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Summary: It has been 20 years since the introduction of universal life products. Although substantial press has been devoted to the explosive growth of variable universal life, there have also been interesting developments in the “traditional” product. Panelists explore current issues relating to the general account/nonequity-indexed universal life product development activities, including:

- *Maturity date extensions of the death benefit beyond age 100*
- *No-lapse, secondary guarantees of coverage*
- *Maintaining competitiveness in a low-interest-rate environment*
- *Impact of the National Association of Life Insurance Commissioners’ Life Insurance Sales Illustration Regulation on product design and pricing*
- *The effect of potential new nonforfeiture and valuation regulations on pricing*

Mr. Ken A. McCullum: We have Deanne Osgood from Milliman & Robertson, Dan Byrne from M Financial, and our Recorder, Dan Towriss from Lincoln Re. We’re going to cover this topic in three different sections. First, Deanne will give a market overview. Second, Dan will give a perspective from the eyes of distributor. And I will give the final perspective on the pricing the universal life (UL) market in today’s environment.

Ms. Deanne Osgood: Ken really asked me to provide an industry overview of the UL family of products. My overview will include a discussion of UL market share factors that have impacted UL competitiveness, profitability, and sales, current product development activities, and an outlook for what I call the near

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future of UL. Dan and Ken will then drill down into some of these issues to provide the distribution perspective and to discuss pricing issues and pricing challenges.

UL was introduced in 1979 and grew rapidly to achieve its peak market share of 38% in 1985, as measured by the annualized new premium. The very first product that I worked on was UL, which was launched at the end of 1985 and, unfortunately, corresponds with UL's peak market share. Needless to say, future sales of the product never came close to management's expectations.

UL market share has declined steadily since 1985, to level off in the low 20s, losing significant market share to variable universal life (VUL) and term insurance. As provided by the Life Insurance Marketing Research Association International, UL captured 20% of the individual life annualized premium in 1998. It is important to note that VUL exceeded UL for the first time in 1998, capturing a 25% market share. Also, the term insurance market share has approached UL, capturing 19% of the new premium in 1998.

Although their combined market share has declined from about 90% in 1994 to 71% in 1997, career and independent agents continue to be the primary distributors for UL insurance. Banks, through direct relationships and through third-party marketing organizations, are making some headway as their combined market share has increased from just below 2% in 1994 to about 6% in 1997.

What has been happening since 1985 that has led to UL's current status? Several factors have had a negative impact on UL's competitiveness, profitability, and sales. The economic environment has not been favorable for fixed interest, such as UL insurance products. The competitive reinsurance environment and the ongoing threat of the Valuation of Life Insurance Policies Model Regulation (XXX) has encouraged the sale of term insurance. The market conduct environment has resulted in a substantial amount of negative attention focused on cash value life insurance in the illustration of projected values. The NAIC Life Insurance Illustration Model Regulation has had a major impact on the UL marketplace as will the valuation of Life Insurance Policies Model Regulation, formerly known as XXX, in the very near future.

With respect to the economic environment, interest rates have been at the lowest level in 30 years, although we have seen a recent increase in rates. At the same time, the stock market is achieving historical highs as the Dow approaches the 11,000 level again, and volatility is well above historical levels. It's often difficult to isolate the effects of low interest rates from the rapidly growing stock market because the absolute level of interest rates may not be as important as the level of interest rates relative to alternatives.

The 10-year Treasury has decreased from more than 11% in January 1985 to just over 5% today. At the same time, the equity markets have achieved historically high returns and the Dow Jones has increased from 1,198 in January 1985 to over 10,000 today. How has this activity impacted the UL credited rate? In terms of median rates, UL credited rates have declined from 11.25% in 1985 to about 6.15%, and probably a little bit lower than that, today.

I chose to start this comparison in 1985 for a couple of reasons. First, market share of UL peaked in 1985, as I've already mentioned. Second, in the spring of 1984, I was told the Dow would never hit 2000, so that's a point of time that I can relate to. Finally, around 1985 UL was a very different product than it is today. It was illustrating current crediting rates as high as 12% and making the assumption that a reasonable long-term interest rate was in the 6–8% range and, as you know, interest rates are well below that level today. The economic environment that we have actually experienced has been quite different than expected, making it difficult for UL to perform as it had been illustrated on a current assumption basis. We are making it difficult for new policies to look attractive when compared to alternatives.

The actual-versus-expected performance for some UL policies led to class-action lawsuits that have caused a substantial amount of negative attention to be focused on cash-value life insurance in the illustration of projected values. The market conduct environment has been a "black eye" for the industry and has damaged our credibility with some consumers. Creative product development and illustration techniques, in addition to the performance issues, led to the development and adoption of the NAIC Life Insurance Illustration Model Regulation. This has changed the UL landscape dramatically as products were pulled from the marketplace and new products were developed that could comply with the requirements of the NAIC Life Insurance Illustration Model Regulation.

