The Structure, Conduct, and Regulation of the Life Insurance Industry

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The economic and social function of life insurance companies in the United States is to provide financial security to individuals and families on a sound basis and at prices commensurate with the risks assumed. Life companies offer such security to the public in three distinct forms. First, life insurance offers protection against the financial risk of premature death of a breadwinner and the loss of income to the surviving family. Second, annuities and pension plans protect against the risk of outliving other forms of income, particularly after retirement from active employment. Third, health insurance offers protection against the financial strain of costly accidents or illness requiring extensive medical treatment. In serving these needs, life insurers also have long been a major source of long-term funds to the capital market through the investment of reserves in a variety of financial outlets.

At the end of 1990, the total assets of U.S. life insurance companies aggregated $1,408 billion, with 41 percent in corporate debt obligations, 19 percent in mortgage loans, 13 percent in Treasury and agency securities, 8 percent in common stock, 4 percent in policy loans, 3 percent in real estate, and 12 percent in miscellaneous assets. At latest count, there were 2,343 life insurance companies in the United States, of which 118 were mutual companies and the remainder were stock companies. It is estimated that about 1,200 of these companies are actually in operation; the others have been chartered but do not carry on an active current business. Mutual companies, though fewer in number,

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hold about one-half of the total industry assets, but the share of assets held by stock companies has risen steadily over recent years.[1]

Investment funds arising from the life insurance process result from the accumulation of reserves generated by pension products, thrift plans, and whole-life or permanent insurance, sometimes known as cash value life insurance. Reserves generated by whole-life policies result from the level-premium method of payment, whereby the policyholder pays an unchanging periodic amount for the entire life of the contract. In the early years of the policy, premiums are higher than needed to meet the average of death claims at younger ages; thus, a reserve is accumulated to meet the higher number of death claims at later ages, though the premium payments remain at the same level for whole-life policyholders. Because of the sizable reserve buildup behind whole-life contracts, such policies have a cash surrender value, and they typically carry a policy loan privilege.

Term insurance is usually offered for a specified number of years, for example, one, two, or five. During that time the premium is unchanged but is based on the policyholder's attained age. In later years, the premium for term insurance increases sharply as the likelihood of death increases on average, but since premiums are rising, little reserve accumulation is needed to meet rising current death claims. Term insurance, like health insurance, operates largely as a "pay-as-you-go" system wherein current claims are paid from the inflow of current premiums from the group that is insured.

Annuities may be purchased by individuals through periodic payments for a fixed period of years, or by a lump-sum payment for an income stream either immediately or at a later date. Under corporate pension plans, annuities are typically purchased by the employer to start immediately upon the retirement of the employee. Such sums paid under annuity plans obviously require a buildup of reserves from which a stream of later payments can be made; these reserves are invested in the money and capital markets to provide a return that will augment the amounts available for pension benefits.

Space does not permit a description of the almost endless variations and the range of options among these basic forms of traditional life insurance products. Later reference will be made to some of the major product innovations in the 1980s and their impact on investment practices and strategies. Although many life insurers also offer health insurance, this line of business will not be discussed in the present paper.

It is important for the reader to be aware that not all life insurers

[1] The primary source of statistics cited in this paper is the publications of the American Council of Life Insurance.

offer the same mix of product lines. Some offer health insurance plans; many others do not. Many larger companies provide pension plans, while a greater number do not engage in this line of business. Some specialize in particular lines, such as individual annuities or credit life insurance, while others concentrate on traditional whole-life policies. As a result, no "typical" or "standard" insurance company can serve as a model for discussion. Nevertheless, the frequent reference to industry totals and the composition of investment assets is unavoidable in this paper, though the reader should bear in mind that such data do not reflect the situation for a "typical" company.

The plan of this paper will be to first describe life insurance investment practices prevailing in the early postwar years, the regulatory framework under which companies operated, and the financial condition of the business in the years before 1980. An historical review of major competitive developments, regulatory changes, and product innovations will then be undertaken, in order to set the stage for an examination of new forces, new products, and new investment strategies as they emerged during the 1980s and up to the present time. Finally, the problem of insurance company solvency will be examined.

Life Insurance Investments in the Early Postwar Years

Life insurers emerged from World War II with almost one-half of their invested assets in U.S. government securities as a result of wartime financing requirements. As the postwar demand for business capital developed, insurers sold their Treasuries to reinvest the proceeds in corporate bonds. Demand for housing finance was likewise strong, and life companies placed a major share of investable funds into home mortgages, largely FHA- and VA-backed loans.

Using 1950 as an early postwar reference point, the asset composition of U.S. life insurance companies included U.S. government securities, 21 percent; corporate bonds, 36 percent; residential mortgages, 17 percent; commercial and farm mortgages, 8 percent; state and local government securities, 2 percent; preferred stock, 2 percent; and common stock, 1 percent. The dollar amount of total assets was $64 billion, which ranked the life insurance business second in size only to commercial banks, and roughly triple the size of savings and loan associations as of 1950.

In the main, these investments were long-term in maturity, usually in the 20- to 30-year range on original issue. This pattern was considered appropriate to the long-term nature of life company liabilities to policyholders. With premiums flowing in from policies that would not require payouts for death benefits until 30 or 40 years later, it was sound policy to invest long, at the outer end of the yield curve where interest rates

were normally higher. Liquidity was not thought to be a problem, since the steady inflow of contractual premium payments was far in excess of cash surrenders or requests for policy loans. Cash flow was positive and rising, and companies were thus able to make "forward commitments" to business borrowers for funds to be delivered later, often 12 to 18 months hence.

Regulatory standards for life company investments had an obvious and material influence on portfolio practice. Life companies are governed by the regulations of state insurance departments and by the detailed state laws regarding investment standards, as well as chartering, licensing, policy contracts, accounting standards, and other operating procedures. State investment laws typically prescribe specific investments permitted, subject to certain limitations, or they list prohibited investments. The primary regulator is the state of domicile of the insurer, but a great many companies are licensed to sell insurance in other states and are thus subject to their jurisdiction as well. One approach to governing the investments of out-of-state companies is to require that they be of the same general character as domestic companies, or that their investments have a quality substantially as high. Another approach, for which New York is noteworthy, is that out-of-state insurers should "comply in substance" with the investment standards required of domestic insurers. Since New York was a very large insurance market in which most companies wished to sell, this substantial compliance requirement made New York standards the critical factor in investment practices for a very large share of the insurance industry.

For this reason, it is useful to examine New York investment laws as they prevailed during the early 1950s and in later years. Other states were somewhat less restrictive, generally speaking, but with the passage of years and through the unifying influence of the National Association of Insurance Commissioners (NAIC), the differences among the states today are somewhat less.

To illustrate, the investment laws of New York did not permit the purchase of common stock until 1951, and then only stock listed on a major exchange that had paid dividends in each of the past 10 years. Corporate bonds, to be eligible, had to be supported by earnings sufficient to meet interest payments over the previous five years, plus a ratio of new earnings to annual fixed charges of 1.25. In the early 1950s, conventional mortgage loans by life insurers had a maximum loan-to-value ratio of 66 percent, in order to provide a cushion against a possible decline in real estate values as experienced in the Depression years. For conventional home loans, this ratio was boosted in 1959 to 75 percent to keep life insurers more competitive with other lenders. Not until 1964 was the 75 percent loan-to-value ratio permitted for commercial real estate loans by life companies.

Percentage limits on categories of investment were also common, to ensure diversification of insurers' assets. For example, New York initially limited common stock holdings to the lesser of 3 percent of assets or 33 percent of capital and surplus. Not more than 5 percent of total assets could be invested in corporate bonds of any one issuer. Investments in foreign countries were permitted beginning in 1956, but were limited to 1 percent of assets, except for Canada where the limit was 10 percent. Limits were also in force on investment in income-producing real estate.

As part of the regulatory process, the state insurance department requires each company licensed in its state to submit a detailed annual statement of financial condition and investment operations during the year. Such disclosure includes a listing of every security acquired, held, and disposed of, along with particulars on each transaction. The basis for the annual statement is statutory accounting, following uniform rules developed by the NAIC, which also receives copies of each statement filed with each state. The state insurance department is responsible for conducting examinations of companies at least every three years, and this function is often shared with other states on a cooperative basis.

Throughout the 1950s, life insurance on the whole was a profitable industry, based on two major factors. First, mortality experience was more favorable in practice than the expected death rates built into outstanding policies, largely because of medical advances and widespread use of antibiotics. With longer lives, policyholders paid in premiums for many more years than expected. Second, the postwar rise in interest rate levels brought in higher investment earnings than the assumed interest rates built into policy contracts. These favorable results led to higher dividends to holders of participating policies, of course, thus reducing the net cost of their life insurance. But the companies also benefited from these developments and were able to improve their surplus positions.

Competitive Responses to Market Developments, 1950 to 1980

In 1949, a major court decision ruled that pensions were a legitimate part of collective bargaining in labor contracts. Almost overnight, a new field for saving and investment emerged, and labor unions bargained with employers to establish pension plans for their members.

Pension and Thrift Plans

In the early days, pension plans often were administered by the employer, or managed by the trust departments of larger commercial banks. Life insurance companies offered insured plans as well, and the number of plans they handled doubled during the decade of the 1950s. But the pension plans run by competing fund managers grew even faster, partly because they could offer pension fund portfolios that were heavy in common stocks, which enjoyed a high rate of return over the decade. Life insurers, restricted to low percentages of common stock holdings, found themselves at a competitive disadvantage

Chafing under these constraints, life insurers were able to bring about a change in the New York investment law in 1957 to raise the limit on common stock holdings from 3 percent up to 5 percent of assets. Not until 1969 was this limit raised further to 10 percent of assets or 100 percent of surplus, whichever was less. But this did not solve the competitive problem, since banks could place fully 100 percent of pension fund accumulations in equities to obtain a much higher return than the life companies could offer from their conservative portfolios of bonds, mortgages, and a sprinkling of common stock.

A breakthrough solution was found in the establishment of "separate accounts" for life companies, wherein the quantitative limits on investments were waived, but the qualitative requirements remained. Thus, a separate account could hold as much as 100 percent in common stock, but the investment standards of quality and dividend experience were the same as for the regular portfolio, thereafter known as the "general account." Funds placed in separate accounts were not backed by the capital and surplus of the life company; investment gains and losses belonged to the contract holder. Permission for separate accounts was made possible by new legislation in the several states between 1959 and 1964.

