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## ADEQUACY OF PRICING -- CONSIDERATIONS

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Panelists: JOSEPH E. CROWNE  
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Recorder: SUZANNE WAITE STORRER

- o A discussion of pricing margins, including:
  - Attainment of goals
  - Dividend scales
  - Margins in universal life

MR. ROBERT H. DREYER: I was a consultant with Milliman & Robertson for over 18 years. For the last seven years, I have been employed as Vice President and Chief Actuary with Erie Family Life of the Erie Insurance Group.

Our first panelist is Robert P. Hill. He is Senior Vice President and Actuary in the actuarial and product development department at Prudential Insurance Company of America and Vice Chairman of PRUCO Life Insurance Company. His responsibilities cover individual life and annuity product development as well as actuarial and financial management. In addition, Mr. Hill is the Prudential's company actuary with enterprise responsibility for actuarial evaluation, dividend action, and staff development. Mr. Hill has spent his entire career, except for two years when he was in the Army, with the Prudential. In addition to being in Newark, he has had stints in the south central home office in Jacksonville and also, for a period of about four years, was president of the north central operations.

MR. ROBERT P. HILL: It is apparently well accepted by actuaries around the country that pricing inadequacies on individual life insurance are prevalent, if not rampant. Speakers at meetings and writers in publications have all supported this viewpoint. This, of course, is highly related to the growing perception that the insurance industry is in financial trouble. Some have even compared our situation to that of the savings & loan industry.

The comparison to the savings & loan industry represents a gross exaggeration; but there is no denying that insolvencies in our industry have been growing and surplus ratios have, in many cases, been kept at decent levels only through weakening reserves or using various surplus augmentation maneuvers. While the focus of concern has been on risky assets, another issue that is at least as important is whether current pricing levels contain adequate margins and recognize all the risk involved.

Barring some very adverse economic changes, I doubt that our industry will see many company failures. However, many companies may fail to meet customers, or even stockholder's expectations. Based on the level of current life insurance pricing and trends in expenses and investment income, it is likely that many policyholders will not be getting the benefits and values they expected at the price illustrated. This could be

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particularly evident with regard to sales made on a vanishing premium basis. This combination of inadequate pricing and overblown illustrations has the potential to be devastating to the industry's image and credibility.

Pricing, to the actuary, involves the determination of charges related to a set of benefits. The pricing process is governed by a company's pricing policy; and for participating business, the contribution principle applies. The process involves guaranteed contract values and factors, as well as anticipated experience factors and potential variations in them. To the agent and buyer, pricing is simply demonstrated by the sales illustration. Prospects are essentially buying illustrations today, rather than policies. We trust that the illustrations bear a close relationship to the actuary's assumptions in his or her pricing decisions. If the illustration involves more favorable assumptions, then a type of pricing inadequacy exists. Policyholders are going to expect to receive what is illustrated. This will put further pressure on pricing that has not been anticipated.

The highly competitive life insurance marketplace is clearly driving the industry towards thinner margins. This is being compounded by devices to make illustrations look better. This whole trend is bound to be damaging to the industry and companies that get deeply involved.

I would like to get more specific in areas where many companies seem to have inadequate pricing. With regard to mortality assumptions, one has to ask whether it is reasonable to expect continuous improvements, especially in the face of the AIDS epidemic. Apparently about half of all companies have not yet adjusted their pricing for AIDS, but the Society of Actuaries study data clearly shows that untested business is very likely to be impacted significantly. In fact, a careful review of the data even suggests some long-term pricing impact on tested business. At the very least, sensitivity testing for gross premium levels should be done on some potential, adverse mortality scenarios. It is really strange that actuaries in Canada and the U.K. have taken much more prevalent and significant actions regarding pricing and reserving for AIDS than we have, in spite of the lower incidence of AIDS in those countries.

In the area of projected improvements, apparently some companies are illustrating under the assumption of significant unit cost reductions, based on the hope that the volume of business will dramatically increase in the future. Absent some dramatic productivity breakthroughs, this would seem to be more of a "pie in the sky" wish, rather than a legitimate actuarial assumption.

The concept of marginal pricing has been regularly debated without any clear resolution. It seems to me that there is a great temptation to use marginal pricing so broadly that the margin is actually cutting into the core. It is a dangerous concept, and I doubt that all the implications of marginal pricing are adequately examined. It looks like we will be faced with a new pricing challenge as a result of greatly increased income taxes. In fact, if the proposal of deferred acquisition cost (DAC) tax goes through as it is worded currently, we are incurring the tax already. It is hard to believe that any company has enough margins in existing prices to absorb the added load. From what I have heard in the last couple of days, the situation is looking worse. Some may rationalize that making no change in pricing is justified by saying that this is a DAC. When you look at it, you

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can see it is a premium tax with significant front-ended costs. You have to be very optimistic to think that Congress will actually let us amortize that extra cost over 10 years. It will be interesting to see how soon companies respond with pricing increases.

