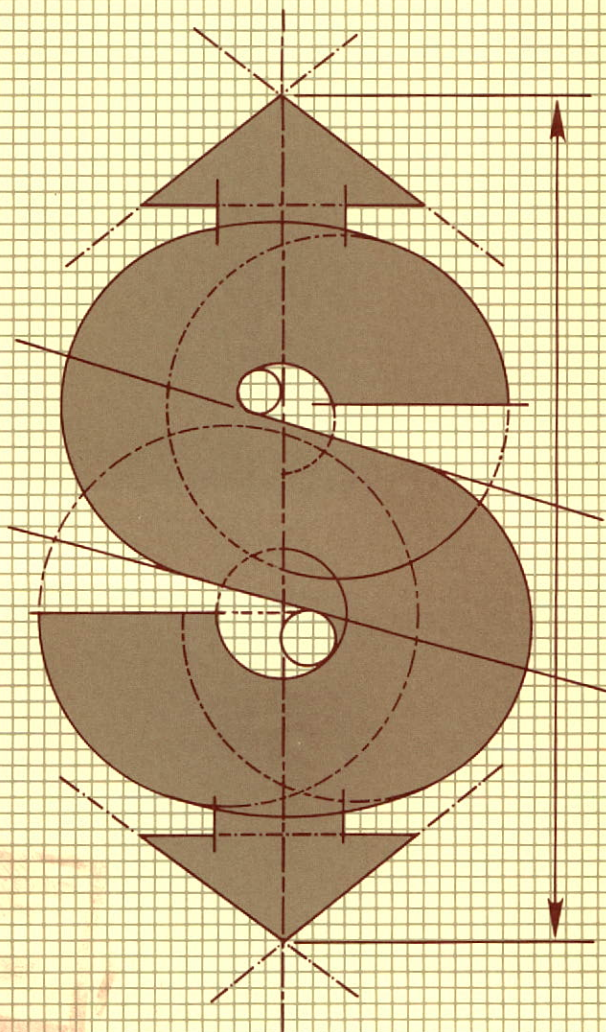
1980 Economic & Investment Report

A Report to the Membership of the American Council of Life Insurance

By Kenneth M. Wright
Vice President & Chief Economist



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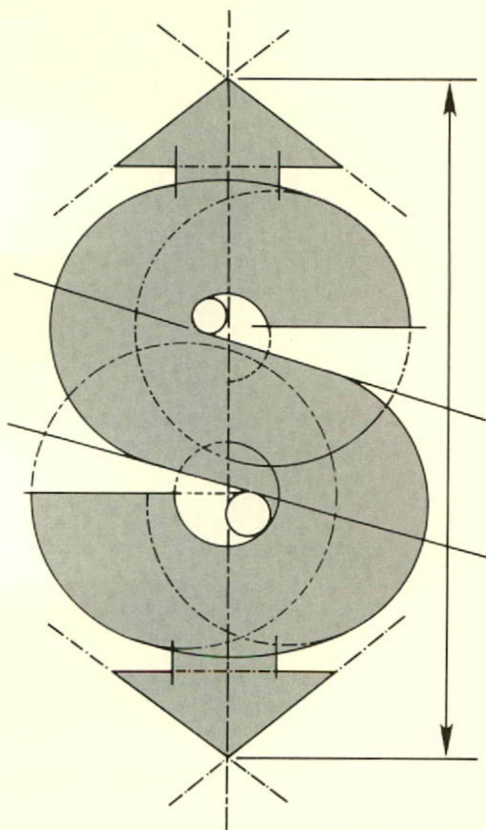

PREFACE

The initial year of the 1980s will long be cited as a watershed in the investment practices of life insurance companies. Ongoing inflation and volatile financial markets required new approaches to investing, and life insurers undertook to adapt their investments to these realities to provide increased flexibility in meeting future challenges.

Developments in the national economy and in financial markets bear directly on the life insurance business, most immediately through the investment side of the companies. To monitor, analyze, and forecast these interactions, the American Council of Life Insurance has long maintained an economic research function. This booklet is designed to report to member life insurance companies and other interested parties on the progress of the fundamental economic and financial research projects funded by the business and conducted independently by outside research scholars. Further, it reports on the economic and financial setting of 1980 and on the investment operations of life insurers during the year.

The report at hand reflects the efforts of several members of the economics department staff. Dr. George A. Bishop was responsible for the section on the economic research program; Dr. Thomas R. Robinson prepared the section describing economic and financial developments in 1980; and Elizabeth H. Bancala developed the section dealing with the investment operations of life insurance companies in 1980.

Kenneth M. Wright
January 1981

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THE ECONOMIC RESEARCH PROGRAM

Inflation, capital formation, and financial markets—these three topics have long been matters of vital concern within the life insurance business. Inflation can erode the real value of the funds entrusted to life insurance companies and thereby weaken the financial security of policyholders and pension beneficiaries. Capital formation is an important outgrowth of life company activities, which serve to mobilize the premium dollars of millions of families and channel such funds into the financing of factories, office buildings, and residential dwellings. Finally, the efficient functioning of our financial markets is of keen interest to life companies which are directly involved as suppliers of debt and equity capital to a wide range of borrowers.

To improve knowledge about the workings of the U.S. economic and financial system, a continuing program of fundamental research was developed within the life insurance business almost 40 years ago. Through its trade association, the business initiated the funding of a series of major studies by prominent scholars at leading universities and research organizations. In addition, an economic research department was established within its trade association with the purpose of not only guiding the outside research grants that were undertaken, but also developing a better flow of economic intelligence in the financial area for the use of member companies.

Sponsorship of outside research has involved grants to support major studies of saving, capital markets, pensions, housing, corporate bond quality and investment performance, mortgage financing, the behavior of interest rates, the impact of inflation on financial markets, and capital investment and saving requirements for economic growth.

Grants exceeding $4 million have been made for research that is widely regarded by scholars and public officials as having been among the most important published in vital areas of economic and financial research. Through the work of staff professionals in its economics department, the American Council of Life Insurance has done extensive research and analysis of financial markets and the investment operations of life insurance companies. The main objectives of both the external and internal research have been to assist the investment side of the life insurance business and to contribute to the fund of basic economic knowledge and to the better understanding of financial markets needed to deal with questions of public policy.

In the Appendix to this report, a complete list is provided of the economic research studies published through the sponsorship of the life insurance business. The list also includes the larger studies produced by the Council's own economics department.

Outside Economic Research Financed by the Council

In the spring of 1980, a three-volume Study of Capital Investment and Saving was published and widely distributed to member companies, academic specialists and government officials. This study, which involved about 40 authors, was carried out over a three-year period under the direction of Dr. George M. von Furstenberg, formerly professor of economics at Indiana University and currently director of financial studies at the International Monetary Fund in Washington, D.C. The study deals essentially with the major determinants of saving and the role of capital in economic growth. Both before and since their publication, many of the papers in this study have been used by staff professionals in government, presidential commissions, special study groups, and other research organizations. These volumes are expected also to be widely used in the academic world, especially by those who are working on problems of productivity and economic growth.

Supplementary research is currently being carried on by Dr. Dale Jorgenson of Harvard University to update and expand his work in the von Furstenberg project. This research, which is expected to be completed in 1981, is in two parts. The first will carry his earlier statistical analysis of capital stock and economic growth up through 1978. The second will examine the relation between inflation and tax provisions for capital recovery in the period 1948-78.

The changing roles of corporate debt and equity financing in the last twenty years are the subject of a three-year study authorized by the Council's Board of Directors in 1978 and now being carried out by the National Bureau of Economic Research. Dr. Benjamin M. Friedman of Harvard University is directing the research, which has two primary objectives: (1) to interpret and empirically evaluate the roles played by debt and equity in financing capital formation in an era of rapid and unpredictable price inflation, complex patterns of intermediation, increasing internationalization of financial flows, and pervasive regulatory and tax constraints; and (2) to assess the practical opportunities for public policy to exploit a richer understanding of the underlying economics of debt and equity finance in promoting capital formation and financial stability. Some of the studies have already been published as "Working Papers" of the National Bureau of Economic Research. As a part of the final phase of the project, a conference is planned for the spring of 1981 with special papers commissioned for an audience of non-economists. The papers will be published as a conference volume with a summary report by Dr. Friedman on the entire research study.

New Departmental Research

The economics department developed a number of short papers in 1980 for the series released under the general title, "Economic Perspectives." These are designed for investment officers, company planners, and others both inside and outside the business. Topics dealt with this year include the following: (1) the economic and financial outlook for 1980; (2) historical perspectives on the timing of interest rate peaks; (3) homeownership costs and the consumer price index; (4) prospects for success in the battle against inflation; (5) a review of the timing and duration of recessions in the past 30 years; (6) an economic perspective on the first half of the 1980s; (7) prospects for productivity in the first half of the 1980s; (8) a review of the credit restraint program of 1980; (9) the extent and duration of the recession in 1980; (10) the economic and financial outlook for 1981; and (11) the outlook for financial markets in 1981.

During 1980, the economics department conducted three special surveys arising from the liquidity problems experienced by some life companies in a setting of high inflation, high interest rates, and credit controls. One was a background survey, made in March among a small group of companies, dealing with developments in cash flow and forward investment commitments in the final quarter of 1979 and the first quarter of 1980. A second survey dealing with the outlook for commitments and cash flow was carried on monthly from April through June. In August, a Task Force on Liquidity Problems, comprised of chief executive officers of member companies, determined that certain additional information was needed as an aid in examining possible measures or mechanisms to help companies that may experience liquidity problems in the future. This information was gathered in the last quarter of the year and a staff report on the survey was transmitted to member companies in January.

Continuing Staff Activities

Collection and analysis of data on the investment operations of the life insurance business represent a major continuing function of the economics department of the Council. The industry data gathered and distributed to life companies in periodic statistical surveys serve not only as a management tool for company operations but also as a valuable source of current financial information for the Federal Reserve and other government bodies concerned with economic and financial policy. The continuing staff studies include monthly statistics on forward investment commitments of life insurance companies, quarterly data on the volume and sources of cash flow for investment, semiannual data on mortgage loan delinquencies and foreclosures, and annual data on mortgage lending income and costs of life insurance companies. In addition, monthly data on commitment yields of directly placed

securities, quarterly data on interest rates and other characteristics of income-property mortgage loans, annual data on gross yields of new investments, annual data on portfolio rates of investment income, and annual data on the quality of bond and preferred stock portfolios, are tabulated by the economic research staff. Some of the information developed in these studies is presented in later sections of this report.

