

# RECORD OF SOCIETY OF ACTUARIES 1993 VOL. 19 NO. 2

## LIFE COMPANY SOLVENCY -- HAS THE INDUSTRY STABILIZED?

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Panelists:            ROBERT J. CALLAHAN  
                          PAUL A. REARDON\*  
Recorder:            JOHN D. BRANSCOMB

- Recent insolvencies – are there similar situations waiting to be discovered?
- How meaningful are current financial statements?
- What do rating agencies say? How much confidence is there on their ratings?
- The role of cash-flow testing, AVR/IMR, and risk-based capital formulas.

MR. TIMOTHY SIMON MILLWOOD: One of the most important issues facing the life insurance industry is life company solvency. Paul Reardon is the director of investment research at the American Council of Life Insurance (ACLI), where he's worked for the last ten years. Prior to that he was associate chief economist at the U.S. Chamber of Commerce. Paul has a Ph.D. in economics and has recently written articles on life insurance investment and the life insurance industry's financial strength. Paul will be talking about historical developments that have led to industry solvency problems and about the current strength of the industry.

Bob Callahan is the chief life actuary for the New York State Insurance Department and is chief of the Actuarial Valuation Bureau. He has been with the department for 41 years. He is an active member of the National Association of Insurance Commissioners (NAIC) Life and Health Actuarial Task Forces, with emphasis on actuarial opinions and memorandum, asset/liability matching, and life and annuity nonforfeiture. Bob has also participated in other NAIC working groups, including life risk-based capital.

As most of you are probably aware, he is a Fellow of the Society and a frequent participant at Society meetings. Bob will be talking about regulatory changes to improve insurance company solvency.

DR. PAUL A. REARDON: I have three objectives for my remarks. First, I'll outline some trends and attitudes in the booming 1980s that led to the financial troubles of 1990-91 in financial businesses, including the insurance industry. Second, I'll outline evidence of solvency improvements that company management in our industry has achieved in 1991-92. I'll be relying heavily on ACLI data for that. And, third, I'll make note of the trends and forces shaping company structure and asset allocation in the foreseeable future.

\* Mr. Reardon, not a member of the sponsoring organizations, is Director of Investment at the American Council of Life Insurance in Washington, District of Columbia.

First, we'll look at the 1980s. In the early 1980s, Drexel, Burnham, Lambert and other investment bankers spurred rapid expansion in underwriting high-yield public bond issues. By 1988, these accounted for 23% of corporate bonds outstanding. Increased credit risk in these public junk bonds could be managed through diversification among bond issuers. Volatility of any pair of projected earnings streams could be reduced if the earnings streams were not perfectly correlated. Thus, bond portfolio volatility could be reduced without changing average expected yield up to a point. But some life insurance policyholders of these companies had low-risk tolerance regarding asset-value volatility.

In the early and mid-1980s, many nonfinancial corporations leveraged up their financial structure with new debt issues. Net issues of corporate equities actually fell in each year from 1984 through 1990, and the expansion of corporate debt over that period was a mirror image of the retirement of corporate equity. Business optimism in the 1980s also led to expansion of commercial construction. Commercial mortgage lending by banks and by S&Ls sped up in 1982, and mortgage lending by life insurance companies grew at a slower pace. Banks spent a great deal more than the life insurance companies did on commercial mortgages, and life companies maintain that their loans were more conservative. As early as 1986, life insurance commercial mortgage delinquency rates began creeping upward and had climbed above their 1976 peak by 1991.

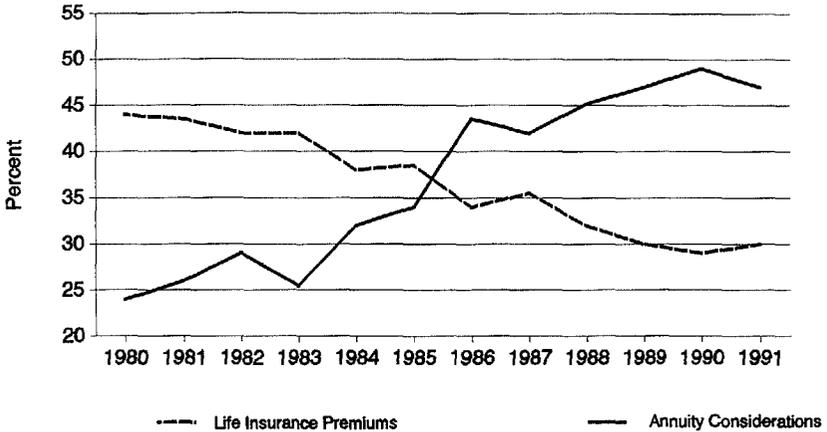
Throughout the 1980s, the business mix of many life insurance companies was changing. I think everyone here must have seen Chart 1 at one time or another. In this chart, group and individual annuity considerations grew steadily from 1980 to 1990. Annuity considerations in 1991 represented 48% of total receipts, as compared with 30% for life insurance premiums, and this shift has had far-reaching implications. One of those is lower premium margins and greater competition with banks, security broker dealers, and mutual funds.

Also, in the latter 1980s, GIC business grew steadily. The guaranteed interest rates they provide are very attractive to more than half of school teachers. A number of surveys have concluded that two-thirds of school teachers and other employees with salary-reduction, defined-contribution plans liked the options under plans backed by GICs. Some observers are expecting defined-contribution liabilities to overtake defined-benefit liabilities by 2010.

