A BUSINESS AND FINANCIAL REVIEW BY THE FEDERAL RESERVE BANK OF CHICAGO

May/June 1980

ISSN 0164 - 0682

ECONOMIC PERSPECTIVES

Cyclical downturn in housing

Bank funds management comes of age—a balance sheet analysis

Sinking float

CONTENTS

May/June 1980, Volume IV, Issue 3
ECONOMIC PERSPECTIVES

Single-copy subscriptions of **Economic Perspectives**, a bimonthly review, are available free of charge. Please send requests for single and multiple-copy subscriptions, back issues, and address changes to Public Information Center, Federal Reserve Bank of Chicago, P. O. Box 834, Chicago, Illinois 60690, or telephone (312) 322-5112.

Controlled circulation postage paid at Chicago, Illinois.

Cyclical downturn in housing

William R. Sayre

Housing construction is in a sharp decline. In the first quarter of this year, starts were down almost a third from the rate of mid-1979, adjusted for usual seasonal patterns. The decline continued in the second quarter. With very high mortgage rates as a major factor pushing the cost of ownership up much faster than income, many potential buyers have been forced to postpone or cancel intended purchases.

Despite the gloom in the near-term outlook, demographic factors in the basic demand for housing remain favorable. In time these factors will reverse the current decline and add impetus to the recovery that follows.

Housing cycles and GNP

The formation of new households—one or more people occupying a separate housing unit—combines with upgrading of housing by existing households to create demand for new units. The demand is highly volatile, however, as decisions to form new households or upgrade housing are usually slowed or stepped up by the prospects for income and employment, the cost and availability of credit, the availability of unoccupied housing units, and the price of existing homes.

The volatility of new housing—and its importance in business cycles—is reflected in GNP data. The past quarter century has seen four recessions, each preceded by a downturn in residential construction two or three quarters earlier. Twice, there was a housing recession with no corresponding "official" recession in business generally.

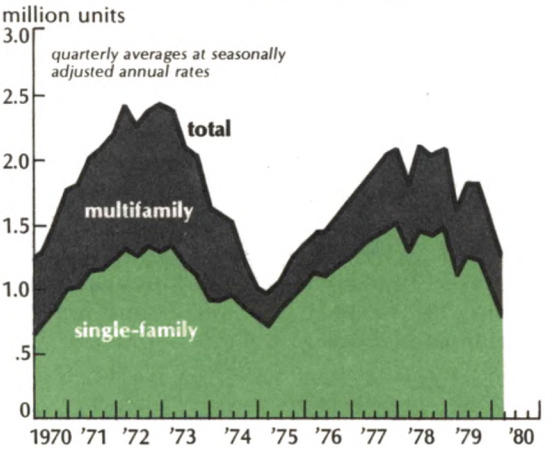
Measured by real GNP, adjusted for inflation, recessions have averaged 2.8 percent from peak quarter to trough quarter. Recessions in real residential fixed investment have averaged 22 percent, almost 8 times as great. In the steepest housing recession, from the first quarter of 1973 to the first quarter of 1975, real residential investment fell 44 percent. The most recent peak, in the second quarter of 1978, came with the snap-back from an unusually harsh winter. By the first quarter of 1980, real residential investment had declined 13 percent.

Decline hits Midwest

Housing construction turned down earlier this cycle in the North Central states, often called the Midwest, and it has fallen further than in the nation as a whole. From the high in 1978, housing starts nationwide fell 14 percent in 1979. But in the Midwest, the peak was in 1977. Starts fell 3 percent in 1978 and a further 23 percent in 1979. Another substantial decline is shaping up for 1980.

Several theories have been advanced to account for the comparative weakness of housing in the Midwest. The main factor, however, is probably net outmigration of

Housing starts decline sharply



Business cycles in GNP and housing construction
(dollars in billions)

	Real Gross National Product				Real Residential Fixed Investment			
			Decline				Decline	
	Quarter	1972 dollars	Length	Percent	Quarter	1972 dollars	Length	Percent
Peak	3Q '57	685.6			2Q '55	36.0		
Trough	1Q '58	663.4	2Q	3.2	1Q '58	28.7	11Q	20.3
Peak	1Q '60	740.7			2Q '59	39.2		
Trough	4Q '60	731.9	3Q	1.2	4Q '60	33.4	6Q	14.8
Peak	No concurrent GNP cycle				1Q '64	46.4		
Trough					4Q '64	41.9	3Q	9.7
Peak	No concurrent GNP cycle				2Q '65	44.1		
Trough					1Q '67	32.7	7Q	25.9
Peak	3Q '69	1,083.4			1Q '69	45.2		
Trough	4Q '70	1,071.4	5Q	1.1	2Q '70	38.3	5Q	15.3
Peak	4Q '73	1,242.6			1Q '73	64.4		
Trough	1Q '75	1,171.6	5Q	5.7	1Q '75	36.3	8Q	43.6
Peak?	1Q '80	1,444.2			2Q '78	60.9		

people and industry in recent years. The movement was given added impetus by three successive severe winters.

Trends in the Midwest contrast sharply with those in the three leading Sunbelt states, California, Texas, and Florida. Together, these states accounted for 40 percent of the growth in the nation's population in the 1970s and almost as large a proportion of total housing starts.

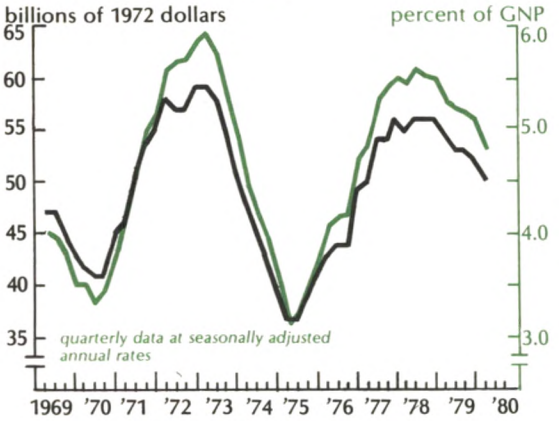
Credit costs soar

Because houses are nearly always bought on credit, the trend of home sales and construction is vulnerable to any change in the cost and availability of mortgage loans. Last year, mortgage rates began moving to unprecedented highs. This April some lenders were quoting rates as high as 17 percent, before conditions began to ease. That was in contrast to a typical mortgage rate of only 10.6 percent a year earlier.

Sharply higher rates and ever increasing home prices have forced many potential buyers to choose between unattractive alternatives: commiting much more of their income to housing, buying a much less expensive house than intended, or withdrawing from the market completely. Buying a $53,000 home, the national average in early 1979, required a monthly payment of $404. That assumed a 25-year, 80 percent loan at 10.6 percent interest. Buying a comparable house in 1980—at a price of $58,000 and at an interest rate of 16 percent—requires a monthly payment of $631 to amortize the mortgage. The monthly payment was up 56 percent in just over a year, about five times the percentage increase in average household income. Few borrowers were ready and able to assume such a burden. According to industry sources, mortgage demand virtually disappeared when rates passed 14 percent.

A sharp rise in mortgage rates affects more than first-time buyers. People that

Residential construction shows large cyclical swings



SOURCE: Bureau of Economic Analysis.

already own their homes become less able and willing to trade-up, even though large equities can be used as downpayments. They are less able, because fewer first-time buyers are eligible to buy their homes, and they are less willing, because they prefer to stay in their present homes covered by mortgages negotiated when interest rates were substantially lower than now.

The situation is illustrated by the incremental cost of credit to a household selling a house with a "cheap" 10 percent mortgage to buy another house at a mortgage rate of 16 percent. If the loan being paid off is $40,000 and the new loan is $60,000, the effective interest rate on the incremental $20,000 is 28 percent! Homeowners tend to stay put, upgrading their homes through additions and alterations.

Credit cost is also important to homebuilders. Home construction is usually financed with bank loans at 2 to 4 points over the prime rate. Carrying costs continue until a buyer is found. In April, some builders were paying 24 percent to carry finished homes. Prices would have to rise 2 percent per month to offset this cost.