At first, separate accounts concentrated on common stock investments. Within five years, however, some companies were making bond investments in separate accounts; and by 1981, the dollar holdings of bonds were greater than common stock. Real estate separate accounts also developed by the mid 1970s, and mortgage loans also were added to the separate account portfolios of some companies. Within 20 years of their inception, separate accounts represented 9 percent of total assets of U.S. life companies; by the latest count, this figure has risen to 11 percent or $165 billion. It is worth noting, however, that fewer than 200 companies have a separate account operation at the present time.

While the competitive position of life companies in the pension market was doubtless bolstered by the use of separate accounts, their market share continued to slip vis-à-vis the noninsured pension plans. In 1974, passage of the federal Employee Retirement Income Security

Act (ERISA) gave a boost to insured plans because of more exacting requirements for fiduciaries and greater paperwork for fund managers, leading more employers to turn over this burden to insurance companies.

Another competitive boost in the pension area came in the late 1970s, when life companies started offering guaranteed investment contracts (GICs) to fund profit-sharing, savings plans, and 401(k) accounts for employee benefit schemes. With variations among negotiated agreements, the basic GIC plan calls for contributions from employee groups at a fixed interest rate, guaranteed by the insurer for a specified period of time. The market for such contracts has grown to an estimated $30 billion a year.

Competition for the Savings Dollar

Life insurance products can be viewed by the public in a variety of ways. One natural desire is to build a substantial nest egg to meet the needs of a surviving spouse and children after the death of the breadwinner. Another is to accumulate sufficient assets to live off after active employment, or even to retire early. Insurance and annuities can meet these needs, but consumers have looked to other forms of saving and asset building to satisfy these desires. Among the alternatives are common stocks and mutual funds, where faster gains may be possible than in the conservative track of insurance policies.

In the mid 1950s, common stocks in the United States began a steep upward climb that attracted increasing attention from the general public. Middle-income executives began checking stock market prices in the daily paper each morning, even before looking at the sports pages. Fears of another 1929 crash began to dissipate as new fortunes were made in common stock investment. In this setting, term life insurance became more popular with the public, since it was much cheaper per dollar of coverage than whole life. And it did meet the need for an "instant estate" in the event of an untimely death. True, it did not have a savings element as did whole life, but the slogan of the day was "buy term and invest the difference." Many did just that, and the percentage of new insurance purchased through term policies rose from 31 percent in 1955 to 41 percent in 1960, where it remained for the next decade.

The life insurance business responded to this notable shift in buying patterns in a variety of ways. Since some of the consumer dollar began flowing into mutual funds, insurance agents began to sell such funds to their policyholders in an attempt to provide full service and retain customer loyalty. Soon, the companies themselves began to set up mutual fund subsidiary operations and also to encourage their insurance sales force to get the training and obtain the licensing necessary to sell

mutual funds. Even today, life insurance interests are an important part of the mutual fund industry.

In the early 1960s, another approach was made to meet the demand for common stock investment. The variable annuity was developed, whereby the annuity would be denominated in a number of variable units, rather than a fixed number of dollars, with such units invested in a pool of common stock. The resulting annuity payments depend upon investment results, rising or falling with the value of the underlying stocks and dividend flows. Such annuities are required to be registered with the Securities and Exchange Commission (SEC) when sold to individuals, but are exempt from registration if offered as part of a qualified group pension arrangement. The variable annuity had the advantage of moving broadly with general stock market trends, but this new product lost its luster through most of the 1970s when stock prices turned down, and it lost ground to more attractive new products such as variable life in the 1980s.

Life Insurance and Annuities—The Changing Mix

An important change in the structure of the life insurance business since the early postwar years is the enormous growth of its pension business, relative to life insurance itself. Broadly defining pension reserves as those related to group annuities, individual annuities, and supplementary contracts with life contingencies, such reserves in 1955 were roughly one-quarter the size of the reserves behind life insurance. By 1980, pension reserves (as defined here) had grown to almost 90 percent the size of life insurance reserves. Most dramatic, however, is the ratio for 1989, when pension reserves stood at 2.2 times the size of reserves against life insurance policies.

Stated another way, life insurance premiums were 7 times as large as annuity considerations received in 1955. By 1980, life premiums were only 1.8 times as large, and by 1989 the reversal was complete, with annuity considerations running 1.6 times the size of life insurance premiums. Throughout the 1980–89 period, group annuities were the larger dollar amount and grew by 4 times in nine years. But individual annuity growth outstripped group annuities, growing by 7.8 times in the same period. Included in individual annuities are IRAs, Keogh plans, individual policy pension trusts, and tax-sheltered annuities.

Life Insurers and Disintermediation

No description of postwar developments would be complete without reference to the impact of disintermediation on life insurance

companies. As financial intermediaries, insurers have shared the woes of depository institutions, primarily through the avenue of policy loan demands at times of rising market interest rates. The first major surge of policy loan demand occurred in the second half of 1966 when market rates rose to new postwar highs, compared with the fixed interest rates on policy loans, limited by state law to either 5 or 6 percent at that time. Close to 14 percent of investable cash flow was drained off by policy loans, compared with less than 4 percent in a normal year. For an industry making use of forward commitments to purchase bonds and mortgages, this sudden disruption of available funds was a major concern for portfolio managers.

This episode activated industry officials to propose an increase in the statutory policy loan rate to 6 percent in all states; with support from the NAIC, state insurance laws were modified in a fairly short time, though the new rate could only apply to new policies. A second bout with policy loans came in early 1969, when rising inflation again brought rising interest rates. The impact on cash flow was even greater this time, draining 20 percent of investable funds by the second quarter of 1969 and holding above the 14 percent level for six consecutive quarters. In response to this renewed crisis, the industry decided to attack the fixed-rate feature of policy loans. Flexible rates, linked to a moving index of corporate bond yields, were proposed for future policies with a policy loan feature, and such legislation was enacted in due course by the several states.

As a percent of total assets of the industry, policy loans had been 4.8 percent at the end of 1965, moving up to 7.8 percent at the end of 1970. This percentage continued to rise with the persistently high level of market interest rates, reaching 8.7 percent in 1974. After a decline to 7.8 percent once more in 1978, the policy loan figure soared to a new high of 9.3 percent at the end of 1981. The advent of double-digit interest rates in 1980 and 1981 was the clear cause of the upsurge, but the industry was caught as never before in a liquidity squeeze. In addition to the policy loan drain, the 1980 liquidity problems were worsened by a shortfall of pension inflows, as corporations decided to put their funds into Treasury bills at 15 percent rather than GICs with life companies at 12 percent.

The 1979–81 round of disintermediation, interest rate spikes, double-digit inflation, and prospects for financial instability for years ahead—all these factors served as a catalyst for vast and far-reaching changes within the life insurance business, not only affecting liquidity standards and investment practices but also prompting a wide-scale redesign of standard insurance products. The following sections will outline these innovations which, without exaggeration, can truly be termed a revolution in this staid and conservative business.

The Life Insurance Industry in the 1980s

The dramatic events of 1979 through 1982 are etched in the memories of central bankers, financial market participants, and much of the general public and need not be repeated in detail here. Inflation rates soared to the double-digit range, leaving doubts about the future purchasing power of fixed-dollar insurance policies. Bond yields and loan rates in every market reached new highs, leading consumers to wish they could share in the attractive rates on bills, bonds, and bank certificates of deposit (CDs). Economic activity gyrated between recession and recovery with unusual speed and amplitude. Volatility in both interest rates and economic activity were the watchwords of the time and uncertainty ruled financial markets in all sectors.

In this setting, radical changes in the life insurance business were soon to follow. Product lines were redesigned and drastic alternations in investment strategies were forced upon the industry as it adapted to the new conditions of the 1980s. This section will outline those changes and their impact on the financial condition of the life insurance business.

The Shift to Interest-Sensitive Products

Three distinct forms of life insurance gained a major foothold among product lines in the early 1980s—universal life, variable life, and flexible premium variable life. As a new family of policies, all three had the common element of reflecting investment performance in the policies, by changing the size of the death benefit or the annual premium or both over the duration of the policy. As a group, they are known as "interest-sensitive" or "investment-oriented" life insurance policies.

Under universal life, the policyholder is able to vary his annual premiums as to the amount and timing of payments. New premiums after loading and mortality risk charges are invested in a floating-rate fund, and the earned interest credited to the policy will vary with investment results. Death benefits cannot fall below the face value of the policy, but they can expire if the level of premium payments or investment experience is not sufficient to carry the policy to maturity. Thus, the buyer assumes some of the investment risk, but he shares directly in the rewards of good performance. Universal life is sold both as individual policies and in group policy marketing. Universal life was first offered in 1979 but has since become a standard line for almost every leading company. In 1989, $275 billion of universal life was purchased, raising the amount in force to $1,400 billion.

Variable life carries a fixed annual premium but allows the policyholder to designate investment of his funds into bonds, equities, or a money market account and to vary his choice during the life of the policy

as he sees fit. The policy has a guaranteed minimum death benefit, but the size of the death benefit will increase or decrease over time depending on investment performance. This product has not had the appeal of universal life; in 1989 sales were $6.5 billion, with a total amount in force of $54 billion.

Flexible premium variable life is a combined version of the two preceding policy types and is sometimes called universal–variable life. Premium payments may vary and a choice of investment funds can be made. Death benefits will depend upon investment returns on the assets standing behind the policy. This product appeared in 1984 with fair success; purchases in 1989 were $36 billion with a year-end in force total of $107 billion.

These three related products are classified as whole-life insurance, and their popularity is shown by the fact that they captured no less than 32 percent of the whole-life market in 1984 and again in 1987. In the past three years, however, sales of universal and variable life products have flattened out, falling to 24 percent of whole-life sales, probably because of the lower and less volatile level of market interest rates in those years. The sales appeal of these products has apparently squeezed out much of the term life market, which declined from 60 percent of total ordinary sales in 1982 to 41 percent in 1989.

Individual annuities are also interest-sensitive and have been marketed aggressively throughout the 1980s in a variety of forms. Industry receipts from individual annuities were $5 billion in 1979; ten years later they had risen to $49 billion. Single-payment annuities were the fastest gainer, with yearly industry receipts rising from $1.9 billion in 1979 to $32.8 billion in 1989.