The last factor I would like to mention that has impacted the attractiveness of UL really relates to term insurance. Improved underwriting techniques, favorable mortality experience, particularly with the reinsurers, the competitive reinsurance environment, and the ongoing threat of the XXX reserve methodology facilitated the term wars that have been waging in recent years and which promise to continue through this year and into the new millennium. As previously noted, term insurance market share held steady at about 13% from about 1988 through 1993 and then began to increase steadily to its market share of 19% in 1998.

Through all this turmoil, UL has been a survivor. Remember that it still commands a 20% market share. Its successful survival could be attributed to the flexible chassis design that enables it to evolve with the environment and remain a viable product. Given the current environment, the appeal of fixed, flexible

premium UL has been the ability to pay low term life premiums while maintaining the option to make additional premium payments.

The development and introduction of secondary guarantee periods has enabled UL to perform like term insurance at a minimum by guaranteeing coverage for a specified period of time, which could be as long as 50 years or to age 100, whichever is earlier. And the maturity age extensions have been added to provide death benefit coverage beyond age 100 provided there is at least \$1 cash value at age 100. I would like to point out that these product innovations have been applied to all types of products, all product types in the UL family, including traditional UL, equity-indexed UL, and second-to-die policies.

I would like to briefly describe these two important product innovations starting with the secondary guarantee periods. A secondary guarantee period essentially guarantees coverage for a specified period of time if cumulative premiums paid are equal to or exceed the cumulative monthly minimum premium requirement. There may be a grace period that would kick in before the provision would terminate, where the necessary premium could be paid. If it's not paid, then the provision would terminate. However, most that are out there do say at any point in time, as long as the policy is in force, you may pay the cumulative premium, and as long as the cumulative minimum premium requirement is satisfied, the provision is active.

There are a couple of custom provisions. First is the drop-down provision. This states that if multiple guarantee periods are offered, and if the premium requirement is not met for the chosen period or the initial period, then the policyowner might be able to maintain a secondary guarantee for a shorter period of time than originally selected if the minimum premium requirement for that shorter period is met.

There is also a catch-up provision that enables an owner to pay the required minimum premium previously unpaid to reinstate the no-lapse guarantee, providing that the underlying coverage remains in force. For some provisions out there, if you're at a shorter guarantee period, you could make more premium and get bumped up to the longer period. There's a lot of flexibility within these provisions, and most of the products in the marketplace do have them.

Let's look at a couple of the basic, secondary guarantee design elements. Typically, there is a specified premium required for the secondary guarantee to remain in force. It's not always the case, though. There is one product in the marketplace today that does not have a specified premium that does provide a secondary guarantee. Common coverage periods are 20, 30, 40, and 50 years. Multiple periods are typically offered at different premium levels, and some contracts do go to a maximum of age 100. There's generally not a specific

charge for the secondary guarantee and the assumptions used to determine the minimum premium for the secondary guarantee are very similar to current assumptions, but typically not identical. It might be at an interest rate that's something lower than the current illustrated rate, which might be in the range of 4–6% today. Typically, current cost-of-insurance (COI) charges and current expenses are used. Finally, policy loans and face increases may or may not terminate the secondary guarantee provision depending on the policy design.

For those of you familiar with XXX, you are probably aware that the adoption of the regulation with an effective day of January 1, 2000 will cause the current secondary guarantee designs to change because of the potential increase in reserves required by XXX. Perhaps I should rephrase that. The secondary guarantee designs would not have to change. It is just a question of whether consumers will pay a higher premium because of the higher reserves that will be required for the longer guarantees.

The current reserve environment for secondary guarantees has been relatively friendly. To date, most companies determine statutory and tax reserves according to the requirements that are spelled out in the Universal Life Model Regulation. Some companies, however, do hold the higher of the reserve determined through employment of the UL Model Regulation and the unitary Commissioners Reserve Valuation Method (CRVM).

The reserve environment is likely to become more onerous as XXX applies to flexible premium and fixed premium UL insurance policies that contain provisions resulting in the ability of a policyowner to keep a policy in force over a secondary guarantee period. I do want to point out that VUL is exempted from this regulation, so we do expect to see some increased use of VUL.

The adoption of XXX creates immediate challenges and opportunities for UL both in product design, revision, and the impact that the regulation will have on the term marketplace. I haven't seen a lot of product development changes yet as a result of this regulation. However, companies are looking at a lot of different things and taking a close look at the regulation and some of the ambiguities that exist in the regulation and some of the interpretations that are being made as a result of the wording in the regulation.

