

**ECONOMIC
AND
INVESTMENT
REPORT
1979**

**A REPORT TO
THE MEMBERSHIP OF
THE AMERICAN COUNCIL
OF LIFE INSURANCE
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PREFACE

As the decade of the 1970s draws to a close, the total assets of the life insurance business exceed \$430 billion, representing an increase of more than \$230 billion in a ten-year time span.

To monitor, analyze and forecast the interaction among life company investments, U.S. financial markets, and the national economy, the American Council of Life Insurance has maintained an economic research function over many years. This booklet is designed to report to member life insurance companies and other interested parties on significant financial developments of the past year and the latest pattern of life insurance investment operations.

The present report reflects the efforts of several members of the economics department staff. In particular, the section describing the economic research program of the Council was prepared by Dr. George A. Bishop; the description of economic and financial developments in 1979 was developed by Dr. Thomas R. Robinson; and the section dealing with the investment operations of U.S. life insurance companies was the responsibility of Elizabeth H. Bancala.

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CURRENT ACTIVITIES OF THE ECONOMIC RESEARCH PROGRAM

For over three decades the life insurance business has demonstrated its interest in fundamental research to improve knowledge about the U.S. economic and financial system through a continuing program of economic and investment research. In its outside research grant program, the American Council of Life Insurance has financed a long series of major studies by prominent scholars at leading universities and research organizations. Through the work of staff professionals in its economics department, the Council has done extensive research and analysis of financial markets and the investment operations of life 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 the understanding of financial markets.

Grants exceeding \$4 million have been made for research in such areas as savings, capital markets, pensions, housing, interest rates, and inflation. These studies are widely regarded by scholars and public officials as having been among the most important works published in these vital areas of financial research. A complete list is provided in the Appendix of the studies published to date through the sponsorship of the economic research program funded by the life insurance business. The list also includes the larger studies produced by the Council's economics department.

Outside Economic Research Financed by the Council

Early in 1980, the completed Study of Capital Investment and Savings Requirements will be published in three volumes. This project, 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.

Volume I, entitled *Social Security versus Private Saving*, focuses on an issue which has grown in importance as a result of the expansion of social security programs. Some previous research had shown that there was evidence that the growth of social security has had a substantial effect on private saving and thereby slowed the rate of capital formation. A number of researchers, however, have disputed this evidence. Studies in Volume I review the large

literature that has grown up on this topic and examine the data in the form of time series and household surveys in the United States as well as the evidence available from other countries. On balance, there is agreement that the growth of social security in the form used in the United States poses a serious danger to the growth of private saving and probably to the total rate of capital formation.

Volume II, entitled *The Government and Capital Formation*, deals with additional issues on the role of government policy and operations in influencing saving and capital formation. It includes an analysis of the federal tax system and its intended and unintended effects on saving and capital formation, an analysis of deficit financing and the issue of the "crowding out" of private investment, a study of the impact of government regulations on private capital formation, and an examination of the effect of inflation on capital formation.

Volume III, entitled *Capital, Efficiency and Growth*, has three parts. Part 1 contains a study of the contribution of capital to economic growth. It deals with methods of measuring capital inputs in constant prices, deriving rates of return, and examining the contribution of capital to growth by major type of industry. This research indicates that the slowing rates of growth in capital stock and technological development were important factors in the declining rate of productivity growth since the early 1970s. Part 2 examines questions about the allocation of capital among major sectors of the economy and whether significant misallocation has occurred in recent years; it also contains a study of the determinants of research and development expenditures in U.S. manufacturing industries. Part 3 deals with determinants of investment by industry and the demand for producers' durable equipment.

These three volumes are the most comprehensive analysis made in recent years of capital formation and its significance for productivity and economic growth. Further detail on authors and topics in each of the three volumes is shown in the Appendix.

New and Continuing Research

During the fall, the Council authorized a supplementary research project proposed by Dr. Dale Jorgenson of Harvard University to update and expand his research in the von Furstenberg project on capital formation and economic growth. He will bring his statistical work on capital stock and economic growth up to date through 1978 and also examine the relation between inflation and provision for capital recovery in the period 1948-1978.

In 1978, the Council Board of Directors authorized a three-year study to be undertaken by the National Bureau of Economic Research and directed by Dr. Benjamin M. Friedman of Harvard University. The study deals with the changing roles of corporate

debt and equity financing in the light of the major economic events of the last 20 years. Various research projects will deal with such questions as the nature of risks in debt versus equity financing, the measurement of risk, the market price of risk, the effects of government taxation and regulation on private financing, the impact of inflation on debt-equity ratios, and the possibilities for new financial instruments. 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.

Study of Anti-Inflation Policies

As a final step in a year-long examination of the problems of controlling inflation, a conference of 80 representatives of business, government, labor, and the academic world was held at the Williamsburg (Virginia) Conference Center, February 21-24, 1979. The conclusions and recommendations of the conference were published as the *Report of the Williamsburg Assembly on Anti-Inflation Policy*. This report, together with the background papers prepared by academic specialists for task force seminars in the preceding year, speeches given at the Assembly by Dr. Barry Bosworth and Mr. Daniel Yankelovich, and a survey paper by the project director, Dr. Clarence C. Walton, was published in June, under the co-sponsorship of the Academy of Political Science, as the assembly proceedings. The proceedings are entitled *Inflation and National Survival*.

One of the significant recommendations of the Williamsburg Assembly was that a communications program should be undertaken to improve public understanding of the issues of controlling inflation, to present to the public the hard personal choices that most people will have to make, and to promote public debate and a national consensus on how to deal with inflation. Since early summer, the public relations division of the Council has been deeply involved in developing such a program through the cooperation of life insurance companies, other organizations and associations. Every effort has been made to develop the communications program in cooperation with the Carter administration. The economics department has provided staff support for this program.

Staff Activities of the Economics Department

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

This year the economics department developed a new series of shorter economic studies designed for investment officers, company planners, and others outside the business. Several of these studies have been released under the general title "Economic Perspectives." Topics dealt with in 1979 included the following: (1) the economic impact of changing demographic trends from 1978 through 1983; (2) the five-year outlook for gross national product, price levels and interest rates; (3) a comparative analysis of the major price indexes; (4) the nature of revisions made in preliminary official data on gross national product; (5) an analysis of consumer price inflation in 1978 and 1979; and (6) a mid-year update of the department's annual economic outlook.

In September, the Subcommittee on Economic Research reviewed the whole range of internal research carried on by the economics department. This included the various statistical surveys listed above as well as continuing research projects and occasional special projects. Suggestions were made on areas to be explored for improvement or enhancement of statistical surveys and on the types of special research done by the department.

A major function of the economics department is its work with various policy making 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. In addition, the Economic Policy Committee conveys the viewpoints of the life

insurance business to officials in Washington through periodic meetings with the U.S. Treasury Department, the Federal Reserve Board, and various Administration officials involved in planning economic policy.

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 this past year, the staff guided the development of an industry proposal which would permit discounts on conventional mortgage loans to be accrued over the remaining life of the loan, in place of the requirement that such mortgages be carried at cost. This proposal was approved in December by the National Association of Insurance Commissioners (NAIC) and will remove a barrier that has previously served to discourage acquisitions of conventional mortgages by life insurance companies in the secondary market, where discounts often appear as a result of rising market interest rates.

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 each 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.

As a guide to investment strategy and the future course of interest rates, the economics staff also prepares analyses of the demand and supply of funds in the money and capital markets, setting forth estimates of future trends against the background of historical data. Staff analysis of the sources and uses of capital funds, including forecasts for 1980, is currently in preparation and will be distributed to member companies upon completion early in 1980.

ECONOMIC AND FINANCIAL DEVELOPMENTS IN 1979

The most dramatic event in 1979 was surely the change in the cost and availability of energy. Beginning early in the year, the regular flow of crude oil was affected by the turmoil in Iran, which forced a scramble for alternative sources worldwide and set the stage for major price increases in March and June. The United States in particular experienced serious shortages of gasoline and fuel oils in the spring. Long lines appeared at gas stations; production schedules were cut; scores of shoppers stayed home rather than use their scarce and expensive gasoline supplies; and auto buying was cut back sharply.

By the early summer, the economy began to absorb some of the shock of the altered energy picture and there was modest recovery in both spending and production. Even though the worst of the problem seemed over, there was still considerable pressure in international oil markets. At their December meeting, the OPEC nations divided sharply over the issue of the amount of an additional price hike, but it was clear that all of the members would post increases which would bring oil prices by year-end to levels close to double the amount of a year earlier. While this percentage gain in oil prices in 1979 was less than in 1973-74, the increase was much larger in dollar terms.

The surge in oil prices exacerbated the already severe inflation problem in the United States. However, a number of other external factors also complicated the inflation problem in 1979. Adverse agricultural supply conditions pushed food prices upward at a fast clip, and sharp increases in raw material prices, fueled in part by speculation, pushed up production costs and finished goods prices. The double-digit inflation which these factors produced at the consumer level had been largely unforeseen and must be expected to reverberate with enduring effects on the economy's performance into the year ahead.

The adverse impact of energy and inflation was severe, first weakening the economy and then bringing the four-year-old expansion to a close at year-end. Although production and sales had lost some momentum early in the year, the energy crisis sparked a serious downturn in the spring and undermined the prospects for continued and orderly expansion. A modest recovery in economic activity occurred in the summer months, but it did not prove sustainable. The economy weakened in the fall, and the early

evidence seemed to suggest that the long-awaited recession had probably begun by year-end.