Changes in Investment Practices

Product redesign and the radical shifts in product mix during the 1980s required drastic alterations in investment strategies, with particular regard to liquidity needs, asset marketability, and the search for competitive yields. Emphasis on asset liquidity was heightened greatly after 1980, when companies had suffered from an enormous surge in policy loans. Huge fluctuations in market interest rates led to widespread expectations that volatile interest rates would characterize the markets for years ahead, adding to interest rate risk on longer-term assets. Equally important in assessing liquidity needs were the new, rapidly growing insurance products described above, which held great uncertainties as to how long premiums would continue to flow in and how to calculate the duration or average life of these liabilities.

The shift in portfolio practices took several forms. One change was the reduction in bond maturities, as a means of reducing average life and improving liquidity. In 1980, 85 percent of new bond acquisitions

were for maturities over 19 years; by 1985, only 50 percent were longer than 10 years, and by 1990, the percentage over 10 years had slipped below 40 percent. Similarly, the average maturity period on new commercial mortgage commitments was reduced from 222 months in 1980 to 99 months in 1985 and has remained low in more recent years.

Another aspect of the search for liquidity was the potential for resale of assets in secondary markets. For several decades, private placement bonds had been the favored outlet, but they lacked a ready secondary market if the need to sell arose. Public issues, both corporate and government, were only 25 percent of new bond acquisitions in 1980; by 1985 they had risen to 50 percent, and they accounted for 45 percent in 1990. The readiest resale market, of course, was for Treasury and agency securities, and such holdings rose from 3.3 percent of total assets in 1979 to 12 percent by the end of 1985—the first real surge of life company interest in U.S. government issues since World War II. At the end of 1990, holdings of Treasuries and agency issues represented almost 13 percent of the total life insurance assets.

By the mid 1980s, portfolio philosophy in the life insurance business was centered on the matching of assets and liabilities, in recognition of the diversity of product lines on the books of most companies. The traditional practices of buying longer-term bonds and mortgages and holding them to maturity were based on the long duration of liabilities for whole-life products and annuities for individuals or groups. With investment-oriented products coming to the fore, representing a greater share of liabilities, a rethinking of the duration of these products was essential.

The key to asset–liability matching lies in segmentation of different product lines according to the length of time they can be expected to remain on the books, prior to death claims, of course, but more importantly prior to withdrawals of funds from lapses, surrenders, policy loans, or switches to other accounts. New products, with little experience to go on, made this particularly difficult to estimate. But it was clear that each segment on the liability side had differing investment requirements as to the composition of maturities and liquidity needs on the asset side.

But each segment or product line also had different requirements on the matter of investment return, since the investment performance had a direct bearing on future sales as well as retention of outstanding policies. For example, guaranteed investment contracts (GICs) carried an explicit yield or rate, while universal life policies typically promised a set interest rate for the initial policy year. And if the rate at which interest was credited to such policies declined in later years, the company faced the risk that premium receipts would likewise fall off or dry up.

Another risk faced by companies was that rates offered by their

agents to new customers would not equal or exceed those of competing life companies, with a consequent loss of potential sales. In this setting, career agents brought considerable pressure on the home office to set initial rates high enough to match the competition and keep them high in later years even though marketplace yields might have declined. Moreover, if companies failed to offer attractive rates on interest-sensitive policies, they faced a loss of agent loyalty or loss of agent sales force, thus reducing their potential for selling other, more profitable lines of insurance. And where brokers were the sellers of such products, a company offering rates that were too low would find such brokers switching to products of some other insurer.

It should be pointed out that the investment performance on interest-sensitive insurance products is not dependent on the overall portfolio yield from the total of invested assets held by a company. Rather, companies since the late 1950s have utilized the "investment year" system of assigning returns to group pension products. That is, calculations are made as to the rates earned on "new money" received in a given year or even a given quarter. With the advent of interest-sensitive policies in the 1980s, the new money method was applied to individual policies as well. Policyholders or annuity buyers are often told what rate the company will pay in the coming year or longer, but later periods may bring higher or lower returns on the initial premium or annuity payment.

This setting has brought strong pressure on life company investment officers to search for higher yields than they might otherwise select. One way to achieve this goal is to mismatch assets and liabilities by moving out the yield curve where returns are higher for longer maturities. Of course, this method detracts from liquidity goals and adds a risk that withdrawals from the given segment may require asset sales at a loss if market interest rates move higher in the interim. Another way to bring in higher current returns is to lower quality standards by taking on riskier mortgage loans or by purchasing bonds with lower credit ratings (and higher yields). By assuming greater interest rate risk and/or credit risk, current yields can be raised to satisfy the demand of the sales force, though the risk of loss through defaults or forced liquidation at lower prices is obviously greater.

Company profit or loss on marketing interest-sensitive products depends on the spread between rates earned on the assets behind the policy and the rates credited, year by year, to the policy in question. To forestall lapses and surrenders, the incentive is strong to keep credited rates high, even if the earned rate starts to slip. Pressure then develops to take on greater risks to keep up the earned rate. But a companion method of maintaining spreads has also emerged, namely, expense reduction, which often takes the form of cutting head office staff including investment personnel. Chief investment officers have been

confronted with a double hazard: taking on riskier loans against their better judgment and seeing staff cut around them in the effort to trim expenses and maintain spreads.

The bottom line on these developments, according to informal feedback from investment managers, has been to reduce company profits on many product lines. Interest spreads have narrowed and even turned negative at some times and on some products, although no hard data are available to verify this. But it is clear that providing greater investment returns to customers in relation to earnings has left lower returns for the companies than in the past. At the same time, taking on higher investment risks in the hope of better yields has left companies exposed to greater losses than in the more comfortable investment years before the 1980s.

Profitability Trends in Life Insurance

Profitability in the life insurance business has always been difficult—some say impossible—to measure because of the unique accounting system used in the industry. Profitability for insurers is affected by a host of factors including mortality rates, investment returns, expense factors, policyholder dividends, federal and state taxes, and capital gains or losses.

A rough measure of industry profitability is the "gross return on equity," defined here as the net gain from operations before taxes and dividends to policyholders, taken as a ratio to capital and surplus. At the least, this ratio can show trends over time, although the level may have little meaning. From the early 1970s when the gross return was around 43 percent, this ratio reached a peak of 60 percent in 1979. But subsequent years brought a steady downtrend to 30 percent in 1987, followed by a partial recovery to 39 percent in 1989—the most recent data available.

Another crude measure sometimes used to monitor profit trends is the ratio of capital and surplus to total assets. If this ratio declines over time, profitability must be on the decline, and vice versa. In percentage terms, the capital–asset ratio for the industry slid from 8.4 percent in 1970 to 7.2 percent in 1980, and declined further to 6.4 percent for 1989. The downward trend in the 1970s arose in large part from the decline in stock market prices in 1973–74, which wiped out security reserves and encroached on surplus in many companies.

After 1980, a number of new forces came into play that reduced the capital–asset ratio to the present 6.4 percent. The costs of introducing universal life and variable life in the early 1980s were considerable for many companies, and the diminished interest margin in new products has doubtless played an important part. A related factor was the decline in the share of business known as fixed-cost nonparticipating insurance,

in which the policyholder pays a set premium but does not receive dividends, which would reduce his net cost. With less fixed-cost, nonpar business on the books, displaced in large part by universal and variable life, a smaller share of investment earnings was retained by insurers as company earnings. Also, the level of pretax portfolio yield for life insurers began to decline from a 1985 peak of 9.6 percent to an estimated 9.0 percent in 1990.

This way of looking at capital and profits is not complete, however, because it ignores the presence of security reserves, which are a form of earmarked surplus required by state laws. The mandatory security valuation reserve (MSVR) stands behind both bonds and stocks, built up from contributions keyed to the credit rating of the bond portfolio and the capital gains from the stock portfolio. It is then used to meet any losses on bonds or stock, thus providing a cushion for company surplus. Adding the MSVR to capital and surplus, the total capital ratio was 8 percent of assets in 1989, virtually unchanged for the past decade. The growing level of this reserve has been fed by sizable capital gains on insurers' holdings of bonds and stocks, particularly in 1988 and 1989. Results from 1990 are as yet unknown.

Does the capital–asset ratio tell us whether insurers are in sound financial condition and capital is adequate to absorb difficulties? Not really. Industry totals and averages have their limits, concealing possible capital inadequacy in individual companies. In reality, this becomes a question for state regulators in their examinations of individual companies, rather than an overview of industry aggregates. The NAIC several years ago established an Insurance Regulatory Information System (IRIS) to identify companies deserving of closer surveillance by using a variety of financial ratios or tests, of which the capital ratio is only one. Screening companies through this early warning system has helped state regulators to catch approaching insolvencies at an early stage, though the system is far from perfect. But it demonstrates the importance of relying on more than one simple relationship to judge financial conditions for an industry or an individual firm.

Diversification of Business Lines

In the search for profits, life insurers have long been attracted by the potential for entering related lines of business, either in the insurance field or in other forms of financial services. Some large companies, notably Aetna, Travelers, Nationwide, Allstate and State Farm, have been leaders in underwriting property and casualty insurance as well as life insurance and annuities. In fact, many life companies started as casualty companies and later added a life insurance line of business. Today, health insurance is a line carried by the vast majority of larger companies, though it calls for very different skills and underwriting

standards from the life insurance lines. Health insurance accounts for about 23 percent of the total premium income of U.S. life insurance companies but less than 3 percent of total reserves.

The holding company form of organization is widely used by life companies that have organized or acquired a company that handles another financial service or insurance line such as automobile insurance or homeowners' insurance. Life companies in the 1950s began selling mutual funds through their agents, and in some cases they organized and operated the investment company as an affiliate under the holding company. In the mid 1980s, more than 60 life companies offered mutual funds, half through securities affiliates. At least a dozen life companies owned securities firms that offered underwriting as well as full-service brokerage; another dozen offered full-service brokerage but not underwriting; and a few other companies owned discount brokerages. Many of these securities affiliations go back to the fact that life companies sell products, such as variable annuities, that are SEC-registered.