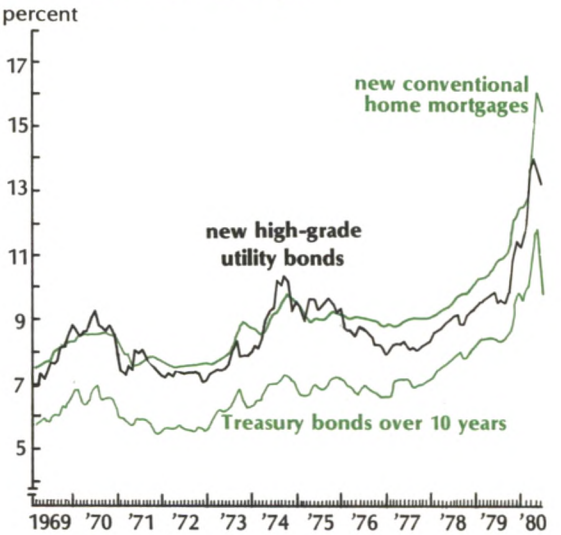
Availability at a price

In marked contrast with earlier downturns in housing, mortgage credit has remained generally available for borrowers willing and able to pay the price. The difference can be attributed largely to the greater freedom of S&Ls and other lenders to pay market rates for funds raised and charge market rates for funds advanced.

In 1966, 1969, and 1973-74, the net inflow of savings at S&Ls was substantially reduced—sometimes to net outflows. Market rates of interest, for example Treasury bill rates, had risen above the rates S&Ls could pay on regular deposits. In July 1978, when it was clear that market rates were on the rise, federal regulators authorized thrift institutions and commercial banks to sell six-month money market certificates at rates equivalent to those paid on 26-week Treasury bills. As a result, mortgage lenders could compete for funds and make credit available to home buyers, although at a rising cost. This greatly moderated the housing downturn in 1978 and most of 1979.

Residential mortgage debt increased about $115 billion in 1978 and again in 1979. This was twice the increase in the mid-1970s and about five times the increase in the late 1960s. For the past three years, residential mortgages have accounted for about 30 per-

Unprecedented surge in interest rates reversed in April



Holders of home mortgages, one to four units

	1969		1971		1973		1975		1977		1979	
	(billion dollars, year-end)											
Total	282.7	100.0%	327.6	100.0%	416.2	100.0%	490.8	100.0%	656.6	100.0%	872.2	100.0%
Savings and loans	117.7	41.6	141.0	43.0	187.1	45.0	223.9	45.6	310.7	47.3	394.4	45.2
Mutual savings banks	41.1	14.5	43.4	13.2	48.8	11.7	50.0	10.2	57.6	8.8	64.7	7.4
Commercial banks	41.4	14.6	48.0	14.7	68.0	16.3	77.0	15.7	105.1	16.0	146.1	16.8
Life insurance companies	27.6	9.8	24.6	7.5	20.4	4.9	17.6	3.6	14.7	2.2	16.2	1.9
Government and related agencies[1]	19.1	6.8	25.2	7.7	29.7	7.1	42.1	8.6	40.7	6.2	64.9	7.4
Mortgage pools[2]	1.8	0.6	7.3	2.2	14.8	3.6	30.0	6.1	60.5	9.2	103.4	11.9
Individuals and others[3]	34.0	12.0	38.1	11.6	47.3	11.4	50.3	10.2	67.3	10.2	82.5	9.5

[1]Includes federal, state, and local governments and agencies, Federal National Mortgage Association (FNMA), Federal Home Loan Mortgage Corporation (FHLMC), and Federal Land Banks.

[2]Outstanding principal balances of mortgages backing securities guaranteed by Government National Mortgage Association (GNMA), FHLMC, or the Farmers Home Administration (FmHA).

[3]Others include mortgage companies, noninsured pension funds, state and local retirement funds, real estate investment trusts, and credit unions.

SOURCE: Federal Reserve Board.

Holders of multifamily mortgages, five or more units

	1969		1971		1973		1975		1977		1979	
	(billion dollars, year-end)											
Total	53.2	100.0%	70.0	100.0%	93.1	100.0%	100.6	100.0%	111.8	100.0%	130.7	100.0%
Savings and loans	11.7	22.0	17.5	25.0	22.8	24.5	25.5	25.3	32.5	29.1	37.6	28.8
Mutual savings banks	7.6	14.3	9.6	13.7	12.3	13.2	13.8	13.7	15.3	13.7	17.2	13.2
Commercial banks	3.2	6.0	4.0	5.7	6.9	7.4	5.9	5.9	9.2	8.2	12.6	9.6
Life insurance companies	14.2	26.7	16.7	23.8	18.5	19.9	19.6	19.5	18.8	16.8	19.2	14.7
Government and related agencies[1]	4.2	7.9	7.5	10.7	12.9	13.9	19.2	19.1	20.0	17.9	22.9	17.5
Mortgage pools[2]	0.0	0.0	0.1	0.1	0.6	0.6	1.3	1.3	3.1	2.7	7.0	5.4
Individuals and others[3]	12.2	22.9	14.5	20.7	19.3	20.7	15.3	15.2	12.9	11.5	14.1	10.8

[1]Includes federal, state, and local governments and agencies, Federal National Mortgage Association (FNMA), Federal Home Loan Mortgage Corporation (FHLMC), and Federal Land Banks.

[2]Outstanding principal balances of mortgages backing securities guaranteed by Government National Mortgage Association (GNMA), FHLMC, or the Farmers Home Administration (FmHA).

[3]Others include mortgage companies, noninsured pension funds, state and local retirement funds, real estate investment trusts, and credit unions.

SOURCE: Federal Reserve Board.

cent of the funds raised by all nonfinancial sectors of the economy. This was more than four times the funds raised through corporate bonds.

Usury ceilings, like ceilings on deposit rates, have also impaired the flow of funds into mortgage markets at times. As credit tightened in 1979, particularly after October, usury ceilings were below market mortgage rates in more than 20 states. Just before the end of the year, a federal law suspended usury ceilings nationwide for the first three months of 1980. In March, another federal law removed ceilings permanently.

When interest rates rose sharply this spring, the volume of mortgage lending plummeted. New mortgage loans consisted almost entirely of credit to borrowers with commitments secured earlier at lower rates. Lenders, however, insist that mortgage credit is available for qualified borrowers. The collapse in lending, therefore, suggests that mortgage borrowers are less able and willing to compete with other sectors when rates are very high. Many people willing to buy do not have the income to qualify. Others, with adequate incomes, may wish to postpone purchases until conditions improve. Other types of borrowers, such as governments and businesses, do not usually have this flexibility.

Mortgage credit sources

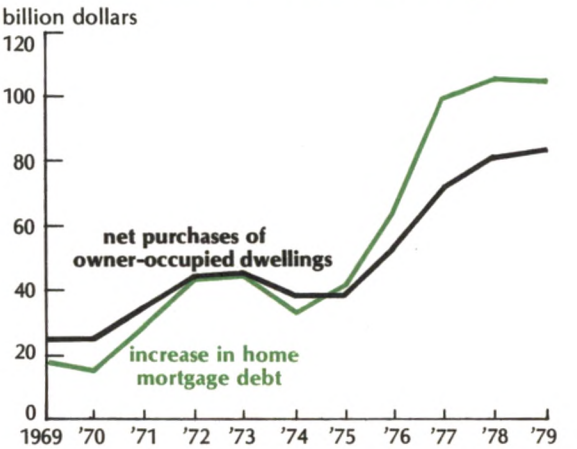
Outstanding residential mortgages totaled more than $1 trillion at year-end 1979. That compared with $559 billion five years earlier and $336 billion a decade earlier. Home mortgages, for properties with 1-4 living units, make up almost 90 percent of all residential mortgages.

Savings and loan associations have long been the main lenders for both homes and apartments. At the end of 1979, S&Ls held 45 percent of all home mortgages outstanding and 29 percent of apartment mortgages. These proportions would have been lower had S&Ls not been authorized to sell money market certificates. Regular passbook deposits at S&Ls fell $20 billion in 1979, but money market certificates rose $84 billion by year-end to account for 27 percent of all deposits at S&Ls. "Jumbo" CDs of $100,000 or more, also offered at money market rates, rose 13 billion, almost doubling the volume outstanding. S&Ls also made heavy use of Federal Home Loan Bank advances, which increased $8 billion to a total of $40 billion.