Persistency has become a more popular pricing element for discussion. There have been accusations that some products' pricing can be justified only if there are sufficient lapses. Such products are called "lapse supported." The increasing use of persistency bonuses and the specter of no cash value life insurance sales raise this issue to a higher level. Clearly, actuaries should use realistic persistency assumptions based upon actual experience and consideration for policy size and other relevant characteristics. Results should be tested to see how sensitive they are to the lapse assumption.

The effects of lapses on pricing and the financial results are not as simple as they may appear at first glance. Many simply look at statutory accounting and notice that a lapse in a later year produces a gain. Others point to a single cell asset share analysis to show positive company results in the case of a lapse in later years. These situations exist on many or most policies for most companies, but I do not think they prove that there is some kind of devious, lapse-supported pricing system involved.

This kind of oversimplified analysis ignores many practical facts. When lapses are low, a lot of good things happen to help pricing. First, unit costs are reduced because of a larger in-force over which to spread fixed expenses. Second, mortality results are better because of avoiding the antiselection connected with policy lapsation. Lastly, better agent retention is correlated with better persistency, and this also helps the expense picture.

Theoretical asset share results based on a static model do not reflect these dynamic and positive long range aspects of better persistency. It seems clear that all parties benefit when a policy persists; the company gets continued revenues and earnings, the producer gets long-term income and a good client relationship, and the policyholder gets the protection that he or she needs.

The vital importance of the investment element in the pricing equation has become better recognized in recent years. Still, it is not clear that assumptions, with regard to investment return, are well coordinated with investment strategy and profitability requirements. A review of the companies' investment portfolios suggest that many are going too long on the yield curve or taking too much risk in order to improve product pricing.

Over the last few years the Prudential has moved to a pricing system that requires a target return on risk-based equity, where risk-based equity is defined as the sum of our C-1, C-2, C-3, and C-4 risks. The riskier an investment strategy the higher our C-1 and C-3 risk is, and the higher our return to the enterprise has to be. This helps restrain the temptation to invest with too much risk. While no one can claim that evaluating C-1 and C-3 risks is an exact science, ignoring these risks is foolhardy. Honestly trying to appraise the default and interest-rate risks of various investment strategies is vitally important today. Adopting a riskier investment strategy or lengthening durations clearly increases risk and capital requirements. Coupling this with a fixed requirement for

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return on capital imposes a discipline on the tendency to lengthen durations and increase risk.

Another discipline on our pricing policy flows from our being a mutual company. The contribution principle can be viewed as an inconvenient restriction in a competitive marketplace. It certainly inhibits the desire to price a product on a basis that involves subsidization by other policyholders.

On the other hand, the discipline flowing from the contribution principle has virtues. And in a competitive world if you have underpriced products they tend to outsell the heavier-loaded ones, thereby destroying the assumptions that seem to justify the cross-subsidy pricing strategy. The end result of attempting to use cross-subsidies, of course, can be inadequate total profits.

There are some signs that point towards increasing pricing discipline in today's marketplace. With more emphasis on company strength rather than sales illustrations, there have been several positive changes. For example, companies are promoting their evaluations from rating agencies or other evidence of their strength. While rating agencies may not always be able to spot pricing inadequacies, they are getting more and more sophisticated; and they understand how vital it is to have adequate pricing to build future surplus in addition to current strength.

Many agents are performing due diligence on companies and not simply focusing on illustrations that may be based on inadequate pricing. Some producer groups are doing reverse engineering to evaluate products by seeing reasonable pricing assumptions.

The annual statement interrogatories are providing at least some information regarding company practices. The ASCLU has released a professional practices guideline to help members gather information from companies regarding the assumptions and the basis involved with their illustrations.

More and more companies are stating that their strength and credibility are as important to potential buyers as the prices shown on the illustrations. At least one company recently explained the dividend decrease as a positive effort to maintain its strength.

Many companies will now provide illustrations based on a range of assumptions in order to allow agents and buyers to see projected results under "what if" scenarios. The NAIC has taken several steps toward strengthening their surveillance of companies and requiring additional reserves to lessen the chance of insolvencies. These steps should reduce pricing inadequacies to the extent they are factored into the pricing process.

The valuation actuary concept has the potential to bring greater discipline to the pricing process. However, it remains to be seen whether removal of fixed standards and the substitution of judgment will in fact have a strengthening effect.

The final point I would like to make is with regard to the importance of involving your distribution channel(s) and administrative areas in the pricing process. While this may seem to involve placing extra pressure on the pricing actuary, particularly with regard to

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the distribution channels, it is important that your pricing strategy and assumptions be known in advance. For example, if you intend to be very interest sensitive using new money crediting rates, this will mean your competitiveness versus portfolio average companies will vary over time. The distribution channels must understand this in advance.

Your unit expense assumptions (and the inflation therein) must also be well understood. Keeping expense growth under control has become especially important since the long-term trend of increasing portfolio investment results has turned around in recent years. We cannot count on higher investment yields in the future to bail out increasing expenses. Similarly, your pricing assumption with regard to mortality involves assumptions regarding underwriting standards and requirements that must be well understood by home office and field underwriters.