A major function of the economics department is its work with various policymaking committees of the Council. For example, the economics department provides staff support to the Economic Policy Committee and its Subcommittee on Fiscal and Monetary Policy and the Subcommittee on Economic Research. On behalf of the life insurance business, the Economic Policy Committee, with the support of the economics staff, prepares testimony each year for submission to the Joint Economic Committee of the Congress in its hearings on the Economic Report of the President. During 1980, the main thrust of these policy positions dealt with the control of inflation and the viewpoints of the life insurance business were presented to the platform committees of both the Democratic and Republican parties prior to the political conventions that launched the Presidential election campaigns.

The department continues to provide staff support for the Council's anti-inflation program begun in 1978 under the Economic Policy Committee. The public relations division of the Council not only conducts a national advertising program but also promotes a communications program that involves member companies and other business and civic organizations on the theme "Inflation: Let's Self-Control It." The Academy of Political Science, which cosponsored the Williamsburg Assembly on Anti-Inflation Policy in 1979, reported that 11,000 copies of the proceedings entitled *Inflation and National Survival* have been distributed to its members and to libraries. Bulk requests from colleges and universities indicate substantial classroom use of this publication, which contains analyses by a number of distinguished economists on the causes of and cures for inflation.

The economics department also provides staff support to the Subcommittee on Investment Aspects of Valuation Problems. The department produces an annual report on the operations of the Mandatory Securities Valuation Reserve (MSVR) and from time to time reviews the principles and rules of valuation of securities in life company portfolios. During the past year, staff has been involved in the development of a proposal to exclude investments in majority-owned subsidiaries from the requirements of the Mandatory Securities Valuation Reserve. Some background work has also been done on regulatory questions involved in life company operations in repurchase agreements, reverse repurchase agreements, and interest rate futures contracts.

Activities of the Investment Section of the Council and the operation

of the annual Life Officers Investment Seminar also receive staff support from the economics department. The Investment Section holds an annual meeting each fall and a spring meeting in March or April in conjunction with the Council's regional meetings. These sessions provide a forum for discussion of financial topics by investment officers. The Life Officers Investment Seminar is held at Rockford College in Illinois for two weeks each June.

Still another function of the economics department is its liaison role with the academic community, especially in matters concerning the investment activities of life insurance companies. This role involves responding to inquiries for investment data, speaking to outside groups, describing current investment attitudes and policies, and reviewing research manuscripts by academic authors working in the investment field. In a broad sense, the economics department serves as a spokesman on the investment aspects of the business in an effort to improve public understanding of the investment policies and practices of life insurance companies.

ECONOMIC AND FINANCIAL DEVELOPMENTS IN 1980

When the economic history of 1980 is finally written, it will certainly be recorded as one of the most extraordinary years of the postwar period. Inflationary pressures became more acute as first energy and then food prices soared upward at extremely rapid rates. Indeed, an alarming inflation psychology seemed to grip the nation from time to time, surfacing in occasional bouts of speculative activity. In the minds of many Americans, it became increasingly doubtful that inflation could or ever would be brought under control, and the nation's price performance appeared to claim center stage as the major economic issue of the Presidential election campaign. The outcome was widely understood as a mandate for the new Reagan Administration to deal with the price problem in new and imaginative ways.

Early in the year, the economy began to turn downward, ending a nearly five-year old cyclical expansion whose demise had been so long predicted. The decline in output was particularly severe in the spring, recording the largest single-quarter drop in the postwar period. The unemployment rate, which had been stable for some time, rose markedly, and utilization rates of the nation's plant and equipment base fell off sharply. Then, after mid-year, as if to demonstrate its resilience, the economy bounced back more strongly than many analysts had expected or perhaps thought appropriate in an economy suffering from such severe inflation difficulties.

The real stories of 1980, however, related to the financial markets, with perhaps the most extraordinary being the occurrence of two major credit crunches in one year. Indeed, these credit crunches severely taxed the very viability of financial markets, particularly in the long-term area where desperately needed funds were obtainable only at record cost and at times were unavailable to many borrowers at any price.

The first credit crunch hit with full force in February and March, accompanied by unprecedented highs in interest rates and by a credit control program that was draconian in its effects and sweeping in its implications for government involvement in financial markets. Following the first credit crunch, financial market conditions eased for a time in response to a weakening in economic activity and the efforts of the Federal Reserve to push growth in the monetary aggregates back up into 1980 target ranges. The whole structure of interest rates fell and a positive yield curve re-emerged for a time. Long-term markets enjoyed

record-breaking volumes as businesses rushed to market to fund short-term debt and to restore a measure of liquidity.

In the face of continued high inflation and renewed economic growth, however, credit market demands turned upward again and gathered momentum after mid-year. The Federal Reserve did not alter its targets to accommodate these renewed demands and financial markets again came up against the stern barrier of monetary restraint. In this second credit crunch of 1980, interest rates reached new record highs, and many plans for funding short-term liabilities had to be postponed. Indeed, by the fall, financial market conditions had deteriorated so much that the likelihood of a new downturn in economic activity came under wide discussion.

Severe but Short Recession

The long-anticipated recession in economic activity finally arrived in the opening months of 1980, ending a nearly five-year cyclical expansion. However, after registering a record decline in the spring months, the economy rebounded with a greater show of strength than had been generally expected. Overall, gross national product, after adjusting for price changes (real GNP), fell an estimated 0.1% in 1980 (Table 1). This actual decline followed a steadily slowing trend in real GNP growth, from about 5½% in 1977 to 3¼% in 1979. The dip in real GNP in 1980 was much less than the declines registered during the 1974-75 recession,

Table 1

Constant Dollar Gross National Product

(Percentage changes; quarterly data, seasonally adjusted annual rates)

				1980			
	1978	**1979**	**1980p**	**I**	**II**	**III**	**IVp**
GNP	4.8%	3.2%	-0.1%	3.1%	-9.9%	2.4%	5.0%
Final sales	4.7	3.5	0.7	3.1	-10.4	4.1	3.7
Personal consumption expenditures	4.7	2.9	0.4	0.8	-9.8	5.1	5.3
Residential fixed investment	3.0	-5.3	-19.0	-24.3	-60.0	15.7	54.1
Business fixed investment	9.1	6.5	-3.4	2.2	-19.9	-1.5	-3.1
Federal government purchases	-0.9	1.9	6.6	18.6	12.0	-13.0	6.5
State and local government purchases	3.7	1.2	0.9	0.7	-2.8	0.2	0.7
Exports	12.6	15.2	10.0	31.9	-12.4	—	-2.5
Imports	12.8	6.0	-0.6	11.9	-21.8	-20.6	15.6

p-Preliminary.

Source: U.S. Department of Commerce.

the most severe and protracted of the period since World War II.

The economy ended 1979 in a last burst of strength, although a severe downtrend in auto sales and production and in housing was already evident. In the early months of 1980, as inflation accelerated and monetary policy grew progressively more restrictive, the sharp declines in these sectors continued and spread rapidly throughout the economy to other consumer items and to capital goods as well. Inventories, which had appeared in good balance with sales as the year began, began to look excessive in many areas. At one point during the recession, constant dollar inventory-to-sales ratios in some lines approached the maximum attained in the 1974-75 recession. Moreover, as consumer and business spending declined, so did production and employment. By early summer, capacity utilization of plant and equipment had fallen to its lowest level in four years, and housing starts and auto sales had fallen to levels comparable to the lowest recorded in the 1974-75 recession. The unemployment rate rose sharply from the 5½ to 6% range to just above 7½%, with unemployment hitting 16% in the construction industry and fully a quarter of the workforce in the auto industry.

By July, the worst of the recession seemed to be over, and reports in successive months made it evident that economic activity had definitely begun to recover. Consumers were the primary factor in this surprising turnaround, although they still remained relatively cautious, repaying unprecedented amounts of debt and maintaining a high savings rate. Auto sales gave a large boost to consumer spending, and the housing market rebounded sharply, largely as a result of the decline in mortgage interest rates in the summer. Industrial production began to increase again, the unemployment rate edged downward somewhat, the layoff rate declined, and the average workweek lengthened.

As consumer spending and housing construction continued to expand in the fall, business outlays on equipment began a modest recovery and spending on structures stabilized. However, by late in the year, the economy again showed signs of weakness. Credit markets grew increasingly tight, and a second credit crunch developed in the closing weeks of the year. Housing starts turned down in December, as did auto and other consumer goods sales. The possibility of a double-dip recession seemed increasingly likely.

Inflation Heats Up

Despite a much weaker economy, prices soared at an even faster pace in 1980 than in the preceding year. This speed-up in inflation contributed directly to the severity of the recession by undermining the growth in real incomes, unsettling the already fragile environment in financial markets, and setting off serious episodes of speculation, especially in some commodity markets.

On a year-to-year basis, the GNP implicit price deflator, a broad-based measure of inflation, advanced by 9% in 1980 as compared with 8½% in 1979 (Table 2). The acceleration in prices was even more pronounced for producer and consumer prices. The producer finished goods price index increased by 13¼% in 1980, markedly above the 11% rate in 1979. The consumer price index advanced by nearly 13½%, as opposed to 11¼% in 1979.

The distressing performance of prices dominated economic developments at the beginning of 1980, as inflation at both the consumer and producer levels flared sharply higher. Indeed, the record was even more alarming in view of a slowdown in the rise in food prices. Part of the acceleration was attributable to climbing energy prices, reflecting the repeated increases in OPEC oil prices in 1979, but fears of price controls in an election year probably prompted some increases as well. More fundamentally, however, the growth in unit labor costs accelerated markedly, as faster compensation gains and declining productivity propelled the underlying inflation rate to higher ground.

In the spring, there was some minor relief from the torrid pace of inflation of the early months of the year. Part of this slowing was due to the severe nature of the recession, which curbed demand pressures. Consumer price indexes were also affected by the technical factor of declining mortgage interest costs. The relief was to prove relatively short-lived. Led by increases in food prices during July and August, producer prices began to accelerate. The picture for consumer prices

Table 2

Measures of Inflation

(Percentage changes; quarterly data, seasonally adjusted annual rates)

		GNP Implicit Price Index	Consumer Price Index	Producer Price Index
1979	I	8.4%	11.1%	13.6%
	II	7.8	12.9	9.7
	III	7.8	13.3	12.6
	IV	8.1	13.7	15.0
1980	I	9.3	16.9	17.2
	II	9.8	13.7	10.3
	III	9.2	7.2	13.3
	IV	11.2p	12.4	7.5
Calendar years				
1977		5.8	6.5	6.0
1978		7.3	7.7	7.8
1979		8.5	11.3	11.0
1980		9.0p	13.5	13.3

p-Preliminary.

Source: U.S. Department of Commerce and Bureau of Labor Statistics.

continued to improve in the summer, although it was widely recognized as temporary, given the trend in the underlying inflation rate.

