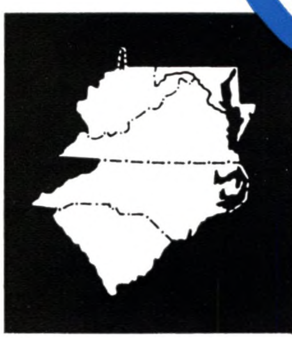
FEDERAL RESERVE BANK OF RICHMOND

ECONOMIC REVIEW

Financial Highlights of 1973

Investor Participation in Financing Residential Mortgages: 1963-1972



Volume 60

January/February 1974

Effective with this first issue of Volume 60, the REVIEW *will be published bimonthly. The* ECONOMIC REVIEW *is produced by the Research Department of the Federal Reserve Bank of Richmond. Subscriptions are available to the public without charge. Address inquiries to Bank and Public Relations, Federal Reserve Bank of Richmond, P. O. Box 27622, Richmond, Virginia 23261.*

FINANCIAL HIGHLIGHTS OF 1973

While financial and economic activity in 1972 provided a respite from the dramatic events and sharp fluctuations of prior years, 1973 proved to be a year of renewed excitement and somewhat unusual developments in the financial markets. The overriding characteristic of the economy was extremely rapid growth, which placed substantial pressures on its resources. With the intensification of inflationary forces during the first half of the year, price controls were reinstituted on a more rigid basis in the summer; and the Federal Reserve adopted a more aggressive stance in limiting the flow of money and credit. The demand for short-term funds through most of the year was extraordinary, and during the summer there was some speculation that another credit crunch might be imminent. For the most part, however, credit funds remained available, although short-term interest rates attained record levels. A notable exception was the residential mortgage market, where disintermediation and state usury ceilings on loan rates brought the flow of funds to a standstill in some locations during the late summer and early fall. The bond markets and the U. S. Treasury also displayed noteworthy behavior during 1973. This article describes some of the financial highlights of 1973 and shows how they were related to the broad scope of economic activity.

Level of Economic Activity The overall level of economic activity provides the general framework within which interest rate movements and financial flows develop. The more rapid the pace of economic activity the greater the demand for credit funds to finance increases in working capital, expansions of plant and equipment, construction, and purchases of consumer durables. To the extent that the total demand for credit grows more rapidly than the available supply, upward pressures on interest rates will appear, which was the case during most of 1973. In fact, 1973 was the third consecutive year of rapid economic growth, as can be seen from Table I. In 1971 and 1972, however, the economy was operating well below capacity as it recovered from the recession of 1970. Further, there were relatively plentiful supplies of money and credit in those two earlier years. By late 1972 and early 1973 the rapid growth of real output began to place heavy demands on both economic capacity and the supply of money and credit. As their overall level of operations expanded, corporations needed more funds to finance increases in working capital while also making plans to augment their stocks of plant and equipment. Consumers, whose incomes were growing rapidly, substantially increased their purchases of automobiles and other durables through the use of installment credit. At the same time the housing market was booming, and the demand for mortgage loans was phenomenal. All of this growth placed considerable pressure on the financial markets and ultimately helped to produce historically high interest rate levels during the summer months.

The demand for goods and services, particularly in such areas as food, fuels, and certain raw materials, far outstripped available supplies. The result, as shown in Table I, was a rapid inflation of prices. As investors became aware of this renewal of inflationary pressures, they were less willing to commit funds at prevailing interest rates because they anticipated being repaid in deflated dollars. Thus, rapid economic growth in 1973 put upward pressure on interest rates directly through increased demand for credit and indirectly through a rebuilding of inflationary expectations.

Monetary Policy The behavior of interest rates and financial flows is affected by the monetary policy actions of the Federal Reserve. Changes in the availability of bank reserves by the Fed indirectly lead to changes in the rates of growth of money and credit and changes in interest rates. In the early

Table I

ECONOMIC ACTIVITY

(Annualized Percentage Rates of Change)

Year	GNP Current Dollars	GNP 1958 Dollars	Deflator
1970	4.5	−0.8	5.3
1971	9.3	5.5	3.6
1972	10.6	7.0	3.3
1973			
I	15.2	8.6	6.0
II	9.8	2.4	7.3
III	10.4	3.5	6.7

Table II

GROWTH RATES* OF MONETARY AGGREGATES

		M_1	M_1
1972	I	5.3	0.8
	II	8.4	8.4
	III	8.0	8.0
	IV	7.1	7.2
1973	I	4.7	4.4
	II	6.9	6.8
	III	5.1	5.2

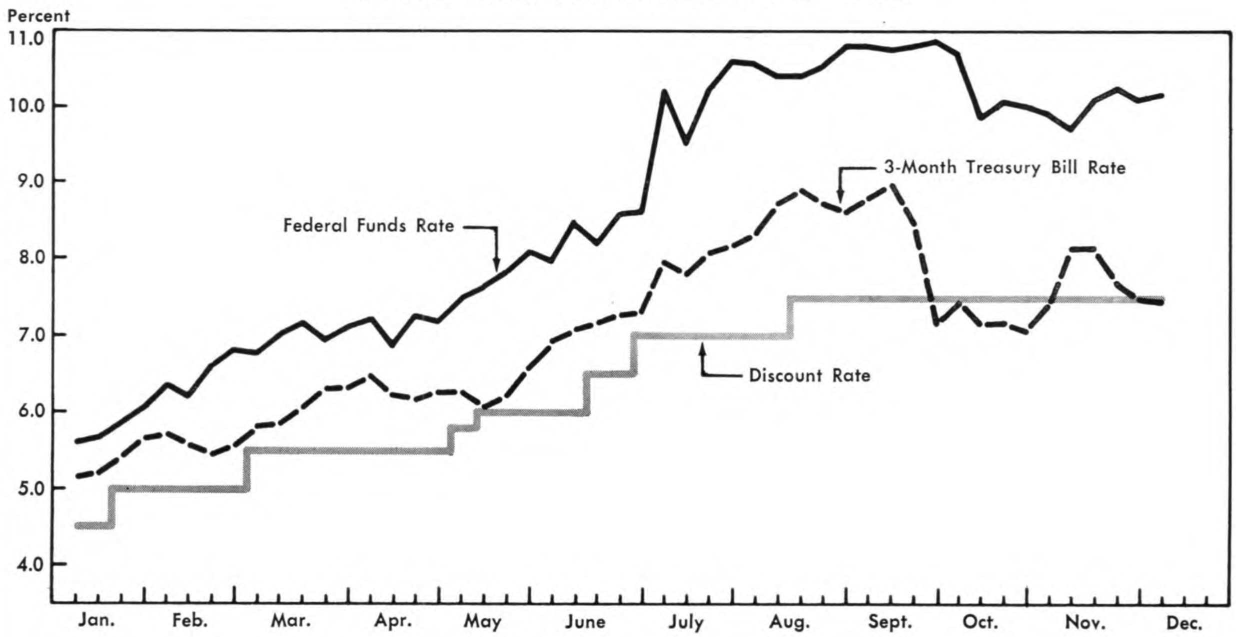
*Annualized percentage rates of change using quarterly averages of daily figures.

part of 1973, the Fed sought to slow somewhat the growth of M_1 (coin and currency outside the banking system plus privately-held demand deposits) from its 1972 pace (Table II). Prices had increased at only a 3.3 percent rate in 1972 in terms of the GNP price deflator, but real economic output had grown quite rapidly. Early in 1973 the Fed became concerned that serious price inflation would reappear, so monetary policy sought to restrict the growth of nonborrowed reserves in the first quarter, which in part contributed to slower growth in M_1. Other factors not directly under the control of the Fed also influenced M_1 growth in the first quarter. In January, state and local governments shifted revenue-sharing funds received in December out of demand deposits into time deposits; and in March, corporate borrowing to meet the quarterly tax date was unusually light.