In effect, your pricing strategy and assumptions define how you are going to operate and lay out organizational goals. A lack of understanding of these key aspects of pricing will easily lead to even more pressure on the pricing actuary to bend on repricing actions, such as setting interest crediting rates. Of course, a clear understanding will not eliminate the pressure entirely. But the pricing actuary will have the best chance of making his decisions lead to future profitability when the whole organization is singing off the same sheet of music.

MR. DREYER: Our second speaker is Mr. Joseph E. Crowne. Mr. Crowne has been in consulting for about nine years. He is currently a partner with Coopers and Lybrand. Mr. Crowne functions primarily in the areas of merger asset/liability management, and of course, product development.

MR. JOSEPH E. CROWNE: I am going to talk to you in terms of what types of things we see in consulting. Obviously we move from company to company and get to see quite a bit, from both small companies and large companies. I have some specific quotes to give you. These things are not necessarily direct results of what pricing actuaries have done, but they are things related to pricing. One of the things I would like to try to get across is that pricing is an organizational thing not just something with which the actuary has to be concerned.

Recently, in preparing financial projections for a medium-sized life insurance company, the chief financial officer of the company asked us what we had used for our projection assumptions and how we had arrived at the assumptions that we were using. We explained to him that we looked at their experience studies, and based our assumptions on our analysis of the experience results and what we thought was going to happen in the future. The chief financial officer was quite shocked. He said that we cannot use their experience. We have to use their assumptions because their assumptions are much better than their experience. After talking to him further, I realized that his feeling was that their experience did not count anymore.

Not too long ago I was working with a company that was heavily into the universal life business. Each year this company performed a mortality study. For about three or four years in a row their studies showed that mortality experience had improved from year to

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year. Every time they got the results of their study they would lower the cost of insurance charges in their universal life products. They would lower them not only for new sales but for the existing business also. When we got there they had just completed a study that covered a period of about 18 months. The study showed that mortality was considerably worse than it had been the year before. I asked the company people if they were going to increase the cost of insurance charges. They replied that this latest study is an aberration and that they will wait a few years and see what happens. The point here was that every year the mortality was better, they lowered the cost of insurance rates. But when mortality seemed to be getting worse, they were sure it was just an adverse deviation.

I was working with a company that was heavily into the single premium deferred annuity business and we were talking to them about what their investment strategy was. The chief investment officer explained to me that the strategy was buying five- to ten-year bonds, nothing longer than that. We did an analysis of the portfolio and we found the average maturity of the bond portfolio was closer to 15 years. So I went back to the chief investment officer and I asked him, "I understand your strategy is to buy five- and ten-year bonds, but looking at this, the average maturity is well over fifteen years." He replied, "Our strategy is to buy five- and ten-year bonds but we have to get our spread, and with today's yield curve, that means you have to go long."

We were working with a company about five years ago that had a very severe expense problem. They had a definite plan to work their way out of their expense problems over a five-year period. Essentially, their method was that they would grow out of their expense problem, which they referred to as an "excess capacity" problem. In any case we went back to the company recently and they still have an expense problem. However, they have a five-year plan to grow out of their expense problem.

I agree that the life insurance industry is not like the savings and loan industry which seems to have problems that ruptured all at once. But I think what we have in the life insurance industry is a slow bleed, caused by the inconsistencies between our assumptions and our experience and between our assumptions and our future.

I have a couple of charts. Chart 1 shows the direction of surplus of all life companies as reported in the *Life Insurance Fact Book*. Obviously there is a trend there. It is not just a trend that was caused by smaller companies. In Chart 2 the top companies show the same sort of trend. This is not something that is a direct result of pricing actuaries' actions, but I think it is related to the overall problem of pricing in the insurance industry.