By the fall, the consumer price index was again soaring as demand pressures proved to be stronger than many analysts had expected and as the effects of rising mortgage interest costs came to have their full effect on this price measure. In the closing months of the year, the pace of inflation had risen once more to the double-digit range, both for the consumer price index and the much broader GNP price index (see Table 2).

Interest Rates: Highly Variable with New Highs

Credit market demands continued strong in 1980, but not all of those demands could be satisfied in an environment of a tight monetary policy which produced an unprecedented two credit crunches in a single year. Consumers, businesses, and government at all levels effectively borrowed an estimated $403 billion in net new money in 1980, some 15% less than in the previous year, when borrowing needs were at an all-time high. The mix of credit demands between short and long-term markets varied widely over the course of the year depending upon the level and structure of interest rates at any given time. Indeed, one of the noteworthy features of financial markets in 1980 was the high degree of interest-rate sensitivity these markets exhibited throughout the year.

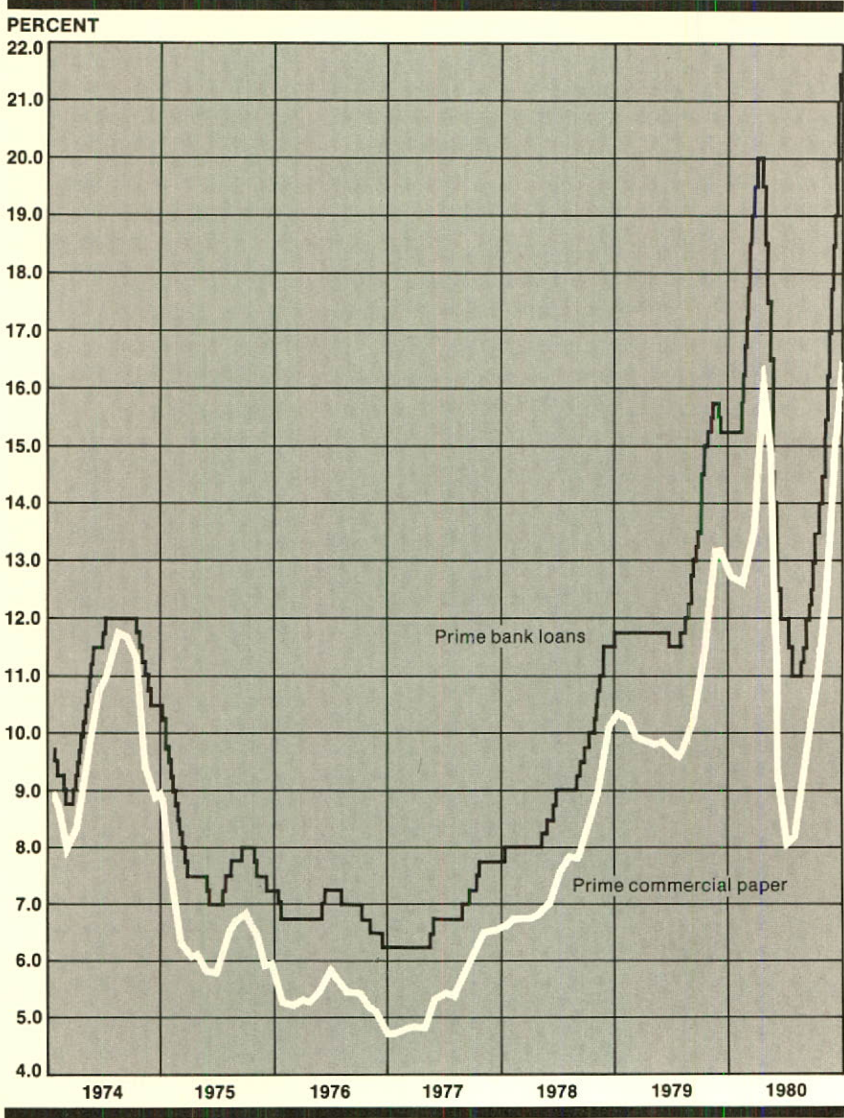
Charts 1, 2, and 3 depict the "double spike" pattern of interest rates on short-term loans, prime bonds, and lesser-rated corporate securities in 1980. As can be seen from the charts, interest rates climbed sharply above earlier years and exhibited an unprecedented degree of variability. Short- and long-term rates rose to previously unscaled heights in the March-April period. Over the spring and early summer months, short rates fell precipitously to their lowest levels in over a year. Long rates also fell during this period, but by much smaller amounts than short rates, and a positive yield curve reappeared briefly for the first time since late 1978. Then, in the late summer and fall, interest rates across the maturity spectrum again began to rise, this time to new record high levels (Table 3).

The first credit crunch of 1980. Faced with increasing instability in financial and foreign exchange markets over the summer, the Federal Reserve in October 1979 took several steps to tighten monetary policy. As part of its actions, it also sought to allay fears of further excessive monetary growth by adopting a new set of operating procedures whereby it would focus more closely on bank reserve and monetary aggregate growth rates than on traditional interest rate objectives. Interest rates rose sharply higher, but by late October, in the aftermath of these new initiatives, the growth in the monetary aggregates slowed appreciably, and downward pressures developed on both short- and long-term interest rates.

Financial markets were reassured for only a time, however, and were again nervous as 1980 opened. The economy was showing surprising strength and inflation appeared to be accelerating rapidly. The dollar had been suffering from bouts of severe weakness in foreign exchange markets, and prices of commodities, especially precious metals, had

Chart 1

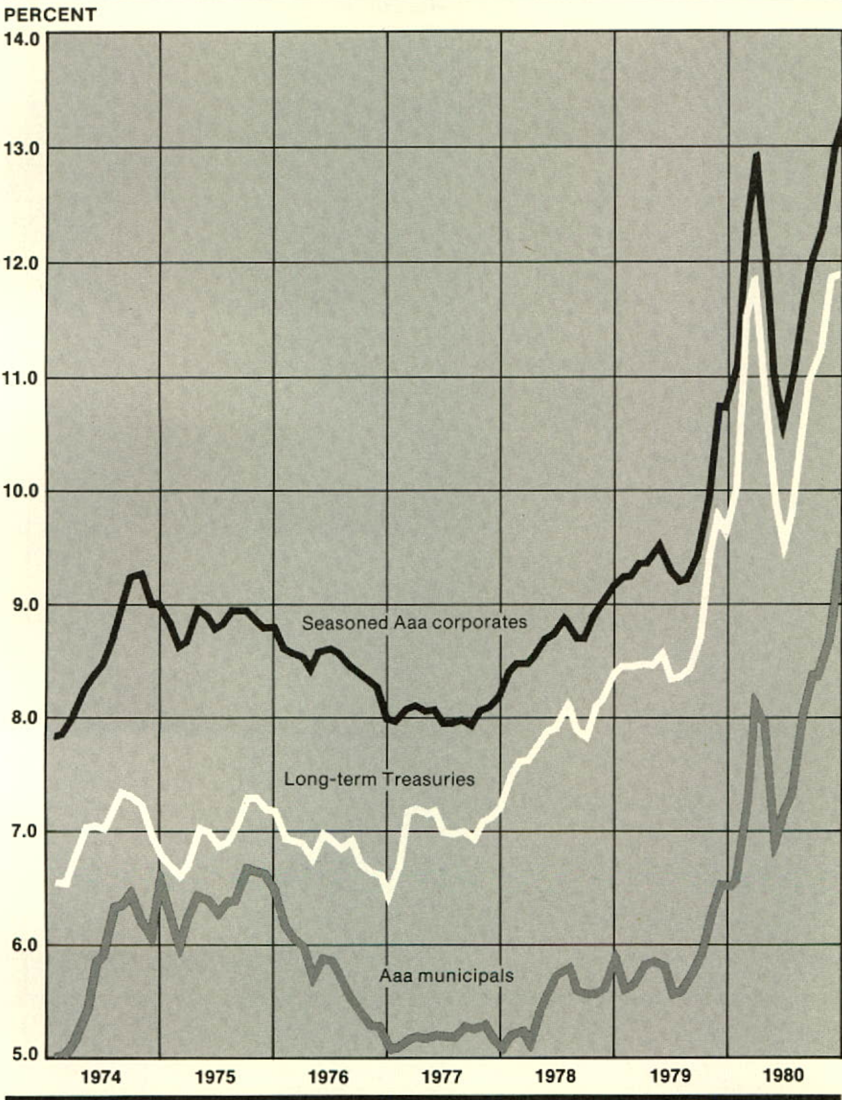
SHORT-TERM INTEREST RATES



begun to soar upward. Financial markets were also unsettled by recent international developments, especially the Soviet invasion of Afghanistan the day after Christmas. Increasingly, discussion centered on the nation's defense posture and suggested that military outlays would have to be increased, even above the amounts just announced in the

Chart 2

YIELDS ON PRIME BONDS



federal budget, with serious implications for the size of the budget deficit and borrowing requirements. Against this backdrop, long-term rates began to climb in mid-January. Short-term rates, however, remained remarkably stable in view of the sudden burst in short-term borrowing demands.

Chart 3

YIELDS ON Baa CORPORATES

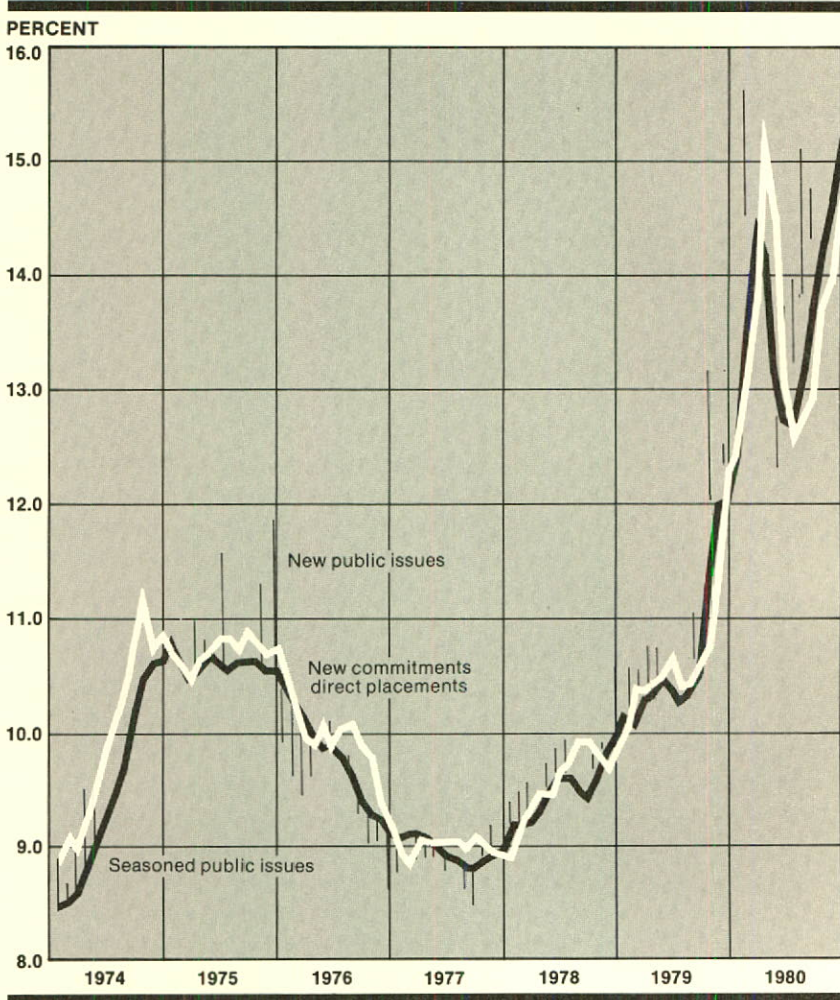


Table 3

Interest Rate Comparisons

(Weekly averages)

	1974-75 Highs	Early 1980 Highs	Mid-1980 Lows	Late 1980 Highs
Short-Term Rates				
Prime commercial paper	11.95%	17.08%	7.78%	17.57%
Prime bank loan rate	12.00	20.00	11.00	21.50
Long-Term Rates				
Seasoned Aaa corporates	9.38	13.00	10.34	13.49
Seasoned Baa corporates	10.82	14.75	12.48	15.36
High grade municipals	6.92	8.60	6.60	9.80
Treasury bonds	7.43	12.14	9.13	12.25

Source: Moody's Investors Service and Federal Reserve.