Commercial banks at year-end held 17 percent of the home mortgages and 10 percent of the apartment mortgages. Like S&Ls, banks have relied heavily on money market certificates and large CDs to raise funds. Residential mortgages made up less than 13 percent of all financial assets at commercial banks, compared with 75 percent at S&Ls.

The fastest growing source of residential mortgage credit is "mortgage pools." Lenders, usually mortgage bankers, assemble pools of mortgages to be sold as "mortgage-backed securities." The securities are guaranteed by one of three agencies: the Government National Mortgage Association (GNMA), the Farmers Home Administration (FmHA), or the Federal Home Loan Mortgage Corporation (FHLMC). Mortgage pools outstanding accounted for 12 percent of home mortgages at the end of last year and 5 percent of apartment mortgages. Ten years earlier mortgage pools had less than 1 percent of outstandings.

Rise in mortgage debt has outpaced new investment in housing



Most mortgage-backed securities are bought by pension funds, trusts, mutual funds, and other investors who usually do not lend directly in the mortgage market. Their participation has increased liquidity in the mortgage market, particularly in times of tight credit.

Another important factor in the residential mortgage market is the Federal National Mortgage Association (FNMA), which auctions commitments to buy mortgages. It raises funds by selling its own securities. At year-end 1979, FNMA held about 5 percent of home mortgages and 4 percent of apartment mortgages.

Mutual savings banks held 7 percent of the home mortgages and 13 percent of the apartment mortgages. Located almost exclusively in the northeastern states, their share of the home mortgage market has fallen over the years. They held 14 percent of home mortgages in 1969.

The proportion of residential mortgages held by life insurance companies has also fallen in the past decade. At year-end 1979, life insurance companies held 2 percent of the home mortgages and 15 percent of the apartment mortgages. Ten years earlier, they held 10 percent of the home mortgages and 27 percent of the mortgages on apartments. Part of the decline has been offset by purchases of mortgage-backed securities, particularly GNMAs.

Demographic trends favorable

A bullish factor in the long-run outlook for housing demand is the high rate of net household formation. The number of households has increased an average of 1.6 million a year for the past ten years. This compares with annual averages of 1.2 million in the last half of the 1960s and about 900,000 in the 1950-65 period. Projections by the Census Bureau show net household formation averaging more than 1.7 million a year in the first half of the 1980s.

This high rate is largely the result of rapid growth in population aged 14 to 34, the years most people become independent of their parents and establish separate living quarters. In the last ten years, the population that age increased 16 million. It accounted for about 90 percent of the increase in total population.

Changes in the age structure of the population account for only part of the increase in households, however. While the population aged 14 to 34 increased 24 percent in the 1970s, the number of households headed by people in that age group increased 54 percent, or more than twice as fast.

The same pattern can be seen in nearly all age groups. With the growing ability to maintain separate households, the number of households has increased faster than the population.

A fifth of all households consist of only one person. Single people accounted for more than half the increase in households in the 1970s. Contributing to the high rate of single-person household formation are delayed marriages, higher divorce rates, and increased longevity.

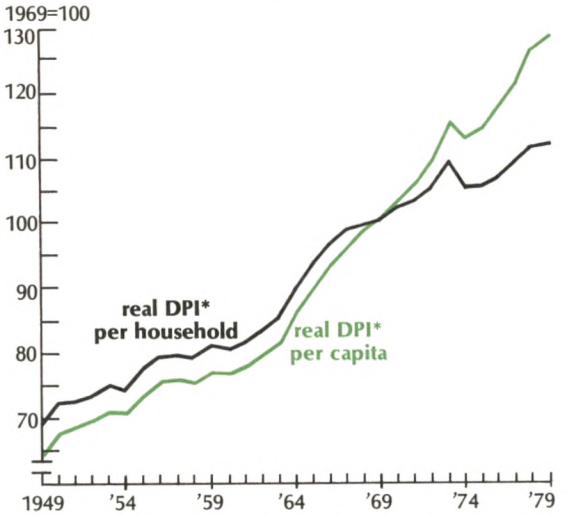
Income and independence

Closely associated with demographic trends are changes in disposable income and its distribution. Higher income, including subsidies, sustains many independent households of people who would otherwise be forced to double up or live in institutions.

Despite temporary interruptions, real household income has trended upward for the past three decades. Adjusted for inflation, disposable personal income per household in 1979 was up 12 percent from 1969, 39 percent from 1959, and 61 percent from 1949. On a per capita basis, the rise was even steeper, up 28 percent over ten years, 67 percent over 20 years, and 100 percent over 30 years.

The faster growth in per capita income, relative to income per household, reflects the rise in the proportion of women working and the related decline in childbearing. Last year, 51 percent of the women aged 16 and over were in the labor force. That compared with 43 percent in 1969 and 37 percent in 1959. The total fertility rate (an estimate of expected lifetime births per woman) fell to 1.8 in the

Income per capita has increased faster than income per household



*Disposable personal income, adjusted for inflation.

late 1970s. That compared wth 2.5 births per woman in the late 1960s and 3.7 at the peak of the baby boom in the late 1950s.

More than 3 million households live in housing units directly susidized by the federal government. Millions more receive subsidies that allow them to spend more on housing—for food, medical care, transportation, heating, education, old age, and general welfare.

Higher real income has facilitated not only the formation of more separate households but also substantial upgrading over the years. The proportion of households without complete indoor plumbing is less than 2 percent, compared with 6 percent in 1970 and 15 percent in 1960. Houses built in recent years are larger, have more bedrooms and bathrooms, and are more likely to have central air conditioning and fireplaces than the typical new house in 1970.

Although real income per household has trended upward since World War II, it could fall in 1980. That, with the higher mortgage rates, would tend to reduce demand for new housing.

Homeownership and home prices

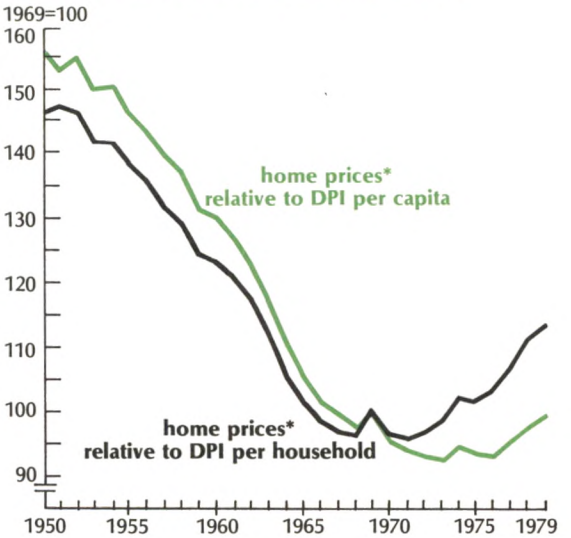
Two out of three households own their own homes. And homeowners accounted for three-quarters of the increase in the number of households in the 1970s.

Changes in the composition of households throw into question the validity of comparisons of home prices with household incomes. Many households with two incomes and no children can commit more of their income to mortgage payments without over-extending themselves. A better measure of the affordability of houses may be a comparison of home prices and per capita income.

Measured by the deflator for residential structures, new home prices rose 136 percent between 1969 and 1979. During that time, disposable personal income per household rose 107 percent, but disposable income per capita rose 137 percent, about the same as the rise in home prices.

Prior to 1969 income, however measured, had been rising faster than the cost of con-

Long decline in home prices relative to income reversed in the 1970s



*Deflator for nonfarm residential structures.