Maturity age extensions do just that. They extend the maturity date of the policy and, quite simply, to the date of death or, alternatively, to one or more years beyond age 100, which would require periodic election by the policyholder. The amount of death benefit coverage and the cash values extended beyond age 100 might be, first of all, the death benefit before age 100 with or without COI charges being taken after age 100 or

the amount of cash value at age 100 would become the death benefit after age 100 payable upon death. In that case, you would basically be postponing the death benefit for tax reasons, but the death benefit would become the amount of the cash value.

This division has created quite a stir in the industry as some industry observers question the financial integrity of the provision, which is so many years into the future. There is also the interrelation of the definition of life insurance provided by Section 7702 of the Internal Revenue Code. There are many gray areas and companies need to take a position with respect to the tax code interpretation. Also, illustration issues have arisen as illustration actuaries strive to demonstrate compliance with the requirements of the NAIC Life Insurance Illustration Model Regulation. If you go beyond age 100, how do you do that? What are some of the implications there?

I would be remiss if I didn't mention equity-indexed universal life insurance (EIUL), because this is a fairly recent innovation that has focused on providing a more attractive accumulation vehicle. Whereas, the secondary guarantee period and the maturity age extension have really focused on the guarantees and some of the difficulties in providing an attractive accumulation vehicle in the fixed interest rate environment that we're currently in. EIUL does somewhat attack the issue of how we can make this an attractive accumulation vehicle.

EIUL products have been available for about two-and-a-half years and have been quite successful for a few companies. However, the volatility of the equity markets combined with the low-interest-rate environment that we're in has made it difficult to price, market, and sell these products for most companies.

There are about eight companies that have introduced 10 products into the marketplace and, typically, the base policy designed for EIUL tends to mirror their traditional fixed counterparts with the exception of the method used to determine the excess interest for the contract. Riders that exist on traditional UL typically are available on EIUL as well. The policy mechanics are virtually identical for a company that offers both types of products. It's just in how that excess interest is determined that differs.

Several products contain both fixed interest and equity-indexed options and several companies have actually developed products and not brought them to market yet. There are various reasons for that, some of which are administration issues and year 2000 issues. Some companies have not brought their products to the market because of the competitiveness and the current environment that we're in. It has just made it too difficult to launch a competitive product. I think there is only one single premium EIUL in the marketplace and yet I know of four that have been developed. They just

haven't been launched, so that's something that is waiting in the wings and might be available in the near future.

Interest in this product design stems from the potential to credit more interest than can be credited on traditional UL. This product provides the agent and the consumer with access to the equity markets and the equity market performance. The infrastructure exists. Companies that offer traditional UL already have the UL mechanics and the administration capabilities. The field already understands the general product. You don't have to go out and train them on a whole new product. You just have to train them on a new piece of the product.

That is the future of UL from my perspective. I believe that UL will remain a viable product. Successful companies will continue to leverage product flexibility and administrative infrastructure. Successful companies will be the nimble companies that are quick to market with innovative product designs and leading-edge services designed to meet the needs of distributors and the customers they serve.

Mr. Daniel F. Byrne: I would like to provide some perspective on the next generation in UL, particularly focused from a distribution or marketing perspective. I will base my comments largely on the work that I have done in the product development and sales area for the M Financial Group.

For those of you who are not familiar with M Financial, it is a producer group owned by 100 member firms whose activities are closely focused on providing life insurance solutions to the affluent marketplace in both a corporate and wealth transfer application. The wealth transfer marketplace is characterized by sales to individuals with a minimum net worth of \$5 million and the corporate marketplace is characterized by the Fortune 1000, so that is the marketplace to which I will direct my comments.

We will discuss trends in sales, the marketplace forces that appear to be driving some of the buying activity, how the design of UL products has evolved to respond to those market pressures. Then we will conclude with some thoughts on emerging issues that affect UL profitability, design, or marketplace perception. I think you'll hear many of the same themes that Deanne has covered, perhaps with an emphasis solely from the marketing perspective.

First, let's take a look at the sales trends. Chart 1 illustrates the sales results by product application through M Financial Group over the last four years. To provide some perspective on the scale, total new premium in these four product lines in 1998 was about \$450 million of new, continuing premium. From this data, we can observe and conclude many of the same things that Deanne

brought out in her industry observations. The percentage of UL sales has remained fairly steady in about the 30–40% range. Overall purchases in the upscale personal and corporate marketplace are sizeable, with over \$130 million in new premium purchased in 1998. One additional fact not clear from this chart is that the volume of sales has increased in the total dollar amount level at about a 15% annual compound growth rate. In our experience, UL has been a steady percentage of a rapidly growing marketplace, and this is consistent with Deanne's observations.