In an environment of rapid inflation, credit market demands remained at high levels and the mix of borrowing heavily tilted toward short-term financing. These demands were met by relatively receptive conditions in financial markets in the winter and early spring, but during the later spring and early summer, the unsettled conditions in the economy began to hinder the orderly functioning of many financial markets. As the year's events unfolded, the Federal Reserve became increasingly concerned about the developing inflation and financial market conditions. As a result, it became more aggressive in its money market posture beginning in mid-August. In a series of tightening moves, culminating in the momentous October 6 initiatives, the Federal Reserve acted to push interest rates sharply higher to record levels. By the end of 1979, some success could be claimed for the new monetary policy as the growth in monetary aggregates and bank credit began to moderate and financial markets took on a more stable tone.

The Erratic Slide into Recession

Gross national product, after adjusting for price changes, rose about 2% on a year-over-year basis in 1979 (Table 1). This increase was markedly less than the 4½% advance in 1978, and well below the 5½% average gain in 1976 and 1977, following the trough in

Table 1
Constant Dollar Gross National Product

	1976	1977	1978	1979 ^e	1979 ¹		
					I	II	III
GNP (1972 dollars)	5.9%	5.3%	4.4%	2.1%	1.1%	-2.3%	3.1%
Final sales	4.5	4.8	4.4	2.4	1.1	-3.9	6.4
Personal consumption expenditures	5.9	5.0	4.5	2.3	0.6	-2.9	4.9
Residential fixed investment	23.2	20.7	4.2	-6.0	-14.3	-7.2	-1.4
Business fixed investment	4.8	8.6	8.4	6.2	4.8	-0.8	10.8
Federal government purchases	-0.2	4.4	-2.0	0.2	7.2	-11.3	-2.8
State and local government purchases	0.5	0.6	4.0	0.0	-6.6	1.6	3.0
Exports	6.8	2.4	10.6	10.0	11.5	-3.1	23.2
Imports	19.1	9.7	11.1	3.9	-3.8	12.1	-3.1

e- Estimated.

¹Percentage changes seasonally adjusted at annual rates.

Source: U.S. Department of Commerce and American Council of Life Insurance.

economic activity in 1975. The economy's downward adjustment in its growth trend during 1979 was quite uneven. Real GNP rose only modestly in the first quarter, registered an actual decline in the second, bounced back in the third, and then dipped in the fourth. While this erratic pattern is often characteristic of the advanced stages of a business cycle, it was exacerbated this past year by the sudden and unexpected return of double-digit inflation, as well as a number of major external shocks which sent the economy on the track toward recession. Indeed, by year-end, it was widely believed that the expansion had lost most of its vitality, and the economy was heading into a mild downturn.

Following rapid growth in the fall of 1978, economic expansion was interrupted in the first half of 1979. Real GNP advanced only 1% in the opening months of the year as severe winter weather halted numerous construction projects, closed many factories, and kept scores of buyers at home. Then, in the spring quarter, output declined by around 2¼%, the first such drop since the nadir of the last recession in the first quarter of 1975. Not only did several labor contract disputes in the trucking, airline, and rubber industries affect production and disrupt supply lines, but an energy scare gripped the nation as gasoline and other fuel supplies dipped to critically low levels and prices for available petroleum products rose sharply. The negative impact was most pronounced on consumer spending, particularly for new automobiles. As a follow through to this retrenchment, substantial unwanted inventory accumulation occurred, with inventory-to-sales ratios rising to levels close to their 1973 danger points.

With the onset of summer, the economy began to absorb the shock of sharp increases in imported oil prices and to recoup some of the losses inflicted by work stoppages during the spring. In fact, real output actually showed a more significant gain than was widely expected by most analysts, advancing some 3% at an annual rate. Spending for consumer goods rebounded noticeably, in part because the widespread use of special incentive schemes and rebates by auto manufacturers and dealers sparked renewed auto buying. As a consequence, the imbalance in inventories that had developed in the spring was eased somewhat by summer's end. Outlays for capital goods and housing were stronger in the third quarter than many had expected, and exports were literally surging upward.

However, this third-quarter recovery proved to be short-lived. By the closing months of the year, the economy was showing increasing signs of weakness. Smaller employment gains and declining real incomes began to hurt consumer demand severely. Domestic auto sales softened as did other retail sales, and evidence

of unwanted inventory accumulation surfaced. Stocks, which appeared to be at comfortable levels earlier, began to look excessive in the face of mounting weakness in consumer spending. Housing starts, already suffering from the effects of high interest rates and reduced credit availability, moved even lower in the fall, and only business capital spending and a strong export sector kept the overall decline in real output within bounds.

Uncontained Inflation?

Despite the economy's slowdown, inflation remained the nation's most vexing problem, as prices rose throughout the year at rapid rates that virtually equalled the pace of 1973-74, the last period of severe price pressures. However, more to the point, the upsurge in prices in 1979 represented a particularly marked speed-up over 1978 and broke the pattern of more moderate price acceleration which characterized the earlier stages of this cyclical expansion. Indeed, the sharp upsurge to a higher plateau of persistent inflation seemed to convince many forecasters that a significant letup in inflation could not be expected during the unfolding recession.

On a year-over-year basis, the GNP fixed-weighted price index, a broad-based inflation measure that many analysts prefer, advanced sharply, climbing nearly 9½% in 1979 compared with 7½% in 1978 (see Table 2). The speed-up in inflation was even more pronounced

Table 2
Measures of Inflation¹

		GNP Fixed-Weighted Price Index	Consumer Price Index ²	Producer Price Index ³
1978	I	6.8%	7.8%	8.1%
	II	9.6	10.2	10.1
	III	8.3	8.8	7.8
	IV	8.9	9.1	9.2
1979	I	9.9	11.1	14.0
	II	9.5	13.6	9.8
	III	10.0	12.9	11.4
	IV	10.0e	12.5e	14.5e
Calendar years				
		5.6	5.8	4.2
		6.4	6.5	6.0
		7.5	7.7	7.8
		9.4e	11.2e	11.0e

e- Estimate.

¹Percentage changes seasonally adjusted at annual rates.

²Consumer price index for all urban consumers.

³Total finished goods.

Source: U.S. Department of Commerce, Bureau of Labor Statistics, and American Council of Life Insurance.

for producer and consumer prices. The producer finished goods price index increased by an estimated 11% in 1979, markedly above the 7¾% rate in 1978. The consumer price index soared upward by nearly 11¼% in 1979 as opposed to around 7¾% in 1978. Moreover, there was not a single month within the year when the increases in consumer prices fell below double-digit rates.

The flare-up in inflation started early in the year as food prices began to rise at alarming rates, reflecting both the consequences of temporary supply disruptions related to the severe winter weather and the continuation of the upward trend in beef prices as the slaughter continued to decline. Adding to these pressures were sharply rising gasoline and heating fuel prices in the wake of shortages growing out of the Iranian political crisis and the large increases in oil prices posted by the OPEC nations. Indeed, even as the upward tilt in food prices began to moderate somewhat in the spring, energy prices continued to skyrocket. For the year as a whole, it is estimated that energy-related prices rose by about 40% at the consumer level, largely as a result of a 50% increase in gasoline prices at the pump.

The speed-up in inflation in 1979, however, was not confined to the food and energy sectors, as prices of other goods and services also accelerated, although more moderately. Part of this advance undoubtedly reflected the indirect effects of earlier gains in food and energy prices, and it also probably continued to capture some of the lagged effects of the 1977-78 decline in the foreign exchange value of the dollar. More fundamentally, however, the narrow margin of unused productive capacity was a major source of price pressures. Capacity utilization rates in manufacturing remained high and the unemployment rate continued at a relatively low level, particularly for skilled workers. Productivity declined sharply throughout the year and pushed unit labor costs up rapidly.

Interest Rates Reach New Peaks

Credit demands continued strong in 1979, although the gain over 1978 was modest. Consumers, businesses, and governments at all levels effectively demanded about \$470 billion in net new money in 1979, as compared with \$460 billion in 1978 and \$390 billion in 1977. However, the mix of credit demands changed significantly, with short-term borrowings trending sharply upward and long-term demands advancing only slightly. At various times during the year, many borrowers became convinced that interest rates were near their peaks for this cycle and consequently chose to raise money at short-term rather than to lock themselves into debt contracts for long-term money at such high interest rates.

Charts 1, 2, and 3 depict the general pattern of interest rates on short-term securities, prime bonds, and lesser-rated corporate securities in 1979 against the experience of earlier years back to 1973. As can be seen from the chart, interest rates across the maturity spectrum rose steeply over the year, with most of the increases coming in the summer and early fall. Short-term rates advanced much more sharply than long-term rates, but at their high points during the year, most rates stood well above the levels reached at the previous cyclical peak in interest rates (Table 3).

Short-term rates and Federal Reserve policy. After increasing throughout most of 1978, money market interest rates came under seasonal downward pressures as the new year began. Thereafter, short-term rates remained at this lower level and moved essentially sideways into early spring. The Federal Reserve maintained a steady policy stance throughout the period as the foreign exchange markets remained generally calm, and the growth in the monetary aggregates weakened in part because of slackening in the pace of business activity.