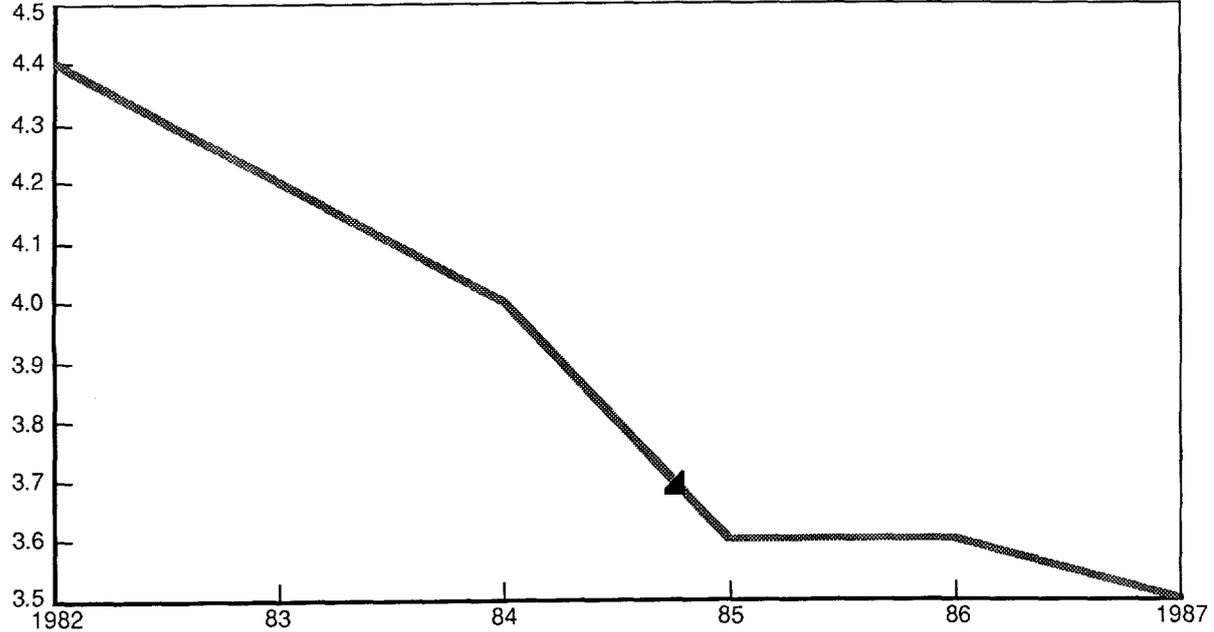
I think our problem is that there is a difference between what our experience has been, what our assumptions are, and what our assumptions and experience can realistically expect to be in the future. As pricing actuaries, we are not usually responsible for the management of life companies, but I think we have professional responsibility to inform management and to communicate with management the result of our pricing actions.

There are many approaches used to price products: Anderson's book profit method, asset shares, macro pricing, marginal pricing, even options pricing on interest-sensitive

# DIRECTION OF SURPLUS

## Top 25 companies

SURPLUS TO ASSETS  
Percent



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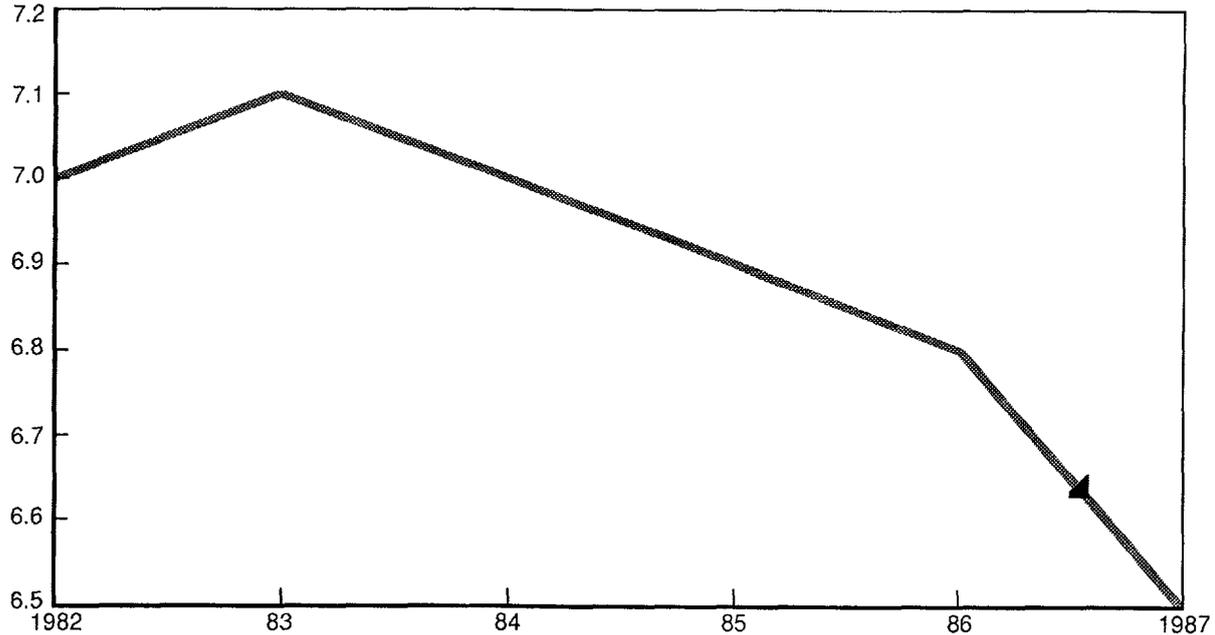
CHART 1

2255

Source: Data from *Best's Insurance Reports*, A.M. Best, Oldwick, N.J.

**DIRECTION OF SURPLUS**  
**All Life Companies**

SURPLUS TO ASSETS  
Percent



2256

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CHART 2

Source: *Life Insurance Fact Book* (1983-1988), American Council of Life Insurance, Washington D.C.

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products. Frequently we are pricing on a basis that is the most ideal: annual premiums, deaths and lapses occurring at the end of the year, marginal expenses, and fixed interest rate spreads on interest-sensitive products, such as 150, 200-basis points every year, year in and year out. Contrast this to the past when we had fat margins in our products, intentionally or otherwise. As experience developed over the last century or so, it turned out that our products were fairly fat. It is the profits in many cases from the products that were sold, 40, 50 and 60 years ago that are keeping many companies afloat.