Let's take a look at the marketplace forces that are driving these results. Working in a marketing organization, we have been drilled with the perspective that marketing forces drive what occurs in sales.

The consumer marketplace, with this preponderance of financial choices, access to information, and use of advisers, particularly in the upscale marketplace, is a lot like that immovable lighthouse. In this marketplace, there are two drivers: performance and design. Performance can be equated with price and it involves the examination of performance within a range. First, what is a reasonable expectation and, second, what is the downside of a guarantee? Design evaluation is the second criterion, and it asks whether the product is suitable for my need and is it flexible enough to accommodate reasonable changes in my need over the life of the contract. The single largest and most volatile factor impacting expected performance is yield or the crediting rate.

Let's discuss the history of a long-term government bond yield or the proxy for crediting rates available in insurance products. It's not surprising that we can break this down into three different time periods, each of which had a dominant form of insurance predominantly based on the maximum expected yield. The first was the late 1970s and early 1980s, when interest rates were relatively stable and slowly increasing. This period was characterized by the dominance of whole life products with steady, but slowly increasing dividend scales and the expectation that illustrated performance was always exceeded. That was a pleasant time period.

Along came the interest rate spike of the 1980s and a new product characterized by flexibility, unbundling and, at the time, the ability to participate in higher new money interest rates. The dominant insurance product throughout most of this period was UL.

Then came the decline of fixed yield and the explosion of the equity marketplace. To ensure the continued availability to provide competitive yield, insurance sales quickly switched to variable products. I think it's interesting to note that the most popular form of variable life is the VUL product,

demonstrating the continued emphasis in the marketplace on flexibility and unbundling.

The current market perception of performance is conditioned by the growth in the equity marketplace, which leads most to conclude that long-term performance is maximized in a product where the client can allocate assets among fixed and equity-based managers. This, however, is combined with some concern about volatility. We've seen an increase in the average age for UL products with the emergence of VUL, suggesting that life expectancy of the client drives some of the tolerance of volatility. It's interesting that we have seen an increase in the average age on VUL, but have not seen it on survivorship, which I think, again, emphasizes the fact that the duration of the expected hold influences the product decision. It is a fairly sophisticated evaluation.

Now, as the client considers expected performance, they'll also factor in guaranteed performance. The extent to which a client weighs guaranteed performance appears to vary widely. It seems directly correlated with age and inversely correlated with wealth. The older client has a tendency for conservatism and the wealthier client has a tendency toward risk-taking. The tendency toward risk-taking might be a result of the fact that wealth is created for taking of risk, and those who have done so successfully throughout their careers have a greater tolerance in the management of their assets. Nonetheless, in both marketplaces, the declines of dividend scales in UL crediting rates, the class-action lawsuit on vanishing premiums, and an unprecedented number of insolvencies of major insurers in the 1980s have certainly caused a greater focus and appreciation of guarantees. While it could be a subject of some endless debate and has been in many SOA meetings, it appears to be a generally held perception in the marketplace that the level of guarantee increases as you move from variable to universal to whole life. We'll take that as a given.

Let's delve a little deeper behind the interest rates both on a current and guaranteed perspective. The distribution of interest rates shown in the latest edition of *Life Insurance Selling* shows rates ranging from 5.0% to 7.75%. Deanne previously illustrated the decline in average rates over time. Of the 103 companies in *Life Insurance Selling*, there's a fairly wide range of crediting rates, but the majority is clustered between 5.5% and 6.25%.

As for guaranteed rates, there is a much more narrow range in interest-rate distribution, with most companies at a guarantee rate of 4%. Something interesting comes out from overlaying these two pieces of information. You have some insight into some of the pressures that are affecting UL marketplaces today. We can see through this relatively random sample that

there's an average crediting rate of 6.12% and an averaged guaranteed rate of 4%, resulting in an average spread of the current to guaranteed rate in the 200 basis points range. With continued downward pressure on crediting rates, because of both low, new money rates and portfolio turnover, we would expect to see some additional downward pressure on that difference.

In the early days of UL, you often saw a spread between earned and credited rates somewhere in the 150–200-basis-point range. What we now see in the marketplace is that spread and, again, the spread between earned and credited and not credited and guaranteed, is more in the 80–120-basis-point range. The downward pressure on closing the gap between the earned and credited rate has relieved some of the pressure on the declining spread between the credited rate and the guaranteed rate, but the future is uncertain. You see we only have about 200 basis points on average left there.

I thought it was also interesting to note that the highest guaranteed rate that was in *Life Insurance Selling* was higher than the lowest current crediting rate. It certainly gives you some reason to be concerned.