CHART 1 • SHORT-TERM INTEREST RATES

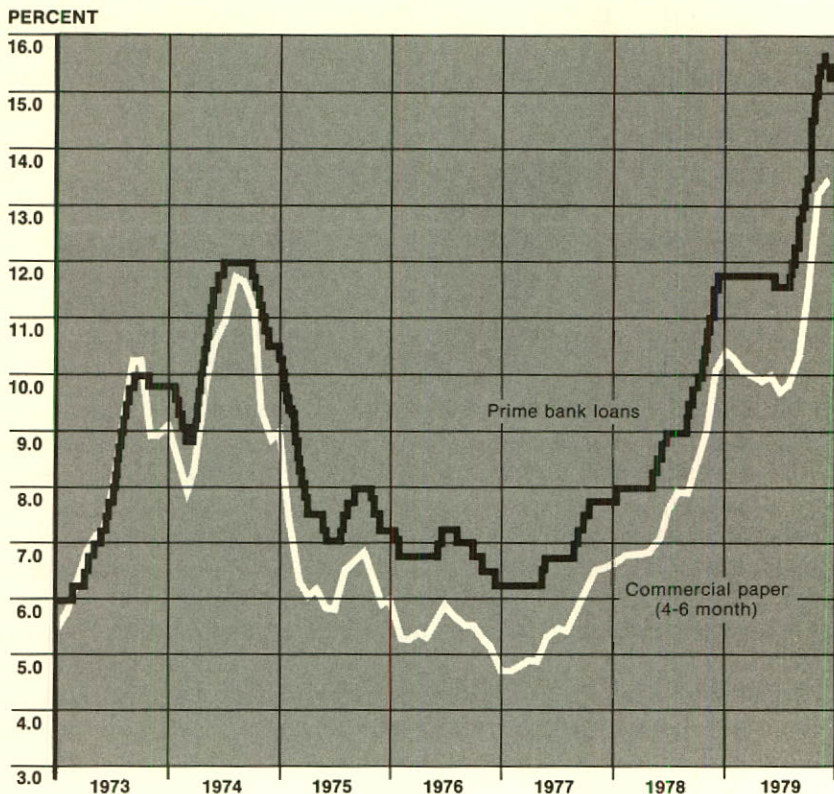
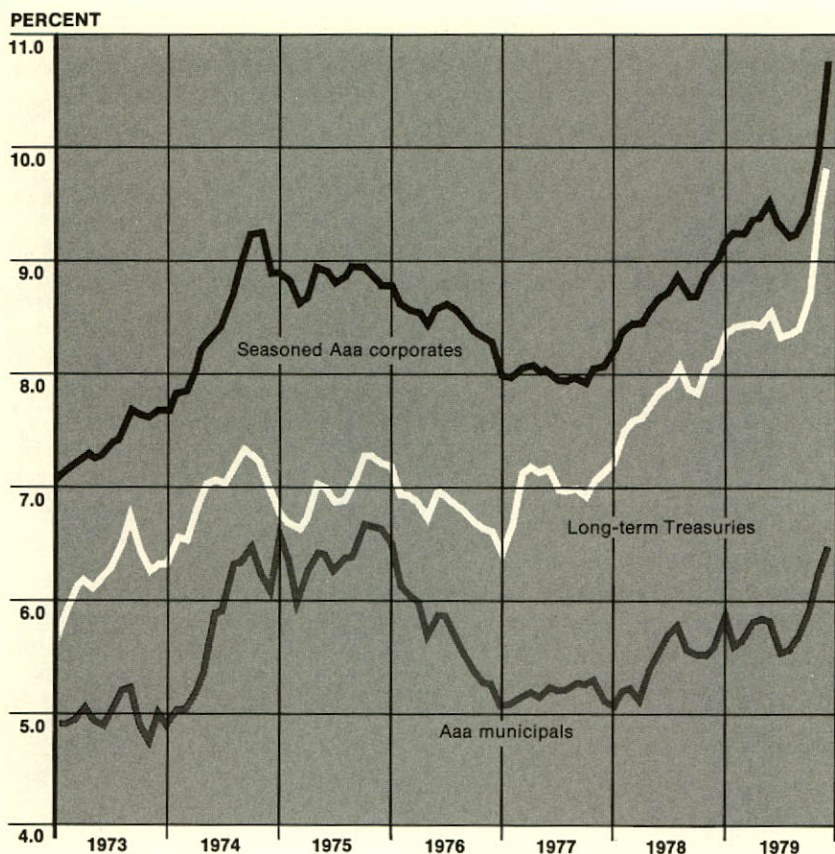


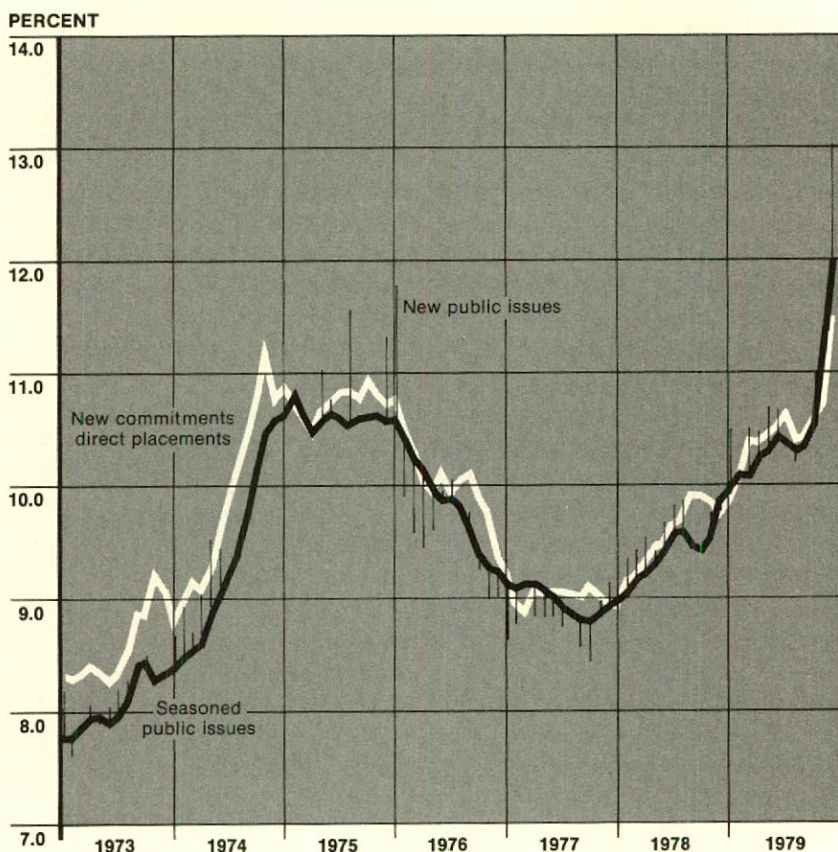
CHART 2 • YIELDS ON PRIME BONDS



In March, the economy seemed to be recovering from its winter doldrums and price inflation continued unabated. Following on these developments, the monetary aggregates accelerated sharply in April and began to raise the concern of policymakers over whether their short-term monetary targets could be met. Consequently, in late April, the Federal Reserve acted to tighten money a notch further, pushing the federal funds rate up to 10¼% from the 10% level where it had been since mid-January. Short-term rates, which had risen slightly in the early weeks of April and then erased these increases by late April, moved up again into early May following the tightening by the Federal Reserve. However, even then, short rates were little changed from the levels of late March and early April.

After this initial step, the Federal Reserve backed off from further tightening moves in the spring and held the policy reins steady as the economy began to show signs of serious weakness in the wake

CHART 3 • YIELDS ON Baa CORPORATE BONDS



of the energy crisis. While this steady course was understandable, there nevertheless remained a great deal of concern in financial markets over the growth of the monetary aggregates. After growing rapidly in April, the monetary aggregates had slowed abruptly in May, but had then surged upward again in June. In fact, for the quarter as a whole, the increase in the aggregates was sharply greater than in the preceding quarter. M₁, which had actually declined somewhat in the winter, rose at an annual rate of about 7½% in the second quarter, while M₂ tilted upward at an 8½% rate, against less than 2% in the first quarter (Table 4).

Following the marked increase during the spring, however, the growth in the monetary aggregates accelerated further in the third quarter. M₁ rose at an annual rate of nearly 10% in the summer months and M₂ soared upward by a 12% annual rate in the same period. Even the monetary base (largely bank reserves and

Table 3
Interest Rate Comparisons¹
(In percent)

	1974-75 Highs	Oct./Nov. 1979 Highs
Short-Term Rates		
4-to-6 month commercial paper	11.72%	13.50%
Prime bank loan rate	12.00	15.75
Long-Term Rates		
Seasoned Aaa corporates	9.27%	10.76%
Seasoned Baa corporates	10.81	11.99
High grade municipals	6.70	6.49
Treasury bonds	7.33	9.80

¹Monthly averages except prime rate.

Source: Moody's Investors Service and Federal Reserve Board.

currency held outside the Treasury and banking system), which had been well-behaved in the year's first half, began to rise at alarming rates in the third quarter (Table 4). Economic activity appeared to be rebounding with surprising strength from the energy-induced slump of the spring and inflation was still continuing in the double-digit range. Short-term credit demands were literally exploding, and renewed downward pressures were developing on the dollar in international markets. Most alarming, however, was the evidence of increased speculative activities that surfaced in the commodity, foreign exchange and financial markets over the course of the summer.

Table 4
Selected Financial Market Data¹

		Monetary Base ²	M1	M2	Bank Credit ³
1978	I	9.9%	6.6%	7.0%	10.1%
	II	7.6	9.2	8.4	14.9
	III	9.3	7.9	9.8	13.3
	IV	8.3	4.1	7.6	12.7
1979	I	6.0	-2.1	1.8	13.2
	II	3.9	7.6	8.6	11.9
	III	9.6	9.7	12.0	13.5
	Oct.	12.8	2.5	8.6	7.7
	Nov.	8.9	2.1	6.2	N.A.