Although monetary policy continued to be restrictive in the second quarter, M_1 growth was stronger than in the first quarter. This turnaround in M_1 behavior in part stemmed from the growing transactions demands of businesses and consumers and also from the unusually large tax refunds paid out by the Treasury during April and May. The Fed undertook several restrictive policy actions in the spring of a non-open market type. In mid-May, reserve requirements on newly-issued CD's and other sources of money market funds were raised. Later in June, reserve requirements on demand deposits were also increased. As short-term interest rates rose, the Fed raised the discount rate in three steps from 5½ percent to 6½ percent (Chart 1). All of these moves were reflective of the Fed's reaction to the growing problem of inflation when total resources were being used intensively. Although some upward adjustment of prices was not unexpected in view of the recent huge expansion in the employment of resources, several other factors combined to exacerbate the problem. First, the devaluation of the dollar raised prices of imported

Chart 1

SELECTED SHORT-TERM INTEREST RATES — 1973



Source: Board of Governors, Federal Reserve System.

goods and also increased the demand for our goods by foreigners. Second, rapid economic expansion was the order in virtually every other industrial country, which greatly enlarged worldwide demand. These factors also worked together to reduce the proportion of U. S. output available in domestic markets. Third, expansion of productive capacity in this country had been limited by depressed profit levels in earlier years and to some extent by environmental controls. The upshot has been serious shortages in various critical industries. Fourth, bad weather in a number of countries adversely affected world agricultural output and contributed to rising food prices.

Although none of these factors can be directly controlled by the tools of monetary policy, the Federal Reserve adopted a policy designed to restrain excessive demand from contributing further to the overall problem of inflation. By restricting aggregate monetary demand through control of the flow of money and credit, it should be easier for these other forces of inflation to run their course or be dealt with through alternative means.

As the demand for credit rose in the third quarter, the Federal Reserve kept a tight rein on the available supply. M_1 growth slowed by nearly two full percentage points over the period, contributing to unusually high short-term interest rate levels. Monetary policy was also directed toward controlling the growth of bank credit through the price mechanism. Although the Fed sought to moderate the pace of economic activity, it did not intend to bring it to a halt and accordingly was careful not to choke off completely the available supply of credit. For example, the suspension of interest rate ceilings on CD's enabled banks to continue to obtain funds for making loans and investments. Late in the third quarter, when business loan growth at commercial banks slowed, and it was evident that M_1 growth for the third quarter would be slower, the Fed was not unwilling to accept a downturn in interest rates and somewhat faster M_1 growth over the fourth quarter. This adjustment was consistent with moderate monetary expansion and in no way indicated a retreat from the battle against inflation.

During the fourth quarter, monetary policy was designed to give the Federal Reserve a high degree of flexibility in responding to the effects of the Arab oil embargo over the ensuing months. Because of the large measure of uncertainty associated with the potential impact on the economy of the embargo, the Federal Reserve made no overt attempt either to ease or to tighten policy.

Short-Term Business Loan Demand In the markets for short-term funds, a combination of circumstances developed that produced an alignment of lenders and borrowers somewhat different from established historical patterns. Traditionally, certain businesses have concentrated their short-term borrowing at commercial banks while others have preferred to rely on the commercial paper market. Although some shifting between these two sources has occurred in the past, the quantity and extent of such shifts were unusually large on several occasions during 1973 in order to take advantage of changing interest rate spreads. The prime loan rate at commercial banks has historically been about 50-100 basis points higher than the commercial paper rate. When several large commercial banks adopted floating rate plans in 1971, some of the formulas pegged the prime rate at a level 50 basis points above the rate on prime, three-month, dealer-placed commercial paper. This method of determining the level and changes in the prime rate dominated behavior of the prime rate until late 1972 and early 1973.

As continued upward pressure on market rates called for higher and higher prime rates in 1973, strict adherence to these formulas had to be abandoned for banks to remain in compliance with the guidelines issued by the Committee on Interest and Dividends (CID). Thus, between November and early February most of the banks with floating prime rates raised the prime rate by ¼ point to 6 percent while other short-term rates were rising more rapidly. During the first five months of 1973, the prime rate gradually edged up to 7 percent, while the commercial paper rate moved from 50 basis points below the prime rate at the beginning of the year to 50 to 25 basis points above the prime rate by May, as shown in Chart 2. As a result, many firms shifted their short-term borrowing out of the commercial paper market and into the commercial banks where they had earlier established lines of credit, as depicted in Charts 3A and 3B. Banks obtained the funds to meet this massive takedown of commitments by issuing mammoth quantities of large-denomination, negotiable certificates of deposit (CD's). For the first six months of 1973, CD's outstanding at all commercial banks increased by nearly 50 percent. In contrast to recent prior periods of rapid economic expansion and rising interest rates (1966 and 1969) when short-term rates rose above Regulation Q interest rate ceilings on CD's, this time around rate ceilings had been suspended.[1] The suspension per-

[1] Ceilings on CD's in the 30-89 day maturity range were suspended on June 24, 1970, while ceilings on CD's with maturities of 90 days or more were suspended on May 16, 1973.

mitted banks to issue CD's in quantities limited only by market-determined supply and demand conditions. A large proportion of these CD's was sold to corporations, who had adequate funds to purchase them for at least two reasons. First, the liquidity positions of many corporations were quite strong during the first half of the year. Profits had been improving for some time, and dividend payouts were still restricted by the CID. Second, more than a few corporate treasurers took advantage of the arbitrage opportunity between bank loan rates and CD rates. Of course, this practice tended to inflate the numbers measuring the amount of credit generated through the commercial banking system.