Now, which investment sectors grew fastest in the 1980s? I've already mentioned that this was a time of expansion, of great optimism, and a lot of borrowing. Everyone (e.g., consumers, the federal government) was leveraging their debt. The assets of many industries, including the life insurance industry, grew at a steady rate. The growth of mutual fund assets, however, was the greatest. They rapidly accelerated from 1981 to 1986 and they're gaining on the insurance industry. All of these other industries are now major competitors of ours for the saver's dollar: 401(k) plans, 403(b) plans for teachers, IRAs, distribution of life insurance, and other dimensions.

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CHART 1  
Life Premiums and Annuity Considerations  
as Percent of Total Premium Receipts  
1980-1991



Source: American Council of Life Insurance.

Note: Life Premiums Include Ordinary and Group Life Insurance Premiums.

The 1980s set the scene for big trouble in the life insurance business in 1990-91. I'll describe some of the events that stirred concern in the Congress and among policyholders about the ability of their life insurance companies to keep their promises to them. Public high-yield bonds outstanding had grown to \$190 billion by 1988. Executive Life of California had 77% of its bonds in Securities Valuation Office (SVO) categories 4, 5, and 6 at the end of 1990. In February of 1990, when the Coleman company in Kansas said that it would cancel a \$50 million annuity purchase from Executive Life of California, two Kansas senators and other influential U.S. senators took a great interest in the effect of high-yield bond investments on life insurance companies.

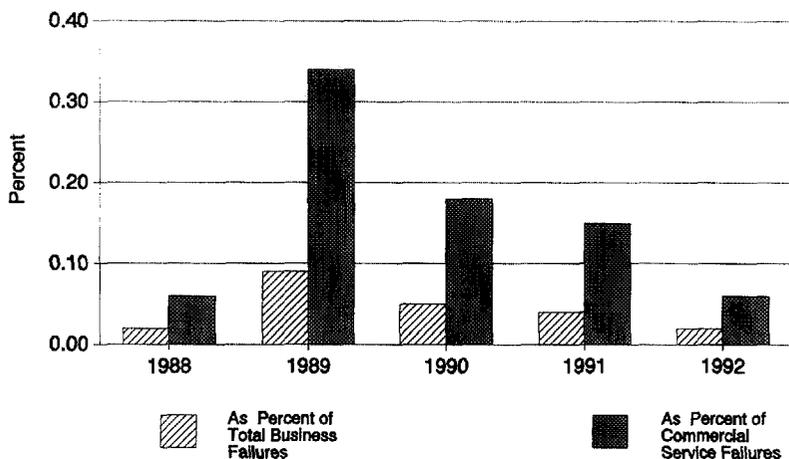
After February 14, 1990, when Drexel Burnham declared Chapter 11 bankruptcy, it was harder for investors in these bonds to find someone to buy them. Drexel Burnham had been the primary market maker in these bonds at a time of great turmoil, and Executive Life was a big buyer. State regulators, commercial rating services, pension sponsors, the media, and the Congress all then focused on our industry. The ACLI took surveys to determine the effect of all this bad news on the industry. The negative trend among business publication readers who replied to a survey question showed that in their view, life insurance companies were very secure. The share of answers that we were a very secure industry fell from 55% in May 1990 to only 21% in October 1991. (Source, ACLI Strategic Research Department) So the forces leading to company troubles in 1990 were: (1) lower margins on products, (2) an overheated commercial building market, (3) turmoil in the high-yield public corporate bond market, (4) too much optimism regarding the need for surplus and liquidity in life companies.

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I will now discuss things that happened in 1990 and 1991, mainly those things brought about by life insurance companies themselves, to strengthen the financial condition of the industry.

Chart 2 shows a different perspective on the financial strength of life insurance companies. Life insurance company failures measured as a percentage of all commercial service company failures hardly registered, at 0.3% in 1989, and declined thereafter. This decline as a percentage of all commercial failures represents a sharp increase in failures in other industries during this recession period. I don't mean to suggest that we should be on the same standard as other companies, but this was a period of increasing bankruptcies because of all the debt companies had undertaken earlier in the face of a recession.

CHART 2  
Life Insurance Company Impairments and Insolvencies as  
a Percentage of Total Business Failures and  
of Commercial Service Failures



Source: Data from National Organization of Life and Health Insurance Guaranty Associations, U.S. Department of Commerce, BEA and Dun & Bradstreet Corporation.

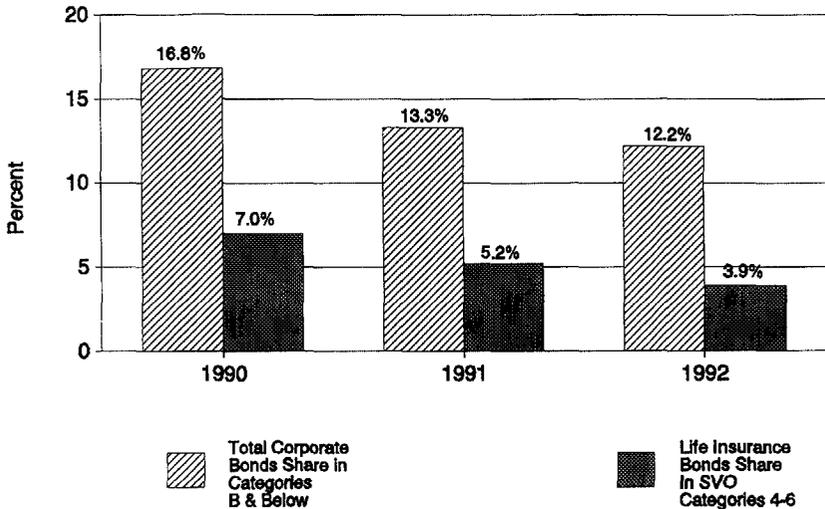
It has been estimated that among the four broad risk categories to which life insurance companies are exposed, asset-quality risk is by far the largest and the most threatening, followed by interest rate risk. So what have our companies done in 1991 and 1992 to improve financial strength?

