. Such balances have not earned interest since 1933, but this was not of great signficance during the low interest rate periods of the depression and just after World War II. Interest rates began to climb in the late 1950's, and the higher rates have had a significant impact on how corporations handle their liquidity positions. They constituted an inducement to develop "cash management" techniques in some ways parallel to the "liability management" techniques adopted by banks during the same period. Cash management consists of a variety of procedures designed to achieve four goals: to speed up the receipt of payments due; to slow down the disbursement of payments owed; to keep a corporation's demand deposits to a minimum because they earn no interest; and to earn the maximum return on liquid asset holdings.

Repurchase agreements are particularly useful as tools of cash management. They generate income for the supplier of funds and are generally regarded as secure. Their key advantage is flexibility, primarily because they can be arranged for periods as short as one day. Few if any other income-generating assets have

this feature. Regulations prevent banks from issuing CDs with maturities of less than thirty days; commercial paper and bankers' acceptances can be obtained for shorter periods, but as a practical matter not for one day. None of these instruments are viewed as being quite as secure as repurchase agreements, where there is a margin between the amount of funds supplied and the value of the securities. Corporations can buy Government securities or other financial assets and hold them for short periods, but the transaction costs can be relatively high and the possibility of capital loss reduces the attractiveness of such alternatives. The overnight feature of RPs means that corporations treat them as if they are income-earning demand deposits.

Corporations make heavy use of a particular form of RP known as the "continuing contract". Under such a contract, a corporation will agree to provide a specific volume of funds to a bank or a dealer for a certain period of time. However, during the life of the contract the repurchase agreement is treated almost as if it were reestablished each day. That is, earnings are calculated daily, often related to the prevailing overnight RP rate. Either party has the right to withdraw at any time, although this right is seldom used. The principal advantage of the continuing contract over the daily renewals of an RP is that securities and funds are exchanged only at the beginning and at the end of the contract. The continuing contract therefore significantly reduces transactions costs, compared with daily RPs. An additional feature of the continuing contract RP is the seller's right of substitution, under which securities of equal value may be used to replace those originally involved in the RP. This option does not appear in all continuing contracts but, where it does appear, it is frequently exercised.

Another RP arrangement rather similar to the continuing contract specifies neither a definite period nor a fixed amount. Arrangements are made by banks chiefly for their corporate customers. The corporation concentrates all its demand balances in a single account at that bank daily. Before the bank closes its books each day, the corporation's balance in this account is determined, and any excess over a specified minimum is automatically converted into an RP. The following morning the funds are moved from the RP back to the corporation's demand balance for use during the day. Such automatic arrangements for the conversion of demand deposits to RPs are often included in packages of services offered by banks to their corporate customers. Among the services in such packages are lines of credit, payroll admininstration, and the use of safekeeping facilities. Payment for such service packages is usually not made on the basis of a stated fee. Instead, average or minimum demand deposit balances—called compensating balances—are usually required.

RPs also can be used to provide liquidity for somewhat longer periods, for example, to allow the accumulation of funds for a tax or dividend payment. This option is particularly attractive to corporations if the income that can be earned on a longer RP exceeds that available on an overnight RP. One or several RPs can be written, as liquidity is accumulated over the period prior to a payment date, with the contracts maturing on the day disbursements must be made. The RP has less commanding advantages over other money market assets for longer periods, however. Commercial paper can frequently be tailored to mature on a specific day, and Treasury bills that mature very close to the desired date can often be purchased. RPs are nevertheless used very frequently for such purposes, primarily because they can be arranged easily and quickly once a corporation has established a routine trading relationship with market participants.

The volume of corporate RPs has grown dramatically in the 1970's. This growth has not been smooth, but has occurred in bursts. Monetary policy was quite restrictive through 1969 and into 1970, and again in 1973 and early 1974. During these periods, interest rates, particularly on short-term instruments, reached very high levels. The interest income foregone by holding demand deposits was obviously very high, and corporate treasurers responded by accelerating the development of cash management techniques in general and increasing the use of RPs. In effect, the periods of high interest rates helped corporations meet the cost of developing these new techniques, and the high rates then attainable explain the apparent paradox that corporations provided a growing volume of funds to the RP market when they were most strapped for cash.

Interest rates fell rather quicky once the economy entered the 1974-75 recession. For a time, as they had in the earlier periods of declining interest rates, corporations reduced their supply of funds to the RP market. By early 1975, however, corporations began to expand their RP activity rapidly. The apparently atypical increase in RP activity was brought on by the combination of several forces. Most important, the RP became widely accepted as an instrument of cash management for corporations. During preceding periods, many corporations did not participate in the RP market due either to restrictions in their by-laws or to lack of familiarity with the instrument among corporate treasurers. But by the mid-1970's, by-laws of many corporations had been changed, and the instrument had become widely accepted. Coincidentally, by

1974 many corporations felt that their liquidity had reached dangerously low levels, and rebuilding liquidity thus became a high priority. Reductions in capital expenditures and inventories were possible as the economy turned downward, thereby reducing corporate borrowing needs and contributing to improved cash flow. Corporations were able to begin to accumulate liquid assets as soon as cash flow began to improve after the worst of the recession was over, a process that has continued since. Significant portions of the new-found corporate liquidity were placed either in outright purchases of Government securities or in repurchase agreements against such securities.

State and local government units have entered the RP market only in recent years but have quickly become major suppliers of funds. The RP is particularly well suited to their needs. These governments usually are required by law to hold their assets in the most secure form, generally in bank deposits or Government and Federal agency securities. The RP provides a way of meeting these requirements while earning income on short-term investments.

Tax receipts of state and local governments never match exactly the timing pattern of their expenditures, thereby creating the need for them either to borrow or to invest for short periods at various times of the year. Until recently their major investment alternative to deposits has been Treasury bills. As the advantages of the RP have become more widely recognized, these governments have switched more of their liquid investments into RPs.

In 1972, the Congress passed revenue-sharing legislation which increased the total volume of Federal money flowing to states and localities. The revenue-sharing payments are concentrated at the beginning of each calender quarter, and state and local governments have invested large portions of these funds in RPs until needed.

The role of nonbank financial institutions

Several types of nonbank financial institutions are active in the markets for immediately available funds. These include mutual savings banks, savings and loan associations, branches and agencies of foreign banks that operate on United States soil, and Edge Act corporations. (The latter are affiliates of United States commercial banks empowered to engage in international or foreign banking in the United States or abroad.) All of these institutions are active primarily in the market for Federal funds, and generally do not enter into repurchase agreements in volume. They generally lend Federal funds to commercial banks, although under certain circumstances agencies and branches of foreign banks will borrow from banks or other nonbank lenders.

The appearance of all these institutions in the Federal funds market has occurred relatively recently. Their entry has dramatically changed the function of the Federal funds market, allowing the banking system to draw funds from a wide array of institutions, instead of just reallocating reserves. The expanded borrowing ability of banks serves to integrate more closely the United States financial structure, and to help break down the barriers which have traditionally existed among various types of financial institutions.

The agencies and branches of foreign banks have also become active participants in the Federal funds market. These institutions deal with or represent foreign commercial banks, which trade in both the money markets of their home countries and in the Eurocurrency markets. Through the Federal funds market, the agencies and branches of foreign banks provide a link between the various markets abroad and the United States commercial banking system.

The participation of these institutions in United States financial markets mirrors the activities of United States commercial banks overseas. In the last three decades, overseas branch networks of United States banks have grown significantly in both the scale and range of their operations, and these networks have provided United States banks with easy access to foreign and international financial markets. Entry into the Federal funds market by agencies and branches of foreign banks, therefore, has contributed to the continuing integration of credit markets and banking in the United States and abroad.