Conditions in long-term markets deteriorated markedly further in February, and, indeed, the bond market faced almost complete demoralization. Bond prices crumbled in successive waves of selling, and the secondary market virtually dried up at times. Numerous new issues were postponed or cancelled, and borrowers were increasingly forced into short-term credit markets. Moreover, short-term borrowing needs continued to grow in February and brought money markets under increasing pressure, which was reinforced by a tighter Federal Reserve posture. The growth in the monetary aggregates began to accelerate sharply in February after three months of more moderate increases, and the Fed did not provide sufficient reserves to nourish this growth. The monetary authorities lowered their previously established path for nonborrowed reserves and hiked the discount rate by a full percentage point to 13% in mid-month. As conditions firmed, short-term rates also turned dramatically upward.

The Administration meanwhile had begun to formulate a revised budget and other economic measures to deal with the dangerous inflation potential and impending economic crises. When it appeared that the government was finally developing a strong anti-inflation program, the bond markets began to stabilize. However, the Federal Reserve continued to stay its restrictive course, and short-term rates rose to previously unheard-of highs.

Finally, on March 14 the President announced a set of measures designed to fight inflation more aggressively, the most important of which were credit controls that extended the regulatory powers of the Federal Reserve beyond its traditional authority over member banks. A new voluntary credit restraint program was made applicable not only to member banks but also to non-member banks and certain other lending

institutions. This aspect of the program included a guideline of 6 to 9% growth in bank and finance company credit, with compliance to be closely monitored by the Federal Reserve. The Federal Reserve set a special deposit requirement on increases in the managed liabilities of non-member banks; a special deposit requirement of 15% against increases in consumer credit at all institutions; and a special deposit requirement of 15% against increases in the total assets of money market mutual funds.

The effects of the March 14 credit program were extremely harsh, pushing short-term rates markedly higher in the last half of March. The costs of consumer credit were increased sharply and steps were taken by lenders to curtail its use in other ways. Commercial banks quickly moved to rein in the pace of loan expansion in order to be able to comply with the "voluntary" restraint program, raising serious questions about the availability of even bank credit if the program were tightened further in light of later developments. A weakening of money and bank credit growth was soon evident, and the markets became increasingly convinced that the peaks in interest rates for this cycle had been reached. Downward pressure on all market interest rates had clearly begun to develop by early April.

The period between crunches. Financial market developments during the spring and early summer were largely dominated by the sharp contraction in economic activity and what appeared to be a slowing in inflation. Credit market demands weakened appreciably, and the mix of borrowing shifted dramatically toward long-term financing as borrowers rushed to issue new bonds in all-time record amounts. After hitting their highs of the early spring, interest rates fell precipitously, reaching their low points for the year in June (see Table 3). On balance, short-term rates declined an unprecedented 900 to 950 basis points to their lowest levels in nearly two years. Under pressure of heavy volume, long-term rates fell by much less, essentially only retracing the increases recorded early in the year.

Accompanying these developments was an abrupt slowdown in the growth of the monetary aggregates, and the Federal Reserve became concerned as this growth increasingly fell short of announced goals. Accordingly, it actively sought to push money growth back into targeted ranges by expanding non-borrowed reserves at rapid rates. It also began to phase out the March 14 credit control program in early May. By early August, the special credit measures imposed on March 14 had been reversed or eliminated.

Overshadowed by the dramatic credit control measures was the enactment on March 31 of a major piece of legislation, greatly affecting the functioning of financial markets. This Depository Institutions Deregulation and Monetary Control Act of 1980 accorded the Federal

Reserve a more central role in financial markets than it had previously enjoyed. The law extended reserve requirements to cover all depository institutions, such as savings banks and savings and loan associations, and these institutions were given access to the Federal Reserve discount window. Provision was also made for the removal of Regulation Q-type ceilings on interest rates by 1986, and for the elimination or liberalization of restrictions on the lending activities of federally-chartered thrift institutions. The operation of the new law will be watched closely for the effects it may have upon the relative competitive position of the institutions subject to its provisions.

The second credit crunch of 1980. The dramatic slide in interest rates had been halted in June as signs of renewed upward inflationary pressures began to surface and by reports that output had bottomed out and begun to recover. Specifically, concern developed that the recession was over too quickly to have had sufficient time to quell some of the more serious underlying inflationary trends. At the same time, the severity of the recession had led to discussion of a possible pre-election tax cut, further raising the potential size of federal borrowing needs. These new items weighed particularly heavily on the bond markets which were already under pressure from a heavy new issue volume. Accordingly, long-term rates began to back up in mid-June and contributed to the view that interest rates might well have attained their lows for this business cycle.

Moreover, as time passed, financial markets became increasingly worried that the foundation was being laid for a more serious inflation in the future by the Federal Reserve's efforts to bring monetary growth back up to target ranges. The money supply had begun to grow again in late May, and the worry became widespread that the continuation of the Federal Reserve's policy of providing such a generous supply of reserves to the banking system must run the serious risk of accelerating money supply growth and overshooting the target ranges for the year.

These worries seemed vindicated when money and credit growth literally began to explode in early August. Fearing that it might have endangered its ability to meet its monetary targets for the year, the Federal Reserve quickly changed course and progressively tightened financial markets. In order to restrict the use of borrowed reserves, the Federal Reserve increased its discount rate back up to 13% in three steps from September through December, and in the latter part of this period imposed a surcharge on borrowings at the discount window by certain financial institutions. With short-term credit demands building over much of the late summer and early fall and with monetary restraint increasing its bite, short-term interest rates soared sharply higher.

These market pressures, in turn, spilled over into long-term markets, and bond yields again turned upward. New bond offerings began to fall

off from the hectic pace of the spring and early summer and numerous issues had to be postponed or cancelled. While long-term rates moved up sharply, short-term rates advanced even more and by late October a negative yield curve had again reappeared.

On balance, by mid-December, short-term rates had increased by about 1000 basis points and long-term rates had risen by 250 to 350 basis points from their mid-1980 lows to reach all-time record high levels (see Table 3). The bank prime rate stood at 21½%, compared with 12% in the 1974 credit crunch; prime commercial paper topped out at 17½%, well above the 12% peak in 1974. Seasoned Aaa corporates hit 13½%, substantially over the 9⅜% level in the last business cycle. Baa corporates traded at 15⅜%, as opposed to about 10¾% in the 1974-75 period.

By year-end, evidence was mounting that the extraordinary increases in interest rates over the late summer and fall had seriously undermined the vitality of the recovery in economic activity, and a second dip in output seemed increasingly likely. Perhaps even more fundamental, however, the tone of financial markets appeared to have changed. While it was evident that the Federal Reserve would indeed exceed the targets it had set for the monetary aggregates last February, there could no longer be any doubt about the Federal Reserve's resolve to try, and indeed actively to pursue, all reasonable efforts to meet its targets. The monetary authorities were apparently willing to meet head-on any expansion of money and credit inconsistent with a restoration of price stability.

INVESTMENT OPERATIONS OF U.S. LIFE INSURANCE COMPANIES IN 1980

Within the life insurance business, 1980 will be long remembered as "the year of the liquidity squeeze." In response to the sharp upsurge in short-term interest rates, climaxed by a 20% peak in the prime loan rate, demands by policyholders for policy loans soared to record highs in March and April, thereby cutting into the funds that companies had scheduled for takedown of investment commitments. An added disruption to investment flows came from the pension side of the business, where a sharp drop-off of pension inflows and a rise in pension withdrawals took place. For those companies with either or both of these factors at work, the consequence was a liquidity squeeze which was overcome only with resort to previously unplanned actions on the part of investment managers.

To bridge the gap between disbursements of investment commitments and other contractual requirements, on the one hand, and declining cash inflows, on the other hand, many companies found it necessary to sell existing assets or resort to borrowing, or a combination of both. In many instances, new committing for investments came to a virtual halt for a period of weeks or months in the early spring of 1980. Fortunately, the rapid decline in market interest rates after mid-April brought an easing to the pressures on liquidity and the threat of a full-blown crisis was safely averted.

But the lesson of the liquidity squeeze of early 1980 was not ignored by life insurance companies. Steps were taken to improve liquidity positions through a variety of measures. More conservative policies toward forward committing were adopted by many companies, limiting both the percentage of cash flow and the time horizon of future takedowns. Liquidity reserves of short- and intermediate-term marketable assets were built up beyond earlier levels, while bank credit lines were expanded or strengthened. By the end of the year, corrective steps taken by life companies generally assured that they would be able to cope with future liquidity problems with far less difficulty than a year before.

The year 1980 also was marked by determined efforts to adjust company investment practices to the realities of ongoing inflation and more volatile interest rate fluctuations. Avoidance of long-term, fixed-rate bonds or mortgages has become the current watchword, in an effort to avoid the large capital losses or depressed portfolio yields that

can result from a continued advance of interest rates in an inflation-ridden economy. Thus, companies are turning to such devices as renegotiable interest rates or floating rate agreements, while limiting maturities to the 10- or 15-year range, rather than the 25- to 30-year maturities that had formerly characterized such lending. It is no exaggeration to say that the year 1980 will be viewed as a watershed for investment practices, both as to liquidity positions and terms of lending, within the life insurance business.