Life insurance companies were never heavy investors in new public-issue junk bonds. Lower-quality bonds, that is standard valuation office (SVO) category 4-6 or rating-agency category B and below, represented about 17% of all outstanding corporate bonds in 1990 (see Chart 3). Yet the life insurance share of total corporate B quality bonds held was only 7% in that year, and that declined to 3.9% in 1992, so the

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companies were doing something about this. Many of those bonds were called as interest rates fell and issuers were able to call.

CHART 3  
Estimated "B" & Less Than "B" Quality Shares of  
Total Corporate Bonds Outstanding and  
Life Insurance Company Holdings



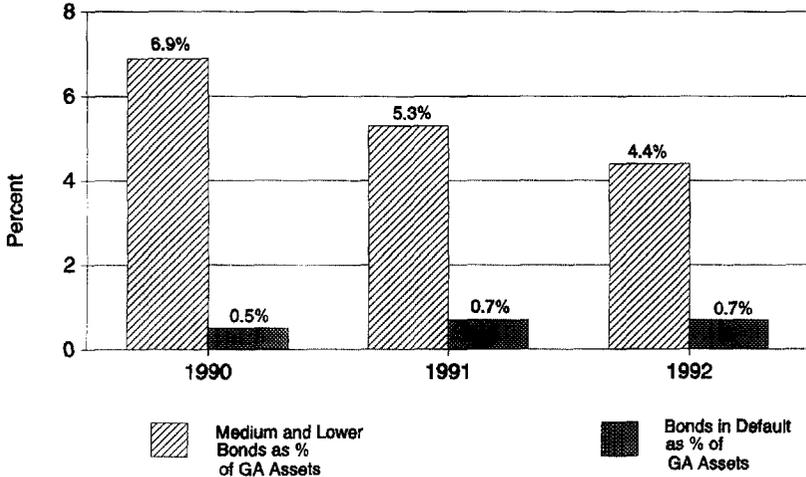
Sources: American Council of Life Insurance Company Surveys and Moody's Investors Service.

Category 3 is added to the other categories in Chart 4 so that we have medium-and lower-quality bonds, 3-6. We can see that this bond share of general account assets goes from 6.9% in 1990 to 4.4% in 1992, and the bonds in or near default hardly register on the scale here. That decline reflects the change in investment-category allocation during the period. In 1992, trying to improve their asset allocation, industry companies purchased more than \$64 billion of investment-grade bonds on net and reduced holdings of medium-and lower-quality bonds by something over \$1.9 billion.

As you can see in Chart 5, in channeling new investment funds in 1992, companies increased the share of mortgage-backed securities from 22% at the beginning of the year to more than 25% at the end of the year. Mortgage loans were down to 9.4% from 10.1% out of total new investments in 1991 and nearly 20% of new investments in 1990. So companies substantially reduced allocation to new mortgage lending, increased mortgage-backed securities, and increased corporate bonds.

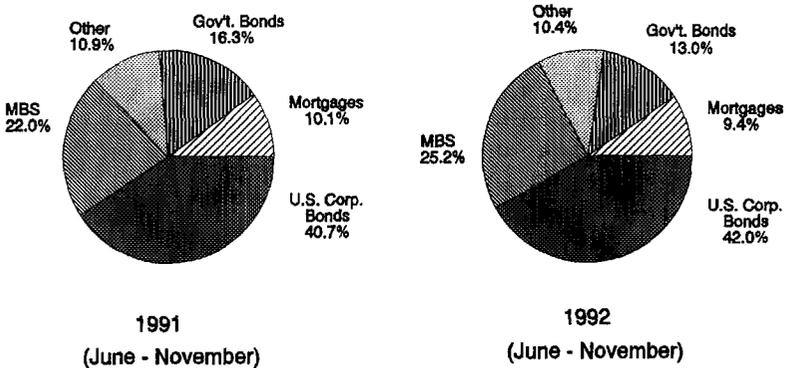
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CHART 4  
 Life Insurance Assets:  
 Medium- and Lower-Quality Bonds and Bonds in Default as  
 a Percentage of General Account Assets



Source: American Council of Life Insurance

CHART 5  
 1992 Investment in Mortgage-Backed Securities Was Up  
 and Investment in Mortgages Was Down  
 As a Percentage of Total Investment



Source: ACLI Investment Research Department, Survey on New Investment Commitments.  
 Note: Mortgages include nonresidential, residential and agricultural loans. MBS stands for Mortgage-backed Securities.

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Now, there are a few signs of improvement in the real estate markets. The ACLI commercial-mortgage delinquency rate, after rising since the second quarter of 1990, has begun to decline. This decline goes across all four major building categories. Yet, we must recognize that many mortgages going off the delinquency category are being restructured. That rate (restructuring) has continued to increase since the beginning of 1991, but restructured mortgages do generate a respectable cash flow, particularly in the current low interest-rate environment. We currently have a group of companies at ACLI looking into this to determine how much that cash flow is. It seems like it's going to be in the neighborhood of 6-7%, which is good under the circumstances.

Another encouraging sign is the spread between treasuries. The yield of ten-year treasuries has fallen during the last several years, along with the commercial mortgage yield. However, the treasuries are falling faster, thus giving a number of companies that have not come into this period with a huge share of assets in nonperforming mortgages the opportunity to cherry pick among these new available loans at a 250-basis-point spread.