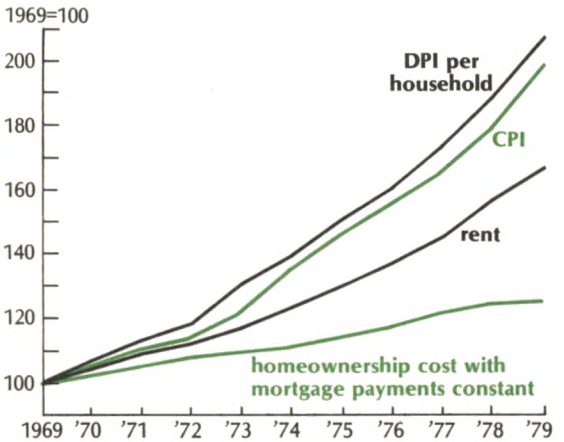
structing new homes. From 1949 to 1969 income per household rose 128 percent, income per capita rose 148 percent, while home prices rose only 50 percent. Despite the recent run-up in home prices, in 1979 these prices were still lower relative to income than in 1959 or 1949.

Nearly all mortgage contracts call for equal monthly amortization payments. With this outlay fixed, the total cost of homeownership to a typical household has risen much slower than rent, prices generally, and income.

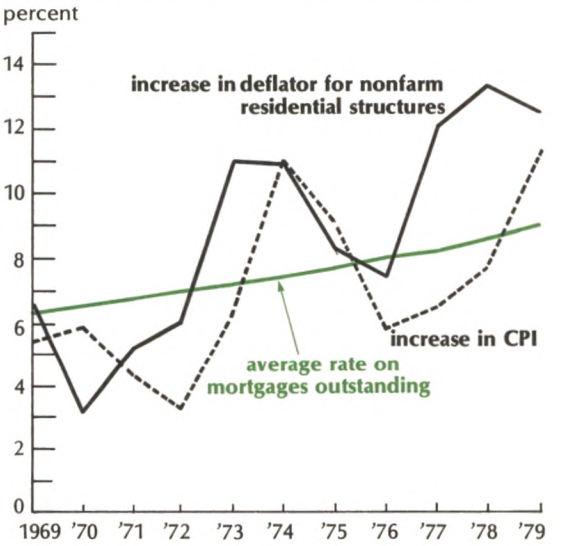
According to the National Association of Homebuilders, the cost of owning a new home was about $2,340 in 1969. That included property taxes, insurance, and repairs (all of which have increased sharply), as well as mortgage payments. Keeping the mortgage payment constant, while escalating other ownership costs in line with CPI components, ownership cost of the same home was $3,130 in 1979. This was an increase of 34 percent over the ten years, compared with increases of 67 percent in rent, 98 percent in the CPI, and 107 percent in household income.

The rise in home prices has increased the net worth of most homeowners. In six of the last seven years, the appreciation in home prices exceeded the average interest rate on all outstanding home mortgages held by S&Ls.

Homeownership has proved to be a bargain



Home prices have outrun both the price level and mortgage rates

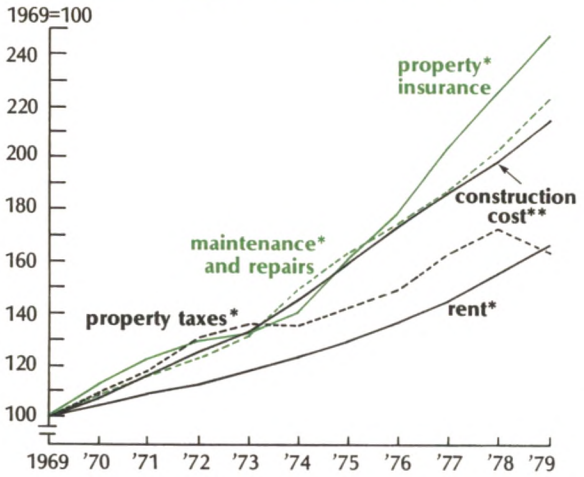


Over the ten years ended in 1979, home prices appreciated an average of 9 percent a year. The rate on outstanding mortgages averaged 7.6 percent.

After taxes, the advantages of homeownership were even greater. Interest and property taxes, the major expenses of ownership, are tax deductible. Income and capital gains from ownership are essentially tax exempt. The tax-free imputed income a homeowner receives is the equivalent of the rent he would pay if someone else owned his house. Most owners, after sale of their homes, can avoid capital gains taxes indefinitely—through the rollover privilege when another home is bought and through the $100,000 exemption for sellers over 55. Because the estate tax exempts $160,000, most capital gains on homes escape taxation on the death of the owner.

These tax advantages are magnified by inflation, which has pushed households into progressively higher tax brackets. For some homeowners, the rise in home prices exceeded the after-tax cost of borrowing, even when mortgage rates reached record levels.

Rents have lagged landlord costs



*As measured in the CPI.
**Boeckh Index for apartments, hotels and office buildings.

Apartment construction slides

Multifamily starts accounted for only 28 percent of all housing starts in the second half of the 1970s, compared with 43 percent in the first half. The slowdown was concentrated in large apartment buildings intended for unsubsidized tenants. Probably less than 300,000 such units were built last year. The stock of unsubsidized apartment units probably fell in 1979, as the number of new units was more than offset by abandonments and conversions to condominiums.

One reason for the slowdown in apartment construction is that rents have not kept up with either construction costs or operating costs. Rents increased 67 percent in the 1970s. But the cost of building apartments (measured by the Boeckh index) rose 114 percent. Property taxes rose 63 percent, maintenance and repairs 123 percent, and property insurance 148 percent.

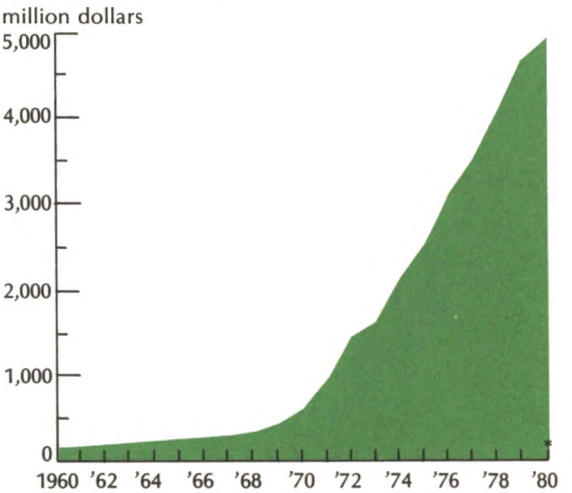
Like homeowners, investors in apartment buildings have benefited from price appreciation. Unlike homeowners, however, these investors must pay taxes on income from rental property and they usually have to pay capital gains taxes. Legislation in the past decade has reduced some of the tax privileges that investors in rental properties once had. These include the immediate write-off of construction-period interest and taxes, and accelerated depreciation.

Some potential investment in rental property has been prevented by rent control or the threat of rent control. New York City still controls rents, as it has in modified form since World War II. Other metropolitan areas with a substantial proportion of the population under rent controls include Boston, San Francisco, Los Angeles, and Washington, D.C. Investors fear they will lose the prerogative of adjusting rents as market conditions change. Under rent controls, repairs and maintenance are often deferred. Buildings deteriorate from neglect.

Construction of small apartment buildings has fared better than large buildings. More than 120,000 two to four-unit buildings have been started every year for the past three years. These were three of the best years on record. One reason for continued construction of these buildings is that the owners usually occupy one unit. Another is that rent controls and other regulations usually are not enforced as vigorously for small apartment buildings.

Because eligibility rules permit up to 40 percent of all households to qualify for sub-

Federal housing subsidies surged during the 1970s



*Estimated.
SOURCE: Bureau of Economic Analysis.

sidized housing, the number of subsidized units constructed is determined by the amount of money authorized by Congress. Federal housing subsidies will approach $5 billion this year, compared with $4 billion in 1978 and $1 billion in 1971. For the past two years, starts have totaled about 150,000 a year, more than a fourth of all multifamily starts. Under Section 8, the principal subsidy program, lower-income tenants pay a maximum of 25 percent of their admitted income in rent. Owners receive an additional payment from the government which guarantees them a "fair market rent." Most Section 8 tenants occupy units that were not covered under this program when they were built.