After evaluating a product from an expected performance and guaranteed performance perspective, we now look at design. After you get through price and performance, the next criterion is from a product design standpoint. Does it fit the need and is it flexible enough to respond to reasonably expected changes in need? Let's evaluate the three major products used for level funding of insurance needs. One could argue with this but I would suggest to you this is reasonably accurate and, generally, the commonly held perception.

UL, at its introduction, added a great deal of flexibility in both premiums and policy benefits. It responds to the client's desire for greater cost disclosure. And when it was first developed, the interest rate sensitivity was actually an advantage. It seems to be a disadvantage now. VUL has added additional investment flexibility and additional disclosures particularly in the areas of the earned and credited rate. Whole life products, as products will in the marketplace, have responded quite effectively to become much more flexible with paid-up addition riders and term riders, but they have difficulty matching some of the design advantages of a UL product used in the applications that we encounter in our marketplace.

My characterization of the perception of the UL in the insurance buying and adviser community is of a product with a well-defined niche. It covers the balance of needs. It's targeted toward the conservative or risk-adverse investor with relatively complex design needs requiring a very flexible product.

There is a body of thought within our distribution that would suggest UL is a product of choice even for the risk-tolerant buyer. A monthly transaction, which is inversely proportional to yield, exacerbates the volatility and performance. If yield is down, the net amount of risk is up and your cost of insurance deduction is increased. That can exacerbate the volatility that already exists within a product. There is a body of thought that suggests that as well. It is our experience that the more risk-tolerant buyers tend toward the Valuation of Life Insurance Policies Model Regulation.

So if UL is operating in such a well-established niche in the marketplace, what's going on with the product enhancements that Deanne talked about and that we see prevalent in the marketplace today? Let's look, from a marketing and distribution perspective, at what's going on. We'll also look at the future through the rearview mirror. We can get some of idea of what's going to happen in the future.

We saw UL generally positioned in the middle of any evaluation criteria. It didn't have the performance of the variable life, and it didn't have the guarantees of the whole life. In the middle of that environment comes pressure from both sides. Whole life has now improved its flexibility to meet more complex needs and bring strong premium guarantees to compete with UL. UL has also lost any of the crediting rate advantage that it once had over whole life.

From the other side, the pressure on UL comes VUL with its expectation of higher equity backed yields. In two of the major criteria for evaluation and product selection, performance and level of guarantees, there is significant pressure from both product sides. The product activity that's occurring now, which, I think, defines the next generation of UL, is an example of responding to specific pressures in a well-established marketplace.

Looking at this more closely, the perception that whole life adds more guarantees has triggered product development activity directly in response to that to add more guarantees. I think the two examples that Deanne used, the enhancements of product development activity and the secondary guarantees, which add a guaranteed level of premium-type structure very similar to whole life, are directly responsive to the perception of the need for better guarantees. The maturity extension riders that add permanence to UL, not unlike whole life, have been an increasingly important tool as life expectancies have increased, and this actually is particularly focused in the survivorship marketplace. It has often become, in many sales situations, a prerequisite to have a maturity extension rider or some mechanism that does not cause maturity of the contract at age 100.

The long-term secondary guarantee, in particular, as an example of the UL response to the predominance of guarantees, has become prevalent recently. I looked at how active it was in the marketplace in that same issue of *Life Insurance Selling*. I took a look at 103 of the UL companies listed to see who had secondary guarantees. About 20% of those companies offering UL offered a guaranteed minimum premium feature of longer than 15 years, which did not require funding of the guaranteed premium level. Obviously, within this, you can achieve a guaranteed premium structure simply by your choice of funding. There were about 20% or about 20 companies that offer a guaranteed minimum premium level, less than the premium that would be required to continue the policy at its guaranteed rates.

For the purposes of this evaluation, I would look at the guarantees that are in the three through seven range as not providing any particular additional feature. You can generally accomplish a guaranteed structure for that time period through effective use of a funding level at or about the target premium level. In the marketplace that we are focused on, we have not seen the existence of secondary guarantees being significant in any product choice selection. People are heavily funded in the marketplace we're in and you're buying a secondary guarantee often for the downside protection. That's not typical in our marketplace. Secondary guarantees and maturity extension riders are the next generation of UL response to the pressure of guarantees.

On the flip side, we have the equity marketplace. Its phenomenal outperformance of the fixed-income marketplace has created the expectation of increased yield. Not unlike the response to the pressure from whole life on one side in guarantees, we see quite a bit of product development activity. With respect to equity-indexed products, as Deanne noted, there is a fairly small amount of product introduction, but quite a bit of interest in filing activity in UL in the areas of equity-indexed products, which are seeking to add equity-like performance to UL.