Other financial services in which life companies have been active include investment management beyond their own portfolios, real estate management, pension plan management, mortgage companies, leasing services, advisory service for REITs, writing or trading options, and financial data processing. With exceptions, such operations have not assumed major size, and they typically represent adjunct operations that utilize skills already developed within the company itself.

Depository Institutions and Life Insurers

When the Reagan Administration proposed in 1981 that commercial banks should be allowed to sell and underwrite all forms of insurance, shock waves went through the life insurance business. Added competition in an already competitive business was certainly unwelcome, particularly on the part of insurance salespeople who feared that the loan leverage of banks would give the banks an unfair advantage and steal customers away. At the head offices of many life companies, however, corporate planners were ready to hedge their bets by exploring whether their companies might thrive in the banking business and achieve some measure of diversification.

It was already the case that a very small number of life insurers owned a bank or a thrift institution. Several others decided to acquire a savings and loan or a "nonbank bank" in an effort to test the waters in this unfamiliar pond. Still others opened discussions with friendly banks about marketing insurance products, or even affiliating, if and when existing laws were changed. The primary motivation was not to be left behind the competition in the event that bank linkages of some sort were permitted.

Attempts by life insurers to acquire savings and loan associations

came to little. Some of the larger companies that already had securities affiliates found that the law would not permit simultaneous ownership of a thrift. Other attempts apparently foundered on the insistence of the Federal Home Loan Bank Board that they acquire weak or failed S&Ls, not the healthy, flourishing ones. In some states, insurance laws contained "doing business" clauses that did not permit life insurance companies to enter such other fields as owning a depository institution.

The best route for several large insurers seemed to be nonbank banks, but very few took this road in fact. The logic of acquisition was to position their sales force to offer customers federally insured time deposits and money market funds along with standard insurance products. Another motive, of course, was to find out what banking was all about, in case a larger move into full-scale banking became possible at a later date. However, a significant barrier to interest in acquiring full-scale banks was the prospect of dual regulation, in which the Federal Reserve, under the holding company laws, would have powers to supervise in some degree the broader operations of any life insurance holding company that owned a commercial bank subsidiary. This prospect was seen as a threat, an unwelcome interference in business affairs, and an added layer of already substantial regulation.

After a full decade of proposals, bills, legislative hearings, regulatory rulings, court cases, and endless discussion, commercial banks still are not able to sell or underwrite life insurance (with a handful of exceptions), and life insurers are not able to own commercial banks. But the proposals for such a revision of federal laws are still in the legislative mill today.

Growing Concern over Company Solvency

For the past two years, a primary concern of both industry leaders and regulators has been the solvency issue. Such concerns arise largely from the investment side of the insurance business, centered on the decline in market values of "junk bonds" held by life companies and the problems encountered with commercial real estate mortgage loans. Both of these problems had begun to emerge in the 1988–89 period but were worsened by the economic recession which began in the middle of 1990.

Just how vulnerable is the life insurance industry to widespread insolvencies? This is undoubtedly the key question today in many circles, triggered by announced investment losses by some major companies in late 1990 and by the more recent regulatory actions to close down the Executive Life units in California and New York and the First Capital holding units in California and Virginia. The two Executive Life companies were notorious for holding close to 50 percent of their invested assets in junk bonds acquired to fund the high-rate annuities

they marketed in recent years, and the practices of First Capital companies were similar.

Is the emphasis on junk bonds a widespread phenomenon within the life insurance business today? A special survey for holdings at year-end 1990 indicates that almost 6 percent of general account bonds fell into the three lower grades, equivalent to "B" or lower, and these were mainly private placements, not the publicly issued junk bonds sold to finance the leveraged buyouts of the 1980s. There is, of course, no fixed definition for "junk bonds" when translated back into grades used by the rating services such as Moody's. As a working estimate, however, it appears that the life insurance business holds between $60 billion and $70 billion in bonds that are loosely described as "junk bonds."

The concern about junk bonds, of course, is their potential for default on interest and/or principal payments to the bondholders, who must then take losses that could impinge on surplus or produce insolvency. But what is the record on bond defaults in the life insurance industry in recent years? The American Council of Life Insurance (ACLI) has assembled data on bond defaults for over a decade, based on annual surveys of company experience. Looking at the total bond portfolio, exclusive of Treasury and agency securities, defaults in 1976 averaged 0.91 percent on a dollar-weighted basis, fell to 0.28 percent in 1979, and rose again to 0.92 in 1983. After a decline, the figure was up to 0.89 in 1987 but then fell to 0.44 percent in 1988 and 0.54 in 1989, the latest year available. These percentages are impressive mainly because of their small size and the lack of clear upward trend.

Default data also can be broken down by public issues and private placements. Over the past 10 years, publicly issued bonds have had a low default record, with a recent high of 0.39 percent in 1987, declining in 1988 to 0.15 percent and 0.26 percent in 1989. Among private placements, the 1987 default rate was 1.46 percent, followed by more favorable rates of 0.80 percent in 1988 and 0.91 percent in 1989. Comparable data for 1990 are as yet unknown.

An offset of considerable importance to insurers' holdings of lower quality bonds is the countervailing rise over these years in holdings of Treasury and agency securities that are so safe that no MSVR contribution is required. In 1977, less than 3 percent of life company assets was invested in Treasury and agency securities; such holdings increased substantially in the 1980s and by 1990 stood at 12.8 percent of total assets and 24 percent of the bond portfolio.

Industry data show corporate debt securities at 41 percent of total company assets, while another 19 percent of assets is in mortgage loans, primarily backed by commercial real estate such as office buildings, shopping centers, industrial warehouses, hotels and resorts, and apartment houses. Serious financial problems in this sector have made headlines

in the financial press for many months, and life companies have shared in the difficulties as major holders of commercial mortgage loans.

Again, ACLI data tell the story, based on surveys initiated many decades ago. In the closing quarter of 1990, 3.7 percent of the commercial mortgage portfolios of reporting companies were counted as delinquent or in foreclosure, compared with delinquency rates below 1 percent of 1979 through 1984. About the only comfort one can take from the current 3.7 percent rate is to recall that the delinquency rate reached an even higher postwar record—4.7 percent—in the first half of 1976, when overbuilding in major cities combined with the recession of 1974–75 to produce a major problem for mortgage lenders. Once more, high vacancy rates and a continuing economic recession combine to boost delinquencies for life companies. Pessimists fear losses to insurance lenders that could threaten solvency; optimists point out that the industry survived an even worse situation in 1975–76. The final answer probably lies in how long the present recession will last.

Insolvencies and the Industry Responses

Before 1987, the number of insolvencies among life insurance companies each year was 10 or fewer and involved relatively small companies with assets below $50 million. The number rose to 19 companies in 1987, then fell to 10 in 1988, though still confined to smaller life insurers. But insolvencies soared in 1989 to 40 cases, including an insurer with $646 million in assets. Concern within industry circles rose sharply. The ACLI board of directors responded in September 1989 with the appointment of a special Task Force on Solvency Concerns, charged with determining whether the industry at large faced a solvency problem and what steps should be taken to reduce future difficulties.

One subgroup set to work analyzing 68 insolvencies of the preceding five years, of which 16 were in Texas, 6 in Arizona and 6 in Oklahoma; the remainder were scattered. The subgroup's report identified causes of past insolvencies as related to affiliate transactions often involving fraud in 47 cases, problems in accident and health insurance lines in 41 cases, underpricing of products in 40 cases, investment problems (often real estate) in 31 cases, and problems with new management in 25 cases. These causes often interrelate, of course.

Another subgroup analyzed trends in capital–asset ratios in a variety of ways for the period 1981 to 1988. Using weighted averages of capital and surplus plus mandatory security valuation reserve to admitted assets, this analysis documented a modest decline in the ratio over these seven years. More interesting, however, was the striking difference between large and small companies. Large companies with assets over $5 billion showed average capital–asset ratios (in percentage terms)

of 5.3 percent in 1988, in sharp contrast to companies under $100 million where average ratios were 20 percent. The breakdowns between stock and mutual companies showed wide differences in all size categories, with stock companies showing much stronger ratios than the mutual companies, especially in recent years. The detailed analysis of this report illustrates a key point this paper has tried to emphasize: industry aggregates and averages can provide only a starting point to the analysis of financial conditions among life insurers. The real story requires a much closer look, ultimately only in the way that a regulator can undertake through the examination process.

A paradox arises from the differences shown in the report of the subgroup on capital–asset ratios. Why do the largest insurers with the lowest ratios appear to be the strongest, financially sound companies? And why do the companies with assets under $100 million show up with much higher ratios, while companies in this size bracket are most often on the insolvent listing? These puzzles leave open the question of whether capital ratios are a meaningful guide to financial soundness, and whether capital adequacy is a problem in the life insurance business today.

The concern over solvency by the major trade association of life companies is not hard to understand, for several concrete reasons. Far from welcoming the disappearance of a competitor, the companies fear the impact of an insolvency on the public perception of their own financial condition and the potential for a "run on the bank" in the form of surrenders, policy loans, and lapses by policyholders, both individual and corporate. The integrity of life insurance products is also seen as being at risk if insolvencies spread, leading to a loss of new business of all kinds. A more immediate pocketbook effect of a large insolvency is the dollar assessment upon the remaining companies to support claims payment through the system of guaranty funds that stand behind companies in almost every state.

Role of State Insurance Guaranty Funds

Beginning in the early 1970s, a movement developed to set up state guaranty associations to satisfy benefit claims of policyholders and annuitants in the event that a company liquidated through insolvency does not have the necessary assets. The deficiency is met by assessments on all companies licensed in the state of the liquidated insurer. Such guaranty funds now exist in every jurisdiction except New Jersey, Louisiana, and the District of Columbia.

Typical coverage under guaranty funds is $300,000 in death benefits, $100,000 in cash or withdrawal value for life insurance, $100,000 in present value of annuity benefits, and $100,000 in health benefits. Some states (but not California) also provide varying coverage for unallocated annuity contracts such as GICs purchased by employers to fund pension

plans, usually limited to $5 million (as in New York) for any one contract holder. Most guaranty funds limit protection to residents of their own state, regardless of where the insolvent insurer was domiciled. Other states cover policyholders of an insolvent domiciled company, regardless of where the claimants are located.