Condominiums have become an important part of the multifamily market in recent years, largely because they give owners the same tax advantages as owner-occupied single-family houses. More than 160,000 units for sale as condos or co-ops were started in 1979. That compared with 135,000 in 1978, and 108,000 in 1977. Other new apartment structures are built with the intention of converting them to condos in a few years, when the depreciation that could be allowed becomes small relative to income from rent. Advance Mortgage Corporation estimates that 145,000 units were converted to condominiums in 1979, against 85,000 in 1978 and 45,000 in 1977.

Conclusion

Builders, lenders, and many potential home buyers are under severe financial pressure and will remain so for at least the remainder of 1980. Although credit conditions began to ease in May, lending rates remained very high by historical standards. The general economy appears to be in recession. Until these conditions are reversed, continued weakness in new housing seems unavoidable. Starts could be less than 1 million this year.

Beyond the current downturn, prospects for housing are promising. New household formation is expected to average 1.7 million a year for the next five years. And households will probably continue upgrading their standards of housing, with the result that abandonments could average 500,000 units a year, mostly in inner cities. An average of about 200,000 units a year will be added to the stock of second homes. These factors combined create a basic demand for 2.4 million new units a year. With manufactured home shipments providing about 300,000 new housing units annually, starts must average more than 2 million units a year over the next five years to avoid a serious housing shortage. This compares with annual averages of 1.8 million in the 1970s and 1.4 million in the 1960s.

Bank funds management comes of age—a balance sheet analysis

Elijah Brewer

Changes over the past decade giving bank management greater control over growth, liquidity, and profitability have led bankers to seek guidelines for the appropriate strategy in managing bank funds.

The search comes partly, of course, from the rapid evolution from core-deposit banking into banking based on purchased funds, banks becoming not so much deposit creators as financial intermediaries and the profitability of banks depending not so much on the difference between lending rates and quasi-fixed deposit rates as the highly variable spread between borrowing and lending rates in constant flux. Control of growth, liquidity, and profitability is achieved by keeping interest rates on money market sources of funds competitive with the returns available on other money market instruments.

Various instruments are used in adjusting bank portfolios. Negotiable CDs and nondeposit instruments are most often associated with funds management, but the whole balance sheet of interest sensitive items, both assets and liabilities, can be managed to some extent. Management of all types of interest sensitive assets and liabilities has had an effect on the strategies used for generating and deploying funds at a bank's discretion.

Nature of funds management

Management strategy focuses on interest sensitive funds that can be increased or decreased at the bank's initiative—in contrast to flows of funds that are beyond the bank's control. The notion, however, that some assets and liabilities are subject to discretionary management, while others are not, is elusive. No crisp distinction can be made, certainly not one that is always accurate. But because of the way banks operate under different conditions, it is possible to identify candidates for the set of variables subject to discretionary control and candidates for the set that are beyond discretionary control.

Discretionary balance sheet items are those items over which, under ordinary circumstances, the bank has considerable short-run control. In contrast, nondiscretionary balance sheet items are those assets and liabilities over which the bank has little, if any, short-run control.

In managing their discretionary liabilities, banks can issue only the instruments allowed under state and federal laws. Limits are set in terms of maturity, denomination, rate of interest, insurance status or creditor preference, and the holders that will be allowed. Deposits at most banks are subject to reserve requirements and interest rate ceilings based largely on maturity and denomination. Other liabilities are exempt from these restrictions, but they are closely constrained regarding the lender, allowable collateral, or overall "borrowing limits" relative to capital stock and surplus.

Not all banks are subject to the same restrictions. Federal statutes and Federal Reserve regulations governing the operation of national and state member banks, plus parallel interest rate constraints on nonmember banks with FDIC insurance, have had the most important effects on the overall structure of bank liabilities.

The table shows a slightly condensed version of the balance sheet of large weekly reporting member banks on January 2, 1980. Assets of these banks totaled $716 billion (line 9). That was just under half the total assets of the entire banking system.

Although there are comparatively few large weekly reporting banks, they often purchase large amounts of funds in money markets to meet loan demands and deposit withdrawals. Most banks do not have easy access to money market sources of funds. As a result, they do not have clear discretion in the management of funds. For the few banks that practice active funds management, a clear understanding of the balance sheet items subject to immediate control is prerequisite to the determination of asset-liability management strategies.

Assets and liabilities of all large weekly reporting commercial banks
(January 2, 1980)

Assets	Million dollars
1. Cash items (including reserves, CIPC)	113,746
2. Investment account securities	
U.S. government securities	47,052
Obligations of states and political subdivisions	49,923
Other securities	2,650
3. Trading account securities	8,422
4. Federal funds sold and reverse RPs	34,300
5. Broker and dealer loans	7,739
6. Commercial and industrial loans	158,296
7. Other loans (including real estate and consumer instalment)	221,223
8. Other assets (including lease financing receivables)	72,554
9. Total assets	715,905
Liabilities	
10. Demand deposits	219,175
11. Savings deposits	74,613
12. Time deposits (other than large CDs)	64,450
13. Large CDs	128,319
14. Federal funds purchased and RPs	100,742
15. Borrowing from Federal Reserve	1,545
16. Treasury tax and loan notes	6,906
17. Other borrowing	14,692
18. Other liabilities and subordinated note and debentures	59,957
19. Total liabilities	670,399

Regulations restrict discretion

The distinction between deposits and debt liabilities has grown increasingly fuzzy. For purposes of reserve requirements or interest rate ceilings, several bank liabilities are now defined as deposits. The traditional sources of bank funds, demand deposits (line 10) and consumer-type savings deposits (line 11), are nondiscretionary items.

Demand deposits, being deposits against which checks are drawn, are subject to the highest reserve requirements. Interest cannot be paid on domestically owned demand deposits. Savings deposits, having no specific maturity, are subject to the lowest reserve requirement. They are also subject to the lowest interest rate ceiling under Federal Reserve Regulation Q. Because of interest rate constraints, neither demand deposits nor savings deposits are under short-run bank discretion, though such core-deposit flows can be influenced through bank advertisement and marketing efforts.

These flows are estimated in advance, but the estimates are subject to wide error. Banks usually consider time deposits other than CDs (line 12) as nondiscretionary. Because maturity schedules are known in advance, time deposits can be forecasted. But they are also subject to rate ceilings under Regulation Q, and although they can sometimes be influenced by changes in deposit rates, which implies some discretion, they cannot always be controlled. Both interest rate ceilings on these deposits and reserve requirements vary with the maturity.

Legislation, signed by the President on March 31, 1980, will phase out interest rate ceilings on deposits over a six-year period. The implementation of the six-year phase out of rate ceilings under Regulation Q will have a significant impact on the flow of funds to individual banks. By changing offering rates, banks not only will be able to influence core-deposit flows but also consumer-type time deposit flows.

Banks can now offer two new floating rate consumer-type time accounts. Since mid-1978, they have been allowed to offer

$10,000 minimum-denomination, six-month maturity time certificates at issuing rates tied to the average weekly rate on six-month Treasury bills with the same maturity. Through use of these floating rate certificates, they have been able to influence their consumer-type time deposits. Beginning this year, they can also offer a new cateogry of nonnegotiable time certificates with initial maturities of 2½ years or longer at monthly issuing rates 75 basis points below the average daily yields on 2½-year Treasury securities. The interest rate is determined for any month by the average yield available on Treasury securities during the last three business days of the previous month.

In March 1980, the Federal Reserve imposed a temporary ceiling rate of 11.75 percent on new 2½-year money market certificates issued at commercial banks. When yields on 2½-year Treasury securities rise more than 75 basis points above the ceiling rate, the flow of funds into 2½-year money market certificates is limited.

While the table does not show bank capital explicitly, criteria are set for capital needs as the implementation of bank funds management unfolds. Capital is not, of course, a short-run decision variable. Nor does it change much over the near term.

The most important component of bank capital is equity, which consists of common and preferred stock, surplus, undivided profits, and capital reserves. Capital notes and debentures (included in line 18) have recently substituted for generally more costly equity accounts as sources of bank capital. Because capital can be used both directly to extend credit and indirectly as a base for attracting additional funds, bank funds management considers capital needs and discretionary sources of funds at the same time.

Assets beyond short-run control

On the asset side, cash items in line 1, consisting primarily of reserves, interbank balances, and cash-items-in-process-of-collection, are beyond bank control. They must, therefore, be forecast. The far greater part of a bank's cash represents reserves required to support deposits.