Major Investment Outlets

Long-term investing by life insurers in 1980 turned down from 1979, contrary to the usual pattern of growth. Net long-term investments, estimated at $33.2 billion, were 3% below the 1979 total of $34.1 billion. A slowing in asset growth coupled with a greater emphasis on highly liquid assets held down the amounts invested in longer-term instruments during the past year. Estimates of year-end 1980 assets of U.S. life insurance companies, together with the final figures for 1978 and 1979, are given in Table A-1 of the Appendix. Table A-2 provides changes in assets as well as the net long-term investment totals of the latest three years.

Policy loans. For many life insurers, 1980 investment operations were geared around developments with policy loans, which soared to previously unscaled heights in the spring, far beyond the rapid rises in the final months of 1979. The net increase in outstanding policy loans during the first four months of the year ran at an annual rate in excess of 30%, propelled by the combination of credit controls applicable to other lending institutions, extremely high market rates of interest, and the fixed, below-market rates on policy loans.

For the full year, outstanding policy loans increased an estimated $6.65 billion, or 19%, topping the 1979 record rise of $4.7 billion. The percentage increase of 19% was the highest since the 22% in 1969 when, however, the absolute rise measured $2.5 billion. The 1980 dollar increase, $6.65 billion, absorbed 20% of the estimated $33.2 billion of net long-term investments made in the year, up from 14% in 1979.

Other measures of the growth in policy loans are provided in Table 4: the policy loan share of total general account assets came to 9.4% at year-end 1980, up from 8.6% a year earlier, a noticeable shift by recent historical standards. The ratio of outstanding policy loans to ordinary life insurance reserves reached an estimated 23.6% at the end of 1980, a marked rise of 2.6 percentage points over 1979 and 4.4 percentage points over 1978. The rise of 4.4 percentage points in the latest two years was double the increase, 2.2 percentage points, in 1973-74, an earlier period of high policy loan demands.

Extraordinary drains from policy loans and surrenders were experienced by a wide array, although not all, of the companies. But the

Table 4

Policy Loans Held Relative to General Account Assets and Ordinary Life Insurance Reserves

End of Year	General Account Assets	Reserves	End of Year	General Account Assets	Reserves
1971	8.0%	16.1%	1976	8.5%	18.5%
1972	7.8	16.1	1977	8.2	18.7
1973	8.3	17.1	1978	8.2	19.2
1974	9.0	18.3	1979	8.6	21.0
1975	8.9	18.5	1980	9.4e	23.6e

e-Estimated.

conditions that spark a runup in policy loans invariably involve downturns in cash inflows of nearly all life insurers, as discussed in a later section of this report. In the setting of uncertainty in early 1980 about the extent and duration of the cash flow squeeze, whether occasioned by policy loans or other factors, many companies held back on investing other than to meet scheduled takedowns of existing commitments, ceased or drastically reduced new committing, and significantly modified their investment policies and strategies in order to increase liquidity and adapt to the inflationary environment.

Mortgages. Net investment in mortgage loans was well maintained in 1980, having been predetermined by the backlog of outstanding commitments at the start of the year. The net increase in mortgage holdings, estimated at $12.2 billion, represented 37% of the total of net long-term investments. This compares with an increase of $12.3 billion and a 36% share of a larger total in 1979. The portfolio of mortgage holdings grew 10% in 1980, as against 11.5% in 1979, and reflected a quarterly pattern of decelerating growth, a reversal of the 1979 upward progression.

Mortgage loan disbursements in 1980, bolstered by heavy takedowns of existing commitments in the early quarters, came close to the $20.7 billion of gross loans made in 1979. But new commitments made for future mortgage lending told another story. For the full year, new mortgage commitments plummeted 60% below the 1979 volume, far sharper than the 40% drop in the distressed mortgage markets of 1974. In the second quarter during the worst of the policy loan drain, new commitments dropped 80% below the corresponding total a year earlier. (See Appendix Table A-3.) The combination of limited new committing and sizable disbursements on maturing commitments reduced the backlog of outstanding mortgage commitments by an estimated 35% during 1980. This pattern for total mortgages was shown, in varying degrees, by each of the major types of underlying properties.

Income-property mortgages. The net investment in mortgages on commercial, industrial, and institutional properties accounted for about 28% of the $33.2 billion of net long-term investments made in 1980, compared with 25% in 1979. Holdings of these nonresidential property mortgages increased by an estimated $9.3 billion, or 13%, to total $78 billion at the end of 1980; this growth compares with an increase of $8.6 billion, or 14%, in 1979.

Forward commitments made for nonresidential mortgages were cut back sharply, by an estimated 55%, in 1980. (Data for the first three quarters of the year are set out in Appendix Table A-3.) All categories of building projects were affected, according to the reporting of a sample group, ranging from cutbacks of 45-50% in the amounts committed for office buildings and hotels to 75% or more for shopping centers, motels, hospitals, or nursing homes. Office buildings accounted for 60% of the limited amount of new commitments made for nonresidential properties in 1980, compared with less than 40% in 1979, and hotels also assumed a larger role in 1980. Given the concentration on such sizable projects, the reduction in committing was even more drastic when measured by the number of loan commitments; these were only about one fourth the number made for income properties in 1979 (see Appendix Table A-5).

With loan disbursements of some $13 billion running well ahead of new commitments, the backlog of outstanding commitments for nonresidential property loans declined about 25% during 1980 to total an estimated $17 billion at the end of the year. This level, even though the lowest since early 1978, provides the base for further growth in these portfolio holdings during 1981, if at a somewhat slower pace than in 1980.

The commitment data for income-property mortgages gave clear evidence of the variety of changes in life insurers' investment practices and policies during 1980: the reduction in the volume of new committing; a lowered forward commitment position in terms of internal sources of cash flow; shorter maturities; variable or renegotiable rate loans; participation in rising rental income or the capital appreciation of building projects; and the exclusion by many companies of fixed-rate, long-term loans as acceptable investments. The adaptation of the terms of mortgage lending to a setting of high inflation was given considerable impetus during 1980, and although the changes have not gained acceptance by all potential borrowers, the extent of accommodation within a relatively short time span is notable.

One-to-four family mortgages. Life companies' holdings of 1-4 family mortgages increased again in 1980, for the second consecutive year following twelve years of net declines. The net investment of an estimated $2 billion represented a 6% share of the total of net long-term

investments, compared with a 1979 rise of $1.7 billion and a 5% share of the net investment total of that year. The portfolio of 1-4 family mortgages increased about 13%, to an estimated $17.6 billion at the end of 1980. The slight acceleration in portfolio growth in 1980 reflected a noticeable slowing in loan repayments rather than a step-up in loan disbursements over 1979. The high levels of home mortgage interest rates and housing prices, making home financing unaffordable for many, cut back the turnover in property ownership that generates prepayments of existing loans. Loan disbursements, which were heavily concentrated in the early part of 1980, came close to the $3.5 billion of 1979, but new commitments for home mortgages fell far short of loan disbursements in every quarter.

For the full year, forward commitments made on 1-4 family properties fell an estimated 80% short of the disbursements on such loans and about 85% below the $4.6 billion of new commitments made by the companies in 1979. The backlog of commitments outstanding was reduced to a minimal amount by year-end 1980, a harbinger of decreases in 1-4 family mortgage portfolios in 1981. Purchases of packages of existing loans from the portfolios of other investors and the availability of home mortgage loans with adjustable interest rates will be significant to actual 1981 results.

Multifamily mortgages. The net investment in mortgages on apartment properties by life companies in 1980 ran slightly more than in 1979, although the amount was low compared with other types of mortgage loans. Holdings of multifamily mortgages increased about $325 million, less than 2%, to total $18.8 billion at the end of the year. The net rise, accounting for 1% of the 1980 total of net long-term investments, compares with $256 million in 1979. Gross loans made on apartment buildings, however, were well below the 1979 volume, and the slight pickup in net lending was entirely traceable to the lower runoff of the portfolio from loan repayments. These return flows dropped over 30% from 1979, again reflecting the dearth of resales of properties in a high interest rate environment. (Loan delinquencies can be ruled out as an alternative explanation for the downturn in loan repayments; as shown in Appendix Table A-4, apartment loan delinquency rates were down to 1% at the latest readings from 1.8% in mid-1979 and 2.4% at the beginning of 1979.)

New commitments for apartment loans were made in minimal amounts by life companies during 1980, dropping about 75% from the $2 billion committed in 1979. With loan disbursements running three times the amount of new commitments made in 1980, unfunded commitments outstanding were worked down to a level about half that at the beginning of the year. When allowance is made for takedowns scheduled for payout beyond the current year, the prospect is for little net

change in the portfolio of multifamily mortgage holdings in 1981.

Farm mortgages. Farm mortgage lending by life insurance companies was sharply cut back in 1980, in part because several of the limited number of companies staffed for this area of lending were among those affected by heavy policy loan drains or other withdrawals of funds. The net investment in farm mortgages accounted for less than 2% of the total of net long-term investments made by all companies, down from nearly 5% in 1979. Farm mortgage portfolios increased $0.6 billion, or 5%, to total $12.8 billion at the end of 1980. By comparison, net investments had progressed from $1.4 billion to $1.7 billion in the preceding three years, and the percentage rises in the portfolio were upwards of 16%. Loan disbursements were sizable in early 1980, reflecting takedowns of maturing commitments, but the volume of lending was cut in half by the third quarter. New commitments for farm mortgages were about half the 1979 total, and the backlog of outstanding commitments at the end of the year was off an estimated 40% from the level at the start of the year.

Corporate bonds. Life insurers lowered the proportion of funds directed to the corporate bond market again in 1980. The 1980 net investment of an estimated $9.2 billion accounted for 28% of the $33.2 billion total of net long-term investments, down from $12.0 billion and a 35% share in 1979 and shares of 50% or more in 1976-78. (The 1979 and 1980 dollar figures reflect adjustments for net capital losses each year.) Portfolio holdings of domestic and foreign corporate bonds increased 5% during 1980 to total $169.5 billion, 35.6% of total assets at the end of the year, the single largest asset category.

Following sizable disbursements in January and February to meet scheduled takedowns of commitments, corporate bond investing by life insurers dropped sharply in the second quarter, the result of both reduced purchases and unusually large sales to meet liquidity needs. While net investing recovered somewhat in the summer, the pace continued subdued for the rest of the year.