One reason that GICs and similar corporate annuities have not always had guaranty fund coverage is the very large size of such liabilities and the fact that professional fund managers are in position to carry out their own analysis of insurer stability. To help those who place large sums with life insurers, a number of the bond rating services have begun to rate the claims-paying ability of life companies. Moody's, Standard & Poor's, and Duff & Phelps have offered this service in recent years, thereby supplementing the similar rating service of A.M. Best Co., which has been a prime source of insurance company data since 1899.

Until now, the burden of guaranty fund assessments upon life insurers has not been overwhelming, even in the aggregate. The largest claims have been on health insurance lines, rather than life insurance and annuities. The biggest year for assessments was 1989, when assessments of $34 million for life insurance and $50 million for annuities became necessary, dwarfed by $124 million in assessments to cover health insurance. Total assessments since the guaranty fund system began have amounted to less than $500 million through the end of 1990. It should be noted that assessment payments provide an offset against amounts payable for future state premium taxes; thus the net burden for companies is substantially lower. The major burden falls on state revenues and hence on the taxpayers of the states.

With the backup of state guaranty associations, the life insurance industry has been able to make the proud claim that no policyholder has failed to have his claim met because of insolvency. Yet, the real test may lie ahead since the size of some annuities issued by the Executive Life and First Capital units may exceed the dollar coverage limits of the guaranty funds that will become involved in due course. Without question, these are the biggest insolvencies to date, and some rough estimates of the deficiencies involved reach into the $1 billion range. With heavy assessments in sight, voluntary efforts to cover the excess policy amounts beyond the guaranty fund limits are doubtful. With so many unknowns as to the true financial state of these companies, including the ultimate value of assets in liquidation, it is difficult to speculate on the size and scope of the problem or the industry reaction to the needs that may arise.

Regulatory Responses to Solvency Problems

With junk bonds seen as one of the larger threats to company solvency, state insurance regulators have focused on limiting such

investments and even requiring divestiture. New York was the first to act, in June 1987, by imposing a 20 percent limit on "high yield–high risk" obligations publicly traded or issued in a leveraged buyout. In February 1991, this limit was tightened by applying it to all private placements and to all medium-grade (Ba-rated) bonds that had previously been outside the limit. In addition, new "inside limits" of 10 percent, 3 percent, and 1 percent were imposed on three categories of lower-grade bonds, as rated by the NAIC, effective in 1992.

In other states, Illinois imposed a 35 percent limit last August with an inside cap of 10 percent on bonds below the "B" rating. Maryland adopted a 20 percent cap on bonds of "Ba" or lower in December 1990, and similar limitations on lower-grade issues have been proposed for legislative change in Missouri, Florida, Nebraska, Indiana, Kansas, Colorado, Minnesota, and Connecticut. Other states are likely to follow, with Executive Life and other examples now in the headlines.

Another tightening action was the move by the NAIC in June 1990 to increase the required formula contributions to the MSVR, which stands behind the company holdings of bonds and stocks to absorb future losses. This action took effect with the year-end 1990 statements, and it mainly required larger reserve contributions from medium-grade bond-holdings, with the result that credits to bond reserves will be about twice the rate of the past, once the phase-in stage is completed in 1995. Beyond the revamping of the bond reserve, the NAIC is now considering a mandatory reserve against life company mortgage holdings, to cushion capital and surplus against potential losses in that investment area.

More broadly, the NAIC has been actively working to improve the policing of solvency problems within the industry by setting stiffer standards of regulatory surveillance and by developing Model Laws for the individual states and insurance departments to adopt. As early as December 1989, the NAIC adopted a Solvency Agenda for 1990 and followed this a year later with an updated Agenda for 1991. But the role of the NAIC is primarily advisory and exhortatory, rather than compulsory, for the individual states. This body has brought greater uniformity among state regulations and laws over many years, but it has no binding authority or penalty powers to enforce its agreed positions. Perhaps its most influential role has been through the Securities Valuation Office, which establishes statement values for each debt obligation held by each insurer, and by the Insurance Regulatory Information System (IRIS) which screens company reports for potential insolvency problems. Without the NAIC, state insurance regulation might have been a hodgepodge of conflicting, confusing, and impossibly complex laws for companies operating in multiple states. But the centralizing role of the NAIC has provided a reasonable degree of uniformity in regulatory standards and has fostered a high degree of interstate cooperation.

Embarrassed by the rising tide of insolvencies, and threatened by congressional proposals for federal regulation of the insurance business, state insurance commissioners have been moving more vigorously to tighten regulatory standards and enforcement. But it remains true that many of their desired changes require passage by state legislatures, which can be a slow and frustrating process. And the strength of their departments is dependent upon state appropriations, which can be an insuperable problem at times of widespread budget-cutting at the state level. For its part, the insurance industry at large has been a long-time defender of state regulation and has encouraged the efforts of the NAIC and the individual states to maintain regulatory standards that will protect the public, and the industry, from insolvencies. This attitude is not hard to understand when it is recognized that insolvencies cause incalculable damage to the industry at large by raising doubts and fears in the mind of the public over the financial integrity and soundness of any and all companies in the insurance business.

Concluding Observations

The foregoing account of financial conditions in the life insurance industry has attempted to be more factual than judgmental, in the sincere belief that the judgmental function can best be exercised by regulators who look beyond aggregate data and industry averages. Nevertheless, a few generalizations may be in order.

It is quite apparent that the life insurance industry today is not as financially sound as it was a dozen years ago. The nature of the business has undergone radical changes over that period, which have reduced its profitability and heightened its exposure to financial risks. In contrast to the 1970s, life insurance and annuities in the 1980s have become investment-oriented products, sensitive as never before to movements in market interest rates. The industry now passes along a greater proportion of its investment return to contract holders while still providing guarantees. To maintain profitability, it has reached beyond its traditional limits of credit risk and interest rate risk and has begun to pay the price of so doing. Competition among companies has become more intense than ever before, with a larger share of products linked to investment returns, allowing buyers of annuities and insurance to shop and compare on the basis of interest rates, either implied or guaranteed.

Life insurance traditionally has been a fixed-dollar product, and it worked best in a low inflation environment with moderate interest rates. In the very different climate of the 1980s, the industry was faced with the choice of adapting with new products or going under as a reservoir of financial assets for future use. It chose to adapt, by entering into head-on competition with other contenders for the savings dollar who

based their customer appeal on the attraction of interest rates. The buying public was faced with investment choices of high-yield bonds, money market funds, bank CDs with federal insurance, or common stocks with potential gains: this public had to be lured into meeting their insurance needs with policies that gave them some "piece of the action." The grudging decision by life companies to offer investment-oriented products, with all the attendant risks, was not a happy choice, but it was deemed necessary to survival in the environment of volatile interest rates and uncertain inflation prospects.

In the face of these rapid changes, carried out mainly between 1981 and 1985, state insurance regulators have had a major struggle to stay abreast of marketplace developments. On the product side, regulators must review the new policies being developed; on the investment side, the prevailing limits for investment practices were expected to suffice. But the competitive drive for higher yields with greater risks has pressed hard against the limits of conservative investment standards, breaking over into untested and unsafe ground. The regulators now face the difficult task of damage containment through more stringent surveillance.

In my judgment, the life insurance industry is not in trouble; some of the companies are in trouble. But the troubles of those few companies present very real problems both for the industry at large and for its regulators.

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Discussion

*Terence Lennon**

Fundamental changes have occurred in the life insurance industry over the past decade. In my comments on Kenneth Wright's paper, "The Structure, Conduct, and Regulation of the Life Insurance Industry," I would like to analyze these changes from a slightly different perspective and with slightly different ornamentation. This analysis focuses on four time slices: the way it was, the way it became, the way it is, and the way it will become.

The Way It Was

Fifteen or twenty years ago, it would take a crook or a fool to run a life insurance company into the ground. And a fool would have had a very difficult time doing it. Today, mere mortals can do it. In the old days, good managers made lots of money; bad managers made money. Profit margins were uniformly high and interest rates rose gradually but were relatively stable. Cash flows were steady and, above all, predictable. Lapse rates, while they hit peaks and valleys, were also more or less predictable. And in the past, product life was generously long. The ordinary life policy and the spin-offs from it had existed for many decades and had more than paid for their development.

An old joke shows how life insurance companies used to be managed. A life insurance company was like a car going down a highway; at the wheel was the CEO who also controlled the accelerator,

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next to him was the chief financial officer who read the maps and watched the gauges, and in the back seat an actuary knelt looking out the rear window, telling them where to go. And as odd as that sounds, it worked, because actuaries look at the long history of numbers and tell management what they should do in the future. And for that time it did work.

The management structure had other interesting characteristics in those days. It consisted of a series of autonomous or semiautonomous functional units: marketing, actuarial, the comptroller, and the chief financial officer. These units met several times a year, set things on automatic pilot, and, basically, everything worked. The profit margins were very generous. The balance sheet was filled out with a joyful conservatism born of legalized tax avoidance because, in those days, every reserve was a tax deduction. This structure is not as useful today.

During those times, everyone was fat and happy. Regulation was a cakewalk; regulators simply talked about the latest innovations in assets or whatever, and the amount of risk was limited. But then came the revolution.

The Way It Became

The revolution came in the form of a destabilization of interest rates. The common phrase "buy term and invest the rest" has been around since sometime in the 1950s, perhaps longer. However, people were not paying very much attention to it. Savings banks in those days paid 5 percent, while policyholders were credited with 3 to 3½ percent on any inside buildup. The one and one-half percentage point differential evidently did not interest anybody very much. But when interest rates started to climb in the late 1970s and into the early 1980s, the world changed. And during this period a subtle change took place among U.S. insurance consumers: they were transformed from savers to investors.

Overnight the question, "How much am I getting on my idle cash?" became important. The insurance industry was faced with a problem. It would see all its assets exit unless it did something. And so, James Anderson, who had been the head of Tillinghast, developed the universal life product, which basically unbundled the mortality coverage from the fund buildup and gave a market return on the fund buildup. In addition, the single-premium deferred annuity (SPDA), which had been around for years, was recycled and sold like a certificate of deposit.