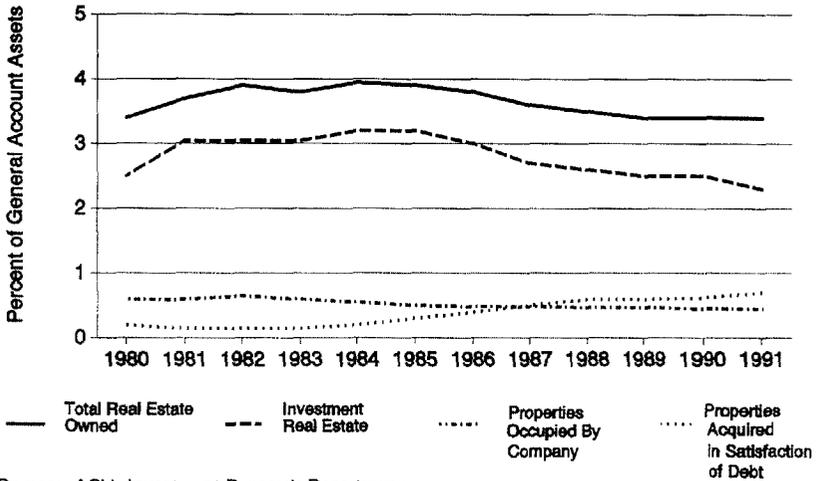
Many commercial mortgages have yet to mature, and many of these will be refinanced. Yet the mortgage quality problem appears to be manageable. Companies have more liquidity to handle the problem than they had in the past, because market value of bonds held by companies is up more than \$160 billion since September 1990.

Liquidation values for properties are approaching a bottom. Wall Street investment banks, as you're reading, are setting up property funds. Real estate investment trusts (REITs) are very popular. The Resolution Trust company recently recovered 66% of book value in a sale of 59 properties in the Washington, D.C. region. And looking at the January 1993 FDIC survey of 438 experienced bank examiners and liquidators, the FDIC found that the percentage of respondents reporting decreasing sales prices of commercial properties in their region had fallen from a high of 45% in January 1992 to only 30% in January 1993.

Now what about foreclosed properties? As seen in Chart 6, industry assets represented by real estate properties acquired in satisfaction of debt are very small for most companies; they've increased from about 0.2% to about 0.7% of general account assets. The asset share of investment real estate owned has been declining slowly, from about 4% of assets in 1984 to 3.5% in 1991.

Commercial mortgages are illiquid, and that has been one of the big problems. So what about the liquidity of life insurance companies? Liquidity means the ability to sell assets and otherwise raise cash during a short period of time with little or no loss in value. With appropriate asset/liability management, liquidity should increase on a schedule as it is needed to meet maturing liabilities. Yet some liabilities in the last three years have been withdrawn from companies unexpectedly, many mortgages have had longer maturities than anticipated. So a back-up liquidity of assets becomes extremely important.

CHART 6  
 Life Insurance Companies' Components of  
 Real Estate Owned as Share of Assets  
 1980-91



Source: ACLI, Investment Research Department.

In general, life insurance company assets are very liquid. Looking at all the assets of a life company that can be liquidated during a period of a few months or less, I have estimated that they accounted for as much as 52% of general account assets in 1990( see Table 1). And at the end of 1991, that same group accounted for 56% of general account assets. This does not even recognize the greater than \$100 billion increase in market values in the bond portfolio.

Interest rate risk has also been a problem for some companies. Again, relating to asset/liability matching, corporate bond maturities of life insurance companies are mostly intermediate and long term (see Table 2), reflecting the nature of industry liabilities. Mortgage maturities average about eight years. Calculation of bond durations had shortened their terms. When interest rates have fallen to a trigger point, a great volume of corporate bonds have been called. Mortgage-backed securities have also been very sensitive to declining interest rates. New regulation addresses this problem.

Some improvement in public perception of our financial strength is observable in our measurable terms. The percentage of business publications readers saying that the financial strength and stability of the industry is very secure, has risen from a low of 21% in October 1991 to 34% in 1992. That's still much lower than it was before, so we still have that perception out there in the public.

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TABLE 1  
Comparatively Liquid General Account Portfolio Assets  
of All Life Insurance Companies, December 31, 1990 & 1991  
(000,000 omitted)

	1990	1991
Cash	\$4,510	\$5,665
Securities, less than one year to maturity:		
Government	7,328	7,315
Corporate	34,601	33,770
Governments, more than one year	29,241	54,890
Mortgage-backed securities (75% of total)	113,750	133,370
Corporates, more than one year, high grade	439,066	485,935
Common and preferred stock	22,307	26,668
	\$650,803	\$747,613
Total general account assets	\$1,248,386	\$1,346,154
Liquid asset share of general account assets	52%	56%

TABLE 2  
Maturity Distribution of Corporate Bond Assets  
of Life Insurance Companies

	1981	1990	1991
One year or less	10%	10%	9%
More than 1 year thru 5 years	21	24	25
More than 5 years thru 10 years	26	28	27
More than 10 years	43	38	39

Source: Data from Statistical Bulletins, American Council of Life Insurance Strategic Resource Department

That concludes my comments on the positive effects of actions taken by companies to meet the public concern about solvency. Now I'd like to say a little bit about where the current trends appear to be carrying us into the foreseeable future. I won't say much about this, because there have been sessions on it, and others have said much more and have said it better. Table 3 shows that, given the asset-valuation reserve (AVR) maximums for the various types of asset categories and for the risk-based capital (RBC) factors especially, companies are going to have an incentive to cut back on investments in equities. Companies are going to have incentives to liquidate real estate acquired in satisfaction of debt and, of course, will have incentives not to concentrate investment in particular areas. All across the board, this is guiding companies to greater quality and greater liquidity in their asset allocations, and that will certainly result in less risky investment portfolios and less exposure to investment credit risk. However, at the same time, companies will have a lower rate of return. There are several reasons for this, but the primary one is that credit risk and return are closely correlated.