To satisfy reserve requirements and provide working balances, member banks are required to hold as reserves at the Federal Reserve Bank a proportion of their average deposits for every weekly reporting period (Thursday through Wednesday). Because the reserves to be held in the current week are based on deposits two weeks earlier (lagged reserve requirements), every bank knows at the beginning of a statement week what its reserve balance will have to average that week. Any imbalances between its average daily reserve balances and its average daily required reserve are especially important in determining day-to-day funds requirements.

Treasury holdings and state and local obligations (line 2) are estimated on the basis of recent experience. These investment categories are not discretionary, because they are needed to meet pledging requirements against government deposits, but there are some elements of discretion in line 2. "Free governments" can be used for repurchase agreements (line 14). And as state and local obligations often total more than required, they can usually be sold.

Trading account assets in line 3 are securities banks hold solely for their market-making activities. Many large banks not only purchase securities for their own investment but also serve as underwriters for government securities and CDs, distributing new securities to their customers in line with customers' investment needs. Banks hold trading portfolios of these securities apart from their own investment accounts and stand ready to buy and sell them at prices that reflect current yield trends.

Trading account assets are more discretionary than most assets. This is because the trading positions at some banks depend on funds the bank allocates to its dealer department, though this allocation depends much on the level and structure of interest rates. At other banks, trading positions are financed by the bank's own dealer department, much like nonbank security dealers.

Although banks can change their lending

policies to control commercial and industrial loans, and other loans over the long run, they often consider these loans nondiscretionary over the short run. This is because the bank funds group assumes that business loan demand will be accommodated. Instalment loan repayment schedules are given and decisions regarding credit risk exposure have already been made. Fluctuations in the volume of loans, especially commercial and industrial loans, tend to reflect the importance of bank customers as a source of deposits as well as other business. For other loans, the customer relationship is much weaker, at least in the short run.

Linkage between banks as lenders and businesses as borrowers has been strengthened by the tendency of banks to make commitments to lend in the future. The result is a significant reduction in the flexibility a bank has in managing its loans, especially as potential borrowers often pay a fee for the commitment. The dollar amounts of loan commitments can be controlled, however, by changing both interest and noninterest terms on credit lines.

Other assets and liabilities included in lines 8 and 18 can be considered residual categories. They reflect items not explicitly categorized in the Federal Reserve's "Report of Condition" instructions. Other assets include such items as income earned but not collected, prepaid expenses, and other minor items. Other liabilities include accrued expenses, dividends declared but not yet payable, and the IRS bad-debt reserve.

There is an entry for net balance due to foreign branches under "other liabilities." If the balance results in a net "due from," the amount appears in "other assets." Though business with foreign branches can be influenced by rate changes, the business is so discretionary that it shows up adequately in either "other liabilities" or "other assets."

The projected changes in nondiscretionary and semi-discretionary assets and liabilities over the next month, say, will produce a number that, if negative, means funds must be raised. If positive, which it hardly ever is at large money center banks. it means funds are available for investment. Two asset and four liability items are usually used to dispose of funds or generate funds at a bank's discretion.

Instruments of discretionary management

Federal funds transactions and repurchase agreements are especially useful in disposing of funds and generating funds at the bank's discretion. These entries appear on the asset side in line 4 and the liability side in line 14.

Federal funds are unsecured overnight interbank loans settled in immediately available funds. These transactions often involve transfers of reserve balances from reserve-surplus banks to reserve-deficit banks. Banks, however, can purchase federal funds from correspondent banks that find this outlet provides both greater liquidity and, when short-term interest rates are high, better average returns than securities.

Execution of federal funds transactions involves only accounting entries on the books of the borrower and lender. Correspondent banking transfers of federal funds consist of reducing the correspondent bank's demand deposit balance at the bank and crediting the account-designated "federal funds purchased" from the correspondent. It is easy to see that the federal funds market is not limited to the borrowing and lending of reserve balances.

Immediately available funds can also be acquired (or disposed of) through the sale (or purchase) of securities. Repurchase agreements (RPs) in government securities are particularly useful in providing a bank loanable funds. Reverse RPs are used to dispose of excess funds.

RPs involve the purchase of immediately available funds through the sale of government securities—with a commitment on the part of the bank to repurchase the securities at a specified date and price. RPs are most commonly made for one business day, though longer maturities are frequent.

There are no reserve requirements or interest rate ceilings on RPs of $100,000 or more.

RPs on securities of less than $100,000 with maturity greater than 90 days are subject, however, to the same interest rate ceiling as deposits of similar maturity.

Repurchase agreements are effectively secured federal funds, collateralized by government securities. In providing a bank loanable funds, they also create a liability to repurchase the securities at maturity. The entry on the liability side (line 14) is securities sold under agreement to repurchase.

Conversely, banks with excess funds can enter into reverse RPs. From the perspective of the supplier of funds, the agreement involves the purchase of blocks of securities, with a commitment on the part of the seller to repurchase the securities at a specified date and price. The bank loses funds but gains securities for the duration of the contract. Securities purchased under agreements to resell appear on the asset side as reverse RPs in line 4.

Large CDs (line 13) are the most important source of discretionary funds. CDs can be negotiable or nonnegotiable instruments payable on a certain date not less than 30 days after the deposit.

As large negotiable CDs can be issued directly to corporate treasurers and tailored to meet maturity requirements, they cultivate a "reverse customer" relationship. They can be sold more impersonally, however, through security dealers that also maintain secondary markets. Within limits depending on its size, a bank can influence the volume of its outstanding stock of CDs by adjusting its offering rate.

Eurodollar borrowings have become an important discretionary source of purchased funds. Eurodollars are deposits denominated in U.S. dollars at banks outside the United States, including foreign branches of U.S. banks. These deposits arise when the owner of a demand deposit at a U.S. bank transfers ownership of the deposit to, say, a foreign branch of a U.S. bank in exchange for a dollar-denominated deposit claim against the branch. These claims usually take the form of a time deposit, but overnight and call deposits are also made. The domestic bank gains access to the funds by crediting "due to foreign branches" on its balance sheet.

Eurodollar borrowings are not an explicit category in the Report of Condition. Rather, net balances due directly to related foreign institutions are reported as a memorandum item on the consolidated balance sheet. Changes in this item show the discretionary flow of funds between banks and their foreign branches.

The Federal Reserve in August 1978 reduced reserve requirements (under Regulation M) on net borrowings of member banks from their foreign branches to zero percent from 4 percent. Because Eurodollar borrowings are also exempt from interest rate ceilings and maturity minimums, they provide banks with foreign branches diversity of sources and maturity of discretionary funds.

Although there is a zero percent reserve requirement on Eurodollar borrowings and no basic reserve ratio on purchases of federal funds and repurchase agreements with institutions that are not members of the Federal Reserve, an 8 percent marginal reserve requirement was established in October on total "managed liabilities," and raised to 10 percent on March 14. These include large CDs, Eurodollar borrowings, and RPs and federal funds borrowings from nonmember institutions above a base level. All these sources of funds are still under bank discretionary control. The amount of managed liabilities above a base level, however, has been made more costly by the application of marginal reserve requirements.

Borrowing from Federal Reserve banks (line 15) is less important than CDs in terms of dollar volume. As borrowing by member banks is intended to cover unusual short-term needs, the borrowing privilege is not freely available on a regular basis. Administration of the discount window imposes an implicit cost in the form of Federal Reserve surveillance of banks that use the window for extended periods. Because current borrowings tend to reduce the willingness of the Federal Reserve to accommodate future borrowings, banks use the window sparingly, conserving their access for times of urgent need.

Treasury tax and loan notes (line 16) are interest-bearing obligations of banks. The government holds its cash balances in two types of accounts—demand deposit balances at Federal Reserve banks and Treasury tax and loan (TT&L) note balances at commercial banks qualifying as special depositaries.

All Treasury checks are paid through Federal Reserve banks, which are the fiscal agents of the federal government. Through periodic "calls," the Treasury orders funds in TT&L accounts transferred to Federal Reserve balances. TT&L balances, which come mostly from tax collections, must be transferred immediately on call or purchased by the bank at a rate of interest a quarter-percent below the federal funds rate.