¹Percentage changes seasonally adjusted at annual rates.

²Adjusted for changes in reserve requirements.

³Loans and investments of all commercial banks.

Source: Federal Reserve Board.

The Federal Reserve responded to the signs of growing instability by sharply tightening monetary policy. The federal funds rate was pushed upward over the course of the third quarter to 11½% from the late April level of 10¼%. In like fashion, the discount rate was raised three times to 11%, after having remained unchanged at 9½% since November 1978. Money market rates quickly adjusted upward in response to these Federal Reserve initiatives, increasing some 200 to 250 basis points between early July and late September. The rate on 4-to-6 month commercial paper rose to 12% by mid-September, up from the 9½ to 10% band in which it had fluctuated since early February. Beginning in early August, the prime bank loan rate was increased in several stages from 11½% to a new record high of 13½% in late September.

October policy actions. Given the high degree of liquidity in the economy and the strengthening of inflationary expectations, however, this tightening of money market rates was not sufficient either to induce a slowdown in money creation or to curb credit market demands. Likewise, it was not sufficient to reassure world financial markets of the nation's resolve to protect the value of the dollar. Finally, on October 6, the Federal Reserve took momentous action in an effort to regain stability for financial markets and to restore confidence in the dollar abroad. The action included a full percentage point increase in the discount rate to a new record of 12% and the imposition of a marginal reserve requirement of 8% on certain managed liabilities of the banking system. Most important, however, the Federal Reserve shifted its method of conducting monetary policy from establishing interest rate targets to setting growth rates for bank reserves and the monetary aggregates. By implication, the Federal Reserve was indicating that it would now tolerate wider interest rate fluctuations than before the policy shift.

The October 6 initiatives had the immediate effect of pushing short-term rates to even higher ground. Open market rates jumped another 200 to 250 basis points over the period from early October to early November, topping out at levels well above their previous peaks. From a level of 11¾% in early October, for example, 4-to-6 month commercial paper rose to nearly 14¼% by early November. The prime rate soared upward from 13½ to 15% over this same period and even continued its climb, hitting a high of 15¾% in mid-November.

After the initial period of violent gyrations, financial markets began to settle down and adjust to the new mode of monetary operations. Growth in the monetary aggregates began to slow and bank credit demands eased off significantly as did other demands for short-term borrowing. In fact, some softness in interest rates developed toward year-end, notably in the reduction of the prime rate to 15¼%.

Market participants generally did not interpret the fall-off in rates during this period as signifying any weakening of Federal Reserve resolve in bringing inflation to heel. This was particularly fortunate because, by all indications, that resolve seemed to be sufficient and steady.

Long-term rates move higher. While passing through several periods of unsettled market conditions during the winter, spring, and summer months, yields on prime bonds moved within a relatively narrow band until the fall, when these rates climbed to record highs (see Chart 2). Lesser-rated corporates exhibited similar fluctuations during the first part of the year, and late in the year these rates also came under severe upward pressure (see Chart 3).

In January, yields on long-term securities tended to follow short-term rates down, but then retraced these earlier declines in February. By early March, in fact, long-term rates were fluctuating within narrow limits only slightly above their levels of late December. Then, in April the situation changed. The taxable bond calendar, which had been mounting all year, swelled to record amounts and Treasury financing demands bulged following the delayed Congressional approval of the increase in the debt ceiling. Tax-exempt bond financing continued in high volume, although the technical position in the market was quite good, and federal agency borrowing rose to fever pitch. Moreover, these heavy borrowing demands coincided with a period in which concern over inflation was intensifying, and growth in the monetary aggregates was proceeding at unacceptably high rates.

Against this background, long-term rates began to edge up somewhat beginning in mid-April, but market sentiment continued to favor the view that the Federal Reserve would abstain from any near-term firming actions. Therefore, when the Federal Reserve moved to tighten credit in late April, the long-term markets were caught off guard and expectations shifted rapidly, with the outlook for interest rates turning decidedly pessimistic. Long-term rates continued to advance somewhat further into early May even though financing volumes began to ease somewhat and money market rates remained virtually unaffected by the Federal Reserve move.

Toward the middle of May, however, the market again began to take on a more favorable tone. Several reports on business activity released at this time emphasized the emerging weakness in the economy, and many analysts and market participants began to anticipate that the turn in long-term rates might be near. Yields began to ease off moderately and by late June were back down to the levels of late January and early February. Some reversal in this trend occurred in early July as the dollar weakened in foreign

exchange markets and concerns grew over the lack of prospects for an effective energy policy. Nevertheless, even with this rise, yields remained below their early April levels.

The long-term markets seemed increasingly convinced as July wore on that the peak in rates might have already passed. There were further reports that business activity was weakening, and even the Federal Reserve's action to raise the discount rate and federal funds rate in mid-July was viewed positively. The appointment of Paul Volcker to be Chairman of the Federal Reserve Board of Governors in early August further improved the market climate.

These expectations were given a shock, however, when the Federal Reserve took several steps toward a tighter monetary policy starting in mid-August. The fact that these actions were taken even in the face of reports of sluggish economic activity was not lost on the markets, and when Chairman Volcker strongly emphasized that interest rates might not decline as long as inflation remained high, market participants adopted a more cautious attitude toward the timing of the cyclical peak in interest rates. Nevertheless, even as long-term yields started an upward climb late in August, the view was still widely shared that any upward advances in interest rates would be orderly and probably restrained.

The market was, therefore, caught completely by surprise when the Federal Reserve announced its major policy steps on October 6. In the wake of these moves, long-term rates marched steeply higher, rising some 100 to 125 basis points from early October to early November. Some borrowers postponed offerings and investors became increasingly worried that liquidity would be curbed severely. The market, which heretofore had doubted the Federal Reserve's resolve in fighting inflation, came to believe that it meant to reduce inflation and was prepared to tolerate considerable interest-rate volatility to achieve its goals. As a consequence, inflationary expectations distinctly improved. Long-term rates stabilized in November and then began to back off somewhat in early December.

Overall, the dramatic increases in long-term rates that occurred in late 1979 put seasoned Aaa corporates up into the 10½ to 11% range by year-end, well above the 9-9½% band in which these bonds had traded from the closing months of 1978 through the late summer of 1979 (Chart 2). Rates on seasoned Baa issues increased to an average of about 12% in November, an advance of around 200 basis points from late 1978 levels (Chart 3). As was the case for short-term rates, yields on most long-term debt instruments hit new peaks in 1979, significantly above their 1974-75 levels.

INVESTMENT OPERATIONS OF U.S. LIFE INSURANCE COMPANIES IN 1979

In the final year of the 1970s, mortgage lending moved up to take the lead in life insurers' investment operations, while corporate bond investing stepped back to play a strong supporting role. The direction of investment flows during 1979 was already pointed by the preponderance of mortgage commitments in the backlog of forward commitments outstanding at the start of the year. Commercial, industrial, farm, and other income-producing properties continued to attract the bulk of mortgage funds, but noteworthy was the stepped-up volume of home mortgage lending. For the first time since 1966, holdings of 1-4 family mortgages by life insurers increased over the year, continuing an upturn that had developed in late 1978. Indirect investing in the home mortgage market also showed up in substantial purchases of securities backed by pools of mortgage loans, largely the mortgage-backed issues of federal agencies but also the issues of private business firms.

Corporate bond investments came close to matching the volume of mortgage lending in 1979 but were reduced from the large totals of the preceding few years when direct placement bond financing was stronger. Life companies again in 1979 were net sellers of common stocks, both for their general and separate accounts, while real estate ownership gained as a medium for equity investments, and preferred stocks were purchased in relatively good volume.

Policy loans, as expected, reached a record amount in 1979, and developments in this area were closely monitored by affected companies throughout the year. Liquidity positions were maintained at high levels during most of the year, not only in direct response to record high short-term interest rates but also in response to the uncertainties of policy loan demands. Toward the close of the year, short-term securities holdings were drawn down to meet seasonally large takedowns of commitments for long-term investments and unusually large policy loan demands. Despite a surge in policy loans in the fall that exerted a dampening effect on funds available for market investments, the total flowing into market instruments increased over the 1978 amount, reflecting the current faster pace of asset growth as compared with other recent years of strong policy loan demands.

Major Investment Outlets

Net long-term investments made by life insurers in 1979 are estimated to reach \$36.4 billion, up 11% from the 1978 total of \$32.9

billion. Estimates of year-end 1979 assets of U.S. life insurance companies, together with the final figures for 1977 and 1978, 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.

Mortgages. Mortgage loans took up a sizable share of investment funds in 1979. The net increase in mortgage holdings, estimated at \$13.5 billion, represented 37% of the total of net long-term investments, up sharply from a 28% share in 1978. The portfolio of mortgage holdings increased 13% during the year to exceed \$119 billion at the end of 1979.

Both loan purchases and new commitments made for later funding reached record totals in 1979. Gross loans made ran 20% above the \$17.8 billion of mortgages acquired in 1978, while new commitment volume ran 10-15% ahead of the high 1978 total. As in other recent years, the largest part of mortgage lending was on commercial, industrial, and other nonresidential properties, but particularly notable were the stepped-up purchases in 1979 of 1-4 family residential mortgages.

Income-property mortgages. The net investment in commercial, industrial, and institutional mortgage loans (on U.S. nonfarm properties) accounted for 27% of the total of net long-term investments in 1979, compared with 22% in 1978. Holdings of these nonresidential property mortgages increased by an estimated \$9.7 billion, or 16%, to total \$70 billion at the end of 1979; this growth compares with an increase of \$7.3 billion, or 14%, in 1978.