The role of the Federal Reserve

The Federal Reserve is important to the markets for Federal funds and RPs for two quite different reasons. One is that Federal Reserve regulations play a very important role in the markets by limiting the type and terms of transactions member banks may undertake. A second is that actions taken by the Federal Reserve in the normal conduct of monetary policy have a major influence on the levels of interest rates in general and on the Federal funds rate in particular. Federal Reserve monetary policy is oriented toward achieving steady and sustained growth of the economy, along with reasonably stable prices. Such a sound economy depends on a multiplicity of factors, one of which is the capacity of the commercial banking system to extend loans and create deposits. These capacities, in turn, are strongly influenced by the interest rate on Federal funds and the supply of reserves to member banks.

The Federal Reserve controls the supply of reserves through open market operations, mainly via outright purchases and sales of Government and Federal agency

securities. An outright purchase of securities provides reserves permanently, while a sale permanently reduces the total supply of reserves. But the Federal Reserve also needs to provide and absorb reserves for short periods, mainly to accommodate the seasonal needs of banks for reserves and to offset the effects on reserves of day-to-day changes in currency in circulation, in the Treasury's balance at Federal Reserve Banks, and in Federal Reserve float. Reserves can be supplied temporarily by use of repurchase agreements, and absorbed temporarily through "matched sale-purchase transactions", which most market participants call reverse RPs.

A full historical treatment of Federal Reserve use of the RP and matched sale-purchase transaction would require another article, but a few highlights are important because they have influenced the development of the RP market. Federal Reserve use of the RP dates back to 1917, but extensive use of the instrument began only in the postwar period. Matched sale-purchase transactions were first used to absorb reserves in 1966. The technique was introduced at the time of a sudden, temporary increase in float arising from a widespread interruption of airline service. The amount of reserves needed to be absorbed at that time was too large to be handled by *outright* sales of securities by the Federal Reserve without disturbing the financial markets.

Until 1972, Federal Reserve RPs were executed at a rate fixed by the Federal Reserve, usually the discount rate. In that year the Federal Reserve instituted a competitive bidding procedure whereby the rate on RPs was set as a result of Government securities dealer offerings of securities in relation to Federal Reserve needs to provide reserves. Shortly thereafter, dealers were permitted to offer to the Federal Reserve any securities they obtained in separate transactions with other market participants. Until 1975, RPs were done by the Federal Reserve only with nonbank Government securities dealers. At that time, the practice was changed to include commercial bank Government securities dealer departments. All these changes contributed to the acceptability, flexibility, and utility of the RP.

Federal Reserve use of RPs and matched sale-purchase transactions for temporary reserve adjustment has grown sharply in the past few years, but for generally different reasons than those which explain the increase in the use of RPs by banks and others. The increase has arisen in large part from a change in Treasury procedures for handling its cash balances. Prior to August 1974, the Treasury received payments into accounts at commercial banks, and generally moved funds into its balance at the Federal Reserve only as funds were needed to make payments on behalf of the Federal Government. Under this scheme, Treasury balances in commercial banks fluctuated widely, but the Treasury balance at the Federal Reserve was reasonably stable. In August 1974, the Treasury began to move its balances more quickly into its accounts at the Federal Reserve Banks, which climbed by several billion dollars over a period of several months. This policy has led to much wider fluctuation in these accounts. This in turn has created greater variability in the supply of reserves available to the banking system which the Federal Reserve usually offsets by temporary adjustments to reserves through RPs or matched sale-purchase transactions.

Some major implications

The Federal funds and RP markets have grown dramatically since World War II, but particularly in the past few years. This growth is due in part to changes in the regulations which govern the operations of commercial banks, but is more basically due to the changing practices and behavior of all participants in these markets. The circumstances influencing each group of market participants have differed in detail, but for all, the quite high interest rates since the mid-1960's have provided the major motivation.

In addition, technological development has made participation less costly. Growth—both in trading volume and in the number of institutions participating in the markets—has not been even. Periods of most rapid growth in these markets have occurred when interest rates were rising toward or stood at postwar peaks. For the most part the markets for immediately available funds have contracted as interest rates fell from successive peaks, but never by as much as in the earlier periods of expansion.

The growth in the Federal funds and RP markets has several implications. Most importantly, the markets have expanded to include a broader range of domestic and international financial institutions and corporations. They use the markets as a link in a worldwide network that transfers interest-sensitive dollar balances to wherever they are in greatest demand. To be sure, mechanisms to move funds to high-demand uses have existed for some time, but the Federal funds and RP markets help make the task easier and more efficient by bringing interest-sensitive funds into a central marketplace from a broader arena. For example, most individuals who hold deposits at thrift institutions do not move their funds quickly from one investment to another in response to small interest rate changes. But thrift institutions can lend in the Federal funds market, in effect allowing the small deposits of individuals to be combined and placed directly in the national markets for short-term credit. Similar con-

siderations apply with respect to international credit flows.

These developments have some implications for the conduct of Federal Reserve monetary policy. Policy actions significantly influence the Federal funds and RP markets, which commercial banks now use as sources of funds more extensively than ever before. Hence any change in the availability of funds in these markets probably has a more direct impact than before on the cost to banks of making loans and on the rates they charge. Moreover, many more small banks and nonbank financial institutions have become quite active in the markets. Through this mechanism, Federal Reserve monetary policy is felt more quickly and directly by a broader range of the financial institutions, including those that provide a major portion of the total credit available in the United States economy.

United States and international financial markets have also become more closely integrated in recent years. There are multiple linkages among the various markets, but they center on the activities in this country and abroad of multinational corporations and of United States and foreign commercial banks. These institutions borrow and lend sizable amounts in both the United States and international markets, and are sensitive to the margins between borrowing and lending rates in different countries. For example, if short-term interest rates in the United States were higher than abroad, the differential would quickly draw funds from other uses abroad and channel liquidity into the United States financial markets. These flows would tend to reduce the differential between interest rates abroad and in this country.

But the flows of credit induced by such interest rate differentials may not be in keeping with Federal Reserve policy objectives at the time. For example, a restrictive monetary policy works to reduce spending by individuals and businesses, partly because it makes borrowing more expensive and difficult to obtain. The effects of such policies on the domestic economy could be dampened if large corporations and financial institutions can readily obtain credit elsewhere.

While high interest rates and inflation have encouraged growth of the Federal funds and RP markets, the evolution of technology, particularly the use of computer facilities, has also played an important part. The new and changing technology speeds the transfer of funds, reduces the cost of record keeping, and increases the availability of information concerning investment opportunities. It seems certain that technological change will continue at a rapid rate, thereby reducing further the costs of arranging and executing financial transactions and reinforcing the already strong trend toward aggressive financial management.

The rapid growth of the markets for Federal funds and RPs in recent years can be viewed as part of a pervasive trend in all United States financial markets toward more aggressive portfolio management by holders of financial assets. This trend will clearly continue to be a strong influence on the markets. Participants will no doubt devise new trading techniques, refine existing ones, and attract others into the marketplace. But the Federal funds and RP markets are only two of many markets for short-term financial claims, and their growth relative to others will be heavily influenced by the regulatory and legal framework in which they operate. These markets could be significantly affected by several proposals for financial reform that have been put forth in recent years, some in the form of legislative proposals introduced in the Congress.

Of particular note in this respect are the increasing number of arguments heard in favor of relaxing or eliminating prohibitions against the payment of interest on demand deposits and the payment of interest on member bank reserve accounts. Such proposals, if enacted, would probably have minor effects on the Federal funds market insofar as it is used by banks for reserve adjustment purposes, but would more heavily affect the use of both the Federal funds and RP markets as sources of funds on a continuing basis by banks. The effect any legislation will have on the markets will, of course, depend on the exact provisions. But one fact seems clear: legislative and regulatory changes can channel the pressure emanating from aggressive financial management into or away from the Federal funds and RP markets, but it is unlikely that financial management itself can be forced to return to the tamer posture of a decade and more ago.