TABLE 3  
Regulatory Incentives for Reducing  
Credit Risk Exposure in Investments

	Higher-Quality SVO 2 Bonds	Medium-Quality SVO 3 Bonds	Commercial Mortgages	Own Building or Investment Real Estate	Foreclosed Real Estate	(Unaffiliated) Common Stock
Maximum- AVR <sup>a</sup>	2%	5%	3.5%	7.5%	7.5%	≤ 30%
RBC <sup>a</sup>	1%	4%	3% <sup>c</sup>	10%	15%	30%
Investment Law <sup>b</sup>	--	≤ 20%	≤ 50%	Up to 10% of admitted assets		

<sup>a</sup>As a percent of its specific category total amount. An additional concentration factor is added for the 10 largest eligible assets. Its maximum value is 30%.

<sup>b</sup>As a share of admitted assets.

<sup>c</sup>In good standing. Mortgages 90 days overdue have factor of 6%. For mortgages in good standing, the adjusted factor range is (0-6%).

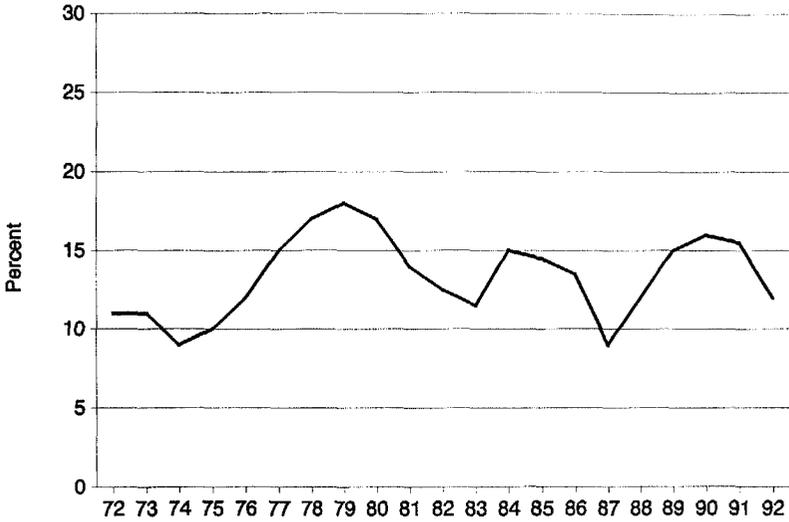
Now, regarding this rate of return, Chart 7 illustrates historical net operating gain return on surplus and capital. Return on surplus is not going to rise much, if at all, because competition has intensified during this period, since it was above 15% in the late 1970s. Competition has intensified both within business lines and, as I discussed earlier, into other financial industries. Also, we are almost surely going to have higher reserving. In competitive lines of business, where premiums, fees, or spreads are not expected to rise, there's not much a company can do except reduce operating costs relative to premium income. It will be necessary in many cases, as we've already seen, to merge business lines to reach optimal variable cost scale of operation and spread fixed costs. For many companies, it will be beneficial to reduce operations diversification, rolling back efforts of diversification from prior years. This means withdrawing surplus and capital from businesses where the company does not have competitive strengths. Not only does that raise surplus credit, it also reduces output unit costs at the same time.

Across all industries in the 1990s, attitudes toward corporate financial structure have become more conservative. Highly leveraged financing is out, equity financing is in. As Chart 8 shows, since the beginning of 1991, corporate equity financing for all industries together has grown by more than \$50 billion a year in both 1991-92. And it's probably growing at a faster rate for 1993. For stock life insurance companies, equity issues total something like \$3 billion for 1987 through 1992, and there's been \$4 billion in equity offerings thus far in 1993.

The cost of capital for equity is very low. What do the capital markets say about the prospects for the life insurance business? This is validation of what I've been saying I believe about financial strength and future cash flows. Market valuations of life insurance companies and the S&P life insurance company index have increased faster than the S&P 500 index since the latter part of 1991 through the first quarter of this year.

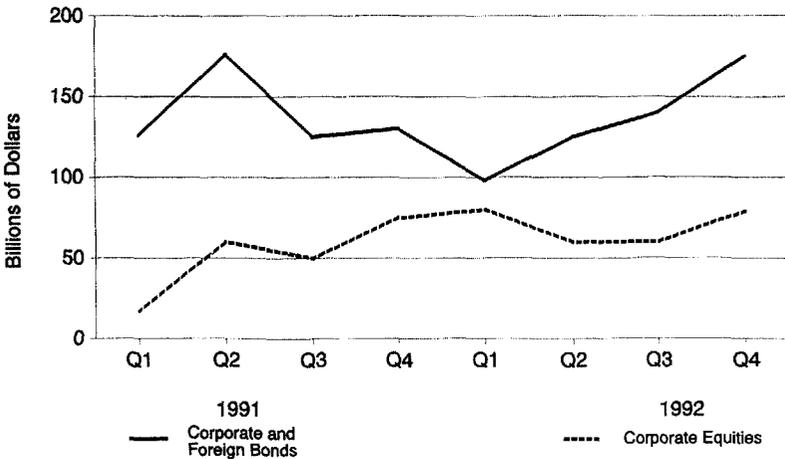
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CHART 7  
Return on Equity  
1972-92



Sources: Data from American Council of Life Insurance and A.M. Best.  
Calculation: Net Operating Gain After Dividends and Taxes Divided by Previous Year's Capital + Surplus.