Forward commitments for income property mortgages were made in substantial volume in 1979, as indicated by data for the first three quarters of the year set out in Appendix Table A-3. The demand for office building financing was particularly strong, accounting for over 40% of nonresidential mortgage commitments made in 1979, according to the reporting of a sample group of companies. Also important were retail store loans, largely for shopping centers, and these accounted for about one fifth of the commitments made for nonresidential property loans, slightly down from 1978. Substantial amounts were also committed for hotel properties, while numerous commitments were issued for loans of smaller size, such as warehouses, manufacturing plants, and nursing homes.

Even with a drop in new commitments in the final months of 1979, partly reflecting the unsettled market conditions after October 6, new commitments ran well ahead of 1979 disbursements. As a result, the backlog of outstanding commitments climbed steadily to the \$25 billion level, up one fourth over the backlog at the start of the year. Since over half of the total is scheduled for takedown during

the next twelve months, the foundation for further growth in these holdings during 1980 is already in place.

One-to-four family mortgages. In 1979, for the first time in thirteen years, life insurance companies' holdings of 1-4 family mortgages increased over the year-earlier level. The net rise, estimated at \$1.5 billion, compares with a net decrease of \$185 million in 1978, and the portfolio increased 11% to an estimated \$15.4 billion at the end of 1979. Gross loans made by the companies increased to an estimated \$3.3 billion from \$1.7 billion in 1978, while loan repayments held at about the 1978 level. In addition to the loans originated by the companies themselves and purchases from traditional mortgage banking sources, significant purchases were made of existing loans from the portfolios of savings and loan associations, which were then enabled to channel the proceeds into new mortgage loans.

The return to the 1-4 family mortgage market by life insurers showed up first in new commitments made in the latter part of 1978. (See Appendix Table A-3.) During 1979, the pace of commitment activity quickened, about doubling over 1978, and the backlog of outstanding commitments reached \$3.5 billion, ensuring further growth in the holdings of these residential mortgages by life insurers in 1980.

Multifamily mortgages. Lending on apartment properties by life companies in 1979 was maintained at about the 1978 volume, again accounting for 1% of the total of net long-term investments. Holdings of multifamily mortgages increased about \$350 million, or 2%, during 1979, duplicating the 1978 growth, and amounted to \$18.6 billion at the end of the year. Somewhat over half of loan disbursements were for newly constructed apartment buildings, a slight shift from the 1978 tilt toward loans on existing properties. While apartment loan disbursements were maintained at the year-earlier pace, new commitments for multifamily mortgages dipped below the year-earlier total, mirroring the relatively weak demand for privately financed apartment construction. Nevertheless, outstanding commitments showed a small buildup during most of the year and at the \$2.5 billion level offered the prospect for a third consecutive year of net investment in apartment mortgages. This pattern is in contrast with the net disinvestments in the three years 1975-77 and reflects in part the marked improvement in the delinquency and foreclosure experience with apartment properties: delinquency rates fell below the 1.8% level in mid-1979 as against 5.9% at the end of 1975. (See Appendix Table A-4.)

Farm mortgages. Lending on farm and ranch properties continued sizable in 1979, for the third consecutive year. Net investment in farm mortgages accounted for 5% of the 1979 total of

net long-term investments of life insurers, even though this specialized field of lending is carried on by a very limited number of companies. Farm mortgage portfolios increased \$1.8 billion, or 17%, during 1979 to total \$12.3 billion at year-end, compared with an increase of nearly \$1.7 billion, or 19%, in 1978. Gross loans made on farm properties ran about 8-9% above the 1978 total of \$2.75 billion, while new commitment volume increased more modestly, about 5% above the \$2.7 billion committed in 1978. (See Appendix Table A-3.) The excess of loan acquisitions over new commitments largely reflected the refinanced portions of existing loans, and the backlog of outstanding commitments showed little net change over the year.

Corporate bonds. Life insurers directed a smaller proportion of funds to corporate bond investments in 1979 than in other recent years. The 1979 net investment of an estimated \$13.4 billion represented 37% of the total of net long-term investments, down from \$16.7 billion and a 51% share in 1978. (The 1979 figure reflects adjustment for an estimated net capital loss during the year.) Portfolio holdings of domestic and foreign corporate bonds increased 9% during 1979 to total \$163 billion, nearly 38% of total assets at the end of the year.

A downturn in the demand for direct placement bond financing was an underlying factor in the reduced investment in corporate bonds. These loan submissions had slowed down in the latter half of 1978, and at the start of 1979, the level of outstanding commitments scheduled for takedown during the year was comparatively low. Despite a pickup in direct placement applications in the late summer and early fall direct placement closings in 1979 are estimated to fall 15% below the 1978 volume. Notable in 1979 was the heavy use of the direct placement market by public utility firms, reflecting a number of issues in excess of \$100 million, while the usual wide array of manufacturing, transportation, finance, real estate, service, and trade firms continued to account for the larger part of new commitments.

Demands for corporate bond financing in the public market continued strong in 1979, reflecting the ongoing financing needs of the public utilities and some sizable offerings of industrial firms, most notably that of International Business Machines Corporation. While many life insurers concentrate their bond investing in the public market, large companies make more limited purchases in this market, finding the yields and other loan terms more attractive on alternative investments. Mortgage loans in particular but also federal agency securities backed by pools of mortgage loans proved especially attractive to life insurers in 1979.

U.S. Treasuries and federal agency issues. Net investment in U.S. Treasury notes and bonds of an estimated \$100 million in 1979 was in contrast with a net disinvestment of nearly \$400 million in 1978. Holdings of longer-term Treasuries fluctuated month-to-month within the range of \$4.4-4.8 billion for the past 2½ years and at \$4.5 billion are estimated to be on the low side of the range at year-end 1979.

Life insurers made further sizable investments in federal agency securities in 1979. The net investment of an estimated \$2.6 billion represented over 7% of the total of net long-term investments, compared with \$2.5 billion and a 7.6% share in 1978.

Holdings of longer-term federal agency securities, estimated at \$9.0 billion at year-end 1979, increased 40% during the year, on top of a 63% increase in 1978. In addition, the companies held an estimated \$100 million in short-term agency issues at year-end, little changed over the year. Included among federal agency issues are the mortgage-backed pass-through certificates involving guarantees by the Government National Mortgage Association (GNMA), mortgage participation certificates of the Federal Home Loan Mortgage Corporation, as well as issues backed by the Small Business Administration, the Agency for International Development, and the Farmers Home Administration. A variety of securities backed by pools of mortgage loans were issued in 1979, reflecting the pressure of demands for home mortgage financing on the limited supply of funds from traditional sources. Yields of securities backed by mortgage pools have tended to run above those on other debt issues of similar quality, and at the same time these instruments have served as a medium for low-cost mortgage investment and portfolio diversification.

Other government securities. Net investment by life insurers in U.S. state and local government securities is estimated at \$200 million in 1979, less than 1% of the total of net long-term investments, down from \$341 million in 1978. As in 1978, yields increased less rapidly on tax-exempts than on taxable bonds, and the yield spread between high-grade corporate and municipal bonds widened further, to about 370 basis points, on average, from 320 basis points in 1978. Net disinvestment in municipals persisted through much of the year, and portfolio holdings dipped to \$6.2 billion from \$6.4 billion at the start of 1979 but backed up to the \$6.6 billion level at year-end. Gross purchases in excess of \$1 billion indicated somewhat greater activity in this market by life insurers than shown by the limited amount of net investment.

Foreign government and international agency securities also accounted for a small share of life companies' investment funds in 1979. The net investment of an estimated \$300 million was less than

1% of the 1979 total of net long-term investments, down from about \$500 million and a 1.6% share in 1978. Holdings of longer-term foreign government and international agency securities, estimated at \$9.0 billion at the end of 1979, increased 3½% during the year, as against a 6½% increase in 1978.

Policy loans. Outstanding policy loans increased by a record amount in 1979. The increase of an estimated \$4.55 billion, or 15.1%, was up from a 1978 growth of \$2.6 billion, or 9.4%, and compares with the previous record dollar increase of \$2.7 billion, or 13.2%, in 1974. An accelerated growth in policy loans, which got under way in late 1978, continued into the early months of 1979, slowed somewhat during the summer, and spurted ahead in October, following the rapid runup in market rates of interest. The policy loan increase represented 12.5% of the \$36.4 billion of net long-term investments estimated for 1979, up from 7.9% in 1978. Sizable demands for policy loans were keyed into investment plans for 1979 by companies having particular exposure to these loans, although the sharp pickup in the fall was likely to have been outside the range of expectations. The companies were in a favorable liquidity position, however, and the surge in policy loan demands posed no immediate problems. The principal effect was to limit the forward commitment activity of some companies until the extent of policy loan increases could be more fully assessed.

Outstanding policy loans accounted for 8.0% of total assets held by life insurers at the end of 1979, up from the 7.7% asset share a year earlier but still below the recent peak of 8.7% at the end of 1974. In contrast with the asset share, the ratio of outstanding policy loans to ordinary life insurance reserves reached an estimated 20.8% at the end of 1979, a rise of more than one and a half percentage points from 1978 and two and a half percentage points from 1974, as shown in Table 5.