What do we see happening in the next generation of UL? From a product perspective, we would see continued evolution of product enhancements that allow UL to respond to current market pressures. There is no surprise there. From a pricing perspective, we see continued downward pressure on interest rate spreads as competition increases and the margin relative to guarantees decreases. From a regulatory perspective, we see continued concern over the declining interest rates that have not led to a particular or a certain course of action. There is just general concern. Also, we see a delayed and sometimes inconsistent state response to product innovations and enhancements. For example, look at the recent debate in the annuity side over whether equity-indexed products are truly variable products and should be regulated as such, so we're a little bit behind the times with that. In addition, secondary guarantee

products have also gone ahead of the regulatory environment in terms of consistent state interpretation and reserving methodology. From a regulatory perspective, it looks like we're doing some catch-up in the next generation of UL.

From a distribution perspective, I think one of the challenges that face us in UL is the servicing of UL. Flexible premium, high-degree-of-service UL products have little or no renewal compensation paid if there's no premium paid. Whole life continues to pay compensation post-vanish. Variable life products have predominantly asset-based trails. Some UL products today are introducing some asset-based trails, but that's a fairly unusual occurrence. The long-term impact of servicing a block of very flexible products without funding to the servicing provider remains to be seen.

From a consumer perspective, I think market conduct and performance representation issues are very important. I'm going to spend a minute on that. Disclosure will be critically important in some of the product enhancements that are currently available today. In equity-indexed products, things such as the participation rate in the index need to be well understood. This is a fairly complex product. It requires a high degree of interaction in description, so you're concerned over disclosure issues.

With secondary guarantees, there are a fair amount of contingencies attached to the deliverance of those guarantees and there are a fair number of catch-up provisions. Do clients truly understand those products, the features, and do they understand the impact, such as a loan may invalidate the guarantee on another side? It's a fairly complex and intricate feature, and disclosure is certainly going to be very important.

Maturity extension riders—do they encourage funding to zero cash value at age 100? If you look at the terms of the contract, there's very little downside to minimal funding. In the majority of them, as long as you have \$1 in cash left at age 100, the contract will stay in force for the balance of the life. Will that encourage and motivate buyers and funders to minimally fund UL contracts to \$1 at age 100? That comes with a high degree of volatility attached to that approach. What are the implications of that?

With regard to in-force performance, it's critical to continually create reasonable expectations in interest rates in this low-interest-rate environment. The continued growth in variable UL doesn't appear to have had the replacement impact that UL had on the whole life portfolio but, again, it remains to be seen.

Lastly, on in-force performance, I think that most companies have covered expense deficiencies somewhat with improvements in mortality. Companies

are now under increased pressure with more aggressive pricing tables and mortality assumptions to pass this performance through to the client. This may be a problem either in terms of the desire for carriers to recover expense (shortfall) through mortality gains or for carriers with extensive use of reinsurance that have become competitive through that use of reinsurance and have locked-in rates. The future ability of UL to continue to pass through inherent enhancements to policyholders I think will be somewhat challenging. Finally, we must be very careful to learn from the vanishing premium losses and communicate in-force performance regularly.

UL, by its nature, tends to have bigger and later surprises. Let's take a look at a particular case, and we'll take a look at a funding and performance level of whole life versus UL. I think it helps demonstrate the importance of continued discussions and meetings with clients. This is a case of a male, nonsmoker, age 45, funding a \$1 million whole life contract over nine years at current rates, and that's a premium level of about \$18,000 a year. Let's also assume in this scenario that interest rates declined by 150 basis points in the ninth year. The client says that while interest rates are volatile, he will wait it out and only pay premiums when they're necessary. In this scenario premiums will reappear in about the 15th year through the 27th year. Between the ninth and the fifteenth year, they'll use up the cash value with the paid-up additions. The dividends will kick in and they'll slowly decline the outlay over time, so that in the 15th to 20th year they'll have a declining premium commitment with a maximal level in year 16 of about \$11,000.

Now, let's assume the same case. There is the same funding level. The same decline in interest rates, and the client continued to desire postponement of any additional funding as long as possible. We can see, because of the flexibility in funding available in a UL product, that premiums reappear in the 43rd year, not the 15th year, at a level of about \$95,000 a year. In the absence of continued communication with the client, he's in for a rather big surprise. If the guy doesn't die before the 43rd year, the shock of the bill will kill him. This is probably construed quite a bit because you'd expect to have some communication with the client between the 15th year and the 43rd year with regard to the performance. But I think it demonstrates a minimum level of ongoing communication and disclosure is necessary with a flexible premium product. I think it poses a challenge for us in the industry. The vanishing premium problem came to surface because premiums became due and there was no early warning sign of a premium if it comes due. We kind of lull ourselves into a false sense of confidence here, because UL has a later delivery of bad news, and the surprise is much bigger.