Charles M. Lucas, Marcos T. Jones,
and Thom B. Thurston

New York City's Economy—A Perspective on its Problems

The economy of New York City is an amalgam of many diverse elements. Above and beyond being the center of the nation's largest metropolitan area, New York holds a leading position in finance, international trade, communications, fashion, entertainment, culture, and legal and advertising services—both in the nation and in the world. Yet the city's economy has been caught in a downward spiral. Its resident population has been slowly contracting. One out of every two manufacturing jobs has been lost since 1950. Since 1969, New York has lost one payroll job in every six—about 600,000 in all. This continuing shrinkage in employment has been caused in large measure by the exodus of both small and big businesses. More rapid or more flexible means of communication and transportation have made the once strategic location of New York, and of older cities in general, less important and have fostered the growth of employment and population elsewhere.

But, in addition to shared urban problems, other factors have fueled New York's economic decline. Among them are the large number and the relatively high rates of business and personal taxes and the high cost of living as compared with other major metropolitan areas.

It is the combined effect of problems specific to New York and those common to older cities in general that accounts for the steep economic decline New York has suffered. While the serious consequences of this decline are clear—the emigration of businesses, jobs, and people—the remedies are not clear at all. But during the past few months there have been encouraging signs. The city administration has taken steps to start easing the tax burden on business. More generally, employment and retail sales data for the first months of this year indicate that the erosion of New York's economy is beginning to slow. While it is still too early to assert that the city's condition has permanently improved, the recent upgrading of the ratings assigned to New York's debt obligations provides some indication that the city has made measurable progress since its fiscal position was at its worst.

The decline in employment

A lack of satisfactory data generally makes it difficult to assess the amount of economic decline that has undermined the viability of older urban centers. There are virtually no continuous and detailed measures of the output of cities comparable to the flow of data on gross national product for the country as a whole. The best available statistics come from labor market information. Employment and unemployment data are the most comprehensive and hence the most useful yardsticks of the economic position of cities, and those for New York provide good documentation of its decline.

Employment in New York City has been falling as a proportion of national employment for at least a quarter century (Table 1). Such a development was probably inevitable, as more of the nation's economic activity shifted to newly developing areas in the West and Southwest as well as to reviving sectors of the Southeast. But more debilitating to New York City than its slippage in national position is the large decrease in the absolute number of people employed. Since there

Table 1
New York City Employment by Industry as Percentage of United States Totals

Industry	1950	1960	1970	1976
Goods-producing industries:				
All manufacturing	6.8	5.7	4.0	2.9
Apparel	*28.3*	*21.7*	*14.9*	*11.9*
Printing and publishing	*15.9*	*14.0*	*11.0*	*8.4*
Contract construction	5.3	4.3	3.1	1.9
Service-producing industries:				
Transportation and public utilities	8.2	7.9	7.2	5.9
Wholesale and retail trade	8.0	6.5	4.9	3.5
Finance, insurance, and real estate	17.5	14.5	12.5	9.6
Other services	9.4	8.2	6.8	5.2
Government: Federal, state, and city	6.2	4.9	4.5	3.5
Total	7.7	6.5	5.3	4.0

Sources: United States Bureau of Labor Statistics and New York State Department of Labor.

is no evidence of a compensating increase in output per worker, the implication is that the real gross product of the city has also been falling for some time, and estimates made by statisticians in the New York City Office of Management and Budget bear out the point.

The employment history of New York in recent times can be divided into two distinct periods. First came the loss of relative position *vis-à-vis* the nation during the years between 1950 and 1969 when more jobs were added to nationwide payrolls than to local payrolls. Thereafter, the city's position deteriorated both relatively and absolutely. About the time of the 1969-70 recession, New York City began a period of uninterrupted job loss that has not yet been halted, although in recent months it has been slowed. Approximately 600,000 jobs were lost in the seven years from 1969 to 1976, more than twice the gain of the previous two decades.[1] This drastic contraction may have been abetted by the two national recessions that occurred since 1969, but there have been few signs of improvement during the subsequent recoveries.

A closer look at the payroll data reveals that even the 1950-69 uptrend was far from general. Warnings of the future slippage were evident in several sectors. Employment in the transportation, trade, and construction industries reached their peaks well before 1969. Even worse, total employment in manufacturing began to fall as early as 1948; from 1950 to 1969, more than 200,000 manufacturing jobs were lost. The following six years saw an additional drop of almost 300,000. During 1976, however, there was a relatively small increase in factory jobs. All in all, there are now but half as many manufacturing employees as in 1950. Only in the "other services" and government sectors did job growth continue into the 1970's (Table 2).

If anything could be more discouraging than the loss of 50 percent of all manufacturing jobs since 1950, it is that the losses have pervaded all sectors. Employment in each of the city's major manufacturing subdivisions has declined over the past twenty-six years. The largest losses both in absolute and relative terms have occurred in the apparel industry. In 1948, when apparel employment was at its peak, about 350,000 workers were employed. The city has lost some 200,000 apparel jobs since, about three out of every five. Employment by the city's second largest manufacturing employer—printing and publishing—is down nearly 40,000 from its peak, almost one out of every three jobs.

Jobs outside manufacturing

Employment in nonmanufacturing—which consists of the construction and the service industries as well as government—currently accounts for 83 percent of citywide employment as compared with 70 percent in 1950, and the statistics there are not so unrelievedly gloomy as in manufacturing. Private nonmanufacturing employment grew until 1969; government employment continued growing until 1974. Between 1950 and 1969, private nonmanufacturing employment increased 370,000, with almost all of this growth concentrated in the finance, insurance, and real estate (FIRE) sector and in "other services". The latter category includes employment in such diverse occupations as legal services, the hotel industry, and the health field. But since 1969 private nonmanufacturing employment has declined by 300,000, or 12 percent. Employment in "other services" has been the only private sector component countering this trend; as a whole, however, it too began declining after 1973.

This structural shift in employment from manufacturing to service and government jobs has a deleterious

[1] These data on jobs are based on information gathered from the payrolls of employers in New York City. Therefore, to some extent they probably overstate the effect on *residents* of the city, since some of the job losses most likely have been suffered by the 669,000 people who lived outside the city but worked in it as of 1970. Unemployment data (see pages 52-53) are a better indication of the effect of job losses on the city's population because these statistics specifically cover the job status of city residents. The unemployment data also capture the employment status of people who live in New York and who commute to jobs *outside* the city, but this is a smaller deficiency as this group only numbered 197,000 in 1970.

effect on the city's tax collections. In fact, simply to hold tax revenues at their current level, the manufacturing job losses must be replaced by 4 percent more service jobs or 25 percent more government jobs.[2] The low value of tax revenues per service employee is due to the relatively low level of average wages in many service industries and to the tax-exempt status of the many nonprofit enterprises in this sector; that of government employees is due to the fact that governments are not liable for property or business taxes.

Nonmanufacturing job losses began to slow in 1976, but several sectors remain extremely depressed. The construction industry is among the nonmanufacturing groups most severely affected. Employment of 67,000 in 1976 amounted to slightly less than half the peak reached in 1962. In this industry, there is some striking information to supplement the employment statistics. Although the city has tried to stimulate construction activity through a limited tax incentive program, only two new office buildings providing 520,000 square feet were completed in 1976. This is the smallest annual addition to office space since the years immediately following World War II. The figures stand in sharp contrast to the average of fifteen buildings or more than thirteen million square feet completed annually during the 1970-72 period. That amount of building, however, proved to be excessive; a remaining overhang of idle office space from the earlier boom is undoubtedly part of the explanation for the continued low level of building activity.

The rest of the nonmanufacturing industries are classified as "service producing". Of these industries, employment in the transportation segment has been among the hardest hit. Jobs declined from 219,000 in 1960 to 156,000 in 1976. It is reasonable to assume that much of this decline took place in jobs depending on ocean or coastal shipping since partial data available for this sector suggest as much, and the city's port has clearly been losing position in relation to other United States ports. During the same sixteen-year period, jobs in rail transportation decreased by 22,000. The major exception to the overall decline in transportation employment was in the air transport sector—one of the city's few remaining "growth" industries—in which employment improved by almost 15,000.