CHART 8  
Net Issues of Corporate and Foreign Bonds and  
Corporate Equities in the 1990s



Source: Federal Reserve Board, Flow of Funds.

In conclusion, the lower-quality bond problem wasn't nearly as widespread as it was originally portrayed in the press for almost two years. Some level of investment in medium lower-quality bonds is manageable. There's a place in the portfolio for them. But most policyholders and fiduciaries have low risk tolerance.

Commercial mortgage credit quality risk is serious, but it appears to be manageable in this stronger economic environment with very low interest rates. We're very fortunate that that's happened. Incidentally, that's what is saving, in my view, the banking industry. They can reliquidate now and will be stronger several years from now. Risk-based capital (RBC) factors will nudge asset allocation further toward high quality and asset liquidity. Asset concentration in one of a few borrowers will not occur. Underpricing products in the current regulatory environment will not be as prevalent as it was in the 1980s.

At the same time, the next few years will be very competitive in both life insurance and annuity lines. In a highly competitive business line, below-average companies may not be making money, and strict solvency regulation could be a significant problem for some companies. This suggests that the merger and acquisition trends will surely continue at a good pace for the foreseeable future as these trends sort out where business units fit best.

MR. ROBERT J. CALLAHAN: Has the industry stabilized? Boy, let's hope so. I intend to touch upon each of the following:

1. Recent insolvencies – are there similar situations waiting to be discovered?
2. How meaningful are current financial statements?
3. What do rating agencies say? How much confidence is there on their ratings?
4. The role of cash-flow testing, AVR and interest-maintenance reserve (IMR), and RBC formulas.

I'd like to first give some background information, note the number of life insurance companies that are incorporated in the United States and, because we do have state regulation and companies are incorporated by states, give a list of the states that have the most domestic insurance companies. In recent years, companies have been required to file their annual statements on diskettes with the NAIC central office in Kansas City. This information under the filing column on Table 4 is based upon companies that have filed the blue blank (for the life insurance companies) and have included any financial data on pages 1 and 2. Obviously, a number of companies do not file with the NAIC, as you can see from Arizona. (There are many specialty companies there, mostly captive reinsurers.) But if you include them, then you have a potential, as of October 1992, of 2,375 companies incorporated in any state in the United States. But, generally, you look in terms of perhaps 1,862 companies with meaningful financial data. Some may even say you have to exclude an additional 300 of those companies.

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TABLE 4  
Life Companies by State

NAIC Life Companies			State Population	
State	Filing	Potential	(Million)	Rank
Arizona	281	753	3.7	23
Texas	277	278	17.0	3
New York	98	98	18.0	2
Illinois	88	87	11.4	6
Louisiana	67	91	4.2	20
Delaware	62	63	0.7	45
All States	1,862	2,375	243.2	-

The National Organization of Life and Health Guarantee Association (NOLGHA), the association of all the various state guarantee funds, keeps insolvency data. Table 5 is based upon the data that I have received from it. It lists the companies by name and, in turn, it has a preliminary estimate of the amount of insolvency. As you can see, there's a big balloon in 1986 because of the Baldwin United Companies. It then drops off through 1990, balloons in 1991, and drops in 1992. So you might wonder, with this most recent data, with this recent big balloon, has the industry stabilized?

TABLE 5  
Life Companies Becoming Impaired and Insolvent

Year	Number	Estimate Millions
1981	5	18.0
1982	4	15.6
1983	8	46.5
1984	16	187.2
1985	9	36.6
1986	12	1,064.1
1987	19	110.6
1988	14	68.8
1989	45	731.4
1990	32	250.3
1991	40	3,419.1
1992	26	140.4

Table 6 shows the assessments made for the years 1972 through 1991. These totals don't come anywhere near the amount of estimated insolvency, because they charge the funds each year. Also, in the case of the Baldwin United, the vast majority of shortfall was made up by a combination of the securities industry and the life insurance industry, and not by the guarantee funds.

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TABLE 6  
Total Assessments by LHGA 1972-91  
Five Largest by Companies in Millions

Company	Health	Life	Annuity	Total
Executive		73	83	156
Diamond Benefit	33	33	27	93
Baldwin United Sub.			61	61
MidWest	4	3	54	61
Mutual Security	*	21	38	59
All 159 Companies	522	323	399	1,244

The second topic to be covered is: How meaningful are current annual financial statements? Sometimes we come across laws and regulations that may be 30 or 40 years old, and we wonder if these should not be tossed out entirely. But, here with the statutory annual statement, we have an NAIC blank working group which, every year, looks into changes for the annual statement to try to keep it current. In light of all the changes this group makes, how can anybody say that the annual statement is obsolete? The statutory annual statement does include financial operations, financial status, and a great deal of statistical data and experience. I know there are some who believe the statement has gotten too cluttered, and that the financial operations and status should be separated from the statistical data. Maybe that will come someday, but at least the annual statement is being continually updated. The composition of the annual statement now includes such items as the balance sheet, the operations for surplus account, a number of exhibits, the schedule for real estate mortgages, the schedule for bonds, the schedule of reinsurance, other schedules (including, in at least one state, compensation paid), interrogatories (where there's a good deal of financial data), and notes to the financial statement.