Given that rate of interest, the amount borrowed is determined by the rate of flow of deposits through the tax and loan accounts of banks that hold TT&L note balances. Funds acquired through this arrangement depend also on the amount and frequency of Treasury calls.

Other borrowing in line 17 is intended to reflect the total amount of short-term funds that are not specifically reported elsewhere on the liability side of the balance sheet. Term federal funds and loans sold under repurchase agreements are two of the most important items in this category.

Term federal funds are federal funds purchased for a maturity of more than one day, in practice, anywhere from two days to a year. Because term federal funds have maturity longer than one business day, the Comptroller of the Currency in 1978 made them subject to both overall "borrowing limits" and "lending limits" relative to capital stock and surplus.

Loans sold under agreements to repurchase surfaced in 1969. They are similar to security RPs, except that they are not exempt from reserve requirements and interest rate ceilings. As the Federal Reserve defines loans sold under agreements to repurchase as deposits, they are subjected to all the regulations governing deposits of similar maturities. Loans sold under agreements to repurchase are also subject to overall "borrowing limits" relative to capital stock and surplus.

On the asset side in line 5, loans to brokers and dealers for the purpose of carrying securities are under the bank's short-run discretion. They are call loans, payable on demand. Banks do not have an irrevocable commitment to renew them. If, for example, federal funds cost more than a bank is willing to pay, it can terminate some dealer loans as another source of funds. Reducing an asset is just as much a source of funds as increasing a liability.

The instruments of discretionary funds management have grown in number since modern funds management emerged in the early 1960s. This evolution is a continuing process. There is little doubt that as economic and money market conditions change, so will the instruments of bank funds management.

Sinking float

Thomas A. Gittings

Federal Reserve float—the additional bank reserves the Federal Reserve creates when it passes credit before it receives payment—complicates monetary control and costs the Treasury revenue. For these reasons, the Federal Reserve System has set a sharp reduction in float as one of its main operational goals. Daily average float has been cut from more than $8 billion in early 1979 to less than $4 billion in April 1980.

How Federal Reserve float is created

Float develops from the day-to-day operation of the Federal Reserve's nationwide check-clearing mechanism. Until the creation of the Federal Reserve, checks were cleared through private arrangements, such as local clearing associations and networks of correspondent banks. To cover the cost of handling checks, banks and clearing houses routinely deducted a charge from the face amount of checks, a practice known as non-par clearing.

With the creation of the Federal Reserve, the government became involved in the payments mechanism. The Federal Reserve Act imposed on the system the requirement that checks be cleared at par. Most checks and check-like instruments, such as NOW accounts and credit union share drafts, are still cleared through correspondents and private clearing associations. Many checks, however, are cleared through the Federal Reserve, and these are the checks that can affect the level of Federal Reserve float.

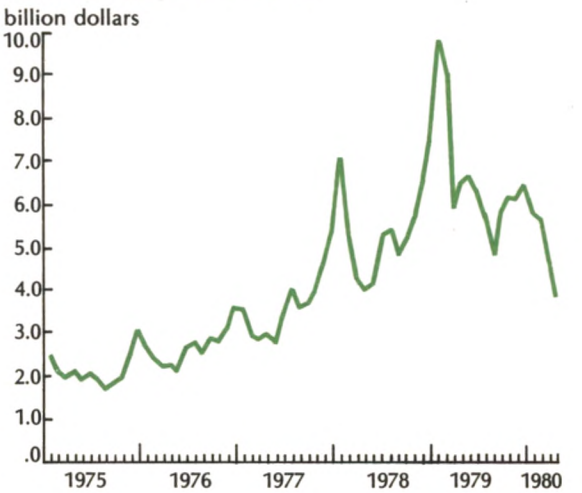
The Federal Reserve's check-clearing mechanism works through a system of deferred credits and charges. Federal Reserve banks publish availability schedules showing when credit will be passed on to banks depositing checks. For checks drawn on local banks, the schedules promise credit the same day. For checks drawn on more remote banks, the schedules defer credit as much as two business days.

In all cases, however, banks presenting checks are guaranteed credit according to the schedule—even though the Federal Reserve may not actually have collected on the checks. This guarantee reflects the Federal Reserve's longstanding belief that the efficiency of the payments mechanism requires that banks know exactly when reserves will become available.

Checks are sorted at the Federal Reserve Bank according to the locations of the banks they are drawn on. Nearly all the sorting is done on high-speed equipment that reads the magnetically encoded MICR numbers on the bottom of checks. Only checks in poor condition have to be sorted by hand.

Checks on banks in the same territory as the depositing bank are delivered to the paying bank by courier or first-class mail. Checks on banks in other territories are sent to the Federal Reserve offices there, where they are processed and delivered to the paying banks. Since 1916, it has been the policy of the

Federal Reserve float



Federal Reserve not to charge paying banks until they actually receive the checks and have some time to process them.

The Federal Reserve Bank passes credit and receives payment through the debiting and crediting of reserve accounts. The balances in these accounts are assets of the commercial banks and liabilities of the Federal Reserve Bank. The accounts are in many ways like checking accounts. That is one reason the Federal Reserve System is often called the banker's bank.

The Federal Reserve Bank, then, passes credit to a depositing bank simply by crediting the bank's reserve account. With an entry in its accounting system, the Federal Reserve increases the reserves held by the banking system. Likewise, it receives payment for a check by debiting the paying bank's reserve account.

If the debit and credit entries are not made the same day, so that they offset each other, reserves of the banking system as a whole are changed. Anything that causes actual collection to deviate from the availability schedule—unrealistic schedules, clerical errors, equipment failures, bad weather, transportation strikes, fuel shortages—can cause an increase in float.

Federal Reserve float is not a new development. For the first 25 years of the Federal Reserve's operations, float was low, primarily because the deferred availability schedule ran up to as many as eight days. A three-day maximum deferment schedule was adopted in 1940, and in 1951 the maximum was reduced to two days. Any reduction in the availability schedule that is not matched with faster collection of checks causes float to increase.

Its effects on monetary and fiscal policy

Federal Reserve float can have important effects on both monetary and fiscal policy. The additional reserves created by float cannot be distinguished from the reserves created by the Open Market Desk through purchases of government securities. To offset an increase in reserves that is out of line with monetary objectives, the Open Market Desk must sell securities from its portfolio.

Part of the trouble is that system float is literally as variable and unpredictable as the weather. One week in February last year, float jumped from $6.6 billion to over $12 billion. Most of the increase was due to a blizzard that snarled transportation on the East Coast.

As the Open Market Desk uses estimates of system float for the following day in conducting its operations, misses in the estimate—which occasionally are billions of dollars—can create operational problems. The magnitude of this problem can be sensed from a comparison of system float with total reserves. The daily average of total reserves last year was around $40 billion. System float averaged nearly $6.7 billion.

Float also results in lost revenue to the Treasury. When the Open Market Desk sells securities to offset the effect of float on reserves, it reduces the Federal Reserve's portfolio. That reduces the interest payments the system receives and lowers the earnings the Federal Reserve can return to the Treasury.

A first approximation of the loss to the Treasury can be obtained by multiplying the daily average level of system float by some market interest rate. Since most open market transactions involve securities maturing within 90 days, an appropriate interest rate would be some average of the federal funds rate and the market yield on three-month Treasury bills. This average last year was between 10 and 11 percent. As float averaged about $6.65 billion a day, the reduction in Federal Reserve earnings due to float must have been around $700 million.

This is only part of the story, however. If the Federal Reserve could cut the daily average of float in half, net receipts to the Treasury would not necessarily increase by $350 million. There are several reasons why it would be less than that.

In reducing the public's holdings of government securities and, therefore, the Treasury's interest payments to the public, a reduction in float would also translate into

smaller total tax receipts. Some people have guessed the reduction in tax receipts could amount to half the increase in interest payments returned by the Federal Reserve to the Treasury. This would reduce the savings to the Treasury to about $175 million.