The FIRE sector, as has been mentioned, was a major source of employment growth through 1969. It has been contracting slowly ever since. Because employment in the FIRE group has diminished relatively less than total employment, this sector's share of New York's total payroll employment rose from 9.7 percent in 1950 to 13.0 percent in 1976. Banking is the largest employer within the FIRE sector and is the only component in which current employment is substantially greater than it was in 1969. Between 1969 and 1976,

[2] Estimated by Roy W. Bahl and David Greytak in "The Response of City Government Revenues to Changes in Employment Structure", *Land Economics* (November 1976).

Table 2

Changes in New York City Payroll Employment

In thousands; 1950-76

Industry	Employment in 1950	Peak employment Year	Peak employment Level	Employment in 1976	Change: 1950-76	Change: Peak to 1976
Goods-producing industries:						
All manufacturing	1,038.9	1947	1,072.9	544.2	−494.7	−528.7
Apparel	*340.7*	*1948*	*354.0*	*154.3*	*−186.4*	*−199.7*
Printing and publishing	*119.2*	*1962*	*128.9*	*90.1*	*− 29.1*	*− 38.8*
Contract construction	123.0	1962	137.3	66.5	− 56.5	− 70.8
Service-producing industries:						
Transportation and public utilities	331.5	1951	344.4	263.8	− 67.7	− 80.6
Wholesale and retail trade	754.8	1957	761.1	626.8	−128.0	−134.3
Finance, insurance, and real estate	336.2	1969	465.6	416.1	79.9	− 49.5
Other services	507.7	1973	791.2	766.9	259.2	− 24.3
Government: Federal, state, and city	374.4	1974	583.7	517.0	142.6	− 66.7
Total*	3,468.2	1969	3,797.7	3,203.0	−265.2	−594.7

* Includes mining.

Sources: United States Bureau of Labor Statistics and New York State Department of Labor.

banking employment grew by 8.0 percent, or 10,000 jobs. This rise can largely be credited to an increase in both retail and international banking activities.

Curtailment in the securities industry

Meanwhile, the securities industry experienced a drastic job curtailment. Employment fell from 105,000 in 1969 to 70,000 in 1976. Several factors appear to be responsible for the cutback. The bull market of the 1960's and the "back-office crisis" of those years caused securities firms to increase their staffs greatly, particularly in sales and clerical positions. But, as a result of the ensuing decline in the volume of stock market transactions, many of these newly hired employees were laid off. Staff reductions also included personnel engaged in ancillary services such as research and analysis. Layoffs were accelerated as several firms closed and others merged. In addition, back-office performance was improved by intensive computerization, which reduced the demand for clerical personnel and eliminated the need to do paperwork near its origin. Job rosters in the remaining FIRE sectors—insurance and real estate—have shrunk gradually since at least 1958 (the earliest year for which data are available). In all, FIRE employment has declined by 50,000 since 1969.

Employment in the traditionally strong "other services" has also been curtailed, but on the whole beginning only in 1974. The number of jobs hit a peak of 791,000 in 1973, and by 1976 was down by just 24,000. Part of this decline is attributable to the situation in health services. Budgetary problems of both public and private hospitals and the closing of nursing homes have all contributed to a weakening of demand for the specialized personnel and the general workers essential for such institutions. Employment in hotels also has declined, largely because some of the major ones have closed. Other sectors, however, have countered these declines. For example, employment in legal services, based on insured employment data, has grown from 28,000 in 1969 to 37,000 in 1976.

Of all the categories included within the other services sector, broadcasting and advertising have long been among those in which New York is a national leader. Employment data for these industries are not available on a consistent basis, but estimates indicate that since 1969 there have been fewer jobs in advertising but more in radio and television. As of 1972, the advertising industry directly employed 33,000 persons, 15 percent less than in 1967. (Nevertheless, roughly two thirds of the largest United States agencies, based on annual billings, still had their headquarters in New York in 1975.) In contrast, employment in the broadcasting industry reached 20,000 in 1972, an increase of approximately 27 percent above 1969. There is reason to believe that this job growth has continued. Permits to television units for shooting outdoor scenes in New York City increased 20 percent between 1967 and 1975. While twenty-three films for either television or movie theatre use were made in New York in 1974, forty-eight were produced in 1975 and fifty-three in 1976. This gain in local film making came after some adjustments were made in work rules.

A cut in municipal jobs

While widespread job losses occurred in most private industries throughout the 1960's and 1970's, public sector employment at the state and local levels continued to expand in New York City through 1974. Between 1960 and 1974, the peak year for such employment in New York City, there was a 67 percent rise. Although this is less than the 88 percent increase in state and local employment experienced by the nation as a whole over this same period, it should be noted that, unlike the national economy, the city economy was contracting during this time. In New York City, the growth in municipal employment came to a halt when the city's fiscal crisis surfaced. Approximately 60,000 positions—one out of every eight jobs—were eliminated from the city's payroll in 1975 and 1976. These layoffs reduced city government jobholders from 12.9 percent of the total employed in 1974 to 12.0 percent in 1976.[3] Payroll reduction is still going on but is mainly being accomplished by not filling openings that arise from normal attrition and retirement. Given the prospect that New York will remain under fiscal siege for quite some time, it seems unlikely that municipal employment in the city will rise much, if at all, in the future.[4]

The statistics on unemployment to a large extent complement the employment statistics, although the former are available only since 1970. As can be seen in Chart 1, the local unemployment rate has been consistently above the national rate beginning in early 1971. Moreover, the differential between these two rates continued to increase until May 1976. Since then, it has gradually narrowed somewhat.

Unemployment among city residents may be even worse than the published numbers indicate. In a trend quite the reverse of that prevailing nationally, the labor force in New York City has declined from 3,300,000 in 1970 to 3,100,000 in 1976. Part of the de-

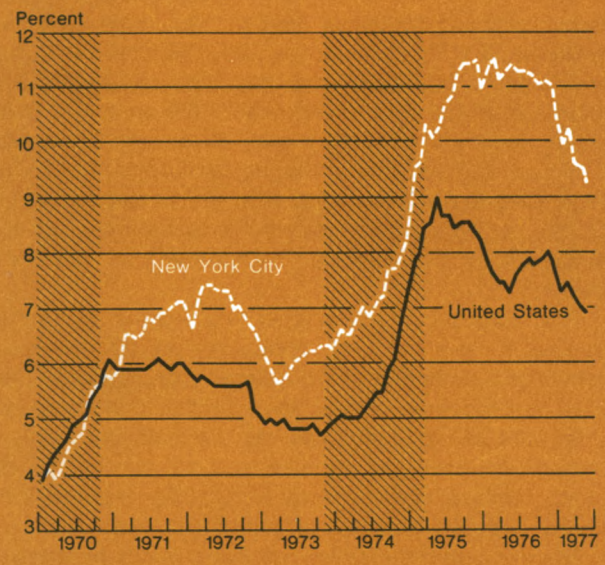
[3] These calculations are based on data from the New York State Department of Labor.

[4] New York State's employment rolls in the city dipped slightly after 1975. Employment in the city by the Federal Government has been declining moderately since the early 1960's.

Chart 1

Unemployment Rates

Seasonally adjusted *



Shaded areas represent periods of recession as defined by the National Bureau of Economic Research.

* New York City data were seasonally adjusted by the Federal Reserve Bank of New York.

Sources: United States Bureau of Labor Statistics and New York State Department of Labor.

crease occurred as some residents moved away either because their jobs went elsewhere or because of a growing dislike of city living. However, the decline in the labor force was greater than that in the working age population, thus factors other than migration were involved. A substantial portion of the reduction would seem to have developed as some of the unemployed grew discouraged to the point that they simply stopped looking for jobs. Another part is surely due to the fact that some youngsters thought their job chances so small that they never entered the labor force at all.