These notes are supposed to be inserted into the annual statement, and then a number of supplements (mostly regarding statistical data), are filed later. The IMR and the AVR are the offspring of the mandatory securities valuation reserve (MSVR). We saw before that these offspring were born of the need for clarifying the MSVR. For a number of years, investment-grade bonds were considered as those being either given a rating by a rating organization or of being given a "yes" designation by the NAIC central office. Some investment houses convinced the NAIC Securities Valuation Office that some bonds that had been rated below investment grade by all the rating agencies deserved the "yes" designation. As a result, those bonds escaped the 20% limit under New York's regulation that limited junk bonds to 20%. They were also given lower reserve factors under the MSVR. This situation was corrected by instructing the NAIC Securities Valuation Office that where a rating was available by any rating agency that publishes its ratings, they could use the highest rating assigned by any of the rating agencies. While they could assign a lower rating, they could give nothing higher. In cases where there was a private placement that was not rated by any of the rating agencies, then the SVO was supposed to give a rating.

Under cash-flow testing in New York's Regulation 126, we said that if you needed these high-yielding assets (assuming they are good quality) to achieve high earnings needed to support certain GICs, and you then swapped those bonds for

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lower-yielding bonds, you then needed additional assets to support those obligations. You also needed to put up a higher reserve. If a company was not at its maximum MSVR, any capital gains flowing into the MSVR (which in the statutory statement was considered a liability) was like a double hit to surplus.

The IMR is meant to capture capital gains or losses due to changes in interest rates. There is no limit to the maximum amount of such reserves. The AVR was extended to cover not only the default component of bonds and stocks, but also to cover mortgages and real estate.

As an example of the continual updating of the annual statements, let's look at the 1992 statement form. For the first time, the IMR, the AVR, and the Schedule B mortgages, with a former city classification of mortgages now broken down between residential and commercial, all appear. The Schedule D summary was expanded from six categories to ten categories to include the publicly traded bonds and the privately traded bonds. This was done to give more detail on the quality and maturities of bonds.

Another example of the updating of annual statements is in the Schedule S, part 3B for reinsurance and unauthorized companies. I mention this primarily because I have a personal opinion that letters of credit should not be recognized as funds withheld. I realize that my department does recognize letters of credit, at least under some circumstances, as funds withheld. But, at the very least, I am glad to see that column, which was formerly entitled "Funds Withheld," being split up to identify the different amounts under: (1) letters of credit, (2) trust agreements, and (3) the actual funds deposited by, or withheld from, the reinsurers.

The statistical elements of the report also keep expanding. In the 1992 statement, we have, for the first time, the intrasensitive life report and the Life, Health, and Annuity Guarantee Association Model Act Assessment Base Reconciliation Exhibit. The Credit Insurance Exhibit was expanded to include credit property (this will not affect the vast majority of the life insurance companies because most don't write credit).

I will now address cash-flow testing. Cash-flow testing has evolved primarily due to the plethora of financial products introduced in the 1970-80s, along with the very volatile interest rates during that period. It became apparent that a need existed for the matching of assets/liabilities, particularly with group guaranteed interest contracts that matured for a lump sum on a given date. Companies needed to make sure that they had the cash on hand and that their assets would mature in a time frame that could meet their liabilities.

Another impetus for cash-flow testing was the increased popularity of junk bonds, which became popular beginning in the mid-1980s, reaching their zenith around 1987 or so. Frankly, many regulators did not really know how to handle these junk bonds. We did not know what the appropriate risk charge should be as a deduction from the gross earnings to arrive at an appropriate level of net earnings. Beginning with the 1986 statement, we required that companies take into account a default charge for the junk bonds, and we suggested an amount. Still, we really did not know what the appropriate charge should be. And frankly, some of those high yields were so high

that even after making a fairly substantial deduction from the gross rate, the net rate of return was still better than on triple-A corporate bonds. So what did that tell companies? That told companies to invest everything in junk bonds. The real limitation came by restricting the amount of assets that could be put into junk bonds. New York's regulation did that first, then the NAIC model made that restriction. But this restriction alone really did not form enough of a break -- enough of a restraint upon the investments in junk bonds. Companies could still go to the Securities Valuation Office and get bonds, which had originally been rated below investment grade by the rating agencies, elevated to a "yes" designation. Some companies were investing a substantial amount in such bonds, although they were already at their limit of below investment-grade-bonds, which were subject to the regulation limit of 20%.

Other reasons for the need for cash-flow testing include real estate investment, commercial mortgages, and the liberalization of statutory reserves. I have been an active participant in the liberalization of some of the statutory formula bases; in particular, the valuation interest rate had been gradually raised from 3% in New York to 3.5-4% for life insurance and 6% for annuities, and finally the dynamic valuation rates on the 1980 laws. We are now seeing material flowing through the NAIC working groups regarding the instructions for statutory accounting and the accounting procedures manual. We see new interpretations coming out that have the effect of liberalizing statutory formula reserves. We had for several years seen an attack on statutory accounting through the use of surplus relief reinsurance, the securitization of assets, and the use of the surplus notes.

In New York, cash-flow testing was first felt necessary for the group guaranteed interest contract. In 1982, our law required an actuarial opinion and memorandum as to the adequacy of the assets to support the liabilities for annuities and guaranteed interest contracts. Many of the companies submitted opinions and memorandums beginning with the 1982 valuation. With the change of our laws in 1985, we then issued Regulation 126, which required the analysis of the assets and liabilities, regardless of whether companies use the higher or the lower set of valuation interest rates. And more recently, on the NAIC level, we had the adoption of a model law, amendments to the standard valuation law and the development of a model regulation. Under Section 7 of the model regulations, if a company met certain criteria, it did not need to form an opinion as to the adequacy of the assets in relation to the liabilities. Under Section 8, if a company did not meet the criteria for exemption, the very largest companies had to do it every year, and the next largest category had to do it at least once every three years. The actuary was then required to submit an opinion as to the adequacy of the assets to support the liabilities.