Table 5
Policy Loans Held Relative to
Total Assets and Ordinary Life Insurance Reserves

End of Year	Assets	Reserves	End of Year	Assets	Reserves
1970	7.8%	16.1%	1975	8.5%	18.5%
1971	7.7	16.1	1976	8.0	18.5
1972	7.5	16.1	1977	7.8	18.7
1973	8.0	17.1	1978	7.7	19.2
1974	8.7	18.3	1979	8.0e	20.8e

e- Estimated.

Corporate stocks. Life insurers again in 1979 were net sellers of common stocks for both their separate and general accounts. The net disinvestment for both accounts combined came to an estimated \$800 million, following on net sales of \$171 million in 1978. A rise in market prices added about 12%, or \$3 billion, to the carrying values of stocks held, compared with a valuation gain of \$1 billion in 1978. In total, the portfolio of common stocks increased about 9% during 1979 to an estimated \$27.2 billion at year-end.

Net sales of common stocks from separate accounts are estimated at \$600 million in 1979, exceeding net sales of \$60 million in 1978. At the end of 1979, common stocks held in these accounts were valued at an estimated \$12.3 billion and accounted for a low 50% share of total separate account assets, down from 56% a year earlier and 75% only three years earlier.

General account net sales of common stocks came to an estimated \$200 million in 1979, compared with net sales of \$111 million in 1978. Common stocks held in the general accounts at the end of 1979 were valued at an estimated \$14.9 billion and represented 3.7% of total general account assets, compared with \$13.5 billion and the same percentage share of general account assets at the end of 1978.

Net investment in preferred stocks, made entirely for the general accounts, increased to an estimated \$1.2 billion in 1979, over 3% of the total of net long-term investments, from \$850 million and a 2.6% share in 1978. The variation largely reflects a rise in direct placement offerings over the 1978 volume. Preferred stock holdings increased 11% during 1979 to total \$11.7 billion at the end of the year, of which an estimated 45% represented issues acquired through direct placement.

Real estate. The value of real estate directly owned by life insurers increased \$1.1 billion in 1979 to total \$12.9 billion at year-end, compared with a rise of \$700 million in 1978. The 1979 estimate includes an increase of \$1.1 billion in properties acquired for investment purposes, while a rise of about \$100 million in company-used properties was offset by a decrease in other real estate holdings, largely properties acquired in satisfaction of debt. By comparison, in 1978 the value of investment real estate increased \$771 million and company-used properties, \$80 million, while other real estate holdings decreased about \$150 million. Nearly \$1 billion of the 1979 growth in the companies' holdings of investment real estate showed up in the separate accounts, compared with a rise of about \$345 million in 1978.

Measures of Investment Performance

The 1979 net rate of income on the investments held in the general accounts of life insurers is estimated at 7.73% and the corresponding rate for total invested assets, including separate accounts, is estimated at 7.68%. As shown in Table 6, the 1979 estimates reflect an increase from 1978 of 34 basis points in the rate on general account assets and of 37 basis points in the rate on total invested assets.

The actual rates for 1978 and a long series of earlier years result from tabulations of the underlying dollar amounts set out in the annual statements required to be filed with the state regulatory authorities, and the actual results for 1979 will become available in the late spring of 1980 when the statement tabulations are completed. These portfolio rates largely reflect the investments made in earlier years, and the results of individual companies range widely from the industry averages. Annual improvements in portfolio rates depend on the relative importance of new investments and their yields as against the amounts and yields of investments repaid or sold during the year. Of particular importance also are the relative costs of investment operations and the composition of new investment funds—the share from net inflows that add to assets, as opposed to the share from the turnover of existing investments.

The estimated 34 basis points increase in the general accounts rate in 1979 was below the record rise of 39 basis points in 1978, primarily reflecting a slower growth in cash flow for investments. The estimated annual increase of 37 basis points in the net rate of

Table 6

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

Year	Net Investment Income (Including separate accounts)		General Accounts Rate
	Millions	Rate	
1974	\$15,144	6.25%	6.31%
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	29,350e	7.68e	7.73e

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.

income on total invested assets, including the separate accounts, is based on continued improvement in the income flows of the separate accounts, an accompaniment of the shift of these assets from common stocks to debt instruments and real estate equities. The dollar total of net investment income exceeded \$29 billion in 1979, as shown in Table 6, increasing 16% above the 1978 total, compared with an annual rise of 16.5% in 1978.

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 have become available for the last several 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 years surveyed, gross yields on these new investments ran in excess of 9%, ranging from about 9½% in 1977 to over 9¾% in 1975. Gross yields on these fixed-income investments averaged 9.43% in 1978 and are expected to exceed the 9¾% level in 1979.

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 followed a strong upward trend in the first half of 1979, eased slightly in the summer, and resumed the upward move in the fall. During most of the year, direct placement commitment yields ran about a full percentage point above those prevailing in 1978 but were estimated to increase nearly two percentage points during the year over the December 1978 level.

Average commitment rates on income-property mortgages climbed above 10% early in 1979 from the 9¾% level prevailing in late 1978, reaching 10¾% by June, and 10½% by September. Based on preliminary indications, the commitment rate averages are likely to exceed the 11¼% level by year-end, still relatively low as against short-term rates and reflecting the authorizations of numerous loans which had started in the pipeline many weeks earlier.

Summary data from the Council's surveys of income-property mortgage commitments are given in Appendix Tables A-5 and A-6; as noted, the reporting sample was expanded in 1979 by the addition of five major companies to the original 15-company group that had provided detailed information for many years, extending back to 1951. (See the Appendix listing of research studies supported by the life insurance business under the Study of Interest Rates.) Continuity of the interest rate series was not disturbed by the expansion of the sample, however, as indicated by the similarity of parallel data for the new 20-company group and the 15-company sample during the first nine months of 1979. As shown by the quarterly averages in the tables, the dollar-weighted interest rate of 10.42% in the third quarter of 1979 was up 54 basis points from the 1978 fourth-quarter average. The interest rate averages in Appendix Table A-6 show the variation from the overall average of different types of buildings securing the mortgages. The full reports provide additional information on other loan characteristics, including capitalization rate, loan constant, amortization, prepayment and call provisions, and geographic location, as well as loan-to-value ratio and term to maturity. This unique data series has proved useful to companies not only as a measure of comparison of commitment rates but also as an explanatory factor in accounting for differences in yields on new investments of a single year.

Another measure of portfolio performance of life insurers, also of long standing, is provided by the annual surveys of the income and costs of the mortgage accounts. A summary of the results for 1978 and other recent years is given in Appendix Table A-7. The data of the reporting group are essentially the mortgage results that enter into the net income rate on total invested assets given above. The net income rate of the mortgage portfolios held by the reporting companies averaged 7.92% in 1978, a level that indicates the importance of mortgage returns to the general accounts rate of 7.39% for all life insurers in 1978. In that year, however, the increase in the net income rate of the mortgage portfolios of 32 basis points fell short of the 1978 increase of 39 basis points in the overall portfolio rate. As shown in Table A-7, gross contract rates of 9.43% on new mortgage loans closed in 1978 rose only about 1/8% over the rates on loans closed in 1977 and exceeded the portfolio rate by a narrower margin than in other recent years.

Cash Flow for Investment

Cash flow for market investments of life insurance companies increased modestly in 1979, reaching an estimated \$60 billion. The estimate reflects a rise of 5% over the 1978 total as against an annual increase of 9% in 1978. The growth in cash flow was slowed in 1979

by the stepped-up demands for policy loans, an application of funds that reduced funds available for market investments.

The estimates of cash flow given in Table 7 are based on the quarterly reporting of a sample group of companies, which supply details on the sources of funds. 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 new funds from insurance operations and investment income but also the amounts for reinvestments stemming from maturities, prepayments, calls, and sales of existing investments. The cash flow total is a measure of gross funds disbursed for long-term market investments.

In the first two quarters of 1979, the cash flow totals of the reporting group were remarkably similar, finally breaking out to a higher level in the third quarter. During the first three quarters combined, cash flow ran 7% above the comparable period of 1978 but for the full year is estimated to run 4% higher, based on a projected shortfall in the final quarter from the fourth quarter of 1978. On the positive side, the ledger asset increase of the sample group in the first three quarters of 1979 accelerated 8% over the comparable 1978 total and is estimated to approach 10% for the full year. Also on the plus side, but of considerably less significance, were growing amounts from bond maturities and securities sales.

The strongest negative factor inhibiting the growth in cash flow was the acceleration in the net increase in policy loans. For the sample group, these net increases amounted to \$2.2 billion in the first three quarters of 1979, or 6.6% of the investment funds total before the policy loan increase. For the full year, the net demand for policy loans of the reporting group of an estimated \$3.1 billion can be expected to divert nearly 7% of investment funds from market investments, as against 4.5% similarly diverted in 1978. Moreover, the return flows from mortgage accounts in 1979 lagged behind the year-earlier amounts, reflecting a drop in prepayments that was little offset by the minimal growth in amortization payments.

Table 7
Estimated Cash Flow for Market Investments
U.S. Life Insurance Companies
(In billions of dollars)

Year	Amount	Year	Amount
1970	\$16.6	1975	\$33.5
1971	25.3	1976	46.2
1972	30.8	1977	52.6
1973	31.0	1978	57.2
1974	26.0	1979	60.0p

p-Preliminary.

Asset Growth

Assets of U.S. life insurance companies increased strongly during 1979, but showed no acceleration over the pace set in 1978. The asset total of an estimated \$431.7 billion at the end of 1979 reflected a rise of 10.7% during the year, the same as in 1978 and up from 9.4% in 1977. (The 1978 percentage increase reflects an adjustment to the actual asset total for comparability with the year-earlier amount.) The 1979 estimate includes an allowance for a larger net capital gain than in 1978, both years in contrast with a net capital loss in 1977. When adjusted to exclude the fluctuations in valuation, largely arising from changes in stock market prices, assets increased an estimated 10.0% in 1979, compared with 10.5% in 1978 and 10.2% in 1977. (See Appendix Tables A-1 and A-2.)