Declining labor force participation rates[5] bear out hypotheses such as those above. In sharp contrast to the national experience, the civilian labor force participation rate of the total New York City population declined from 57.0 percent to 54.4 percent between 1969 and 1976. During this same period, the total United States participation rate rose from 60.1 percent to 61.6 percent (Chart 2). The divergence in participation rates among those 16 to 19 years of age is even more striking. Nationwide, the teenage participation rate rose from 49.4 percent to 54.6 percent; locally, it fell from 36.9 percent to 31.5 percent.

[5] The civilian labor force participation rate is the proportion of the noninstitutional population 16 years of age and over that has a job or is looking for work.

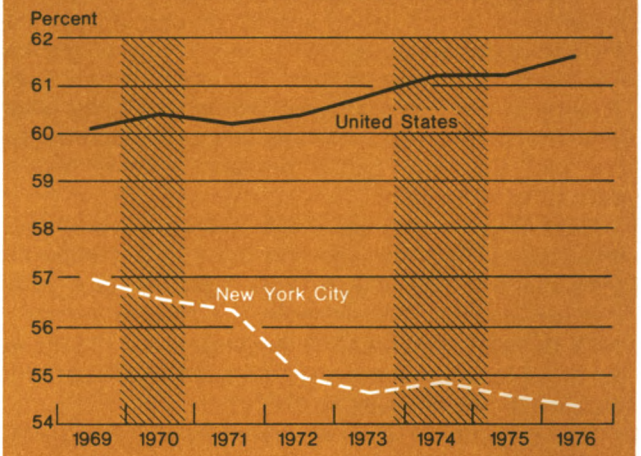
The changing demographic profile

The demographic and related socioeconomic changes taking place in New York City have also contributed to the weakening of its economic base. The population mix has increasingly shifted to people who have lower education and income levels. In addition, the population losses have been greatest among people in what are generally considered the most productive working years, 18 to 64. Such developments have made a greater proportion of New Yorkers dependent on the city government for the provision of services and at the same time have weakened the city's ability to generate the revenues needed to provide these services.

New York City's total population declined slightly between 1950 and 1960 but remained relatively stable at around 7.8 million during the following ten years. Its composition, however, radically and rapidly altered during the 1960's. During this latter period, there was

Chart 2

Civilian Labor Force Participation Rates



Shaded areas represent periods of recession as defined by the National Bureau of Economic Research.

Source: United States Bureau of Labor Statistics.

an emigration of almost 1 million whites, which was more than balanced by a combination of immigration and natural population increase. This immigration consisted of nearly half a million blacks, other nonwhites, and Hispanics, an absorption greater than that of Chicago, Los Angeles, Philadelphia, and Detroit combined. The nonwhite and Hispanic population of New York City was approximately 13 percent of the total population in 1950, 22 percent in 1960, and 36 percent in 1970.[6] Starting in 1970 the city's total population slowly began to contract, reaching 7.5 million by 1975, but its black population remained relatively stable and its Hispanic population continued to grow.[7] Together the city's black and Hispanic groups accounted for 41 percent of the total population in 1975.

Along with the change in the ethnic makeup of the city, there has been a marked shift in the age composition of its residents. Between 1950 and 1975, the proportion of the population under age 18 in the city grew to 28 percent of the total. In the same period, the city's population 65 years of age or over rose from 8 percent of the population to 13 percent. Thus, those aged 18 to 64, the age group from which the bulk of the labor force is drawn, dropped from 68 percent to 59 percent of the city's population. Nationally, the proportion of the population aged 18 to 64 fell appreciably less, from 61 percent in 1950 to 58 percent in 1975.

A loss in income position

The economic well-being of New York City residents, of course, depends directly on their incomes. In 1950, per capita personal income in the city was 42 percent higher than in the nation and 12 percent higher than in New York State. By 1970, these differences had narrowed to 22 percent and 3 percent, respectively. This trend continued at least through 1975, by which time the divergence between city and national and city and state per capita personal income was 13 percent and 2 percent.

Demographic changes have played some role in this pattern. Both the age and the ethnic groups that grew most rapidly in New York typically have below average incomes. For example, the median income in 1973 for all New York City families was $10,921, but for those in which the household head was 65 or older the median income was $6,670.

The disparity in incomes between white and other families is general throughout the United States but, because of the growing segment of the city's population that is Hispanic or nonwhite, this disparity has especially important consequences for New York City. It began to narrow in the late 1960's but appeared to widen again in the early 1970's. The latest data now available are for 1973 when, for the first time, data on Hispanic incomes were gathered separately from those of whites and nonwhites in the annual surveys conducted by the United States Bureau of the Census. It turned out that median white family income in New York City in 1973 was $13,273; for nonwhites it was $7,728, or 58 percent of the white median; for Hispanics it was $7,572, or 57 percent of the white median.

The differences are further highlighted at the extremes. At the low end, approximately 22 percent of nonwhite families and 16 percent of Hispanic families had incomes of less than $4,000, compared with 9 percent of white families. At the high end, only 19 percent of nonwhite families and 15 percent of Hispanic families had incomes of $15,000 or more, compared with 41 percent of white families.

Greater suburbanization explains much of the population and income changes which have occurred among New York City residents. The larger number of people who choose to work in the city but live outside is one indication of the exodus of the middle class from New York. This has resulted in the city's resident population becoming increasingly composed of either low-income or upper-income residents. Between 1960 and 1970 the number of people with jobs in the city who commuted to work from the suburbs grew by 28.8 percent, from 519,000 to 669,000. In the same period, the number of people who both work and reside in the city fell from 3,163,000 to 2,994,000. Commuters comprised 18 percent of the total employed in 1970. Approximately 43 percent of those commuters held professional, technical, and managerial jobs, compared with only 23 percent of the city's residents.

It should not be assumed that the movement from inside to outside the central city is limited to whites. The number of nonwhites living outside the central city but within the New York Standard Metropolitan Statistical Area grew by 55 percent between 1960 and 1970. To be sure, the numbers involved were still small; in 1970 this latter group numbered only 217,000. The figure is probably much greater now.

Is the worst over?

Recently there have been some signs that the worst may be over for New York City's economy. During 1976, manufacturing employment rose by more than 7,000 jobs, the first such increase since 1965. Moreover,

[6] These estimates include blacks plus Puerto Ricans. Only beginning with the 1971 Current Population Survey can the data for total Hispanics be obtained separately from those for all whites and all nonwhites.

[7] Census data do not contain any allowance for the purportedly large number of illegal aliens residing in New York.

during the first five months of 1977, there has been a relative slowing in the rate of overall job loss as compared with the same period in 1976.

Another important indicator of the performance of the city's economy is retail sales. The latest readings —measured in constant dollars—show signs of limited recovery. Sales kept declining beyond the end of the last national recession, in part because the massive layoffs of city employees came after the national business recovery had begun.

Since the second half of 1976 there has been a relatively higher level of retail sales activity (Chart 3). The state's blue laws that prohibited the conduct of business on Sunday were relaxed at that time, and many retailers feel that Sunday openings have provided stimulus to previously lagging sales; the upturn may indeed reflect this.

The Sunday openings of the larger department stores have spillover effects. These effects include bringing customers to other nearby businesses as well as an extra day's work for regular staff or jobs for new employees. There is, of course, a possibility that, as the novelty wears off, any total sales increases generated by Sunday store openings will vanish.

Several significant signs of improvement in New York's competitive position have also appeared. One is a comparative moderation in the rate of price increases in the New York area. During recent months, rises in consumer prices in general have been less here than in such other major metropolitan areas as Philadelphia and Los Angeles. Moreover, in 1976, for the second consecutive year, the annual gain in consumer prices in the New York-Northeastern New Jersey region was below that of the nation as a whole.