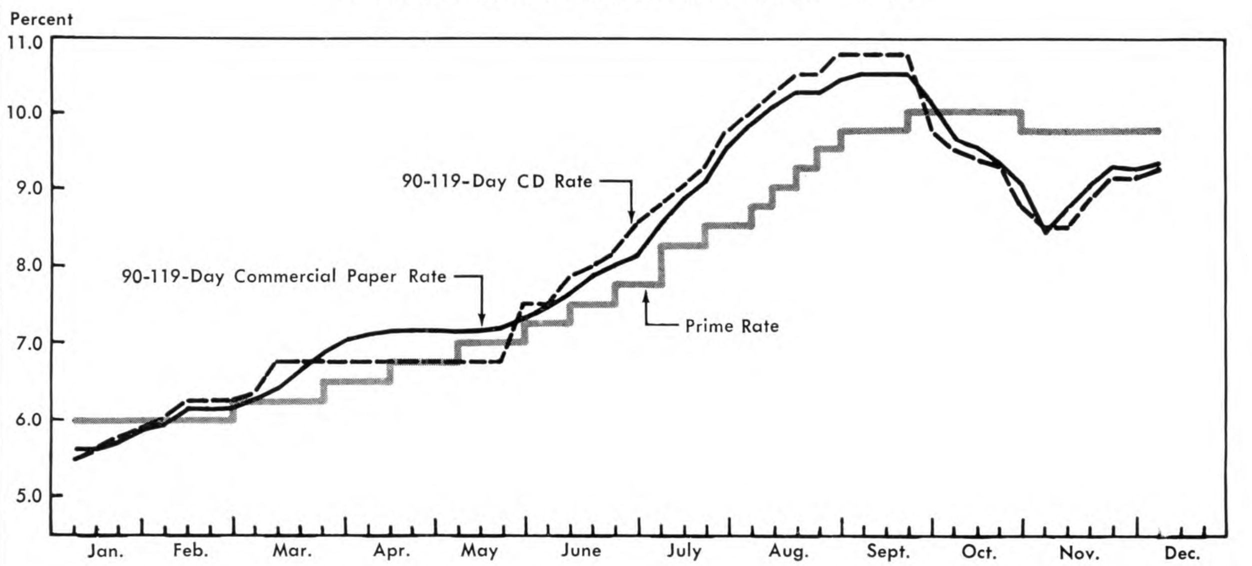
Banks also added to their stock of lendable funds by reducing their investment portfolios. During the first quarter banks sold off Treasury securities at an 11 percent annual rate while increasing their holdings of other securities (mostly municipals) at only a 1 percent annual rate. In the second quarter, total security holdings rose very slightly.

In April CID guidelines were amended to alleviate some of the loan demand pressure on banks stemming from the artificially low level of the prime rate. A plan featuring a two-tiered bank loan rate structure was devised to distinguish between large corporate borrowers with access to alternative market sources of funds and much smaller corporate borrowers who were essentially limited to bank credit. The rate charged the large corporate borrowers was virtually free to move in response to open market interest rates, but the rate charged smaller borrowers was to change only in response to reasonably permanent adjustments in credit market conditions. Soon the large-borrower prime rate began to move up and by early June was about equal to the commercial paper rate, as shown in Chart 2.

Late in the second quarter the rapid pace of activity in short-term credit markets slowed, especially at commercial banks. Following a 40 percent annualized rate of growth in the first quarter and a 20 percent plus pace in April and May, business loan growth at commercial banks slowed to less than 14 percent in June. Apparently, this moderation was attributable to the narrowing differential between the prime rate and the commercial paper rate and to the stiffer lending terms (compensating balances, maturities, credit standards, etc.) implemented by banks beginning in the first quarter. Corporate borrowing to meet the June tax payment was less than usual because many corporations probably used cash on hand or funds provided by maturing CD's. This development contributed to the slowest growth in CD's outstanding in eight months. Banks also bid less aggressively for CD's in June because of reduced loan demand, sharply increased demand deposit inflows, and because of the implementation of a marginal reserve requirement on CD's (and other money market sources of funds) by the Federal Reserve in mid-May. The Fed's action raised the reserve requirement on newly-issued CD's from 5 percent to 8 percent, making them a more costly source of funds to the banks.

Chart 2

SELECTED SHORT-TERM INTEREST RATES — 1973



Source: Board of Governors, Federal Reserve System.

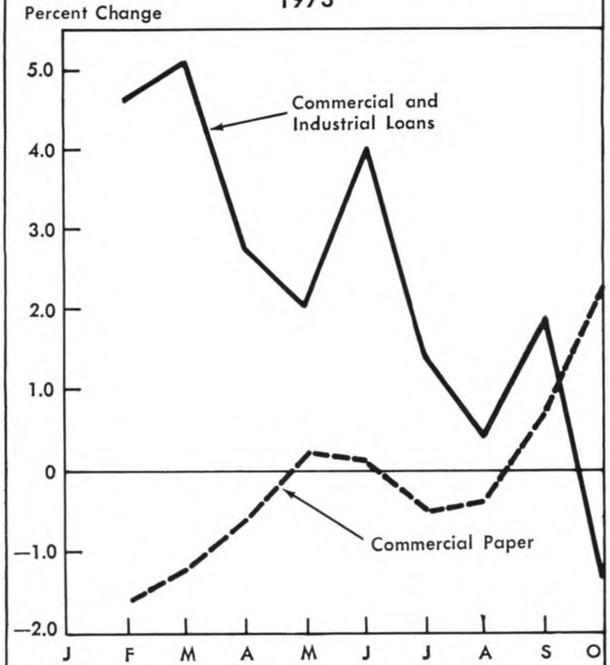
During July and August money market rates such as the commercial paper rate moved up much faster than the prime rate, which shifted a large number of borrowers out of the commercial paper market and into the bank loan market, as shown in Charts 3A and 3B. With demand deposit growth quite slow, banks again turned to the money markets for funds. To supplement costly CD funds, banks made increased use of Eurodollar borrowings, which had become more attractive because their marginal reserve requirement had been cut from 20 percent to 8 percent. Although the marginal cost of CD funds was high, banks were able to justify their use in several ways. Most importantly, banks needed funds to honor long-standing loan commitments to valuable long-term customers. Despite the high cost of CD's, the average cost of all funds to banks was not nearly so steep. Perhaps banks also expected to lock in some relatively high rates of return on loans that would look attractive after the cost of short-term funds had receded from its cyclical peak.

Beginning in late August, however, the pressure on banks began to taper off. The prime rate had been raised numerous times in July and August and by early September reached an historical high of 10 percent. Banks had also continued to stiffen lending terms over the summer. Thus, bank loan demand took a noticeable drop in September. Further contributing to the slowdown was a weakness in foreign lending that had begun in late August. With the higher prime rate, some firms shifted their borrowing back to the commercial paper market while others borrowed Eurodollars directly at relatively attractive rates. Dealer-placed commercial paper increased by close to $1 billion in September. By mid-month, CD rates had fallen sufficiently to discourage arbitraging between bank borrowing and CD purchases. In general, banks bid less aggressively for CD's as loan demand moderated, and further short-term rate declines were expected. As in June, many corporations used funds from maturing CD's to make their September tax payments, which tended to slow CD growth.