While the opinion is public, the report to management is confidential. And, while a state regulator can request the opinion, it's supposed to be kept confidential. Some interpret that to mean that the regulator is supposed to return it to the company. I'm not sure that we'll accept that interpretation in New York. However, since 1941, the Standard Valuation law adopted by a state required that each insurer doing business in that state meet its reserve requirements on all of this business. The corollary of that is that a company doing business in every state must meet the most stringent requirement of each state in which it does business. With these new model regulations and laws, we tried to enforce that a company must meet the requirements of each and every state in which it does business. However, a company files with the

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NAIC central office in Kansas City only with respect to its domestic state. Therefore, even though another state may require additional reserves and a company may file a separate statement to that state showing the additional reserves, what is really accessible by most of the regulators and by most of the public is just the statement filed in the domestic state, and I'm not sure how really effective that is.

I mentioned before that the IMR captures the capital gains and losses due to interest changes. Therefore, the IMR can be positive. Theoretically, it could also be negative. As yet, the regulators have not accepted a negative IMR. But the assets that are assigned to the IMR should be used in the cash-flow testing. Again, as I said before, there is no limit as to this reserve in the statutory statement. It is released gradually to operations. It is not added to RBC-adjusted surplus, although the rating agencies still add it to their adjusted surplus. I believe this IMR needs some refinement. Why should a company hold this reserve unless it has corresponding liabilities that require high interest rates? And why should a company hold this reserve if the liabilities have gone off the books and, likewise, the corresponding assets are going off the books?

The AVR is based on defaults due to credit deterioration and, as I mentioned before, it's been extended from just bonds and stocks to cover mortgages and real estate. Again, the assets are used in the cash-flow testing, but only to the extent of the cost of default. In the annual statement there is a maximum as to the AVR, just like there is a maximum to the MSVR. It was for this reason that, last year, a good many companies wanted to delay the effective date of creating the IMR and the AVR, because they would have filled up their MSVR, and the excess would have flowed over into surplus. But by making these two items effective as of January 1, 1992, it meant that all their capital gain went into the IMR and would not flow over into surplus until it was released gradually to operations. The AVR, unlike the IMR, is a direct charge or change to surplus. And here, although the regulators require that the AVR be part of liabilities in the statutory statement, when it comes to RBC, they add it to capital and surplus to arrive at adjusted surplus.

The NAIC adopted a model law regarding RBC. They go right to a report. The components of the report, before it's filled out, is public information, but the numbers within the report, once the report gets filled out, are confidential information. Some of the information comes from the annual statement. Some of it comes from off-balance-sheet items. It does require plans for corrective action. The figures of total adjusted capital and the authorized control level RBC will appear for the first time in the 1993 annual statements. This exhibit in the annual statement is supposed to show a five-year historical trend. This trend will begin with the year 1993. Even though 1990-91 year-end annual statements have been tested, and even though there are plans to test the 1992 statement, the results of years prior to 1993 will not be shown in the annual statement. One thing to note, however, is that prior to the finalization of the NAIC model, there were plans to show the total adjusted capital and what is called at that time the risk-based capital. The risk-based capital at that time was twice the authorized control-level RBC. But it was said that the regulators did not want to have risk-based capital at that level as being considered a target level of risk-based capital. They decided to change the base to the authorized control-level RBC, and immediately this doubles every company's ratio. So much for appearances.

In regard to strengthening of regulation, with the continual threat of federal regulation, the state regulators are kept on their toes. The NAIC central office has been upgraded tremendously in recently years -- by the numbers and expertise of its staff, its hardware, its software, its lines out to every state insurance department office, and its handling of the NAIC diskette filings. To unify strong regulation, the NAIC adopted some financial regulation standards in June 1989 and an accreditation program in June 1990. As of the end of 1992, 19 states were certified. To help make this effective, one of the proposals is that companies in nonaccredited states must be examined by an accredited state. How much of a penalty this really is I don't know. Current law authorizes a commissioner or a superintendent to examine any company licensed in its state. Although New York is mandated to examine the domestic companies and may examine the foreign licensed companies, generally New York has not conducted a financial field examination of companies licensed in New York but domiciled in another state. It is doing so this year. Another proposal has been to urge the federal government to adopt a requirement prohibiting a company from selling insurance in any state that was not accredited.

Are there similar situations awaiting discovery? There is scrutiny by other companies. If one company goes under, it's a black eye against the whole insurance industry. Insurance is based upon getting the confidence of the public. Companies must maintain that. Therefore, the insurance industry wants to see insolvencies prevented so companies keep tabs on each other. You also have the scrutiny by the regulators; in particular, the regulators of the domestic state. You have the scrutiny of rating agencies. The rating agencies have considerable clout and influence. So much so, that in recent years, we've seen the flight to quality with companies or trustees of plans wanting to get out of companies that were given low ratings. We see in the press how companies that are in danger are reported. You see the danger. You have requirements for audited statements today. Auditors are under the obligation to report anything that may endanger the solvency of the company. And, of course, there is the valuation actuary. The mechanics for early detection are there, not only in the annual statement diskette filings with the NAIC and the good software it has, but also with the filing of quarterly statements. But there is a need for calm, corrective action. There is a danger of getting too upset about a downgrade. There is a danger of public comments by regulators, rating agencies, and the press. If any one of these gives a negative report on any company, it can cause a run. At the same time, we realize we cannot prevent all insolvencies, and, as I said earlier, there is a real danger in the weakening of the statutory formula reserves. New interpretations would place lower values on those reserves, and perhaps companies that want to show more surplus will then have the tendency to try to reduce the reserves. All this makes the job of the valuation actuary that much more important.