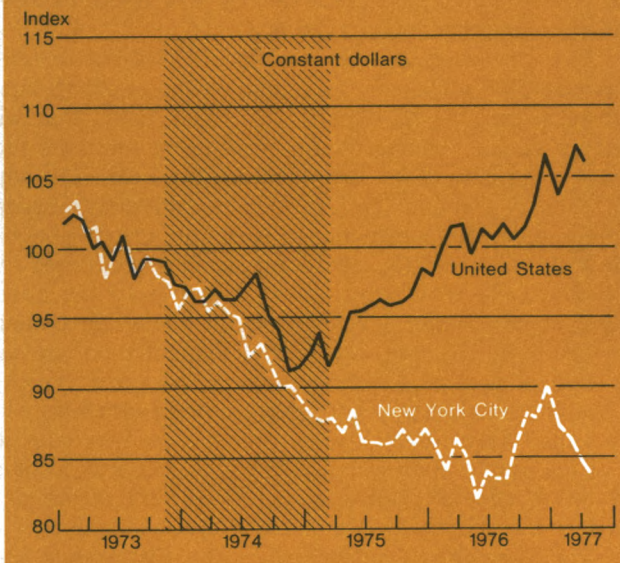
Nevertheless, New York continues to be a comparatively high cost-of-living area, as reflected in the annual costs for a family of four living on an intermediate level budget. The United States Bureau of Labor Statistics calculated these costs to be $18,866 in the New York-Northeastern New Jersey area during the autumn of 1976, 16 percent higher than the average for all urban areas in the United States. Boston was the only city in the continental United States for which this budget calculation was higher than for New York.

The rate of wage increase, however, does appear to be slowing in New York City relative to other areas of the country, although hourly wage rates continue to be comparatively high. Average hourly earnings of office clerical workers rose by 6.4 percent in the city for the year ended in May 1976. They rose by 7.8 percent in both Chicago and Houston, by 7.2 percent in Atlanta, and by 6.9 percent in Boston. But a recent survey of four white-collar positions showed that average hourly earnings for secretaries, keypunch operators, clerks, and draftsmen in New York were still much higher than for their counterparts in Boston, Chicago, Atlanta, or Houston. Of the two blue-collar positions surveyed—shipping and receiving clerks and maintenance mechanics—wage costs were in most cases comparable to those in other cities and in several instances, those in New York were lower.[8]

Chart 3

Retail Sales

Seasonally adjusted;* 1973=100



Shaded area represents the latest period of recession as defined by the National Bureau of Economic Research.

*New York City data were seasonally adjusted by the Federal Reserve Bank of New York.

Sources: Retail sales from the United States Department of Commerce. Sales were converted to constant dollars by using the commodity sectors of the consumer price indexes issued by the United States Bureau of Labor Statistics for the United States and for the New York-Northeastern New Jersey area.

Signs of revival in construction

There is also some indication of a growing awareness among workers of the importance of holding down wages in order to remain competitive with other regions and not to lose additional employment. A prime example is in construction. The severity of the construction standstill in New York has induced the various unions in the industry to revise long-established work rules in the hope that building activity would be

[8] Temporary Commission on City Finances, *Economic and Demographic Trends in New York City: The Outlook for the Future*, Thirteenth Interim Report to the Mayor (May 1977).

stimulated. More than that, the major unions have agreed to accept a 25 percent cut in wages and fringes for work on rehabilitation projects, virtually the only type of building project being undertaken in the city. Such work may include anything from minimal repairs to rehabilitating the entire core of a structure.

As a result of the effort to reduce labor costs in construction, the city received an immediate boon. A Federally sponsored program for housing rehabilitation was stepped up recently from 2,500 to 5,000 apartments precisely because of the reduction in costs. This program is expected to create jobs for as long as six months for at least 15,000 unionized building trades workers who will earn 25 percent less than their normal contract rate. The work on these projects should begin sometime later this year.

Another spur to construction employment may come from the Westway program. This program is designed to reconstruct the lower portion of the West Side Highway that runs along the Hudson River and to integrate it into the interstate highway system. If Westway materializes, it is expected to furnish an average of 14,000 man-years of on-site construction jobs over an eight-year period, and this estimate does not include related off-site work.

Commercial building activity is not likely to revive in the short run. There is, however, promise for the future since the amount of vacant office space declined during 1976, due both to the lowering of rental rates to more competitive levels and to the increased occupancy of the large amounts of space that were built in the 1970-72 boom.

The city will also benefit if Federal aid formulas that allegedly favor the "sunbelt" are revised to take into account the problems of the older areas of the Northeast and Midwest. A greater infusion of Federal aid might enable the city to ease to some extent the current tax burden on businesses and individuals. The housing and development bill pending in the Congress is a good example of such a reform. It is designed to rehabilitate some older cities and to help newer ones with housing shortages. Money for housing projects in the bill would be allocated on the basis of either of two formulas: the first, which will primarily be used by the newer cities, is based on population, overcrowded housing, and degree of poverty; the second, which will primarily be used by the older cities, is based on degree of poverty, age of housing, and lags in population growth as compared with that of all of the larger cities. The latter method of allocation is designed to prevent the older cities of the Northeast and Midwest from losing Federal funds to the faster growing ones. New York City's per capita share will reach $24 under the first formula, but it will reach $34 under the second. Even larger increases in payments will be realized by such cities as St. Louis, Cleveland, Buffalo, and Detroit.

The new Federal countercyclical aid program that will distribute funds to states on the basis of their unemployment rates is another example of a change in the method of distributing Federal aid which seems more equitable to older areas.

Many problems remain

Despite such signs of change, enormous problems remain. Among the most difficult is the tax burden presently borne by the city's businesses and individuals. Not only are there numerous taxes, but they are levied at a high rate. Consequently, the tax burden alone is in many cases sufficient to cause the migration of both businesses and individuals. While the need for changing the tax structure is widely recognized, actual tax reform is most difficult. To remain competitive over the long run, the city will have to reduce the tax burden closer to that prevailing in other cities and regions. However, the delicate balance in the city's budget precludes making any immediate sweeping reductions. As a result, steps are being taken toward lowering tax burdens, but with due regard for the short-run constraints imposed by the need to keep the budget balanced.

The proposed budget for fiscal 1977-78 includes almost $100 million in tax reductions for existing businesses, as well as a series of lower taxes that will apply to new businesses. An effort to maintain the real estate tax rate at its 1977 level for the next five years has been pledged, and various individual tax abatement packages designed to keep or attract specific industries or businesses have been constructed. In addition, the state legislature has repealed the bond- and stock-transfer taxes levied on securities dealers —taxes which were considered influential in the decision of several brokerage houses to leave the city. The city now proposes to phase out the stock-transfer tax paid by brokers on each transaction they execute for the public. (For technical reasons, this will be done through offsetting tax credits.) New York is the only city in the country to levy this kind of tax.

The Temporary Commission on City Finances, a specially appointed mayoral commission, has conducted several studies regarding the effect of particular taxes on the city's economy. As a result of one of these studies, the commission has assembled a major tax reform package aimed at reversing the outflow of manufacturing firms. The package includes a reduction of the general corporation tax as applied to manufacturers; the elimination of the city sales tax on the purchase of machinery, equipment, fuel, and utilities;

the introduction of an investment tax credit against the general corporation tax for the purchase of manufacturing machinery, equipment, and structures; a reduction of the commercial rent occupancy tax; and additional exemptions from the property tax for newly constructed manufacturing facilities. Even if this total package of proposals is enacted, restoring the city's manufacturing industry remains an extremely difficult task in the face of such other obstacles as congested business districts, aging facilities, and rising crime rates—problems for which New York and so many other older cities are seeking solutions.