Chart 3A

SHIFTS BETWEEN BUSINESS BORROWING FROM BANKS VS. COMMERCIAL PAPER MARKET

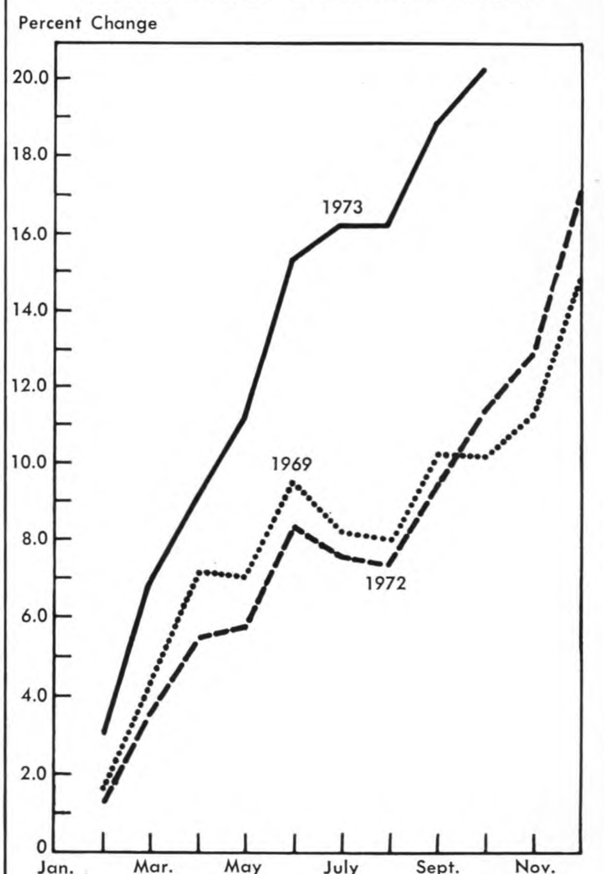
1973



Source: Board of Governors, Federal Reserve System.

Chart 3B

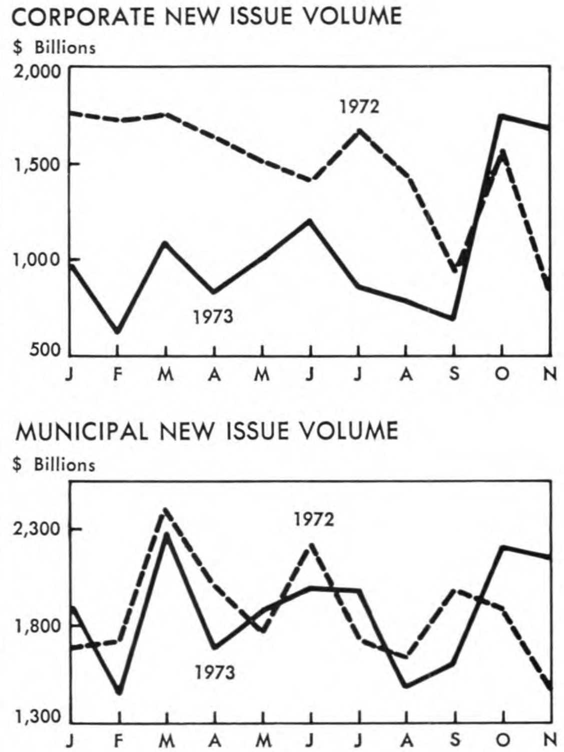
CUMULATIVE CHANGE IN TOTAL OF BANK BUSINESS LOANS AND DEALER-PLACED COMMERCIAL PAPER



Source: Board of Governors, Federal Reserve System.

Chart 4

BOND MARKET ACTIVITY



Source: Salomon Brothers.

For most of October and November, the demand for short-term funds remained concentrated in the commercial paper market. From the end of September to the end of October, dealer-placed paper outstanding rose by $4 billion, while business loans outstanding at banks were unchanged in October and increased at a relatively moderate 10 percent annualized rate in November. With the demand for bank funds remaining at reduced levels, banks continued to allow large CD's outstanding to decline in October and November.

Corporate and Municipal Securities The volume of securities offered by corporations for most of 1973 was substantially below the 1972 level (Chart 4). The average monthly volume of new corporate debt securities issued through the first 10 months of 1973 was $813 million; for all of 1972, new issue volume averaged $1,477 million per month. The reduced supply of corporates was attributable to many factors, a few of which were: (1) a high level of corporate profits in the first half of 1973 that bolstered corporations' liquidity positions; (2) a very large portion of proposed capital spending was not planned until the fourth quarter of 1973 and beyond; (3) some corporate treasurers substituted short-term borrowing in anticipation that long-term rates would be lower in the not-too-distant future. Another factor that pervaded the market for long-term corporates throughout 1973 was the strong inflationary pressure that threatened to escalate interest rates as the economy moved closer to full capacity. Although corporate new issue volume was quite modest for most of the year, private placements, after moderating in the first quarter, surged in the second quarter to offset in part the depressed public bond offerings.

Average monthly volume of $1,758 million in the tax-exempt sector was down somewhat in the first 10 months of 1973 from the 1972 figure of $1,887 million. State and local government budgets continued to show surpluses throughout 1973, in large measure due to revenue-sharing payments and increased tax collections. Those tax-exempts that came to market met with good response since they carried high enough yields to appeal to fire and casualty insurance companies.

Relatively light calendars in the bond markets helped to reduce the potential impact of sharply rising short-term rates in the summer months; however, long-term rates adjusted upward in early August, influenced by the growing market sentiment that monetary policy might remain restrictive for some time. This upward adjustment was followed shortly by an extensive rally that began in mid-August and continued through the first part of September (Chart 5). Sparked partially by an abrupt turnaround in market attitude, the rally ultimately produced yield levels 50-100 basis points below early August highs. Factors fueling the rally were: the market belief that monetary policy would not tighten further, the strong technical position of the security markets, light new issue volume in both corporate and municipal markets, and a shift of funds from thrift institutions to market securities. The rally was initially prompted by dealers covering substantial short positions, but it was sustained by growing institutional investor demand and increased individual interest at a time of narrowing new issue volume. The belief that long-term rates had peaked, combined with weakness in the aggregates and strength in the position of the dollar, added fuel to the rally. The initial period following the rally saw a steadying of long-term yields and a continued light supply of new corporate and municipal issues.

As corporate capital spending plans began to materialize in the fourth quarter, the supply of corporate debt securities increased substantially, as depicted in Chart 4. On balance, the market absorbed these

(Continued on page 12)

Investor Participation in Financing Residential Mortgages: 1963-1972

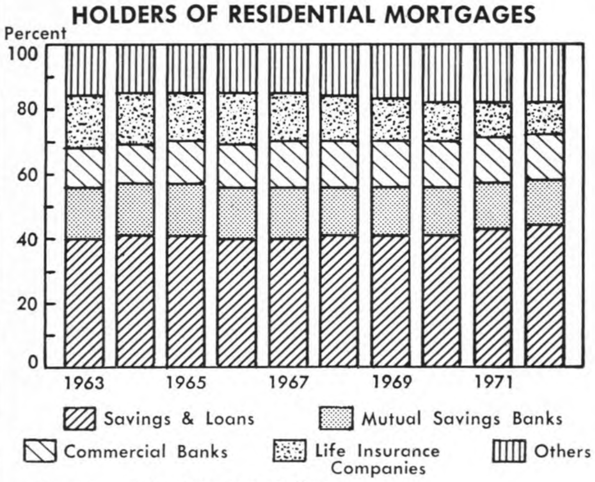
HOLDERS OF TOTAL RESIDENTIAL MORTGAGES

Over the 10-year period ending in 1972 the value of residential mortgage debt outstanding doubled from $211.2 billion to $422.5 billion. Chart 1 shows how the suppliers of mortgage credit participated in this growth. During the first five years, the relative degrees of participation were roughly unchanged; but during the second five years savings and loan associations, commercial banks, and "others" (several Federal agencies and individuals) increased their market shares at the expense of mutual savings banks and life insurance companies.