A new set of risks became paramount. Historically, insurance companies had been managers of mortality and morbidity risk. All of a sudden they were asked to be managers of rate spread risk or investment risk. This was an entirely different ball game and one for which their management structures were not well suited. The new products

were sold based on interest rate illustrations. Currently, a generation of agents exists who do not know how to sell security—they sell illustrations. When this happens, the product becomes a commodity like any other commodity, and the margin shrinks, especially when too much of it is in circulation.

The decrease in margins inexorably led to a capital squeeze. The squeeze is twofold; real capital as a percentage of assets has decreased, but not markedly. More importantly, the quality of that surplus is diminished because of an assault on statutory accounting throughout at least half of the 1980s. This assault has removed some of the conservatism from balance sheets.

In New York, we have acted to prohibit a number of these "innovations." For example, securitization was proposed, but the way insurance companies were going to use it was problematic. It is a legitimate product for a bank to sell but, for an insurance company, it is basically mortgaging the future in ways that do not show up on the balance sheet. Another "innovation" of the 1980s, called financial reinsurance, entailed the shifting of liabilities without the shifting of risk. This was prohibited in New York in 1984; nevertheless, it has played a very significant role in the recent failures in other states.

Basically, the squeeze on statutory accounting has left the quality of surplus far different from what it was. You have two elements: a small shrinkage in the absolute size of capital, as well as a considerable reduction in the quality of that capital.

The conservative statement of liabilities in a life insurance company is valuable and has been very useful to regulators. Historically, one of the reasons that so few failures and insolvencies have occurred in the life insurance industry is that companies' conservative financial statements allowed a cushion for maneuvering, once a company became impaired. That is, the company still had a lot of value left in the book of business, so long as the assets were reasonably valued. This allowed other companies to come in and either buy the business or buy the company. Depending on the extent to which all of that conservatism or hidden value now has been squeezed out, once an impairment occurs, the result is a big problem.

The Way It Is

We now have a stressed industry. It is not a basket case, nor is it another savings and loan crisis at this moment. The problem companies are larger and more significant than the ones we have seen in the past, however. The cases of Executive Life of California (ELIC) and Executive Life of New York (ELNY) both illustrate a number of the problems of the 1980s and several of the abuses that New York regulators reacted to,

specifically asset–liability matching, required by New York since 1986; concentration in junk bonds, which New York limited in 1987; and the use of financial reinsurance, which New York disallowed in 1984.

But the early bird does not always get the worm. The first year that ELNY was up to about 19 percent in junk bonds they were called in and told that junk bonds were a new investment vehicle and 19 percent concentration seemed too high. Since "fallen angels" had been the only below-investment-grade securities on the market before that, the law was silent. ELNY told us not to worry, this was something they knew how to manage. We had little choice but to continue monitoring. The next year ELNY increased their junk bond concentration to about 33 percent. We called ELNY again with concern over the high concentration and were told not to worry. ELNY said they knew how to manage their finances and were probably not going to acquire much more. The following year their concentration reached the high 40s and we decided not to call them in, having already heard their presentation.

At that point we began drafting legislation to limit life insurance companies' concentration in junk bonds. It was 1986, in the heyday of junk bonds. Drexel Burnham had a very powerful lobby and the legislators heard something entirely different from them than they heard from us. When it was quietly suggested that we do it as a regulation, we proposed one. Then we were called to a hearing by the Legislature and excoriated for proposing the limitation as a regulation. By the time the regulation was promulgated in 1987, ELNY had increased its concentration in junk bonds to about 70 or 75 percent of assets. While we were trying to convince people that fiduciaries should not have this kind of concentration and that junk bonds were basically an untested investment vehicle, ELNY just kept loading up on them.

Our regulation made no requirement of divestiture, for two reasons. One is that the dumping would have played havoc with the market and, more importantly, ELNY's and ELIC's liabilities are about half long-term and half short-term. One-half of ELNY's liabilities are structured settlements and pension closeouts, which are long-term liabilities. And if they were priced based upon the coupon yields from those junk bonds, the company could not really sell the junk bonds, buy 8 percent Treasuries, and expect to meet its obligations. So a limitation could be imposed only on a prospective basis.

On that basis, ELNY decreased its concentration to below 50 percent near the end of 1989. Then during 1990, with all of the problems in the junk bond market, surrenders amounting to almost one-quarter of the company occurred. That took only non-junk assets out and brought the level back up to 60 percent again.

ELIC had different problems. They had, first of all, a much worse portfolio than ELNY, about 38 or 39 percent in the bottom two quality categories, meaning the default and essentially the C categories. They

also had a lot of financial reinsurance, as did, I believe, First Capital. And I think it was Commissioner John Garamendi's decision to no longer allow financial reinsurance that basically blew the hole in the bottom of those companies. Were it not for the delays in New York caused by intense lobbying, and if California had put the 20 percent limit in at that time, these two companies would not have been basket cases. Aggregate limits do work for insurance companies.

Insurance regulators operate in a way characteristically different from bank regulators. We do not go into the analysis of individual assets to the extent that bank regulators do. We do it more on the basis of both the liabilities and the assets and, frankly, more on the liabilities, historically, although now we are certainly learning more about asset-side regulation.

We are seeing the beginnings of some long-term solutions. Management structures are becoming much more integrated and dynamic. Pricing and product design have become more sensible and within a reasonable economic framework. Companies are putting a widespread emphasis on efficiency and lower expenses and they are developing methodologies to monitor their assumptions, because, frankly, insurance is a difficult business in which to track your profitability because it tends to evolve over a number of years. One problem is that many of the companies do not have adequate management information systems to monitor profitability. Most of the money that was put into computers was put into policyholder systems throughout the 1980s.

The Way It Will Be

The 1990s will be a decade of trauma and recovery. The National Association of Insurance Commissioners (NAIC) has a number of important initiatives. The NAIC certification process should be very helpful. It is no secret that regulatory resources are not evenly distributed throughout the country. One way of saying that is that we have 800 people in the New York department and some states have 12. Our department supposedly has more actuaries than the rest of the departments put together. So it is clear that a better distribution of resources is necessary.

Risk-based capital, I believe, is something whose time has come for life insurers. It was not necessary 20 years ago, but it is absolutely necessary now; and Frederick Townsend's comment that 50 percent of the risk-based capital formula is on the asset side is indicative of the reason why. In the mid 1970s an asset–surplus ratio meant something because the reserves of the company basically covered 95 to 98 percent of the company's risk. The assets tended to be fairly vanilla. Since then, the risk profile of companies has changed. Back then the risk profile of

companies was fairly homogeneous; now it is not. A company with an 8 percent capital ratio now might be in worse shape than one with 6 percent, simply because its assets are more risky or it has assumed other risks not addressed by the reserves. Risk-based capital's time has come; the life insurance industry understands it and is ready for it.

Changes in reserves and investment laws are positive steps. The asset valuation reserve is one major step. New York has had the mandatory securities valuation reserve (MSVR) that reserved for bonds and stocks. By this December we will have in place a reserve that addresses all classes of invested assets and requires both formula contributions and capital gains to be reserved. A group at the NAIC is also writing a model investment law, which, oddly enough, has never existed at the NAIC. The old New York law was, in effect, a model that was widely followed throughout the country. However, the New York law was changed in 1983; the qualitative standards were removed and the prudent person rule was substituted. Unfortunately the law did not assign a prudent person to every company. The quantitative or aggregate limits were left in the law, but no limit was added for junk bonds.

Many anticipate some kind of federal role in insurance regulation. In the past year, I have spent a lot of time in front of a variety of Congressmen who have a variety of experiences with the industry. Just before this conference we received requests to appear twice more in July 1991 in front of Congress. Representative John Dingell of Michigan seems to be headed toward developing some standards; this may or may not happen, it is very difficult at this point to know. The problem is that Congress is looking only at the most egregious cases of failure. This, by the way, makes the regulator's job easier. The fight in 1987 to do something about junk bonds was monumental compared to what I would have to do today to achieve a change because, on any issue, greater attention is being paid to the industry and this makes it much easier for a regulator who wants to get some things corrected.

We have made several trips now to Asia and I have spoken several times to international groups of regulators here. One of the tools that regulators in other countries all have that we do not have is the ability to influence tax policy, to induce conservatism through tax policy. That is totally absent in this country, even though it is a tool used by regulators virtually around the world. It is possible that it would come with federal regulation.

Conclusion

By the end of this decade we are going to have at least 20 percent fewer life companies. We will see major mergers in the next four to five years and I believe this is absolutely necessary. The demographics are

excellent for the industry. An aging population with a fairly significant accumulation of wealth fits well with what insurers do. If the industry manages the business well, it will continue its role as a valuable element of the country's financial structure.

And finally, I will comment on marking assets to market. Everybody loves to mark to market. The whole point is not that it can or cannot be done, but that marking the assets to market cannot occur without also marking the liabilities to market. Both sides of the balance sheet must be done. The problem is, particularly among the big insurers, that only a relatively small part of their asset portfolio has a readily obtainable market value, and no methodologies are in place now that would assign market values to the rest. What that does is leave it up to assumptions and guesstimates. I will guarantee that the companies that are stressed will have the most generous assumptions, both on the liability side, which again does not have a methodology now, and on the asset side. Our recommended substitute is cash flow testing; at this point I believe marking to market presents more problems and more difficulties in monitoring than does cash flow testing.

Discussion

*Kenneth J. H. Pinkes**

My comments represent Moody's interpretation of the various perspectives on the financial condition and regulation of the insurance industry given by leading financial service companies around the world. I will briefly describe what we consider to be the fundamental forces at work in the entire financial services industry and then draw some conclusions about the outlook for insurance policyholder risk. The main point I would like to add to Kenneth Wright's paper is that, in Moody's opinion, little hope exists in the near term of a return to a financial system with the level of stability that we saw in the 1950s and 1960s. This is not simply a problem of regulation, this is not simply a problem of inflation, but it is a question of trends at work that are going to maintain an environment of instability for a long period to come.

The Current Environment in the Financial Sector

Deregulation around the world has led to an increase in the efficiency of financial markets. We can define efficiency very roughly as the degree to which the allocation of investable funds follows the path of maximizing the long-term total rate of return and reflects minimal distortion resulting from an imperfect access to information by market

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participants. Efficiency increases when artificial barriers to profit-maximizing behavior are removed and when access to information is accelerated and equalized.