Other businesses in New York City are similarly subject to taxes which they feel are onerous. Commercial banking, for example, is one such industry. While commercial banking is highly concentrated in the city, it cannot be considered a captive industry. Swifter communications and increasing computerization create an opportunity for banks in other urban centers to expand. Other cities can educate or lure from elsewhere the cadre of highly trained personnel needed. However, New York can exert some influence on how much banking business remains here by changing the taxes it levies on the industry. The combined city and state taxes levied on a commercial bank's net taxable income in New York City is 25.8 percent in 1977, higher than similar taxes in any other locality. In comparison, the state tax burden in Massachusetts is 12.5 percent and in California it is 13.0 percent. There are no municipal taxes in these states. In addition, the rate of taxes levied on commercial banks is higher than the 20.05 percent being imposed on general business corporations in New York City for 1977. All in all, the present tax system creates incentives for New York banks to locate facilities and transactions outside New York State to the extent they find feasible.

Table 3

Fortune "500" Companies in Major Cities

1956 and 1976

City*	1956	1976	Change
New York	140	84	− 56
Chicago	47	27	− 20
Pittsburgh	22	14	− 8
Detroit	18	6	− 12
Cleveland	16	14	− 2
Philadelphia	14	7	− 7
St. Louis	11	12	+ 1
Los Angeles	10	13	+ 3
San Francisco	8	6	− 2
Boston	7	5	− 2
Total	293	188	−105

* The ten cities are ranked in order of number of headquarters in 1956.

Source: "The Fortune Directory of the 500 Largest U.S. Industrial Corporations", *Fortune* (July 1957 and May 1977).

The tax burden on individuals is also great in New York City. A study carried out for the District of Columbia compared the tax burden on a family of four at different income levels in thirty of the nation's largest cities. The burdens include state and local income taxes, state and local sales taxes, automobile taxes, and residential property taxes that were adjusted for intercity differences in property values. At each income level, the combined state-local tax burden of New York City residents was found to be either second or third highest. For example, families having an adjusted gross income of $15,000 carry a tax burden of $1,977 in New York, $1,214 in Atlanta, and $858 in Houston.

Business on the move

The current tax burden must be considered part of the explanation for the continuing exodus of both smaller and larger businesses. Unquestionably, New York has been losing status as a headquarters city (Table 3). Among manufacturing and mining companies, for example, 140 of Fortune's 500 largest industrial firms were headquartered in New York City in 1956; in 1976, less than two thirds remained. Yet despite the numerous desertions, New York City is still home to far more major industrial companies than any other city. The 84 of the Fortune 500 firms based in New York at the end of 1976 were more than triple the 27 in Chicago, the next city in line.

There is even some indication that the relocation trend may be ebbing. Some companies confronted with a decision to relocate are choosing to remain. (And a few that have left are returning.) The primary reasons such companies give are a desire to avoid inconveniencing employees who will have to move, a belief that any resultant tax benefits would be outweighed by loss of convenient contact with communications and other services, a visible improvement in the city's business climate, and the availability of office space at competitive rates. Many companies that have left New York have only moved to the surrounding suburbs, seemingly wishing to remain fairly close to the services still available in Manhattan and yet far enough from the city to enjoy the amenities of surburbia.

Onerous taxation and the loss of business enter-

prises highlight the difficult problems facing New York City. But, unlike other urban centers which are largely dependent on one or two major industries, the city is fortunate in that it has remained strong in so many other diverse areas.

A prime financial center

New York continues at the forefront of world finance. It is a focal point both for domestic and international money and financial market activity. As of December 31, 1976, Federal Reserve member banks headquartered in New York City held almost 20 percent of the total assets of all the System's member banks, and the New York branches of foreign banks held 80 percent of these banks' total assets in the United States. Moreover, it appears that the city's importance as a center for foreign banks is continuing to grow. During 1976, twenty-one foreign banks opened branches or agencies in New York. The city's increasingly important position in international banking and financial activity serves as a magnet that draws the American headquarters of foreign corporations to the city.

New York is also a leading center for securities exchanges. Together, the New York and the American Stock Exchanges handle more than 85 percent of the trading volume of all listed corporate shares in the United States. In addition, several major commodity exchanges are located in the city, including the New York Cocoa Exchange, the New York Coffee and Sugar Exchange, and the New York Cotton Exchange.

Other key assets of New York

Tourism, whether for pleasure, or as a by-product of business travel, is a bulwark of the city's economy, and it provides many jobs for both skilled and unskilled workers. In addition to an abundance of museums, art galleries, performing arts centers, theaters, and sports arenas, there are an almost endless variety of other tourist attractions. And, while many cities are also home to zoos, parks, and botanical gardens, such points of interest as the United Nations, the Statue of Liberty, and the Metropolitan Museum of Art, are to be found only in New York City. Approximately 16.5 million visitors spent an estimated $1.5 billion in the city during 1976. Hotel occupancy was 73 percent, the first time the rate topped 70 percent since 1969 when the recorded peak of 75.4 percent was established.

There were some special circumstances during 1976, however. The presence of the Democratic National Convention and the World Series brought in more visitors than normal. Many of these visitors took away a far more favorable opinion of New York than they had arrived with. The central role that the city played in the nation's bicentennial celebrations also made a positive impression on both visitors and television observers of the events. It remains to be seen whether the improved image that the city achieved last year will be translated into longer run gains in tourism. The evidence so far in 1977 is favorable.

According to a recent survey, at least one quarter of all tourists visit New York solely for cultural activities. In addition to the numerous units of the state and courage, cultural institutions are often instrumental in regenerating and preserving their surrounding neighborhoods. For example, beginning in 1952, five major houses in which to present music, dance, and drama were built in the new "Lincoln Center". The Center's success has led to an additional $1 billion of new residential and commercial construction in the immediate area since 1956.

The large number and the variety of cultural institutions as well as hotel and restaurant accommodations also provide incentives for businesses to hold meetings and conventions in New York. It may be possible to attract more conventions either by improving existing facilities or by constructing at least one new and large convention center. Several proposals for a new center have been drawn up.

New York is also famous for its diverse educational facilities. There are few other places that can boast of as great a concentration of colleges and universities. In addition to the numerous units of the state and city university systems, there are more than thirty independent institutions, many of international repute.

The various private and public educational institutions in the city are facing great financial pressures caused by such factors as declining enrollments, high wages, and soaring energy costs. They have made, however, some small beginnings toward better usage of their resources. In recent months, for example, there have been attempts to coordinate similar graduate programs offered at competing universities. Better coordination will help the city's higher education complex to maintain its depth and diversity and to make more effective use of its resources; it will also help to provide the scores of highly trained employees that are required by a large number of the city's industries.

On the waterfront

New York possesses one of the world's great natural harbors, an important asset since the city was founded. But New York's early overwhelming dominance in both international and domestic commerce and trade has diminished. Competition from other United States ports, both on the East and West Coasts, the evolution of new world trade routes, and the aging and deterioration of the Port's facilities have combined to lessen this domination. The Port of New York's share

Table 4

Customs Collections

In thousands of dollars; selected fiscal years

Rank	1967	1970	1972	1974	1976
1	New York 956,776	New York 1,091,257	New York 1,290,340	New York 1,233,665	New York 1,351,150
2	Los Angeles 173,055	Los Angeles 285,738	Los Angeles 373,355	Los Angeles 443,228	Los Angeles 583,609
3	Detroit 166,551	Detroit 239,879	Detroit 294,549	Detroit 270,820	Detroit 289,818
4	Philadelphia 134,082	Chicago 152,975	Chicago 221,705	San Francisco 207,171	San Francisco 241,001
5	Chicago 114,755	Philadelphia 148,579	San Francisco 182,789	Chicago 183,966	Philadelphia 211,684
Sum of 2-5	588,443	827,171	1,072,398	1,105,185	1,326,112
New York as a percentage of the sum of 2-5	**162.6**	**131.9**	**120.3**	**111.6**	**101.9**

Customs collections in New York include those at the seaport and those at Kennedy International Airport.
Source: Department of the Treasury, United States Customs Service.

of total United States oceanborne general cargo trade declined from 24.7 percent in 1959 to 10.6 percent in 1976, although the actual volume of tonnage increased over this period.