In conclusion, with these concerns and the observations of the marketplace, what's the future for UL? I think that UL is a very flexible planning tool. It

serves a wide range of client needs in its current form. The changes and enhancements we see going on in the marketplace are more focused on slightly expanding the marketplace for UL or defending a relatively low established market share. It would be more characteristic of an evolution product rather than a new generation in and of itself. That concludes my comments on UL from a distribution and marketing perspective. Now I'll turn it over to Ken, who will talk about pricing of UL.

Mr. McCullum: As Dan and Deanne mentioned, we have 20 years of history with UL, and I think we've learned a lot in those 20 years about how the product works, about how to sell and market it, about how to administer it, and about how to price it. I think we are more comfortable talking about the kind of issues we face in trying to do that pricing exercise than folks must have been 20 years ago when we were first talking about this unbundled flexibility.

The current contemporary market forces that they've both described that are affecting what we have to price for today have made it a very different world than the one that you would see simply by looking in the rearview mirror of what's happened over the last 20 years. They pointed out the enhanced focus on the guarantees, particularly in the declining interest rate environment. Another phenomenon that the declining interest rate environment has made challenging is an enhanced focus on cheap price. I think low cost has always been an issue. The high interest rates helped to fuel performance that led to low cost and, in this environment, more of the issue has come about on mortality and other ways of presenting a low-cost product.

I think the other thing that we've learned over these 20 years is that it can be a profitable book of business for carriers, but that scale is, obviously, very important and probably more important than we realized when we first got into it. I think that the consolidation in the industry has, obviously, recognized that without large scale, the administrative cost of the systems and technologies required and the ongoing customer communications required, as Dan described, just don't work. You need a large book of business for UL to be profitable.

The pricing fundamentals look at its highest level much the same as they would 20 years ago. At the core, there are interest rates, mortality, and expenses. But as we start to look into those, I think the experience that we've had and the forces we face today shed a new light on the kinds of things that pertain to the pricing exercise you should be taking a look at. Regarding interest rates, because of both asset and liability matching principles and maybe even more so because of the regulatory environment that we're in, you look at investments to back UL that are in the fixed-income sector. They're typically high-grade corporate bonds, which, if you do a real nice job, are laddered maturities

between two and ten years. You're probably not looking at more exotic investments than that. If you are, and if you start to look at equity investments to back the UL, the additional capital requirements of risk-based capital, or Standard and Poor's, or other regulatory or pseudo-regulatory organizations are fairly prohibitive unless you have a very well-capitalized company. I think some of the large mutuals may have the ability, at least in the short run, to invest more exotically to back these liabilities. But for the most part, because of the additional costs, you really are buying corporate bonds. All of the things that were discussed about the fixed income or the fixed interest rate environment that we've been experiencing are directly relevant to the types of investments that you're going to make on the UL product.

One of the core decisions you have to make is how you allocate that investment experience to the policy in terms of the credited rates. Is it going to be a new money rate or a portfolio rate? And, again, this gets into some of the product's disclosure issues as well as some of the marketing issues.

How well does the consumer understand this unbundled element of his policy? Even the best producers look at an illustration today and understand that there are differences between portfolio rates and new money rates. They will tend to run the company's illustration software at the current rate and view that as a depiction of the product costs and the product performance. There is obviously a fundamental difference at any point in time when rates are generally rising. A new money bucket would be higher than a portfolio rate. When rates are generally falling, the opposite should hold true. Over time, it should more or less balance out, assuming all else was equal. At any given point in time, that may or may not be as apparent.

This gets into a lot of the disclosure issues. There is the desire to maintain a competitive posture by perhaps toggling between a new money or portfolio rate strategy either within a product or between products, so that at any given time you could have the most competitive offering of interest rates. Ultimately, I think the importance lies in: (1) doing something that meets the Actuarial Standards of Practice and certifications that are required; (2) doing something that will help you meet your profit standards; and (3) doing something that will meet the consumer's understanding of what it is that they've purchased and how it works.

On the mortality component, there has been a lot of evolution in the last 20 years of UL. When we first started this, we barely understood the differences between male and female mortality and were just beginning to understand the differences between smoker and nonsmoker mortality. We now have preferred and super preferred classifications and, in some cases, can even split the healthy population into as many as eight different underwriting classes,

depending on a whole bunch of characteristics that we've just begun to underwrite for lifestyle and family history.