Life insurers' concerns with increasing the marketability of assets led to greater emphasis on purchases in the public market where corporate bond offerings were in record volume and included a growing share of issues with maturities of intermediate term. The direct placement bond market was weak in 1980, largely reflecting the reduced availability of funds from life insurers but also the reluctance of would-be borrowers to contract for funds at prevailing rates or to face the uncertain costs of variable rates. Closings of direct placement loans dropped by an estimated 20% from 1979 while new forward commitments were down more sharply, by an estimated 45%. An increased proportion of new commitments made during 1980 for directly placed corporates carried maturities of 10 years or less and otherwise provided for shorter average lives. An alternative to shorter loan life emerged with the use of variable

rates, which gained some ground in direct placement commitments as the year progressed. Changes in lending terms were seen as necessary to bring about a better match of assets with liabilities—a significant share of liabilities is virtually payable on demand—and to ensure positive rather than negative rates of future returns, after adjustment for inflation. The headway made in structuring new ways of financing was one of the positive results of a difficult year to find common ground for borrowers and lenders.

U.S. Treasuries and federal agency issues. Net investment in U.S. Treasury notes and bonds of an estimated $325 million in 1980, up from $100 million in 1979, was one step in the move by life companies toward highly marketable longer-term assets. Holdings of these Treasuries dipped to $4.3 billion at the end of March, a new low in the range of monthly balances of $4.4 to 4.8 billion that had prevailed for over 2½ years, but holdings were built up in the second half of the year and were expected to be at the $4.8 billion level at year-end. (In addition to Treasury notes and bonds, the companies held an estimated $600 million of short-term Treasuries, up $200 million from the end of 1979.)

Federal agency issues attracted net investments of an estimated $1.1 billion from life insurers in 1980, about 3.5% of the total of net long-term investments made during the year, down from a 1979 net investment of $2.8 billion and 8% of the net investment total of that year. A substantial part of the 1980 investment, as in 1979, was accounted for by mortgage-backed pass-through certificates guaranteed by the Government National Mortgage Association and the mortgage participation certificates of the Federal Home Loan Mortgage Corporation, instruments attractive for the liquidity, favorable yields, and portfolio diversification they provide. Holdings of longer-term agency securities, estimated at $10.3 billion at the end of 1980, increased 12% during the year, as against a 43% rise in 1979.

Other government securities. Net investment in state and local government securities of an estimated $125 million in 1980, as against $27 million in 1979, accounted for less than 0.5% of the 1980 total of net long-term investments. Holdings of these tax-exempt issues, estimated at $6.55 billion at the end of 1980, have declined as a proportion of total assets in each of the last three years, to 1.4% at year-end 1980 from a recent high of 1.7% at the end of both 1976 and 1977. Among the securities purchased, mortgage revenue and industrial revenue bonds were favored over general obligation issues, both for their higher yield and the demonstrable support provided to the local economy. But on balance, the tax-adjusted yields on state and local issues, particularly in recent years, have been more attractive to individual and other institutional investors than to life insurers.

Foreign government and international agency securities also show-

ed a net investment by life companies of an estimated $125 million in 1980, down from $227 million in 1979. Holdings of these longer-term foreign and international issues, estimated at $9.05 billion at the end of 1980, increased about 1% during 1980, as against nearly 3% in 1979.

Corporate stocks. Life insurers made modest net investments in common stocks in 1980 for both their separate and general accounts, in contrast with net sales in 1979 from the separate accounts and a negligible general account investment. The net investment for the combined accounts came to an estimated $600 million in 1980 as against net sales of $532 million in 1979. A rise in market values added over $5 billion to the carrying values of stock holdings, compared with a valuation gain of $3.6 billion in 1979.

Net purchases of common stocks for the separate accounts are estimated at $500 million in 1980, a turnaround from net sales of $580 million in the earlier year. At the end of 1980, common stocks held in separate accounts were valued at an estimated $17 billion, including a 1980 valuation gain estimated at 27%, or $3.5 billion. Common stock equities accounted for an estimated 49% of separate account total assets at the end of 1980, little different from the 50% share a year earlier but down from 75% only four years ago.

General account net purchases of common stocks of an estimated $100 million in 1980 were double the net purchases of $47 million in 1979. Net selling of common stocks in the first half of 1980 to meet general account liquidity needs was offset later in the year as companies moved to rebuild their common stock portfolios, which are viewed by some as a liquidity source among their longer-term investments. Common stocks held in the general accounts at the end of 1980 were valued at $16.95 billion and represented 3.8% of total general account assets, compared with $15.3 billion and approximately the same asset share at the end of 1979.

Net investment in preferred stocks, virtually all for the general accounts, came to an estimated $600 million in 1980, 1.8% of the total of net long-term investments, down from $1.1 billion and a 3.3% share in 1979. The cutback by life insurers in preferred stock investing in 1980 was mirrored in a drop in directly placed offerings of preferreds, while public market offerings rose substantially over 1979. Preferred stock holdings of the companies increased 5% during 1980 to total $12.2 billion at the end of the year, compared with a 10% rise during 1979.

Real estate. A growing area of investment for life insurers in 1980 was in the purchase of real estate. The value of real estate directly owned by the companies increased an estimated $2.1 billion during the year to total $15.1 billion at the end of 1980, compared with a rise of $1.2 billion in 1979. These increases adjusted for valuation changes during the year translated into net investment of an estimated $1.7 billion, or 5% of the

total of net long-term investments, in 1980 and $800 million, or a 2% share, in 1979. An estimated $1 billion of the 1980 net investment in real estate was for separate accounts and the balance of $700 million for the general accounts of the companies. By comparison, virtually all of the 1979 net investment was for the separate accounts, while the increase during that year in the value of real estate held in the general accounts reflected net capital gain.

Measures of Investment Performance

The 1980 net rate of income on the investments held in the general accounts of life insurers is estimated at 8.02%, and the corresponding rate for total invested assets, including separate accounts, is estimated at 7.97%. The 1980 estimates reflect increases from 1979 of 24 basis points in each rate, as shown in Table 5.

Table 5

Ratio of Net Investment Income to Invested Assets U.S. Life Insurance Companies

Year	Net Investment Income (Including Separate Accounts) $000,000	Net Investment Income (Including Separate Accounts) Rate	General Accounts Rate
1970	$10,144	5.30%	5.34%
1975	16,488	6.36	6.44
1976	18,758	6.55	6.68
1977	21,713	6.89	7.00
1978	25,294	7.31	7.39
1979	29,562	7.73	7.78
1980	33,500e	7.97e	8.02e

e-Estimated.

Note: Rates are derived from dollar aggregates. Investment income is after investment expenses and depreciation but before federal income taxes. Investment income includes interest, dividend, rental, and other income but excludes capital gains or losses.

The estimated 24 basis points increase in the general accounts rate in 1980 fell noticeably below the rise of 39 basis points in both 1978 and 1979 and was the smallest in four years. A slowing in cash flow from operations and portfolio runoff, the growing weight of the low net return from policy loans, and the high costs of an unusual amount of borrowed funds were the principal factors in the 1980 slowdown in the improvement in the net income rate. The estimated total of net investment income, $33.5 billion, increased 13% above the 1979 total, compared with an annual rise of 17% in 1979.

Of particular interest to current management is the "new money" rate on long-term investments added to portfolios in a year, as distinguished

from the rate of income on total holdings of invested assets. Composite averages of yields on selected new investments are available for a number of recent years, through annual surveys of a sample group of companies. The reporting provides gross annual yields, before deduction of investment expenses, on the bonds, mortgages, and preferred stocks added to the general accounts of the companies. In each of the six years surveyed, gross yields on these new investments ran in excess of 9%, reaching 10.10% in 1979. Gross yields on these fixed-income investments are expected to average 11¼% to 11½% in 1980, largely reflecting disbursements for loans carrying interest rates set in earlier years.

New investments made by life insurance companies in a particular year reflect investment decisions made over a time period longer than a single year, since they include takedowns of securities and mortgages for which commitments were made in earlier years, as well as long-term investments which came to market in the current year. Accordingly, new investment yields do not provide an accurate gauge of market conditions in a single year or the investment decisions made in the current year.

A more direct measure of current market trends is provided by the interest rates at which new forward commitments are made for corporate bonds and mortgages. Average yields on commitments made by life insurance companies for directly placed corporate bonds zoomed upward in the early months of 1980 to an April peak, dropped back for several months, and resumed an upward climb again in August. Yields each month ran above those in the corresponding period of 1979, usually in the range of 225 to 300 basis points, aside from the extremes. On average for the year, direct placement commitment yields ran about 275 basis points above the 1979 average.

Average commitment rates on income-property mortgages, which had reached 11.50% in December 1979, rose above the 13% level in the spring, eased off through the summer months and, based on preliminary indications for the fourth quarter, were expected to climb well over the 13% level by December. During the first nine months of 1980, mortgage interest rates averaged just over 12.40% (on a dollar-weighted basis), some 215 basis points above the 10.25% average for the comparable period of 1979. As shown in Appendix Table A-5, the rise in rates in 1980 was accompanied by a decided drop in average maturity, an unprecedented combination of changing loan terms. Loans with maturities of 10 years or less, involving minimal or no amortization, accounted for 24% of the number of commitments made in the first three quarters of 1980, up from a 2% share in 1979. Commitments for loans with longer maturities generally carried provision for a lender's call option or bore rates renegotiable at stated intervals.

Additional information was developed in connection with the third-quarter mortgage commitment survey dealing with the use of income and equity participations in mortgage commitments, features which typically involve some give-up in interest rates. Most frequently used were contingent interest provisions, which are triggered by the growth in property earnings. Also included were equity purchases, typically representing 10-25% of the lender's total investment, and purchases of the underlying land. Equity-linked loans, whether a contingent interest provision or a partial ownership position, accounted for 55% of the amount committed in the three-month period. All told, and adjusted for duplication, nearly 80% of the dollar amount committed in the third quarter of 1980 represented loans with either terms of 10 years or less, lender's call, renegotiable rates, or income or equity participations. Although the effect of these loan provisions on future mortgage yields is not measured in basis points, their predominance in recent mortgage lending arrangements goes a long way in accounting for the apparent low level of mortgage commitment rates, 12.40% in the third quarter of 1980, relative to prevailing corporate bond yields of over 13% (Moody's Baa seasoned issues). More importantly, they permitted financing arrangements to be completed and project construction to go forward.

Other measures of portfolio returns of life insurers are provided by annual surveys of long standing of the income and costs of the mortgage accounts and recently instituted surveys of gross and net income returns of total general account investments, including gross, but not net, income rates for several major investment categories. The mortgage portfolio surveys were undertaken largely to obtain measures of mortgage costs and the variations in costs by portfolio size and type of organization for loan servicing. The 1979 net income rate of the mortgage portfolio, as shown in Appendix Table A-7, averaged 8.29%, a favorable contribution to the general account net income rate of 7.78% in 1979, shown in Table 5.

The 1979 gross income rates developed in the newer survey showed bond yields (excluding under one-year securities) of 8.58%, mortgage returns of 8.55%, and preferred stocks at 7.44% (a reflection of their favorable income-tax treatment). The dollar-weighted average for these three investment classes came to 8.53%, but the addition of policy loans at a gross rate of 5.18% and a minimal amount of other loans (at 10.5%) lowered the overall portfolio average of the specified investments to 8.18%.