These shifts in market shares may in part be explained by the data in Chart 2, which shows residential mortgages as a percentage of total assets at four financial institutions. Over the period, savings and loan associations held essentially fixed proportions of their total assets in residential mortgages. Mutual savings banks and life insurance companies, however, reduced their relative holdings of residential mortgages, especially after 1969, in favor of alternative assets. Chart 3 shows net savings inflows at three depository institutions. In 1971 and 1972 commercial banks and savings and loan associations enjoyed unusually large savings inflows, which they in part used to enlarge their shares of the residential mortgage market.

Chart 1

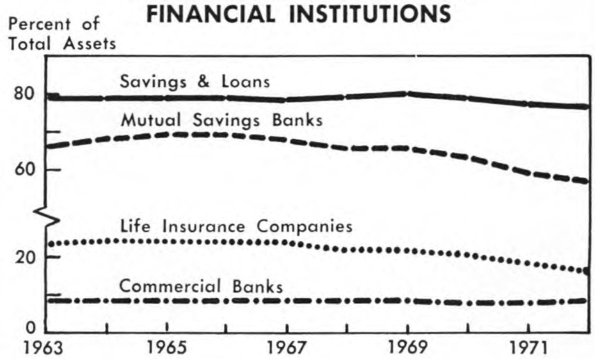
HOLDERS OF RESIDENTIAL MORTGAGES



Source: **Federal Reserve Bulletin.**

Chart 2

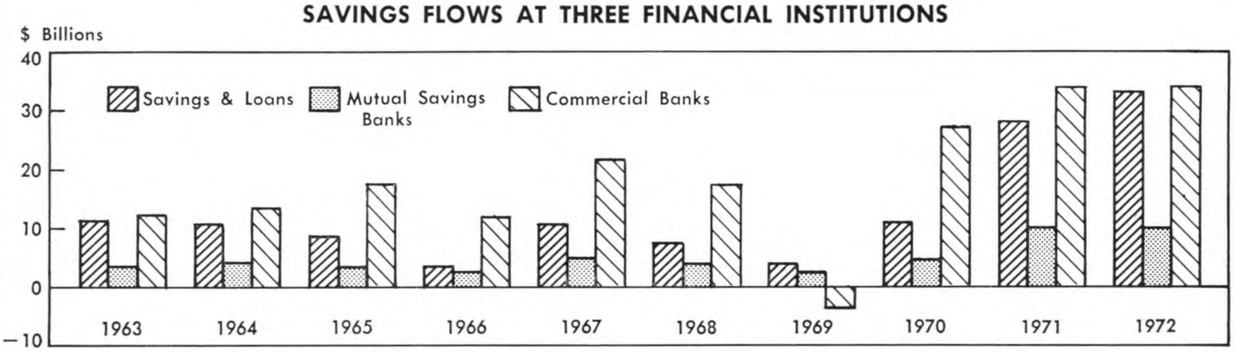
RESIDENTIAL MORTGAGES AS A PERCENTAGE OF TOTAL ASSETS AT FOUR FINANCIAL INSTITUTIONS



Sources **Federal Reserve Bulletin, Mutual Savings Bank Fact Book, Life Insurance Fact Book, and Savings and Loan Fact Book.**

Chart 3

SAVINGS FLOWS AT THREE FINANCIAL INSTITUTIONS



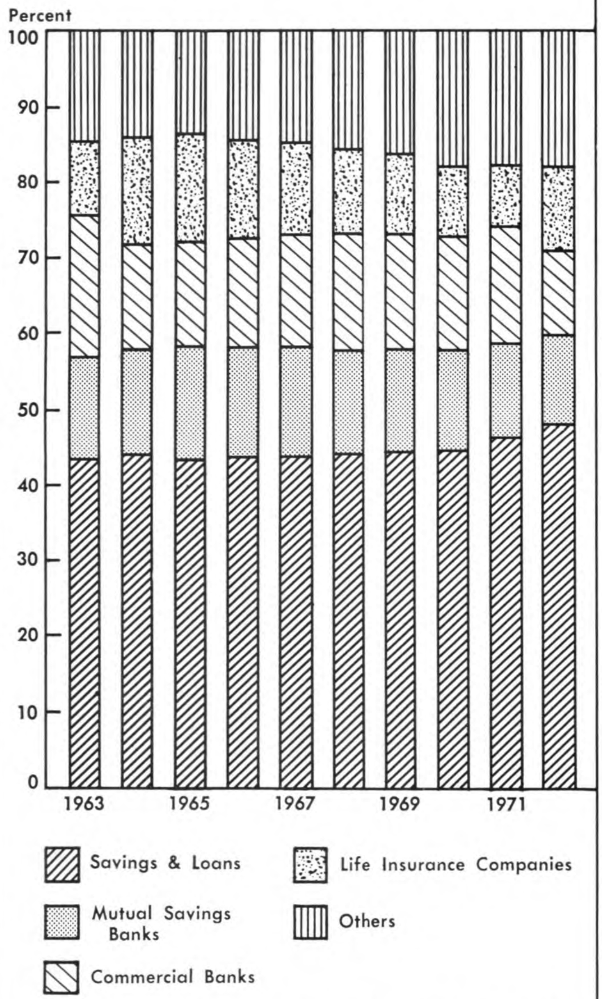
Source: **Savings and Loan Fact Book.**

HOLDERS OF RESIDENTIAL MORTGAGES BY TYPE OF PROPERTY

One way of disaggregating residential mortgage data is by the type of property against which the loan is made. Two broad classifications are typically used: one-to-four family units and multifamily units. These categories essentially refer to single family homes and apartment buildings, respectively. Between 1963 and 1972 movements in the relative holdings of single family home loans followed the pattern established for total residential mortgages while movements in relative holdings of apartment-type loans exhibited a much different pattern. Since loans for single family homes constitute the bulk of residential mortgages, it is not surprising that Chart 4 closely resembles Chart 1. Movements in holdings of apartment loans, as compared to single family home loans, were much greater over the entire period. Savings and loan associations and life insurance companies replaced mutual savings banks and "others" as the dominant forces in this market, while commercial bank holdings remained at a stable but relatively small percentage.