Today we are pricing close to the edge, if not over the edge in some cases. We need to understand what will happen if our assumptions continue to be better than our experience. We have to look at our pricing both in a retrospective and a prospective sense.

Retrospectively, we need to do experience studies and gains by source analysis. There are many companies that do experience studies with mortality. They may have a very complicated and sophisticated approach for setting the mortality assumption for some of their new product development. You have nonsmokers, smoker, preferred risk, super-preferred, simplified issue, guaranteed issue, etc. Then, many mortality studies are done simply on the basis of the industry table, 1975-80 Select and Ultimate, which creates a problem of trying to interpret what the 1975-80 Select and Ultimate table is in terms of the pricing assumptions.

Both experience studies and gains by source analysis ought to be related to pricing. In terms of looking at our pricing prospectively, we need to do a sensitivity test in fairly detailed financial projections. Too often we see companies that will do five-year projections once a year, basically based on management's assumptions. As actuaries, we need to be able to show management what can happen if future experience is similar to past experience, if future experience is a little worse than past experience and if future experience is not quite as good as the assumptions used in management's projections in many cases. It is important that we communicate to management on a basis that they can understand. The financial projection approach is something that management can easily understand. Management must be shown the results of what happens under different scenarios, interest rate scenarios and mortality scenarios, and expense scenarios. Nearly every company seems to have some kind of five-year plan to grow out of its expense problem, but in many cases, management does not really know what will happen to the company or what will happen to the company's surplus if they do not grow out of that problem. They also do not know exactly what they have to do to grow out of that problem.

The area in product pricing and design that I am concerned about is creative product design, which is primarily designed to make up for poor fundamentals. Frequently, a company with poor fundamentals will design a product that illustrates well. Even in cases when it is priced correctly, the product is hiding from management the fact that their fundamentals are bad.

New York's Regulation 126, the American Academy Guidelines and even FAS 97 will help the pricing actuary because it will force companies to look at experience and how their assumptions have compared to what actually happened. I think you have to remember the product's price is set by management, not by the pricing actuary per se.

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The pricing actuary's primary responsibility is not only to be correct in his calculations but also to inform management, and to make sure management understands that they are taking risks in whatever course they are taking. In many cases their assumptions are much better than their experience, and possibly much better than they have reason to expect their experience to be.

**MR. DREYER:** Our final speaker is Burton D. Jay, Executive Vice President and Chief Actuary of United of Omaha Life Insurance Company serving as the Financial Actuary to both Mutual and United of Omaha. His duties include valuation, financial analysis and management reporting. Burt has been with his current company since 1962 and has been Executive Vice President and Chief Actuary since 1976. Mr. Jay served as a Vice President and member of the Board of Governors of the Society this past year. Mr. Jay has recently served as a Vice President, Treasurer and member of the Board of the Academy and is currently on a life committee of the Actuarial Standards Board (ASB).

**MR. BURTON D. JAY:** For a number of years, we have been concerned about the adequacy of the profit margins in our life and our health products. Increased competition and rising expenses have caused our rates of return to erode over the last 10-15 years. We believe this is also true for the industry as a whole.

To examine the problem, we developed a new method of financial reporting for management purposes. The method that we chose is the value-added method of accounting, where value-added profits are reported by distribution systems (i.e., agency systems, group systems, direct mail), and by-product group within each distribution system. Our life products are sold by United of Omaha which is a stock company wholly-owned by the mutual health company, Mutual of Omaha. My focus is going to be on the most popular life insurance products, which are all nonpar, sold by our agency distribution system.

The value-added method of accounting starts with statutory earnings, deducts the increase in required or target surplus, and adds the increase in the present value of in-force business over the accounting period. Future profits of our in-force business are calculated using pricing assumptions, and discounted at a hurdle rate which is lower than the pricing objective internal rate of return. With the hurdle rate being lower, this results in a positive contribution to our value-added earnings whenever new business is written, assuming that the products sold are priced at the internal rate of return objective.

Pricing is thus integrated with the value-added profit measurement, both including the increase in target surplus as an expense in the same manner as the increase in statutory reserves. It can be shown that, if all of the pricing assumptions materialize, when the book of business stabilizes and new business just offsets lapses, the value-added return on equity will equal the objective internal rate of return. The value added on equity equals the value-added earnings over the accounting period, divided by the value of the in-force business at the beginning of the period. If the book of business is growing, the ROE will exceed the objective internal rate of return. If no new business is written, and experience exactly equals the pricing assumptions, the ROE will equal the hurdle rate. This method has been described in the literature a number of times.

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As we got into the development of this management reporting system, we confirmed that our current experience on agency business could not produce a desirable ROE at the price levels that we felt necessary to produce a satisfactory growth rate.