But improved efficiency does not come without exacting a cost. Recent theoretical and empirical research on financial markets suggests that the technological developments and public policy measures that can create more efficient markets also create a greater degree of fragility for the banks, insurance companies, and other financial institutions comprising the markets. Fragility refers here to the susceptibility of institutions to shocks affecting financial values and leading to their becoming insolvent or illiquid. The rapidity of flows of information, and the pressure to sustain earnings in today's highly competitive environment, reduce the buffers or shock-absorbing reserves that used to be present throughout the financial structure. Shocks are now transmitted through the system much more rapidly than before, and institutions are no longer as protected by regulated access to low-cost funds or by other regulatory barriers to entry against new competitors. New techniques of monetary management and the emergence of a managed, floating exchange rate regime have created more volatility in interest rates and expose institutions to a greater degree of market risk.

Consequently, a trade-off results between efficiency and fragility in financial markets. In order to constrain institutional fragility without reducing efficiency, regulators have sought ways to more precisely reflect credit risk in investments, such as the new capital adequacy guidelines of the Bank for International Settlements (BIS), and the fine-tuning of the mandatory security valuation reserves by the National Association of Insurance Commissioners. Nevertheless, we do not believe such measures can totally remove the necessity to choose a point on the efficiency–fragility curve. National and interregional regulatory systems will make different choices, depending on national traditions, vested interests, and ideological and political preferences.

My reason for beginning with this preamble is to emphasize that it is not appropriate for Moody's, as a rating agency, to attempt to prescribe or even suggest to policymakers where, on this efficiency–fragility curve, their choice should fall. But it is our obligation to observe and judge the effects of such choices on the risks faced by investors in the obligations of the various classes of financial institutions.

Moody's fulfills its role in the credit markets by taking a long-term perspective. We believe two fundamental forces will determine the shape of tomorrow's financial services industry: the impact of information technology, and the impact of public policy on what will largely remain a highly regulated industry.

The Impact of Information Technology

Let me turn now to the first fundamental force that we believe is changing financial markets around the globe. We have frequently cited the effects of the twin forces of computer and communication technology in Moody's past analyses, so I will be brief. Various industry commentators have estimated compound annual growth rates in computer cost performance to be in the range of 20 to 30 percent. The cost of processing financial data is constantly driven down as new generations of computer hardware and software develop. Likewise, technological advance is dramatically improving the ability to communicate and to transmit information at reduced cost. These are secular, not cyclical forces and they will continue to express themselves far into the future.

These technological forces have three major results. First, the financial services industry will continue to witness, through unbundling, the creation of new products and multiple new businesses out of what had been very few products and businesses in the past. As advances in information technology permit better cost measurement, management can more effectively control and price a product or service. When management can realistically set prices on a reduced scale of business activity at low cost, it also has the potential to establish a new business and to measure its competition and success on a more discrete basis than in the past.

Financial services used to be largely a vertically integrated industry: financial companies generated internally most of the cost of the services they provided. But this has opened up with the development of specialized national-scale industries such as mortgage servicing, credit card administration, and providers of administrative services. In wholesale capital markets, assets are separated from their originators and, through sophisticated data manipulation and analysis, can be repackaged as high-grade securities for a global investor population. This would not be possible without declining costs for performance measurement for these various asset classes of securitized assets.

This turning outward to sell what used to be created for in-house consumption also results from the second major impact of advances in information technology, the arrival of economies of scale in many of these emerging industries within the traditional financial institution. This is especially true for the best-managed companies. In the past it could be reasonably argued that the opportunities for scale economies in financial services were quite limited. This is not to say that companies could not achieve higher returns through dominant share. But in the old days those returns would likely come from pricing power rather than cost performance. Many have argued that as late as the middle 1970s such businesses as retail banking and processing of health insurance

claims actually had diseconomies of scale. But today we believe that, for the most cost-effective companies, ATM networks and the extraordinary capital intensity of communication and computer software and hardware have changed that situation at the level of the discrete business unit. Today we believe information technology has added cost performance to the pricing power associated with leading market share. As a result, many market participants now believe that the economic incentive for scale advantage has expanded.

The third result of technological advance, complexity, in fact results from the prior two. The rapid decline in costs, and the creation of multiple new businesses, each with its own scale economies and market dynamics, have thoroughly complicated strategic decision-making. Aggregate size is no longer a valid measure of strategic success: it is market share and cost performance within each specific niche that have become predictive of long-term success. Furthermore, an appreciation of reinforcing scale economies in related niche businesses has taken on new importance in strategic planning. The conclusion seems clear: the portfolio of businesses that has replaced the integrated firm is far more difficult to manage. For regulators and analysts, a firm's long-term success, or failure, is more difficult to predict using traditional financial parameters.

The Impact of Public Policy

Let me turn now to the second group of fundamental forces that will determine the shape of the financial services sector: the regulatory and public policy environment. We have been hearing four themes in recent years: first, a greater tolerance for concentration. In the U.S. financial services sector, perhaps the most fragmented financial system in the developed world, we have seen a greater tolerance for concentration than has been seen since Andrew Jackson revoked the charter of the Second Bank of the United States in 1831. And this is not just an American phenomenon. The evolution of an integrated European market is actually leading national governments to encourage consolidation in what is seen as a much larger competitive arena. In both Europe and the United States, policy tolerance for concentration, at least in part, appears to reflect greater confidence in technologically driven, cost-based efficiencies of scale.

The second shift in public policy is a greater willingness to subordinate regulatory sovereignty for common global or regional standards. This goes beyond the significant strides made by the BIS/Cooke Committee and by various European Community directives. Similar moves are well underway in the securities industry and among state insurance regulators.

The third policy shift underway is a greater willingness to accept the continuing blurring of the boundaries between the highly regulated financial sector and the commercial sector. Unbundled services do not necessarily have to be provided through a regulated financial institution. As business risk and scale economies become more important in predicting success or failure, regulators and analysts are finding it more difficult to adequately measure risk using traditional financial parameters. Sound risk measurement in the future will rely more on prudential judgment and on analytical tools from the commercial sector, as the overlap expands.

The fourth and final public policy development appears to be a greater insistence that providers of risk capital and liabilities in general absorb losses in the event of failure. These four regulatory and public policy trends reflect policy that has tilted, at least until very recently, toward efficiency via market liberalization, at the expense of stability.

To summarize Moody's environmental outlook: declining information technology costs and public policy shifts are combining to introduce unprecedented complexity into the management, analysis, and regulatory supervision of financial services companies. The landscape of competitors is shifting and they are more difficult to identify. Competitors come from different regions, countries, industry sectors, and even from outside the traditional financial services industry. Sophistication about technology and shifting shared-cost positions has never been more important.

Meanwhile, convenient regulatory barriers to help define competition are eroding, and the pace of change in relative market share has quickened as public policy tolerates greater concentration. Furthermore, increased business risk is compounded by declining regulatory protection and greater insistence on market discipline.

Finally, management uncertainty about the security of its business position is in itself fueling fierce competition and greater risk-taking. These are tough times for top management, the regulatory community, insurance policyholders, and I might add, industry analysts.

The Outlook for Success in Financial Services

This summary may have pointed out little that is new to you, but it helped set the stage for developing the central points in Moody's outlook for specific companies. Let me describe the key factors that we believe will predict success in this environment. The greatest challenge, particularly for large companies, is developing a realistic sense of resources and opportunities. Let me choose an example from outside the insurance industry. A few years ago, the management of a major U.S. bank holding company described its national retail strategy to

Moody's. It was based on an active cash acquisition program, since the firm's stock price was depressed. The emphasis was on rapidly reaching national scale as regulatory barriers dropped. The strategy included two problems, however.

First, the strategy lacked precision and emphasis on how value would be created through acquisition and consolidation. The firm was the victim of what, even then, was a flawed measure of success: the belief that size itself would deliver market power and above-market rates of return. The company would have been more successful in its acquisition strategy by adding clearly conceived and highly focused operating strategies to the benefits it expected to achieve through size alone. It would have priced its acquisitions more wisely as well. Second, the firm showed a lack of realism in assessing the financial resources necessary to achieve success. At the time, we estimated that a truly national retail strategy would require more than $15 billion in equity capital, well beyond the capacity of this firm.

This "strategic myopia"[1] was in part a legacy of the prestige ascribed to the leadership of the largest financial institutions. While that prestige was, in the past, well-deserved, it often fostered complacency and sustained a false picture of reality. A simple truth about financial service companies is that, at least early on, a declining strategic position is difficult to detect. The first decay is at the margin, but it accelerates steadily. Reversal requires dramatic and painful restructuring, or, as is more often the case, a deteriorating business position leads to betting the ranch by reaching for credit risk or new business risk.

The second success factor, focus, is related to realistic resource assessment. In this fluid industry environment, the less diversified firms have generated superior returns. Regional banks in the United States have not performed better just because their markets have faced less margin pressure. We believe they have also done well as a result of clear operating strategies that resulted from concentration on a few businesses. Some larger, more diversified firms had mediocre returns until they narrowed their numerous business lines to manageable proportions. They are now winning through focused implementation.

This is not to say that a firm cannot successfully manage a broadly diversified strategy in multiple competitive environments, but it is very tough. Despite the segmentation, specialization, and new product and business development that underlie these diversified firms, their managements still seem tempted to impose a unified vision and management style on the total enterprise.

The third and final success factor is the capacity for what we call organizational innovation. As the technology component of the value

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[1] My apologies to Ted Levitt of the Harvard Business School.

added in financial services grows, the old way of doing things goes out of fashion more quickly. Middle managers are often stranded by obsolete skills. They suffer increased career risk and stress as they watch repeated downsizing and shrinking staff. Precious few companies have been able to establish middle management enthusiasm for change as a matter of self-interest or self-preservation.

At the same time, risk control systems require constant revision and innovation. The pursuit of competitive advantage by new product development often leaves risk control as an afterthought. We have seen examples in the initial offering/public offering mortgage-backed securities market, foreign exchange markets, swaps, and GIC markets, where controls came well after the sale of the product, and often at a considerable cost.

Finally, organizational innovation is necessary to deal with the fragmentation of markets. It is necessary to instill a keen eye for value creation and competitive advantage at lower and lower levels of management.