Chart 4

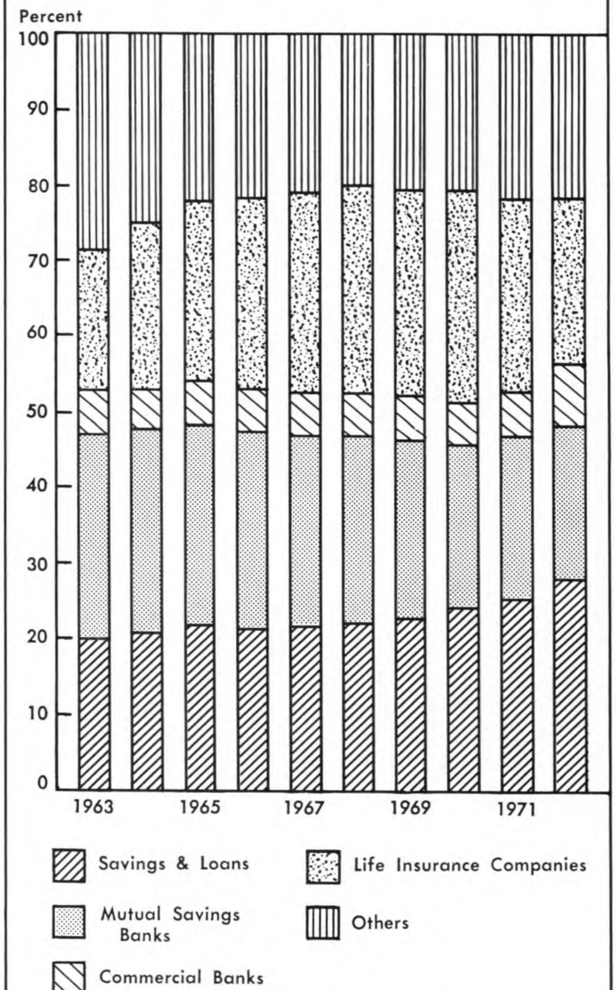
HOLDERS OF MORTGAGES ON SINGLE-FAMILY HOMES



Sources: **Federal Reserve Bulletin** and **Savings and Loan Fact Book.**

Chart 5

HOLDERS OF MORTGAGES ON APARTMENT BUILDINGS



Sources: **Federal Reserve Bulletin** and **Savings and Loan Fact Book.**

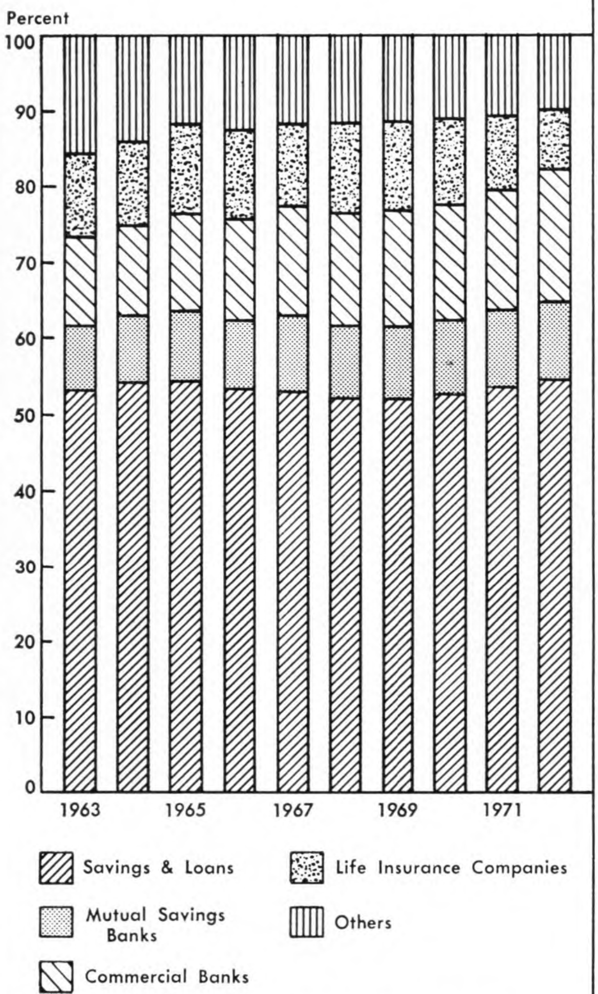
HOLDERS OF RESIDENTIAL MORTGAGES BY TYPE OF LOAN

Residential mortgage data may also be broken down by type of loan, with such loans being classified as conventional or Government-underwritten. The latter type refers to those loans that are insured against default by either the FHA or the VA. Chart 6 shows the relative holdings of conventional loans between 1963 and 1972, which remained rather stable over the period except for the increased market share acquired by commercial banks, a share that was roughly offset by the reduced market share held by "others." Substantial changes in the relative shares of the market for Government-underwritten loans were recorded between 1963 and 1972, as shown in Chart 7. The sharpest increase in market share was registered by "others," which indicates the more aggressive role played by the Federal Government in establishing a broad secondary market for mortgages, especially following the restructuring of the Federal National Mortgage Association in 1968.

Philip H. Davidson

Chart 6

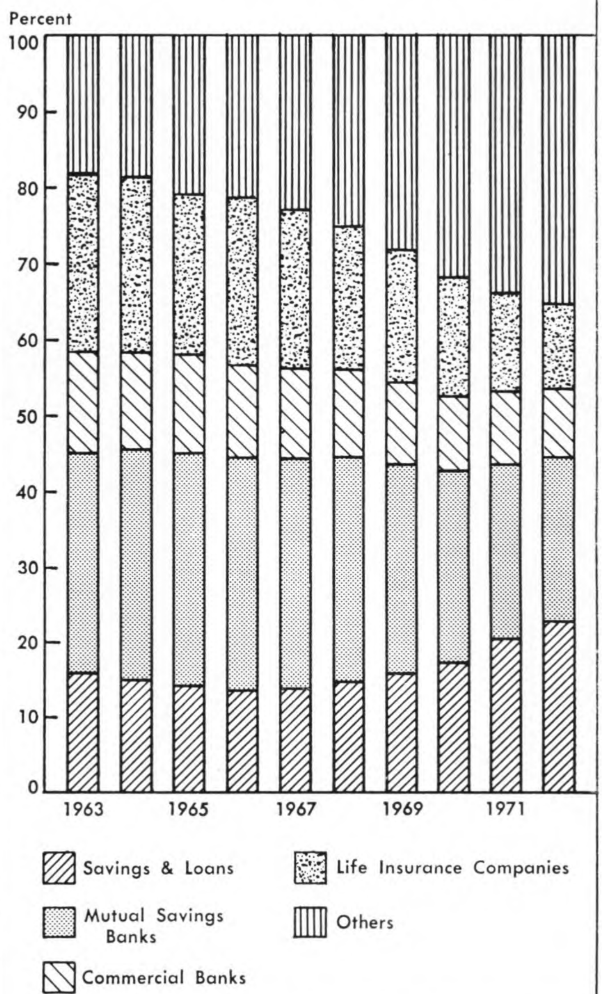
HOLDERS OF CONVENTIONAL LOANS ON RESIDENTIAL PROPERTIES



Sources: **Federal Reserve Bulletin** and **Savings and Loan Fact Book.**

Chart 7

HOLDERS OF GOVERNMENT-UNDERWRITTEN LOANS ON RESIDENTIAL PROPERTIES



Sources: **Federal Reserve Bulletin** and **Savings and Loan Fact Book.**

FINANCIAL HIGHLIGHTS . . .