To a great extent the prevailing market prices dictate what an individual company can charge in the marketplace to still achieve a reasonable level of new sales. To achieve the sales results that we wanted, we felt it was necessary to position ourselves somewhere in the upper half of our competition. This meant that the real competition is how our experience factors, expense, mortality, persistency and interest compare with those of other companies.

The strategy that we developed is very similar to that described by a number of other companies. First, we determined the experience levels that we would need to attain a 12-15% ROE. What we discovered was that these experience levels were a fair amount better than we or the industry as a whole is achieving on agent sold business. We thus suspect that many, or perhaps most, companies are not achieving the 12-15% ROE standard that they say they are pursuing. Our industry experience information is derived from Life Office Management Association (LOMA) expense studies, the Life Insurance Marketing and Research Association (LIMRA) Long Range Lapse Study, Society mortality experience studies, and numerous sources of new money investment rates and pricing elements which are compiled and distributed by a major consulting firm as well as from competitive studies published by *Best's* magazine and other industry publications.

We felt that it was important to determine what the average ROE is that the current marketplace allows. We did this by combining the industry experience levels that were available to us with the industry average pricing elements for our major life insurance products. The pricing elements that we looked at are credited interest rates, loads and mortality charges for interest-sensitive products, and of course, current, as opposed to guaranteed, premiums for term products.

For interest-sensitive products we also looked at the 10- and 20-year cash accumulation values in order to measure the combined effect of the pricing elements in a manner that is consistent to the way most of the business is sold. The pricing elements tested to determine that they did produce the 10- and 20-years' accumulation value somewhere around the industry median.

To make the calculations, we started with models of our mix of annuity and life insurance business. The annuity product is an interest-sensitive periodic payment type, which is occasionally sold on a single-premium basis, and is all fixed dollar. The life products in the model include mostly a fixed and a variable premium universal life, and a YRT product. The products are priced to be at slightly better than industry average competitive levels. We have used industry average experience assumptions in our study, as described earlier.

The after-tax, after-target surplus, internal rate of return (IRR) for annuities was about 10.5% and for life insurance, the IRR was just over 7%. Since these are mostly

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interest-sensitive products, the expected return would be somewhat reduced because of surrender options and the operation of the C-3 and the C-1 risks. This was not taken into account.

From data that we have on the yields of bonds and mortgages of the type that a rather conservative company might buy for these insurance and annuity products, and average credited interest rates contained and competitive references available, we estimated that the average interest spread during the past year may have been in the neighborhood of 1.25% for universal life products, and 1.34% for periodic pay annuities. These are the levels generally reflected in our internal rate of return calculations.

We discovered that if spreads could be increased by a .5% or 50 basis points, the annuity IRR would improve by around 3-13.5%. The life products IRR would improve by around 1%, to a little over 8%. The impact on the life insurance model is less because much of its composition is not interest sensitive. If we were to combine the life and annuity models, we might hazard an opinion that the average nonpar life company, dependent primarily on agent sold business, is yielding a little over 8% on new business sold today. A 1.5% reduction in credited interest rates, would increase our IRR to around 10%, but that might have some pretty serious marketing ramifications.

Traditionally, actuaries have been pretty comfortable with averages and expected values. In this study we found a way to break out of this traditional mode to develop some insights as to how ROEs may vary among the representative sample of companies. Returns will, of course, vary with all of the experience factors and the pricing elements that I have talked about. Because of a limited amount of data, we chose to vary only one factor, selling expenses, which were available to us in the LOMA cost study. We believe that this is perhaps the most important experience factor that differentiates the financial performance of companies.

LOMA selling expenses do not include agent's commissions, but do include all compensation to field managers, other field expenses, home office marketing expenses and advertising. We selected 25 companies in the LOMA study, and applied our life and annuity model to these companies, except we substituted their own selling expenses. We then calculated 25 rates of return on this basis. The range in internal rate of returns was as wide as we had expected. If we could have varied the other experience factors in the pricing levels, the range would have been even wider. The returns of the 25 companies ranged from a high of 15%, to a low of 5%, the median being 8%, which agreed with our average model. Seventy-five percent of the companies were at 12% or lower and the bottom 25% were at 6% or lower.

I have no conclusions or words of advice to you based on these findings. We asked ourselves how long this segment of our industry can sustain itself at this level of financial performance. How long can owners of life insurance stock companies accept a rate of return below 12-15% on their investments? What alternatives do the stockholders have? Will a number of companies have to fail or merge before earnings return to more normal levels?

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Although our models only included stock life insurance products, the return characteristics of mutual companies are probably similar unless traditional par products yield a significantly greater percentage contribution to surplus. Is something like an 8% rate of return acceptable for mutual companies?

It can be demonstrated that the long-term growth rate of new business is limited to the rate of return in order to avoid the depletion of surplus. Would most mutual companies be satisfied today with an 8% growth rate? Maybe there are significant errors in our calculations or the way we constructed our models or the data that we had to work with. Perhaps this is the best alternative to hope for.