In dollar terms, the 1979 asset increase amounted to an estimated \$41.8 billion, including the valuation gain, and to \$39 billion, excluding the valuation change. The adjusted increase compares with \$36.8 billion in 1978. While the dollar increases of the latest two years are fairly similar, their difference and magnitudes are more striking in comparison with the asset increases only ten years earlier: \$10.2 billion in 1969 and \$9.9 billion in 1968 (both adjusted to exclude valuation changes).

The hesitation in the pace of asset growth in 1979 reflected small downward shifts in several measures of the life insurance business. Annuity considerations are estimated to increase 8% from the \$16.3 billion in 1978 when, however, the annual increase came to 9.1%. As another measure of the pension business of the companies, annuity and pension reserves increased an estimated 16% in 1979 as against 17.4% in 1978. Premium income from life insurance increased about 8½% over the 1978 total of \$36.6 billion, little different from the growth of the earlier year. As noted above, net investment income is estimated to increase 16% from the 1978 total, while the annual growth was 16.5% in 1978.

A broader perspective of the asset growth of life insurance companies is provided in Table 8, which shows the average growth by five-year periods over the past twenty years, alongside that of four other types of institutional investors. The annual average growth rate adjusted for valuation changes came to 9.9% for life insurers during the latest five-year period, held below the 10% level by the 1975 growth of 8.4%. The savings and loan associations showed the highest average rate of growth among the institutional groups during the latest five-year period, despite a slowing in 1979 from their rapid gains in the earlier years of the period. The retirement funds of state and local governments have also experienced a high growth rate, 14%, during the latest period, close to the pace of the savings and loans. Of particular interest is the

Table 8
Average Annual Rates of Asset Growth

	Five-year period			
	1960-64	1965-69	1970-74	1975-79e
Life insurance companies	5.4%	5.7%	6.6%	9.9%
Noninsured pension funds	11.9	9.9	7.7	11.0
State and local government retirement funds	11.3	11.4	12.0	14.0
Savings and loan associations	13.4	6.3	12.8	14.6
Mutual savings banks	6.8	6.6	8.0	8.6

e- Estimated for 1979.

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.

recent upturn in the average growth rate of noninsured pension plans, reversing the earlier downward trend. Also notable is the similarity of the improvement in the growth rates of the noninsured pension plans and life insurance companies in the latest five-year period over the early 1970s. The steady upward growth of life insurers during the 1970s has stemmed in large measure from their pension business and investment operations, areas of intense competition that offer further challenges and opportunities for growth in the 1980s.

APPENDIX TABLES

Table A-1
ASSETS OF U.S. LIFE INSURANCE COMPANIES
(Dollar amounts in millions)

Asset Class	Dec. 31, 1977		Dec. 31, 1978		Estimated Dec. 31, 1979	
	Amount	%	Amount	%	Amount	%
Bonds, notes, and debentures						
U.S. Treasury	\$ 5,315	1.5	\$ 4,822	1.2	\$ 4,900	1.1
U.S. federal agency	4,002	1.1	6,543	1.7	9,100	2.1
U.S. state and local	6,051	1.7	6,402	1.6	6,600	1.5
Foreign government and international	8,187	2.3	8,785	2.3	9,050	2.1
Total government	\$ 23,555	6.7	\$ 26,552	6.8	\$ 29,650	6.9
Corporate—1 year or less	4,896	1.4	6,349	1.6	6,325	1.5
U.S. corporate—over 1 year	125,599	35.7	141,450	36.3	154,500	35.8
Foreign corporate—over 1 year	7,394	2.1	8,245	2.1	8,400	1.9
Total corporate	\$137,889	39.2	\$156,044	40.0	\$169,225	39.2
Stocks						
Preferred	9,677	2.8	10,532	2.7	11,725	2.7
Common	24,086	6.8	24,986	6.4	27,200	6.3
Total stocks	\$ 33,763	9.6	\$ 35,518	9.1	\$ 38,925	9.0
Mortgages						
Farm	8,842	2.5	10,499	2.7	12,300	2.8
Nonfarm	88,006	25.0	95,668	24.5	107,400	24.9
Total mortgages	\$ 96,848	27.5	\$ 106,167	27.2	\$119,700	27.7
Real estate	11,060	3.1	11,764	3.0	12,900	3.0
Policy loans	27,556	7.8	30,146	7.7	34,700	8.0
Cash	2,130	0.6	2,367	0.6	2,500	0.6
Other	18,921	5.4	21,366	5.5	24,100	5.6
Total assets	\$351,722	100.0	\$389,924	100.0	\$431,700	100.0

The valuation basis for each classification is admitted asset (statement) value.

Separate account assets included in the data above amounted to \$17.4 billion, \$20.4 billion, and an estimated \$24.8 billion at the end of 1977, 1978, and 1979.

Table A-2
NET CHANGES IN ASSETS
(In millions of dollars)

Asset Class	1977	1978	Estimated 1979
Bonds, notes, and debentures — over 1 year			
U.S. Treasury and federal agency	\$ 2,537	\$ 2,126	\$ 2,690
U.S. state and local	455	341	213
Foreign government and international	1,196	528	301
Corporate — U.S. and foreign	17,551	16,702	13,205
 Total — Over 1 year	 21,739	 19,697	 16,409
Stocks	-499	1,755	3,407
Mortgages	5,296	9,319	13,533
Real estate	584	704	1,136
Policy loans	1,722	2,590	4,554
Short-term debt issues	-1,221	1,455	-130
Cash and other assets	2,549	2,682	2,867
 Increase in assets	 \$30,170	 \$38,202	 \$41,776
Memorandum:			
Increase in assets excluding net capital gain or loss	\$32,743	\$37,289	\$38,976
Net long-term investments*	\$32,100	\$32,900	\$36,400

*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
**NEW COMMITMENTS MADE FOR MORTGAGES
 ON U.S. PROPERTIES
 U.S. LIFE INSURANCE COMPANIES**

(In millions of dollars)

Year or Quarter	Nonfarm				Total
	Farm	1-4 Family	Multifamily	Nonresidential	
1970	\$ 285	\$ 390	\$1,589	\$ 3,381	\$ 5,645
1971	590	322	2,590	6,122	9,624
1972	817	438	3,614	8,260	13,129
1973	1,128	387	2,742	9,768	14,025
1974	1,112	390	908	6,077	8,487
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
1978 I	770	359	681	4,631	6,441
II	743	403	735	5,175	7,056
III	575	475	395	4,005	5,450
IV	625	1,165	655	4,370	6,815
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

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

Table A-4
MORTGAGE LOAN DELINQUENCY RATES
REPORTING LIFE INSURANCE COMPANIES

End of Period	Nonfarm Mortgages by Type of Financing						
	FHA	VA	Canadian NHA	Conventional	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	2.09	1.40	.26	2.49	2.41	1.16	2.28
1978 June	1.96	1.12	3.10	2.13	2.09	3.02	2.20
December	1.70	1.48	.25	1.67	1.65	2.59	1.76
1979 June	1.84	1.41	2.18	1.31	1.34	2.65	1.50

	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 June	1.08	3.36	1.88
December	1.24	2.41	1.48
1979 June	1.13	1.77	1.24

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% 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 \$000,000	Averages					
			Loan Size \$000	Interest Rate by #	Interest Rate by \$	Loan/ Value	Term 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	
1978	I	502	1,905	3,795	9.34	9.26	73.7	21/9
	II	676	2,157	3,191	9.45	9.47	73.1	21/7
	III	557	1,552	2,787	9.72	9.76	73.1	20/2
	IV	551	1,748	3,172	9.87	9.88	73.4	20/4
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

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% 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**

Property Type	1975	1976	1977	1978	1978		1979		
					III	IV	I	II	III
U.S. PROPERTIES*	10.05%	9.72%	9.23%	9.56%	9.75%	9.87%	10.00%	10.25%	10.42%
Conventional apartments .	10.09	9.69	9.33	9.59	9.73	9.90	10.08	10.30	10.59
Office buildings	9.98	9.68	9.11	9.47	9.70	9.80	9.91	10.15	10.33
Commercial retail	9.94	9.61	9.08	9.49	9.68	9.85	9.88	10.12	10.35
Commercial services	9.96	9.64	9.32	9.60	9.68	9.83	10.03	10.20	10.34
Institutional and recreational	10.82	9.91	9.62	9.91	10.09	10.05	10.77	10.31	10.82
Industrial	10.13	9.70	9.28	9.56	9.68	9.84	10.02	10.16	10.30
Hotels and motels	10.30	10.06	9.74	9.91	10.03	10.21	10.48	10.64	10.75
CANADIAN PROPERTIES ..	10.92	10.95	10.44	10.49	10.57	10.45	10.78	10.74	10.70
TOTAL*	10.14	9.78	9.31	9.57	9.76	9.88	10.02	10.26	10.42

*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% 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**

	1968	1975	1976	1977	1978
Gross accrual income ..	5.84%	7.35%	7.51%	7.90%	8.22%
Operating costs — total .	.37	.29	.29	.30	.30
Originating fees and premiums .....	.01	*	*	*	*
Servicing fees .....	.16	.10	.09	.08	.08
Home and branch office costs .....	.19	.19	.19	.21	.21
Net accrual income	5.47	7.06	7.22	7.60	7.92
Contract interest rate on new loans	6.80	9.28	9.55	9.31	9.43

*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 0.41% in 1978.