Also, to reduce float the Federal Reserve would have to increase its operating costs. Expenditures on additional personnel and equipment needed to step up the processing of checks and speed movement between Federal Reserve offices would reduce the net earnings passed on to the Treasury.

The Treasury would also receive less revenue from commercial banks, which will have to make more sorts of checks and prepare more cash letters. The additional workload will increase costs and lower profits and tax payments.

If float were cut in half in 1980, but at a substantial increase in the costs of operations of commercial banks and the Federal Reserve, net revenue to the Treasury might increase by only $100 million to $150 million. That is about 1 percent of the earnings the Federal Reserve is expected to pass to the Treasury in fiscal year 1980 and less than .02 percent of the total receipts the Treasury expects to collect.

Regardless of the perspective—whether current float is seen as involving high costs to the Federal Reserve and the Treasury or whether the costs are seen as comparatively minor items—float itself had increased rapidly in the last few years. From a daily average of about $3 billion from 1970 to 1976, it rose to $3.6 billion in 1977, $5.5 billion in 1978, and $6.7 billion in 1979.

Reflected in this increase was the higher value of checks and other collection items cleared through the Federal Reserve, including wire and securities transfers, interest coupon collection, and automated clearing house payments.

During that time, the costs of float also rose sharply, reflecting in part the increase in inflation. The interest rate on three-month Treasury bills more than doubled, increasing from a yearly average of 5 percent in 1976 to more than 10 percent in 1979.

Ways float could be reduced

To gain more insight into where float is created in the collection cycle, the Federal Reserve banks are adjusting their accounting systems so some components of float can be identified. These modifications will provide improved techniques to evaluate the performance of couriers carrying cash items between Federal Reserve offices and to paying banks. They can also be used to monitor the Fed's internal performance in handling float-generating cash items.

Other methods of reducing float are:

By speeding check collection—Guidelines have been established for justifying additional expenditures to reduce float. Subject to the guidelines, Federal Reserve banks can hire more personnel, buy better processing equipment, and arrange other transportation and delivery services, provided the change will significantly reduce system float by speeding collections.

By extending availability schedules—Federal Reserve float could be sharply reduced by adjusting availability schedules to reflect average clearing times. If experience for a particular type of item showed 90 percent of the funds collected in one day and 10 percent collected on the second day, the Federal Reserve could pass credit according to these percentages, increasing reserves 90 percent of the deposit in one day and 100 percent in two days—a practice known as fractional availability.

By giving priority to large checks—Special attention is being given to the collection of large checks. Surveys of check items collected by the Federal Reserve show that a large part of the dollar volume handled is accounted for by comparatively few checks. It has been estimated, for example, that a fourth of the float is generated by checks for a quarter-million dollars or more.

Several plans have been proposed for sorting out this small number of large checks and giving them special handling. Any of the proposals would affect the advantages of using Fed services. They would all require presenting banks to make additional sorts and

separate cash letters for large checks. The amount of paperwork—for presenting banks and for Federal Reserve banks—could increase substantially.

Under one proposal, large checks would be given priority handling within the existing check collection system. Under another, large checks would be presented for collection electronically. And under still another, they would be handled on a collection basis, with the Federal Reserve passing credit only after it received payment.

Under the second proposal, which is consistent with the Federal Reserve's intentions of going eventually to an all-electronic payments mechanism, Federal Reserve banks receiving large checks would copy the necessary information onto computer files that could then be sent to other Federal Reserve offices through the system's existing electronic communications network. The data would then be presented to the paying banks and their reserve accounts debited. The checks themselves could be delivered later or simply stored at a warehouse.

The third proposal would mean large checks were no longer paid according to a deferred availability schedule.

Any of these proposals could reduce float significantly. Before adopting any of them, however, the Board of Governors will ask member banks for comments.

By charging for float—Another approach is now being taken to Federal Reserve float. The Monetary Control Act requires the Federal Reserve to charge for float and other services and make its clearing services available to all depository institutions.

By keeping the use of availability schedules while charging depositing institutions for any float that was created, the Federal Reserve will adopt a float management practice of some commercial banks. Since the Fed will be required to charge the market rate for federal funds, the effect will be to offset the revenue lost by the Treasury through system float.

To implement this procedure, Federal Reserve banks will have to significantly change their accounting systems so that float-creating transactions are properly identified and assigned to the right depositing institutions. Although a fairly large initial investment will be required, the system should be inexpensive to operate, especially when compared with the costs of speeding up check processing.

Charging for float, however, will have a direct impact on banking costs to the public. With member banks charged for the funds the Federal Reserve created before it received payment, banks will try to pass the charges on to their customers. Charging for float and other check processing services will also result in increased competition from private clearing institutions.

Further in the future

All these ways of reducing float take for granted that the Federal Reserve will continue processing a large part of the country's checks and passing credit according to deferred availability schedules. Although the Federal Reserve sees these conditions as the constraints within which it must operate, the constraints could be changed.

The Fed could stop clearing checks—With approval of Congress, the Federal Reserve could phase out its check processing operations. Then, instead of trying to determine the right prices for processing checks, it could turn the function over to private clearing houses and correspondent banks.

Private processors, in having to compete for check collecting, would be subject to market forces in setting their prices and availability schedules. The Federal Reserve could continue as the central bank, maintaining reserve accounts for its member banks without processing their checks.

Private clearing houses would notify Federal Reserve banks at the end of the day of the amounts to be debited or credited to reserve accounts. The Federal Reserve System already has such arrangements with several automated clearing houses. If these arrangements were extended to all check clearings, Federal Reserve float could be essentially eliminated.

Unlike the hodgepodge of private clearing arrangements before the Federal Reserve was created, the system could be based on a single nationwide clearing procedure involving final adjustments in reserve accounts.

Schedules could be eliminated—Though it might be the most drastic change, the most straightforward approach would be the elimination of deferred availability schedules. Instead of credits being passed on the basis of individual checks, they could be passed on the basis of cash letters showing the total amount of checks that one bank was presenting for collection from another bank. There are some basic policy issues inherent in this proposal, as well as technical problems in implementing it, as for example, the redesigning of many operational procedures.

Because the procedure would represent a fundamental change in how the Federal Reserve passes credit, member banks would be prompted to reevaluate their schedules for making deposited funds available to their customers. The Federal Reserve has taken the position that availability schedules serve the public interest by ensuring a reliable flow of payments. As Governor Coldwell has said:

> This means that we (the Federal Reserve) absorb the float resulting from major snow storms, hurricanes and other natural disasters. It also means that we insulate the payments system from many more routine problems—aircraft delays, power outages, and so forth.

The benefits of this insurance need to be weighed against the cost associated with Federal Reserve float and efforts to reduce it.

Although certainty about the time deposited funds will become available is considered important, the Federal Reserve could still reduce the average level of float by adopting more realistic availability schedules. During the winter, for example, when float often increases drastically, an extended availability schedule could be adopted to reflect system experience with collections that time of year.

There are real costs associated with even this fairly minor change, however. Member banks would have to adjust the availability schedules they use in passing credit to their customers. Corporate cash managers and the public generally would have to adjust their plans to reflect the change.

The Giro system could be used—The approach to reducing Federal Reserve float that would involve the most fundamental changes in the existing system would be the replacement of the check-based payments mechanism with the Giro system advocated by former Governor Mitchell, an expert on the payments mechanism. Under this system, anybody wanting to initiate a payment against a bank deposit would notify the bank directly whom to pay, how much, and when. Notification could be by phone, a check-like form, or a standardized bill submitted by the payee.

Having verified the request, the bank would authorize a transfer from its reserve account to the account of the payee's bank on behalf of the payee's private account. The information could be put on computer tapes or could be sent directly to a clearing institution over a computer-to-computer telephone connection.

Items to be cleared through the Federal Reserve would be sorted according to receiving banks and transferred between reserve accounts. The payee's bank would be notified that it had an increase in reserves that matched the credit to the payee's account. There would be no need for physical sorting of paper checks. Payment instructions and sorting would be done electronically.

Adopted nationwide, the system would essentially eliminate Federal Reserve float. It would also reduce the costs of processing paper checks. Most European countries have Giro systems that allow depositors to instruct the post office to pay bills for them.