MR. ARMAND M. DE PALO: One of the greatest concerns I have is that the products today are really not serving the consumer. In the past, persistency was something at which the company had to work; the agent got paid his compensation up front, the policyholder received adequate value, and only if the policies persisted did the companies actually make money. Today, many companies have entered into products where the agent gets their money first. The company, because their products have stripped out early values, gets their money later. There is no incentive for either the agent or the company to protect the best interest of the consumer who is promised very large amounts of money at later durations. This puts him at a disadvantage, because the company will encourage their agents to replace this business long before the product gets to the durations at which it illustrates well. What disciplinary action should really be imposed on the actuary who designs this type of product?

MR. HILL: First of all, there are agents who would participate in the replacement game. Certainly the professional agents, those who have been around a long time, know the value of building a clientele. They want long-term relationships to develop in order to develop referrals from those clients. They build their clientele by giving good service, regardless of the fact that the commissions do get smaller. As far as companies encouraging replacement, I guess my impression is that there is less of that going on now. We had a wave of that in the early- to mid-1980s, when universal life got hot, but I think the folly of that approach has been realized. There is at least one big company that constantly encourages replacement, but there is probably less replacement activity now than there used to be. There is a realization that replacement does not make sense. Nothing is built and sustained, and after a couple of years of replacing everything there is nothing left to do.

MR. DE PALO: This is a new generation and the products that are being sold right now will not be due to be replaced by these companies until five or six years after the issue. The product may have a settlement dividend, a persistency bonus, or some other type of enhancement, which are generally placed out past the 10 year, mostly at the 15, 20 and 30 year. If the policies persist, the company will not be able to pay these amounts of money. If the policy does not persist, the company may still choose not to pay these amounts of money. If the agent is doing what you can call due diligence or reasonable care, and encouraging the policyholders to persist, which is in the policyholder's best interest, the company simply cannot afford to pay what they are illustrating. The companies that are financially weak cannot say they are AAA rated or that they have the surplus to support it. They will have to sell something. What they are doing is

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issuing products that, under reasonable assumptions, will not pan out. Any actuary in a company who is not looking at what their company is issuing and does not understand what is happening in their company is in for a surprise in his career five and 10 years down the road.

**MR. JAY:** I would agree. I talked about the dangers of persistency bonuses and how they can get carried to extremes. I do think there is a great deal of danger with that.

**MR. HILL:** I share your concerns in some of the things you discussed. But I think that someone may be listening to those remarks and may think that things are even worse than they are. One sees a few of the more extreme and abusive products like that. We spend a lot of time and effort in competitive studies when we review products. The majority of the products that we see are such that the longer the policy persists, the better the company does. Even under some of those policies with persistency bonuses, a company is still better off the longer the policy persists. Certainly you can argue in terms of customer relations and the opportunity to sell other products to the same policyholder. There are a lot of reasons to encourage persistency. I think the majority of companies do that.

**MR. JAY:** Being an actuary whose company's agents are always fighting off these proposals that you refer to -- part of the problem is going to be valuation. The valuation actuary, who does not make adequate preparation for those bonuses down the road and does not inform management of the potential, disastrous results, when they can be predicted, is going to have problems.

**MR. WILLIAM C. KOENIG:** I believe that lack of discipline in the market, especially with respect to illustrations, does have the potential to have a negative impact on the industry in general, and on actuaries in particular because we are frequently, rightly or wrongly, thought to be the brains behind the operation.

My comment has to do with lapse-supported pricing. The key element here, of course, is not the relationship between the surrender value and the statutory reserve, but the relationship between the surrender value and the asset share. I am a firm believer in the value of good persistency. But, it is a mathematical, if not an actuarial, fact that high lapses in early durations can also create gains if surrender values are depressed to artificially low levels. Agents are not the only ones who can do reverse engineering on a company's products. There are many products in the market that exhibit this characteristic. Mr. Hill referred to lapse-supported pricing. Mr. Crowne referred to strategies that companies can use in illustrations to hide poor fundamentals in expenses, mortality and interest. Lapse-supported pricing could be one such strategy. Lapse-supported pricing, of course, is simply a sad revisiting of the tontine pricing strategy that was discredited a hundred years ago. How does lapse-supported pricing fit with the contribution theory which is generally accepted for mutual company dividend determination? Or for a stock company's determination of nonguaranteed elements? Is there any special disclosure necessary if this strategy is used?

**MR. JAY:** I am pretty much in agreement with all the questions asked and the statement that was made. It may be a question of degree if you are trying to find whether

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there is anyplace on any policy where the company may make a little money based on a lapse. I do not think that this shows a product is lapse-supported. It is the extreme situations, and we certainly are looking at some possibilities of extremes such as the persistency bonus where we can have very large amounts and cliffs or the possibility of no cash value policies. These are extremes that potentially exist in the marketplace. There always have been products where companies would gain a little seemingly by a lapse. Though to look at a single, static, asset-share model is a very narrow approach. There are many benefits from keeping a policy in-force, none of which are shown in a simple, static asset-share model. To really analyze the situation, you have to look at the total picture.