Reporting companies accounted for 85% 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	1978				1979		
	I	II	III	IV	I	II	III
Net change in:							
Ledge assets, adj.	\$6,040	\$5,220	\$6,266	\$5,650	\$5,865	\$5,856	\$7,211
Cash position*	-1,240	569	-1,361	1,833	-299	-597	-547
Mortgages - total	1,396	1,444	1,446	1,419	1,368	1,286	1,310
Amortization and partial prepayments .	817	787	758	786	881	755	773
Prepayments in full ...	536	611	601	589	470	473	481
Sales	43	46	87	44	17	57	56
Securities - total	2,472	3,539	3,740	4,296	3,350	3,821	3,836
Maturities	887	1,012	1,110	1,260	1,128	1,180	1,410
Calls	222	260	270	505	201	311	220
Outright sales	1,364	2,266	2,360	2,532	2,021	2,330	2,206
(bonds)	(628)	(1,037)	(705)	(1,457)	(1,001)	(932)	(904)
(stocks)	(736)	(1,229)	(1,656)	(1,075)	(1,020)	(1,398)	(1,302)
Sales of real estate	99	110	113	181	84	134	170
Sales and repayments of other assets	16	15	6	17	9	12	7
Net change in liability for borrowed money ...	40	192	51	-268	256	37	-126
All other sources	1	1	2	1	1	1	1
Total investment funds ..	8,825	11,090	10,262	13,130	10,634	10,551	11,862
Net increase (-) in policy loans	-347	-456	-457	-681	-780	-714	-680
Total cash flow	\$8,477	\$10,634	\$9,805	\$12,448	\$9,854	\$9,837	\$11,181

*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 about 75% of the total assets of U.S. life insurance companies.

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

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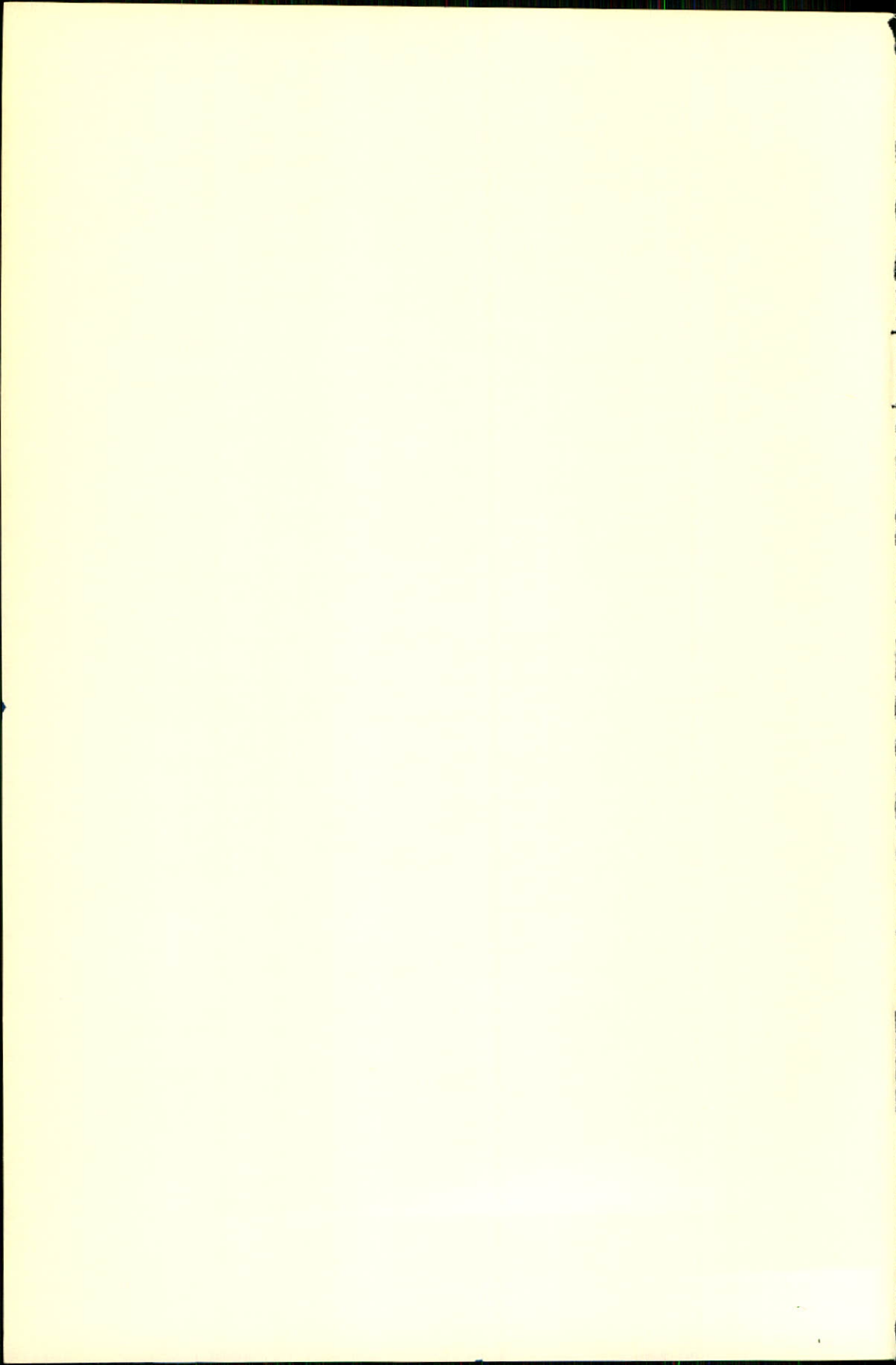
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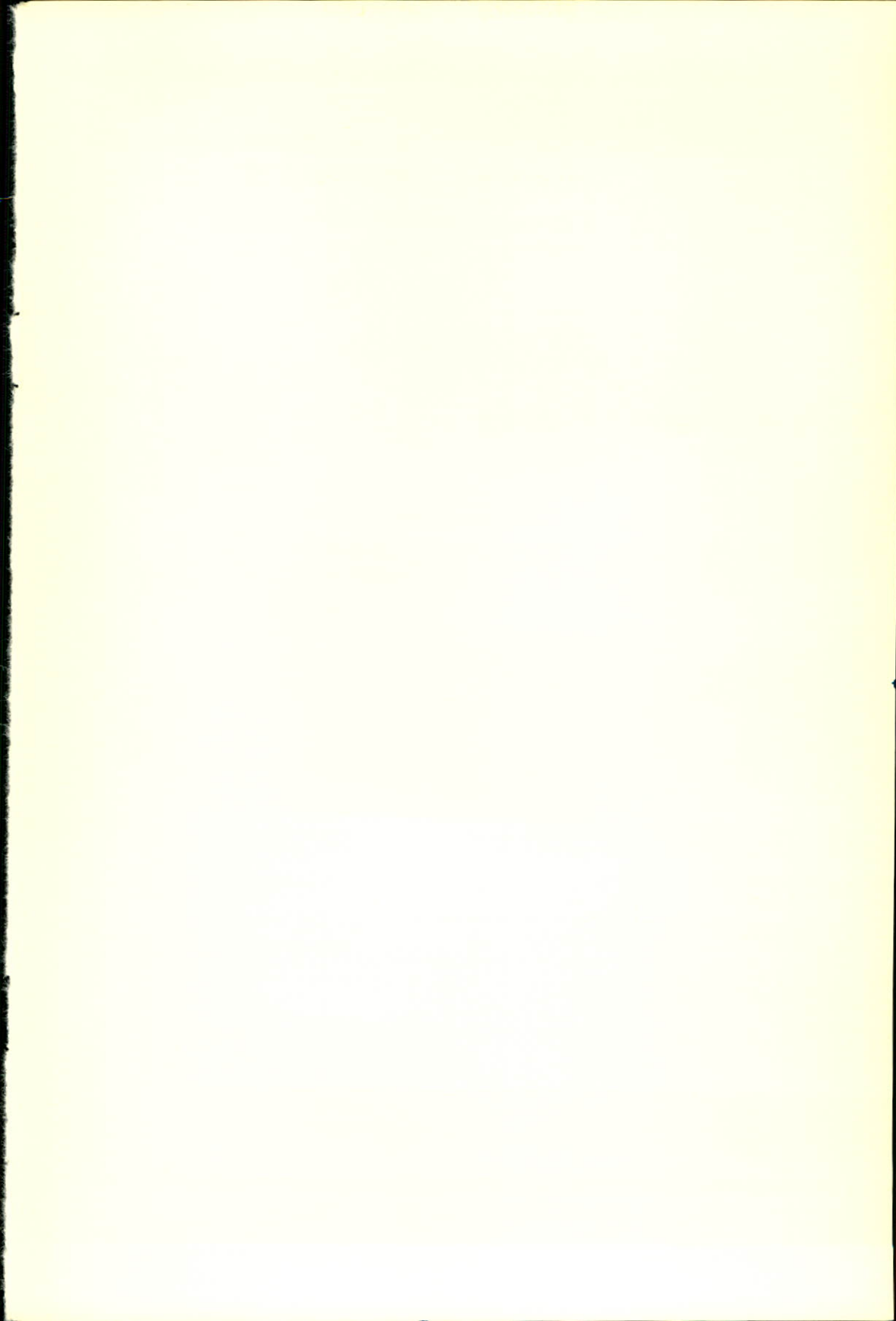
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