Customs collections in New York, which include those at the seaport and those at Kennedy International Airport, have remained the highest in the nation and are still larger than those in the next four highest districts combined. But this gap has been narrowing (Table 4). In fiscal 1967, customs collections in New York were 163 percent of those in the next four districts; by fiscal 1976, they were 102 percent. Moreover, a growing proportion of New York's customs collections have been coming in through Kennedy Airport. If it were not for the rapid growth in airport collections occurring during the 1970's, New York's lead would have been narrowed even further.

One important step recently taken to increase the Port's business was a lowering of the tonnage assessment levied on almost all oceanborne freight—a result of a joint labor-management agreement. This assessment, which has been gradually reduced since 1968, is used to pay for various benefits to dock workers. (Because the volume of tonnage rose, the assessment could be decreased while keeping benefits the same. In other ports, these benefits are financed more directly by an assessment on each hour worked by longshoremen.)

The future

The erosion of the Port's position has been under way for about a quarter century, while serious attempts to recapture some of its lost ground are only at their beginnings. That history is pretty much typical of the fortune of the entire city. For many years—as the nation's urban centers underwent a decline—New York City either failed to see its many problems or, seeing them, failed to attack them vigorously. As a result, the city has suffered a severe loss of business, of jobs, of people, and—not least—of reputation. Yet, despite all its misfortunes, New York still endures and retains a basic core of strength—in commerce, industry, finance, culture, the arts—that continues to make it a world center. These assets provide a foundation for building a future of renewed vitality and strength, however difficult that task may be.

Rona B. Stein

Treasury and Federal Reserve Foreign Exchange Operations

In contrast to much of last year, the markets for most foreign currencies were fairly free of strain during the February-April period under review. In part, the overall improvement in trading conditions reflected the greater stability of several currencies—mainly sterling, the Italian lira, and the French franc—which had come under varying degrees of selling pressure in 1976. In those cases, many of the policy measures that had been taken by the respective governments to restore internal and external balance in their economies were beginning to take effect. These signs of progress helped to bolster market confidence, stimulating reversals of earlier capital outflows and of previously adverse leads and lags in commercial payments. With their currencies now in demand, the respective central banks took the opportunity to buy dollars in the market and to rebuild their international reserves. In part also, the improvement reflected the fact that participants in the European Community (EC) snake were able to avoid the kinds of tensions that had beset their exchange markets during the months preceding the October 1976 realignment of parities. On April 1, before any significant speculative pressures had reemerged, the member countries agreed to a further realignment in which the parities of the three Scandinavian currencies within the arrangement were adjusted downward by 3 to 6 percent against the German mark, the Dutch guilder, and the Belgian franc.

Under these more settled trading conditions, the German mark stayed at the bottom of the EC snake. Meanwhile, the continuing reversal of earlier hot money inflows to Switzerland contributed to a further easing of the Swiss franc. By contrast, the Japanese yen remained in heavy demand through mid-April, largely in reaction to a further widening of the Japanese current account suplus. The yen rate advanced 6¾ percent, for a total rise of 10 percent since last December's low, before settling back some 2½ percent by end-April.

At times during the three-month period the dollar came on offer against Continental currencies. By February, the severe winter weather in much of the United States had contributed to highly publicized reductions in industrial and agricultural output, higher prices, and a larger trade deficit. As these developments revived market uncertainties about our near-term economic prospects, the dollar was marked down against the German mark and other European currencies linked directly or indirectly to the mark. On occasion, the Bundesbank bought modest amounts of dollars in Frankfurt. In New York the Federal Reserve offered marks when trading became unsettled, selling $20.9 million equivalent from existing balances on three days during February 14-28.

As the weather improved and the broad expansion of the United States economy resumed, trading came into somewhat better balance through most of March.

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Nevertheless, the market remained concerned over indications of a quickening of inflationary pressures in the United States and of an even sharper widening in the trade deficit than could be explained by adverse weather. For a while, the dollar held steady amid widespread expectations that interest rates would soon firm in the United States relative to rates abroad. As time passed, however, these expectations faded, and the dollar began to lose resiliency in the market. After the European close on Friday, April 1, when incomplete reports of an EC snake realignment reached the New York market ahead of the official announcement, trading became confused and the dollar suddenly came on offer. The Federal Reserve intervened with modest offers of marks, selling $15.3 million equivalent.

This nervousness quickly passed, but the dollar's generally easier tone persisted. Over subsequent weeks press reports that industrial countries with current account surpluses were being urged to let their currencies appreciate generated expectations that further exchange rate adjustments might occur in the near term. Consequently, even as United States interest rates were beginning to firm in late April, dealers were by then offering dollars virtually across the board against the possibility that an exchange rate realignment might emerge during the weekend of the London summit meeting, May 7-8. In this atmosphere, the New York market became unsettled on several occasions and the Federal Reserve intervened on three days during April 15-29, selling a total of $30.6 million of marks. By the end of the period, the dollar had declined by some 2 percent against the mark.

In sum, the Federal Reserve sold a total of $66.8 million of German marks during February-April. These sales were all financed from System balances, which were replenished in part by occasional purchases of marks from correspondents and in the market totaling $49.6 million equivalent.

During the period, the Federal Reserve and the United States Treasury made further progress in repaying debts in Swiss francs, outstanding since August 1971. Pursuant to an agreement in October 1976 between the United States authorities and the Swiss National Bank for orderly liquidation of these obligations over a three-year period, the Federal Reserve repaid $132.3 million equivalent of special swap indebtedness and the Treasury redeemed $79.3 million equivalent of Swiss franc-denominated securities by end-April. Most of the francs for these repayments were purchased directly from the Swiss National Bank against dollars. But the Federal Reserve also bought francs from the Swiss central bank against the sale of $29.2 million equivalent of marks and $26.1 million of French francs, which in turn where either acquired in

Table 1

Federal Reserve System Repayments under Special Swap Arrangement with the Swiss National Bank

In millions of dollars equivalent

System swap commitments January 31, 1977	Repayments February through April 30, 1977	System swap commitments April 30, 1977
992.5	−132.3	860.2

Data are on a transaction-date basis.

Table 2

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

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

Banks drawing on Federal Reserve System	Outstanding January 31, 1977	February 1 through April 30, 1977	Outstanding April 30, 1977
Bank of Mexico	150.0	−150.0	-0-
Bank for International Settlements (against German marks)	-0-	+35.0 −35.0	-0-
Total	150.0	+35.0 −185.0	-0-

Table 3

United States Treasury Securities Foreign Currency Series Issued to the Swiss National Bank

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

Amount of commitments January 31, 1977	February through April 30, 1977	Amount of commitments April 30, 1977
1,513.1	−79.3	1,433.8

Data are on a transaction-date basis.

the market or drawn from existing balances. In addition, the System purchased $23.2 million equivalent of Swiss francs in the market or from other correspondents in late February-early March, when the franc was weakening in the exchanges. By end-April, the Federal Reserve's special swap debt to the Swiss National Bank had been reduced to $860.2 million equivalent, while the Treasury's Swiss franc-denominated obligations had been lowered to $1,433.8 million equivalent.

During the February-April period the Bank of Mexico repaid the remainder of last year's borrowings from the Federal Reserve and the United States Treasury. In February, the Mexican central bank liquidated at maturity the $150 million drawn under the swap line with the Federal Reserve. In April, it prepaid the $150 million in drawings under the Exchange Stabilization Agreement with the Treasury.

Finally, in February, the United States Treasury established short-term credit facilities for Portugal totaling $300 million. During the period, the Bank of Portugal drew a total of $125 million on these facilities and subsequently arranged to repay $50 million in early May.

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