(Continued from page 8)

securities with little impact on yield levels. Similarly in the tax-exempt market, increased volume stemming from special revenue issues and industrial pollution control bonds was bought up in large part by the fire and casualty insurance companies with little backup in rates.

The equity markets experienced a dramatic price drop in the weeks following the development of the energy shortage. After reaching a peak in late October, the Dow Jones industrial average fell over 153 points in ensuing weeks.

U. S. Government Securities In addition to the impact of corporate and municipal borrowers on long-term credit markets, the U. S. Treasury also had a substantial influence on market behavior during 1973. The financial needs of the Treasury in any given period are dictated by the excess of current Federal expenditures over current Federal revenues. Also, the Treasury must refund or retire those previously-issued securities that reach maturity during the period.

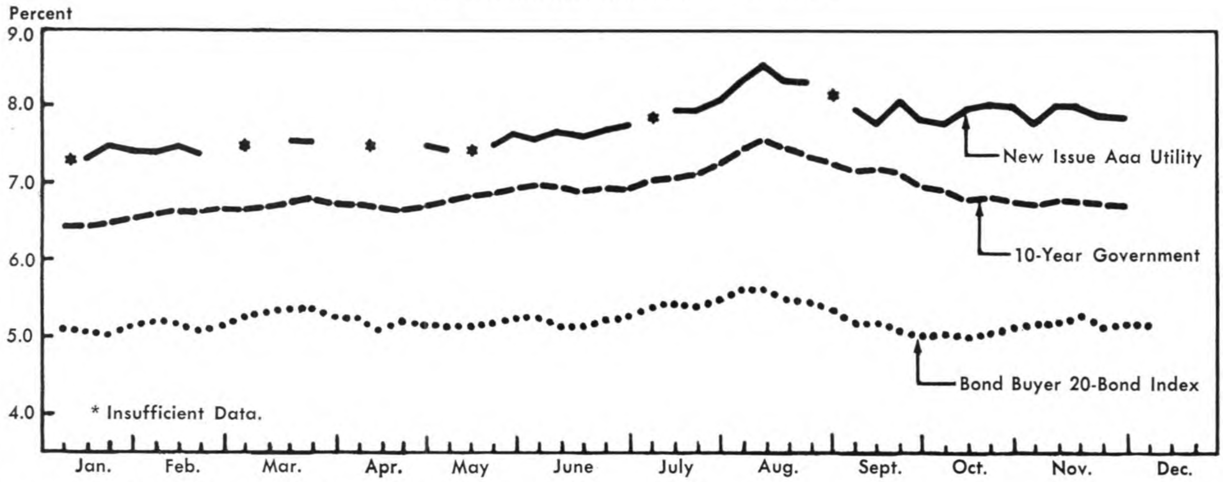
Early in 1973, the deficit for the fiscal year ending in July was forecast to be about $24.8 billion, or slightly above the final budget deficit for fiscal 1972. By early June, however, the budget deficit prediction was down to $17.8 billion, due in large part to a higher estimate of anticipated Treasury receipts. During April and May increases in withheld income and social insurance taxes caused downward revisions in the deficit, while most of the June revision was due to higher personal and corporate income tax receipts. The final Federal Budget deficit for fiscal 1973 was $14.4 billion, substantially below the original estimate made in January.

During the first half of 1973, the Treasury operated with a strong cash position. Foreign central banks accumulated large dollar balances in their foreign exchange support operations and, rather than let the dollar balances remain idle, they purchased either marketable short-term Treasury securities in the secondary market or non-marketable securities directly from the Treasury. In the case of direct purchases, increased sums were added to already bulging Treasury cash balances, while market purchases reduced the supply of three- or six-month bills available in domestic markets and helped to push bill rates well below other short-term rates. From mid-February through the close of the first quarter, when foreign purchases were at a peak, the spread between the Federal funds rate and the three-month bill rate was unusually wide because of this external pressure (Chart 1). Foreign purchases of bills abated during the second quarter, thus removing the prop under short-term Treasury prices. As seen in the chart, bill yields moved up sharply and in approximately equal magnitudes toward the close of the second quarter.

A dramatic turnaround took place in the Treasury's cash position in July and early August because of mounting redemptions of special issues by foreign central banks. By mid-August the Treasury was experiencing extremely tight cash balances in sharp contrast to the flush position of early June. In part

Chart 5

LONG-TERM INTEREST RATES — 1973



Source: Board of Governors, Federal Reserve System.

because of this sharp contrast, the Treasury undertook dramatically diverse financing activities in the first and second halves of 1973. In the first half, the Treasury did not raise funds at the February refunding, the 2-year, $2 billion note auction scheduled for March was postponed, the weekly bill auction was cut from $200 million to $100 million, and the Treasury repaid $6.3 billion of outstanding publicly-held marketable debt. At the May refunding, the Treasury used its strong cash position to lengthen the maturity of its debt by offering $2 billion of 7-year notes and $650 million of 25-year bonds through a "Dutch Auction." This term applies to an auction in which all bidders pay the lowest price that clears the market for the entire offering. The 25-year bonds carried the longest maturity of any Treasury issue since 1965.

After such successful financing in the first half, the Treasury approached the August refunding with a slim cash position. Plans were announced to refund $4.7 billion of publicly-held notes and bonds, and to auction $2 billion of 4-year notes, $500 million of 20-year bonds, and $2 billion of 35-day tax anticipation bills. The tax anticipation bills were auctioned at a record 9.802 percent, while the public subscribed to only $260 million of the bonds. As foreign central bank redemptions abated, the Treasury's cash position improved slightly in September and October.

The depressed supply of corporate, municipal, and Treasury securities throughout most of 1973 was offset to some extent by the large volume of Federal agency issues that came to market. During the first eight months of the year, the volume of such agency financings ran 87 percent above comparable financings a year earlier. The volume of new agency issues rose steadily during most of the year, with particularly heavy housing and farm credit agency financings. The agency market benefited from the strong overall technical position of the capital markets and from solid investor demand spurred by an abnormally positive spread between yields on agency and Treasury issues. Particularly during the third quarter, agencies along with other long-term issues profited from the market sentiment that interest rates had peaked and that monetary policy would not tighten further.

By early November, however, foreign central banks were again redeeming Treasury securities, this time in massive amounts. Bill rates were pushed upward, and the Treasury's cash position was markedly reduced. To strengthen its cash holdings, the Treasury issued a $1.1 billion strip offering that carried yield levels in excess of comparable bill yields. By the end of the month foreign central bank liquidation of securities slackened, however, and bill rates eased accordingly.