Despite all these pressures to accelerate organizational innovation, caution is needed as well. Excessive change can also lead to organizational turmoil. So what is Moody's outlook for the financial services sector? First, business risk will continue to rise. As innovators become more efficient and stronger, the weak will get weaker. New efficiencies are destabilizing because they cannot be adopted at the same rate by all market participants.

Many firms continue to pursue unfocused and unrealistic strategies, in good part because it has become much more difficult to determine the sources of sustainable competitive advantage. Only a select few have established a high degree of organizational innovation and momentum.

This dynamic environment is not friendly to high ratings and it is certainly harsh in the demands it places on the regulatory community. Our orientation as a rating agency is to downside protection, not upside potential. And uncertainty itself will prove unfriendly to the maintenance of high ratings.

But, from the perspective of many market participants, the situation can be viewed more favorably. First, enormous efficiencies are coming into the financial system through consolidation, technological innovation, and new operating technologies. Second, substantial customer needs remain unmet, giving astute firms the opportunity to gain advantage, generate revenue, and prosper.

Discussion

*Robert E. Schneider**

Kenneth Wright's paper presents an admirable summary of the evolution of the life insurance industry, its products, and the investment practices prevalent among its companies. The conclusion that the industry as a whole is not in trouble is valid, even though some individual companies are in trouble, and those companies present very real problems for the industry and the regulatory community. However, it is not clear that we should accept the statement that "the life insurance industry is not as financially sound as it was a dozen years ago." The nature of the primary risks to which the industry is exposed has shifted over that period, and while the problems facing many companies today are significant, they are not necessarily more severe than the problems of the late 1970s and early 1980s.

Changes in Product Design

The shift to interest-sensitive products is cited as a major shift in the fundamental nature of the industry. Clearly, increased emphasis on the investment component of the pricing of life insurance products occurred during the 1980s, as interest rates remained at historically high levels. However, it is important to understand that the investment component has always been an important factor in pricing these products. The introduction of "interest-sensitive" products reflects a shift in product design intended to allow companies to compete on the basis of current interest rates (which are both high and volatile), without providing

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overly risky guarantees with respect to interest rates to be credited in the distant future.

The primary product of the mutual segment of the industry, participating whole life, has always paid dividends that included a significant contribution from the interest earnings in excess of the guaranteed rate. This product is structured today as it has been for many years, and it competes successfully in the marketplace with universal life and other forms of interest-sensitive life insurance products.

The major change in life insurance product design has occurred within the stock company segment of the industry. The guaranteed cost products sold by these companies in times of more stable interest rates were not competitive as interest rates rose and became more volatile, because it would have been unsound for the companies to guarantee such high interest rates for the many years the contracts are expected to be in force. It was therefore necessary for stock companies to develop products that mirror the participating contract's ability to provide the policyholder with high current interest rates (through the dividend mechanism in the case of participating policies) for as long as that condition exists, while not guaranteeing it indefinitely. The resultant products were primarily universal life and a fixed-premium version of that product known as excess interest whole life (or EIWL), which operates with similar mechanics to universal life. As a result of this product evolution, all of the life insurance products sold by the industry today are in fact interest-sensitive. While the market share of universal life and variable life may have declined since 1987, the market share of interest-sensitive products has not declined.

This shift toward interest-sensitive products is, however, not as much of a change from the past as is often assumed, since the market share of participating whole life has always been significant. It is also not necessarily true that the interest-sensitive nature of the new stock company products has in and of itself increased the risk profile of those companies. The competitive pressure to maintain credited interest rates is very real; however, the company is not obligated to maintain rates and the product structure allows actual results to be passed on to policyholders. In addition, all life insurance products, including interest-sensitive products, have disincentives to surrender (for example, large penalties designed to recoup high up-front costs, and the requirement to requalify for replacement insurance).

Annuities

The shift toward annuities, both single-premium deferred annuities (SPDAs) and guaranteed investment contracts (GICs), has had major implications for the risk profile of the industry. In general, these

products generate more investment risks for the insurance company than life insurance products, even considering the problems posed by the policy loan and surrender provisions of the latter. (Of course, they pose very little mortality risk, unlike the life insurance products, and so are not necessarily more risky in total.)

The typical SPDA product sold to individuals does not guarantee a high rate of interest, but it is not structured to impose any significant penalty for surrender, either. Since the funds backing this product must be invested in intermediate- to long-term assets in order to generate competitive credited interest rates, and since the product is viewed by the purchaser as an investment, the company is exposed to significant interest rate risk. This risk exists even though most large annuity writers have employed modern hedging techniques to minimize it to the extent possible.

The provisions of the typical GIC contract and the sophisticated investment management techniques employed by most writers of these products make it possible to insulate the company fairly well from interest rate risk, although there are examples of companies that have assumed significant interest rate risk by assembling mismatched portfolios. However, given the segmented approach taken by most large companies in managing their asset–liability matching, aggregate industry data cannot be used to reach the conclusion that the industry as a whole is in this position. On the other hand, the extremely competitive nature of the market and the fact that interest rates are guaranteed for the length of the contract impose a much greater degree of credit risk in this arena than exists with respect to either life insurance or SPDAs.

Investment Practices

Many of the shifts in investment practices described in Wright's paper are correctly attributed to the shift in product design and product mix. The life insurance industry has become much more sophisticated over the last decade in the areas of asset–liability matching, asset segmentation, and the use of hedging techniques to manage interest rate risk. However, many of the changes mentioned are also in large part a reaction to the problems caused by prior investment strategy but not well understood until the liquidity crisis of the late 1970s and early 1980s.

Until that time, assets were normally invested for 20 to 30 years to take advantage of the positive slope of the yield curve, because it was assumed that life insurance policies and group annuity contracts sold at that time represented a liability of similar duration. The value of the implicit options granted to the policyholder by virtue of the cash surrender and policy loan provisions and their impact on the duration of

the liabilities were not well understood. The events of 1979 to 1982 demonstrated to the industry the high degree of interest rate risk and the inadequate degree of liquidity inherent in the typical company's asset–liability structure. The movement to assets with shorter average lives, higher allocations to more liquid assets, and the increased use of high-quality government and agency bonds described in Wright's paper are largely in reaction to the recognition of these risks, rather than in reaction to newly emergent product designs.

The need to maintain sufficient liquidity to withstand the proverbial "run on the bank" has been demonstrated by recent events to be a key requirement for success. Failure to maintain the necessary degree of liquidity has been the downfall of the large firms that have failed; Baldwin-United and First Executive both had to sell assets into a depressed market in order to raise funds to meet policyholder demands. The recent increase in the proportion of the industry's assets devoted to higher-quality securities (especially the recent movement in government bonds from 3 percent of assets to 13 percent) is an indication that companies have recognized this need and are acting upon it.

Junk Bonds and Commercial Real Estate

The current level of public concern about junk bonds and commercial mortgages and their impact on life insurance companies is much greater than in prior periods when credit losses were significant. With the exception of a very few companies, the extreme concern over junk bonds seems misplaced. Only 6 percent of industry assets are invested in junk bonds, and it must be recognized that the definition of "junk" used in this calculation encompasses many bonds that are far less risky than the stereotypical junk issue (that is, public issues used to fund corporate buyouts with extremely high debt to equity ratios). As Wright's paper points out, many of the privately placed issues included in this calculation include covenants that provide far greater security for the lender than anything available in the public markets. In addition, much of the concern over the risk inherent in junk bonds is based on the level of risk inherent in the types of issues that are classified in the category 5 (10 percent reserve). However, a majority of the 6 percent of assets included in the industry's holdings of junk bonds fall into category 4 (5 percent reserve). The industry has a long history of investing in this type of credit, especially in the private placement arena. To suggest that massive defaults threatening company solvency are likely is a severe overstatement of the problem.

Mortgages and real estate represent a far larger percentage of industry assets than do junk bonds. The problems in this area have been well-publicized. Some observers have compared the life insurance

industry to commercial banks or to savings and loans in trying to quantify the exposure to problem mortgages. These comparisons are inappropriate, because the nature of the mortgages held by insurers is very different from those held by banks and S&Ls; insurers are limited to loans of 75 percent of the value of the property, while banks often lend 100 percent. As a rule, insurers make loans only on completed properties, while depository institutions often fund the construction phase, which is a far riskier proposition. Finally, insurers normally make loans nationwide, whereas most banks concentrate their lending in the geographic area in which they are located, thus concentrating their exposure to a regional economic downturn (such as the recent problems in New England).

Even with these differences, however, it is clear that insurers continue to suffer significant credit losses in their mortgage and real estate portfolios. The ultimate threat to solvency will be determined by their ability to adjust credited interest rates on the corresponding liabilities. A company that holds large amounts of GICs backed by mortgages will be less able to respond appropriately to credit problems than a company that holds an identical asset portfolio, but has used those assets to back life insurance products with adjustable credited interest rates. At this point it appears that the severity of the problem is comparable to that of 1975–76. While that is certainly not good news for the industry, it must be remembered that the problems experienced at that time did not go so far as to threaten company solvency.

Profitability and Capital Ratios

Industry profitability is probably impossible to measure on the basis of publicly available, statutory information. The entire statutory accounting system is designed to monitor company solvency through the balance sheet rather than measure current earnings in a meaningful way. As a result, true economic earnings are badly distorted in any analysis of the statutory earnings statement.

Total capital, including mandatory security valuation reserves (MSVR), remains at 8 percent of assets at the end of the 1980s, virtually unchanged from the ratio at the beginning of the decade, as Wright observes. In fact, the ratio might be expected to have declined, as a result of the shift of business to annuity products. Virtually all calculations of risk-based capital requirements assign a lower level of required capital to annuity products than to life insurance products, because of the lower level of mortality risk in the annuity line.

Concluding Observations

The sharply increased level of competition and the shift toward annuity products have caused the life insurance industry to assume certain increased investment risks over the past 10 years. At the same time, the degree of sophistication involved in the investment techniques employed by the industry has increased as well. Portfolios have been restructured to eliminate much of the risk to which companies were exposed at the beginning of the decade. While the current recession imposes significant pressure on the investment portfolios of life insurers, it is not clear that the current risks faced by the industry are any greater than those facing the industry entering the 1980s. It is clear that the approaches taken toward investment portfolios are a great deal more diverse. As a result, we can expect to see individual companies face grave difficulties, and perhaps even insolvency. Taken as a whole, however, the life insurance industry is in no danger.