The mortgage portfolio surveys have also provided gross contract rates on mortgage loans disbursed each year. The 1979 average interest rate of 9.88% for all mortgage loans closed (farm and nonfarm) included rates of about 9¾% for income-property mortgages, record highs for loan-closing rates but well below the 1979 commitment rates shown in Appendix Table A-5 or A-6.

Cash Flow for Investment

Cash flow of life insurance companies for market investments in 1980 was estimated at $59.5 billion, 2% above the 1979 amount. The 1980 total was sustained by the growth in separate account funds while general account cash flow declined by an estimated 7% over the year. The downturn resulted from the acceleration in policy loans, which reduced funds available for market investments, a slowing in the net inflow of new funds to the general accounts, a decline in mortgage loan prepayments, and an emphasis on increasing short-term securities holdings.

The estimates of cash flow given in Table 6 are based on the quarterly reporting of a sample group of companies, which supply details on the sources of funds for investment. Results of the reporting group for recent quarters are shown in Appendix Table A-8. As indicated by the details there, cash flow includes not only net new funds from insurance operations and investment income but also the amounts for reinvestment stemming from maturities, prepayments, calls, and sales of existing investments. These funds may be augmented by borrowings or a drawdown of holdings of cash and cash equivalents and are reduced by the net outflow required by policy loans as well as by net repayments of borrowings and additions to liquidity holdings. The cash flow total is a measure of gross funds disbursed for longer-term market investments.

In the first quarter of 1980, the cash flow total of the reporting sample was extraordinarily large, reflecting sizable takedowns of commitments and the growing activity in separate account investing. Although the companies drew heavily on liquidity positions, they also borrowed in unprecedented amounts and sold more assets than usual in order to make up the shortfall in the inflow of funds from the amounts needed to meet growing demands for policy loans, commitment takedowns, and other investment requirements.

The pace of market investing for the general accounts dropped sharply in the second quarter and continued at a slow pace in the third

Table 6

Estimated Cash Flow for Market Investments
U.S. Life Insurance Companies
(In billions of dollars)

Year	Amount	Year	Amount
1970	$16.6	1976	$46.2
1971	25.3	1977	52.6
1972	30.8	1978	57.2
1973	31.0	1979	58.5
1974	26.0	1980	59.5p
1975	33.5		

p-Preliminary.

quarter, reflecting both the reduced cash flow from internal sources and the move by companies to restore liquidity positions or to repay borrowed funds. While cash flow of the general accounts was expected to recover further in the final quarter of 1980, the total was projected to fall short of the comparable period of 1979, held down by further repayments of earlier borrowings and efforts to maintain or add to liquidity positions.

For the sample group, the net increase in policy loans during the first three quarters of 1980 amounted to $4.1 billion, or 14% of general account total investment funds, up from 7.7% in 1979. For the full year, policy loans of an estimated $4.9 billion were expected to divert 13% of general account funds from market investments, compared with 9% similarly diverted in 1979.

Asset Growth in Perspective

Assets of U.S. life insurance companies increased less strongly during 1980 than in recent earlier years. The asset total of an estimated $475.5 billion at the end of 1980 rose 10.0% during the year, compared with 10.9% in 1979 and 10.7% in 1978. (The 1978 increase reflects adjustment to exclude assets accumulated earlier of firms added to the universe of life insurance companies in that year.) The 1980 estimate includes a larger net capital gain than in the two earlier years and when adjusted to exclude these additions, which arise largely from fluctuations in stock market prices, assets increased an estimated 8.9% in 1980, compared with 10.0% in 1979 and a record rise of 10.5% in 1978. (See Appendix Tables A-1 and A-2.)

In dollar terms, the 1980 asset increase came to an estimated $43.2 billion, including the valuation gain, and to $38.5 billion, excluding the valuation change. The adjusted increase compares with $38.9 billion a year earlier and, more strikingly, with $10.8 billion only ten years earlier in 1970.

A slowing in 1980 in the rise in net investment income, noted earlier, was accompanied by limited growth in the net inflows from the life insurance and pension business of the companies. While life insurance premium income was estimated to rise 7.5% from the $39.1 billion in 1979, somewhat better than the 6.8% annual increase of that year, the net inflow, after benefit payments, policy dividends, and surrenders, was expected to fall marginally below the 1979 amount. Annuity considerations were estimated to rise over 9% from the $17.9 billion in 1979, when the annual increase came to 9.8%, but the estimated net inflow from this business showed only a negligible rise over 1979.

A broader perspective of the 1980 asset growth of life insurance companies is provided in Table 7, which shows the average growth by five-year periods for the preceding fifteen years, along with that of four other types of institutional investors. The growth rate of state and local

government retirement funds continued to improve in 1980, reaching 14%, in contrast with the experience of the other investor groups shown. The drop in 1980 growth rates was particularly sharp for the depository institutions. Assets of savings and loan associations increased at an estimated 8.3% in 1980, far below the averages in the 1970s but above the 1965-69 average, which included periods of disintermediation without the buffer of money market certificates currently in use. The 1980 growth rate of the mutual saving banks, 5.2%, was even below their average growth in the latter half of the 1960s. Pension funds not carried with life insurers showed only a moderate slowing in 1980 from the average for the preceding five years, an estimated 10.7% as against 11.2%. The 1980 growth rate of life insurers, 8.9% adjusted for valuation change, was down from the average of 9.9% in the preceding five years. The downturn was more than that shown by noninsured pension funds but considerably less drastic than those of the depository institutions.

The negative effects of inflated interest rates clearly showed in the 1980 growth rates of most financial institutions. Life insurers' efforts to market products providing increased flexibility and to adapt their investment strategies to volatile financial conditions are necessary responses to reverse the downward drift in their growth. More basic and of broader concern is the need for improvement in the economic environment, a goal of the life insurance industry as well as the nation.

Table 7

Average Annual Rates of Asset Growth

	Five-year period			Year
	1965-69	1970-74	1975-79	1980e
Life insurance companies	5.7%	6.6%	9.9%	8.9%
Noninsured pension funds	9.9	7.7	11.2	10.7
State and local government retirement funds	11.4	12.0	13.4	14.0
Savings and loan associations	6.3	12.8	14.4	8.3
Mutual savings banks	6.6	8.0	8.3	5.2

e-Estimated.

Note: Growth rates of life insurance companies, noninsured pension funds, and state and local government retirement funds reflect adjustment to exclude valuation changes.

Source: Securities and Exchange Commission, flow of funds accounts of the Federal Reserve Board, Federal Home Loan Bank Board, Federal Deposit Insurance Corporation, and American Council of Life Insurance.

APPENDIX TABLES

Table A-1

ASSETS OF U.S. LIFE INSURANCE COMPANIES

(Dollar amounts in millions)

	Dec. 31, 1978		Dec. 31, 1979		Estimated Dec. 31, 1980	
Asset Class	**Amount**	**%**	**Amount**	**%**	**Amount**	**%**
Bonds, notes, and debentures						
U.S. Treasury	$ 4,822	1.2	$ 4,888	1.1	$ 5,400	1.1
U.S. federal agency	6,543	1.7	9,381	2.2	10,525	2.2
U.S. state and local	6,402	1.6	6,428	1.5	6,550	1.4
Foreign government and international	8,785	2.3	9,022	2.1	9,100	1.9
Total government	**26,552**	**6.8**	**29,719**	**6.9**	**31,575**	**6.6**
Corporate—1 year or less	6,349	1.6	7,957	1.8	10,325	2.2
U.S. corporate—over 1 year	141,450	36.3	152,793	35.3	161,000	33.9
Foreign corporate—over 1 year	8,245	2.1	8,240	1.9	8,475	1.8
Total corporate	**156,044**	**40.0**	**168,990**	**39.1**	**179,800**	**37.8**
Stocks						
Preferred	10,532	2.7	11,596	2.7	12,200	2.6
Common	24,986	6.4	28,161	6.5	33,800	7.1
Total stocks	**35,518**	**9.1**	**39,757**	**9.2**	**46,000**	**9.7**
Mortgages						
Farm	10,499	2.7	12,184	2.8	12,800	2.7
Nonfarm	95,668	24.5	106,237	24.6	117,850	24.8
Total mortgages	**106,167**	**27.2**	**118,421**	**27.4**	**130,650**	**27.5**
Real estate	11,764	3.0	13,007	3.0	15,100	3.2
Policy loans	30,146	7.7	34,825	8.1	41,475	8.7
Cash	2,367	0.6	2,670	0.6	2,900	0.6
Other	21,366	5.5	24,893	5.8	28,000	5.9
Total assets	**$389,924**	**100.0**	**$432,282**	**100.0**	**$475,500**	**100.0**

The valuation basis for each classification is admitted asset (statement) value. Because of rounding, percentages may not add to totals shown.

Separate account assets included in the above data amounted to $20.4 billion, $25.6 billion, and an estimated $34.5 billion at the end of 1978, 1979, and 1980.

Table A-2

NET CHANGES IN ASSETS

(In millions of dollars)

Asset Class	1978	1979	Estimated 1980
Bonds, notes, and debentures — over 1 year			
U.S. Treasury and federal agency	$ 2,126	$ 2,860	$ 1,455
U.S. state and local	341	27	136
Foreign government and international	528	227	124
Corporate — U.S. and foreign	16,702	11,338	8,442
Total — Over 1 Year	19,697	14,452	10,157
Stocks	1,755	4,239	6,243
Mortgages	9,319	12,254	12,229
Real estate	704	1,243	2,093
Policy loans	2,590	4,679	6,650
Short-term debt issues and cash	1,692	1,964	2,739
Other assets	2,445	3,527	3,107
Increase in assets	$38,202	$42,358	$43,218
Memorandum:			
Increase in assets excluding net capital gain or loss	$37,289	$38,928	$38,500
Net long-term investments*	$32,900	$34,100	$33,200

*Defined as the net increase in assets adjusted to exclude changes in cash, short-term investments, and non-invested assets, as well as net capital gain or loss. The 1978 investment total reflects a further adjustment to exclude assets accumulated earlier of companies first classified as life insurers in 1978.