Mortgage Markets After two years of extraordinary expansion in 1971 and 1972, the residential mortgage market in 1973 was once again buffeted by the ill winds of tight money and high interest rates. During 1971 and 1972 the supply of funds available for mortgage loans was more than adequate to satisfy demand while putting downward pressure on interest rates. As short-term market rates rose during the first quarter of 1973, savings inflows at the major mortgage lending institutions began to taper off. Constrained from raising interest rates on deposits by rate ceilings, thrift institutions were forced to sit idly by as savers transferred funds to market instruments bearing ever more attractive rates of interest. Although Federal authorities raised deposit rate ceilings in July, net outflows reached substantial levels in August.

All of these developments would not have put such a severe limitation on the availability of new mortgage money had the level of commitments not been so high. Housing starts in 1972 and early 1973 were at record levels, creating an enormous demand for commitments of mortgage funds. By midsummer, after several months of reduced savings inflows, most mortgage lenders had barely enough funds to honor existing commitments, without even considering the current demand for new loans. As a result of these relative supply and demand conditions, mortgage interest rates began moving up in the spring as shown in Table III. The increase registered between August and September set a record for that series.

Savings and loan associations, the mainstay of the residential mortgage market, experienced such unfavorable savings flows in 1973 that in order to honor their high level of commitments they were forced to borrow at record levels from the Federal Home Loan Banks. In a further effort to enhance the availability of mortgage funds, the FHLBB reduced liquidity requirements for Federally-insured savings and loan associations. In addition to raising deposit interest rate ceilings in July, Federal authorities also gave savings and loan associations, mutual savings banks, and commercial banks authority to create a new type of savings deposit. Known as the "wild card" certificate of deposit, this instrument carried no interest rate ceilings on deposits of $1,000 or more with a maturity of four years or more. It was hoped that these institutions could use the "wild card" to prevent interest rate-sensitive funds from being transferred into open market financial instruments. As it turned out, small savers purchased a substantial vol-

Table III

MORTGAGE INTEREST RATES*

(percent)

1973

Jan.	7.68	July	7.87
Feb.	7.70	Aug.	7.94
March	7.68	Sept.	8.17
April	7.71	Oct.	8.29
May	7.71		
June	7.79		

*FHLBB series for effective rate on purchase of newly-built homes.

FEDERAL NATIONAL MORTGAGE ASSOCIATION TOTAL MORTGAGE HOLDINGS

($ millions)

1971	Dec.	17,791	June	21,413
1972	Dec.	19,791	July	21,772
1973	Jan.	19,982	Aug.	22,318
	Feb.	20,181	Sept.	22,831
	March	20,571		
	April	20,791		
	May	21,086		

ume of these certificates but not enough to offset outflows of funds at nonbank thrift institutions. Later in the year, Congress banned the "wild card" in response to severe protest from small banks and thrift institutions that apparently enjoyed the protection afforded by deposit rate ceilings.

As in past tight money periods, some geographical areas experienced a more reduced availability of mortgage funds than others. Those areas particularly hard hit were in states having relatively restrictive usury laws. Once mortgage rates bumped against usury ceilings, lenders virtually ceased making mortgage loans and invested any available funds in alternative assets carrying higher yields.

Part of the tight money burden on the mortgage market in 1973 was alleviated by the participation of a few key Federal agencies. As mentioned before, the FHLBB made substantial loans to savings and loan associations using funds obtained by selling debt securities in the capital markets. Another agency that obtains funds in this fashion is the Federal National Mortgage Association, which uses its funds to purchase mortgages from originators of such loans. During 1973, as shown in Table III, FNMA was very active in the secondary mortgage market. The Government National Mortgage Association (through the recently-devised pass-through arrangement) and the Federal Home Loan Mortgage Corporation also channeled considerable funds into the mortgage market in 1973.

By late September and early October, savings outflows slowed, and commitment levels had been reduced. In some areas of the country, new mortgage money became available. Some analysts felt that the worst of the situation in the mortgage markets was reached in late summer and that most of the interest rate-sensitive funds had already been transferred into market instruments. Improvement of deposit inflows at major mortgage lending institutions continued during November, permitting some increased mortgage lending and a rebuilding of liquidity positions. The sharply limited availability of new mortgage funds during 1973 helped to discourage new housing starts, lowering the pace from 2.3 million units for all of 1973 to annualized monthly rates in late 1973 as low as 1.6 million units.

Philip H. Davidson and B. Gayle Ennis

PUBLICATIONS OF THE FEDERAL RESERVE BANK OF RICHMOND

The following publications are available free of charge from the Bank. Address all requests to Bank and Public Relations Department, Federal Reserve Bank of Richmond, P. O. Box 27622, Richmond, Virginia 23261.

PERIODICALS AND SERIALS

ANNUAL REPORT A review of the Bank's operations during the year along with a feature article discussing significant economic topics. Distributed annually in February.

FIFTH DISTRICT FIGURES A compilation of economic statistics, including data on resources, income, employment, agriculture, mining, business and trade, utilities, and finance. Figures on Fifth District States and Standard Metropolitan Statistical Areas are compared with data for the United States. Distributed biennially.

ECONOMIC REVIEW Contains several articles covering Fifth District financial and business developments and topics of national and international significance. Distributed bimonthly.

BUSINESS FORECASTS A reference file of representative business forecasts for the coming year. Distributed annually in February.

SPECIAL STUDIES

AN ECONOMIC PROFILE OF VIRGINIA A summary and analysis of the changes in industry, banking, trade, population, etc., that have occurred in Virginia during the decade of the 1960's. 90 pages. 1973

THE CHANGING FACE OF FIFTH DISTRICT AGRICULTURE A study of the evolution of Fifth District agriculture since 1945. 148 pages. 1973

THE FEDERAL RESERVE TODAY A 24-page booklet explaining the structure of the System, the service functions, and monetary policy. 1971

INSIDE THE FEDERAL RESERVE BANK OF RICHMOND This pocket-size booklet takes you on a tour of the Federal Reserve Bank of Richmond. It includes a brief description of the service functions with liberal use of pictures. 1971

MEASURING PRICE CHANGES: A STUDY OF THE PRICE INDEXES A 52-page booklet on the nature of price indexes written for use with courses in economics and statistics and for reference by economic analysts. The booklet reviews the behavior of prices from 1960 through 1970. This is followed by a detailed discussion of the conceptual and statistical problems associated with the design and construction of price indexes. The final section examines in detail the statistical characteristics of the Consumer Price Index, the Wholesale Price Index, and the GNP Deflator, and evaluates these indexes in relation to the applications that are commonly made of them. 1973

FEDERAL RESERVE BANK DIRECTORS This booklet features the role of the head office and branch directors in the operation of the Federal Reserve Banks and their contribution to the functioning of the nation's economy. 16 pages.