MR. HILL: I can respond from the perspective of the stock company, or a stock company product. As is mentioned a couple of times, most of these products are sold via an illustration. The illustrations are generally pretty similar. A policyholder or a prospect can compare the illustrations of one company with another. Actuaries have standards of practice in place, and there are requirements in the annual statement that if the interest assumption that you use to make those projections are not sustainable or it is not likely that they can be sustained even if current assumptions continue, then that is a disclosure requirement. Notwithstanding, if the illustrations are honest, a policyholder can see what he gets. If he wants to buy a product where he forfeits everything in the fifth year, and he knows that in advance, I think he should be given that opportunity. Similarly for a product with no cash values, if the policyholder when going in understands what he is getting and chooses to buy it, that product should be available for him to make that choice, but full disclosure is absolutely crucial.

MR. CROWNE: I do not think that there is anything fundamentally immoral or evil about a product that's more profitable if the policyholder lapses, than if he does not. The issue is that we know what we are doing, primarily and obviously we are not breaking laws. In my example, I was talking about a product that was actually better off lapsing and the main issue there was that management did not know it. Management was spending a lot of time and money to improve persistency. On this particular product the return did not come to them for 30 years.

MR. ALAN J. ROUTHENSTEIN: Were the industry average spreads that were displayed gross or net? Were you comparing bond equivalents spreads earned on assets and were you using annual effective spreads? To what degree do you, as a consultant, see some insurance companies changing their emphasis from a return on equity that is a static target, regardless of the level of interest rates, or trying to earn some kind of risk-adjusted spread over treasuries as a target spread?

MR. JAY: We used, or observed, gross spreads. We are able to determine what the gross yield is on the type of securities that generally back these type of products. Our spread was based on the difference between the yield rates on those securities and average credited interest rates on the products.

MR. ROUTHENSTEIN: In other words, you mean the gross bond equivalent rate before investment expenses are deducted?

## PANEL DISCUSSION

MR. JAY: That's right.

MR. CROWNE: As far as the ROEs, it certainly makes a lot of sense that the ROEs should be a function of the interest rate environment. I do not see the companies changing it as interest rates change. Many companies have a 15-20% target and basically, that is where it is. The thing that concerns me is that there are companies that have a 25% ROE, and whatever assumptions it takes to make that, they will make it.

MR. DAVID A. RICCI: The overall cost of an insurance operation, or the selling cost of an insurance operation, may be an indication of the future value of the field force. That is, those career operations that have large sales overhead also have a greater future expected value of the ability of the sales organization to bring products through the marketplace. So in that context, an incremental dollar of spending in sales cost does not necessarily reduce internal rate of return. Basically, I am concerned about the inference drawn between the size of expenses being spent on behalf of the field organizations and the type of organizations they are.

MR. JAY: In the studies that we looked at, of course, there were many types of field organizations, some of them involve much more fixed costs and some are more entirely variable costs. The variable cost-type of a compensation does not provide for the improvement potential, but may have some other advantages. There was not a perfect correlation between size of company and unit marketing expenses either. Some of the big companies had some pretty big units.

MR. PAUL S. BELL: In your review of internal rates of return, where you had spreads from 6-15%, were those based on after-tax returns?

MR. JAY: Those were after tax and after increase in the assigned or target surplus.

MR. BELL: Were those also purely internal rates of return as opposed to ROEs?

MR. JAY: They come out the same if you build your company to a static basis where lapses are exactly offset by new business, then in theory and I think in practice, the ROE becomes equal to the internal rate of return.

MR. JAMES J. AVERY, JR.: Mr. Jay showed that a 50 basis-point increase in margin would increase an ROE at the company level from 8-10%. That gives an indication of the leverage involved in the products. If the consensus of the economists holds true, we may be seeing a lot lower performance in all asset classes in the coming years. With that we are going to be faced with a choice that it may be more than a 50-point drop in interest margins. Our choices may be either to react quickly at the product side and face serious marketing implications or face seriously lower ROEs. That is a challenge we are all going to face shortly.

MR. JAY: When we see a fair amount of discipline, there is a lag. When interest rates go down, credited interest rates will drop, but not right away. Sometimes it takes one, two, three months or even longer. If interest rates go up, the credited rates seem to increase more quickly than they do on the downside. Even on the downside there is

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some evidence that the companies can respond well enough that at least in time, at any new level, they may be able to recoup the spread that they had before the drop.

**MR. LAWRENCE A. SELLER:** I am under the opinion that the valuation actuary concept has to somehow be extended to the pricing actuary concept. The involvement of our professional boards will become increasingly important in these respects. We can not discipline an actuary because a product turned out like that. It has to be a broader spectrum like the valuation actuary concept is.

**MR. JAY:** I agree with you strongly. The valuation actuary and the pricing actuary should visit each other everyday. If they are not coordinated, then surprises will happen down the line that will make everybody unhappy. There are some standards that involve disclosure to management that apply to pricing actuaries. Part of the analysis that goes into providing those disclosures and their related statements of opinion to management require the pricing actuary to know what the valuation actuary is going to do with respect to establishing reserves based on all the reasonable possibilities in the future.