Table A-3

FORWARD INVESTMENT COMMITMENTS FOR MORTGAGES ON U.S. PROPERTIES U.S. LIFE INSURANCE COMPANIES

(In millions of dollars)

Year or Quarter		Farm	Nonfarm			Total
			1-4 Family	Multifamily	Nonresidential	
			New Commitments			
1975		$ 981	$ 239	$ 322	$ 5,342	$ 6,884
1976		1,518	304	899	8,286	11,008
1977		2,547	598	1,587	15,415	20,147
1978		2,713	2,402	2,466	18,181	25,762
1979		2,797	4,630	2,036	17,323	26,786
1979	I	825	740	520	3,925	6,010
	II	800	1,830	590	5,115	8,335
	III	577	1,400	511	5,068	7,556
	IV	595	660	415	3,215	4,885
1980	I	383	250	110	1,805	2,548
	II	136	177	30	1,289	1,632
	III	333	135	135	2,530	3,133
End of Period			Outstanding Commitments			
1975		475	191	722	7,483	8,870
1976		580	175	880	8,460	10,095
1977		800	220	1,735	13,525	16,280
1978		935	1,215	2,420	19,725	24,295
1979		1,020	2,385	2,510	23,080	28,995
1979	I	865	1,600	2,450	20,710	25,625
	II	955	2,990	2,625	22,590	29,160
	III	962	3,470	2,670	24,050	31,152
	IV	1,020	2,385	2,510	23,080	28,995
1980	I	670	1,340	2,120	21,105	25,235
	II	415	630	1,760	19,250	22,055
	III	540	275	1,500	18,435	20,750

Note: Data are estimates based on the reporting of a sample group and represent commitments for future lending. New commitments exclude amounts committed and disbursed within the same month.

Table A-4

MORTGAGE LOAN DELINQUENCY RATES REPORTING LIFE INSURANCE COMPANIES

	Nonfarm Mortgages by Type of Financing						
End of Period	FHA	VA	Canadian NHA	Conven-tional	Total Nonfarm	Total Farm	Total Mortgages
1970	1.34%	.95%	.84%	.74%	.85%	1.51%	.91%
1971	1.65	1.00	.94	.74	.90	1.59	.96
1972	1.85	1.08	.41	1.02	1.13	1.38	1.15
1973	1.99	.96	.79	1.56	1.57	.63	1.49
1974	1.69	1.12	.26	2.79	2.57	.71	2.41
1975	1.90	1.29	1.11	4.02	3.68	1.27	3.47
1976	2.40	1.29	.80	3.57	3.37	2.07	3.25
1977	2.03	1.40	.73	2.49	2.41	1.16	2.28
1978	1.64	1.48	.70	1.67	1.65	2.59	1.76
1979 June	1.78	1.41	2.64	1.31	1.34	2.65	1.50
December	1.34	1.83	2.03	.69	.76	1.45	.84
1980 June	1.47	1.54	.58	.74	.79	2.82	1.03

	Nonfarm Mortgages by Property Type		
	1-4 family	Multi-family	Non-residential
1970	.89%	1.05%	.70%
1971	.93	1.01	.83
1972	1.05	1.46	.98
1973	1.01	2.66	1.23
1974	1.09	4.23	2.33
1975	1.22	5.87	3.56
1976	1.24	4.97	3.26
1977	1.34	3.94	2.10
1978	1.24	2.41	1.48
1979 June	1.13	1.77	1.24
December	1.09	1.01	.61
1980 June	.91	1.00	.69

Rates are based on dollar amounts and represent the ratio of delinquent loans to total loans held in the specified category. Delinquent loans include loans in process of foreclosure as well as those with two or more monthly interest payments past due in the case of nonfarm mortgages and, for farm mortgages, those with interest in arrears more than 90 days.

Reporting companies have accounted for 80-85 percent of the mortgages held by U.S. life insurance companies.

Table A-5

COMMITMENTS OF $100,000 AND OVER ON MULTIFAMILY AND NONRESIDENTIAL MORTGAGES MADE BY REPORTING LIFE INSURANCE COMPANIES

Year or Quarter		No. of Loans	Total Amount Committed	Averages				
				Loan Size	Interest Rate	Interest Rate	Loan/ Value	Term
			$000,000	$000	by #	by $		yrs/mos
1966		2,796	$ 2,516	$ 900	6.42%	6.35%	70.0%	20/5
1967		2,726	3,027	1,111	6.97	6.92	71.0	21/2
1968		2,569	3,244	1,263	7.66	7.65	73.6	22/11
1969		1,788	2,921	1,633	8.69	8.62	73.3	21/8
1970		912	2,341	2,567	9.93	9.86	74.7	22/8
1971		1,664	3,983	2,393	9.07	8.99	74.9	22/10
1972		2,132	4,987	2,339	8.57	8.50	75.2	23/3
1973		2,140	4,833	2,259	8.76	8.70	74.3	23/3
1974		1,166	2,603	2,232	9.47	9.47	74.3	21/3
1975		599	1,717	2,866	10.22	10.14	73.8	21/9
1976		1,059	3,571	3,372	9.83	9.78	73.6	21/10
1977		1,854	5,831	3,145	9.34	9.31	73.7	21/5
1978		2,286	7,362	3,220	9.59	9.57	73.3	21/0
1979		2,637	10,762	4,081	10.36	10.36	74.1	21/5
1979	I	647	2,566	3,966	10.03	10.02	74.5	20/7
	II	786	3,400	4,326	10.23	10.26	74.5	21/5
	III	742	2,975	4,009	10.45	10.42	73.9	22/1
	IV	462	1,821	3,942	10.91	10.95	73.0	21/4
1980	I	194	1,021	5,264	12.32	12.10	73.6	20/8
	II	83	635	7,649	13.20	12.95	73.6	17/7
	III	214	1,531	7,156	12.58	12.40	74.3	18/3

Averages are based on number of loans except for the interest rate based on dollars which is derived by weighting each rate by the amount of the commitment.

The reporting group was expanded to 20 companies in 1979 from 15 companies in earlier years and currently accounts for 67 percent of nonfarm mortgages held by U.S. life insurance companies.

Table A-6

AVERAGE CONTRACT INTEREST RATES BY PROPERTY TYPE IN THE UNITED STATES COMMITMENTS OF $100,000 AND OVER MADE BY REPORTING LIFE INSURANCE COMPANIES

					1979		1980		
Property Type	**1976**	**1977**	**1978**	**1979**	**III**	**IV**	**I**	**II**	**III**
U.S. PROPERTIES**	9.72%	9.23%	9.56%	10.35%	10.42%	10.93%	12.10%	12.94%	12.39%
Conventional apartments	9.69	9.33	9.59	10.50	10.59	11.22	12.30	*	12.55
Office buildings	9.68	9.11	9.47	10.25	10.33	10.79	12.06	12.82	12.16
Commercial retail	9.61	9.08	9.49	10.18	10.35	10.67	12.02	*	12.92
Commercial services	9.64	9.32	9.60	10.31	10.34	10.80	12.49	12.81	12.33
Institutional and recreational	9.91	9.62	9.91	10.89	10.82	11.59	13.38	*	*
Industrial	9.70	9.28	9.56	10.27	10.30	10.83	12.64	13.32	12.65
Hotels and motels	10.06	9.74	9.91	10.78	10.75	11.25	11.76	13.04	12.96
FOREIGN PROPERTIES	10.95	10.44	10.49	10.94	10.70	11.57	—	*	12.74
TOTAL**	9.78	9.31	9.57	10.36	10.42	10.95	12.10	12.95	12.40

*Data not shown where there are fewer than 3 loans.

**The totals may include commitments for property types not shown separately. Averages are derived by weighting each rate by the amount of the commitment.

The reporting group was expanded to 20 companies in 1979 from 15 companies in earlier years and currently accounts for 67 percent of nonfarm mortgages held by U.S. life insurance companies.

Table A-7

INCOME AND COSTS OF MORTGAGE PORTFOLIOS AND CONTRACT INTEREST RATES ON NEW LOANS REPORTING LIFE INSURANCE COMPANIES

	1969	1976	1977	1978	1979
Gross accrual income	5.98%	7.51%	7.90%	8.22%	8.57%
Operating costs —total	.35	.29	.30	.30	.28
Originating fees and premiums	.01	*	*	*	*
Servicing fees	.15	.09	.08	.08	.07
Home and branch office costs	.19	.19	.21	.21	.21
Net accrual income	5.63	7.22	7.60	7.92	8.29
Contract interest rate on new loans disbursed	7.47	9.55	9.31	9.43	9.88

*Less than .005 percent.

Because of rounding, components may not add to totals shown.

The averages are derived from aggregates of dollar figures and reflect the weight of large portfolios, particularly in cost ratios. The average rate for total operating costs based on number of companies was 0.39 percent in 1979.

Reporting companies accounted for 85 percent or more of mortgage loans held by U.S. life insurance companies. Comparable annual data are available since 1955; prior to 1955, separate data are available for farm and nonfarm portfolios.

Table A-8

INFLOW OF INVESTMENT FUNDS OF REPORTING LIFE INSURANCE COMPANIES, QUARTERLY

(In millions of dollars)

Sources of Investment Funds	1979 I	1979 II	1979 III	1979 IV	1980 I	1980 II	1980 III
Net change in:							
Ledger assets, adj. ...	$5,865	$5,856	$7,211	$5,991	$6,489	$5,614	$7,341
Cash position*	-299	-597	-547	262	1,284	-837	-1,593
Mortgages - total	1,368	1,286	1,310	1,398	1,364	1,186	1,234
Amortization and partial prepayments .	881	755	773	830	919	788	822
Prepayments in full ..	470	473	481	556	407	374	394
Sales	17	57	56	13	39	23	18
Securities total	3,350	3,821	3,836	4,597	4,233	5,099	4,291
Maturities	1,128	1,180	1,410	1,566	1,279	1,401	1,416
Calls	201	311	220	282	203	274	257
Outright sales— bonds	1,001	932	904	1,423	839	1,695	978
Outright sales— stocks	1,020	1,398	1,302	1,327	1,911	1,729	1,639
Real estate and other asset sales and repayments	94	147	177	285	133	113	295
Net change in liability for borrowed money	256	37	-126	-104	2,172	93	-1,257
Total investment funds	**10,634**	**10,551**	**11,862**	**12,429**	**15,675**	**11,268**	**10,311**
General account investment funds	9,504	8,894	9,887	10,659	13,309	8,414	7,256
Net increase (-) in policy loans	-780	-714	-680	-1,345	-1,561	-1,868	-630
General account cash flow	8,723	8,180	9,207	9,314	11,749	6,547	6,627
Separate account cash flow	1,131	1,657	1,974	1,770	2,366	2,854	3,055
Total cash flow ...	**$9,854**	**$9,837**	**$11,181**	**$11,085**	**$14,115**	**$9,400**	**$9,682**

*An increase in cash position is shown as a negative and a decrease is shown as a positive figure. Cash position is comprised of holdings of short-term securities as well as cash and bank deposits.

The change in ledger assets reflects premium payments and investment income, net of benefit payments, expenses, and taxes.

Reporting companies represent 74 percent of the total assets of U.S. life insurance companies.

Because of rounding, components may not add to totals shown.

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