In addition, as Dan mentioned, mortality improvements over the last 20 years have been a significant driver of the profitability of these books of business, and the continued causes of mortality improvement in the future are something that you have to look at to price in today's marketplace. First, you have to recognize the improvement that has occurred. Second, you have to recognize the forces that you believe have occurred that will extend improvement into the future. Third, you have to consider whether or not you want to bet on the potential of additional future advancements in medicine and technology that will lead to future mortality improvement.

On the expense front, I believe this has been the one that probably has been the worst for the industry in terms of the profitability results. We've had a hard time living within the expense margins that the product has afforded. I think that's because we've recognized, particularly in the administration of the policies, that the technology has to stay contemporary. As you know, the systems that we barely got functional have to be updated, otherwise we will become outmoded. The new technologies, like internet access to values, enhanced customer communications, and in-force proposals, have led a lot of companies to spend much more on their information systems. Companies that started with a UL administration system that they thought they could amortize over a period of 20 years were forced to get into a second- or even third-generation system in a very short period of time.

In addition, the taxes are a consideration. Obviously, there are the state and local jurisdiction premium taxes, federal income tax, and the deferred acquisition cost (DAC) tax, which was instituted in the 1990s. The potential of increasing that DAC tax was, once again, recently proposed. When that was originally instituted, it affected not only new business, so that you had more of a chance to price prospectively for new business, but it also impacted the in-force book. I believe the most recent proposal would have had an impact on in-force business were it to go through as well.

Finally, I think companies have found that there are extracontractual liabilities that these contracts carry. That is because either consumer disclosure may not have been deemed adequate in our litigious society and folks find reasons to sue for that or, perhaps, it is because of the tax code compliance and the incredible complexity of 7702 and 7702A. The ability of your maintenance systems to keep those policies in compliance so that the policyholder gets expected tax results is another area where extracontractual liability might emerge.

A final pricing fundamental that may have been less important even two years ago than it is today is to look at the difference between the nonguaranteed elements and the guaranteed elements. I think the inherent guarantees in the contracts have been, for a long time, mortality charges based on something like 1980 CSO, perhaps, with select factors and variations off of that. The interest rate, as Dan mentioned in his slide, is typically between 4% and 5%, depending on a company's particular view of the risk associated with that. In today's world the additional guarantees that I think have to be considered in the pricing exercise come from the secondary guarantees, the no lapse, and the extended maturity guarantees. What impact do these have on the pricing equation? I'll talk a little bit more about that as we get into some of the detail.

If you roll this all together into the classic pricing analysis, you then have to figure out what this all means. When I make those assumptions and I put that into the liability designs that I'm contemplating, how am I now going to perform an analysis that will be meaningful to my company, my management, and my owners? The first thing that is typically looked at is profit margins. On a statutory basis, internal rates of return, the present value of premiums, the present value of profits, and some ratio of those are examined. In addition, surplus drain, break-even year, and many classic statutory profit measures are also examined. Also, GAAP, ROE, and the expected ROE for the book of business and all of the appropriate GAAP accounting adjustments would be examined.

Another concept has gained popularity. I think Shane Chalke might have been the first one to promote the concept of looking at the economic value added of a book of business and suggesting what sort of margins one can get to maximize revenue. Also, how does one reflect the fact that there are certain sunk costs that I have, because I am committed to be in this business. Perhaps it's a bad cycle for this business, but I certainly don't want to lose the ability to feed my infrastructure, to maintain my overhead, whether it's distribution overhead, or policy administration, maintenance, and issue overhead. That's a concept that I would refer to as the economic vitality. How do you price to maximize the economic vitality for an organization that's committed to being in the business?

Another indicator that I think we've gotten better at, and it sort of ties into the macro-pricing concept, is to think about the market share indications. Certainly, Wall Street has promoted the top line as much as they do the bottom line. And certainly in some industries and, perhaps even in the Internet industry, you must look at things that would lead to the top line before they ever even get to the top line, let alone to the bottom line. A life insurance company may be having a history of a successful bottom line. If your top line growth starts to fall, you must recognize that that's viewed as an early indicator of potential bottom line problems. You have to look at pricing in a way that's going to maintain a

healthy top line as well as a healthy bottom line or healthy sales projections in a competitive environment.

Beyond the baseline assumptions that you make and the scenarios that you run through, your pricing models are the additional sensitivity testing runs that you want to do, where you would deviate some of those assumptions, and consider the “what ifs?” What might go wrong? What might go well? What’s the upside for me in this deal? What’s the down side for me in this deal if something goes differently than expected? What if mortality is different than projected, if lapses are different than projected, if interest rates, and the economic climates change. There’s a host of scenarios that one would classically look at, and I’ll talk more about that in a moment.

You also have to look at this unbundled and flexible product and at a whole range of various policyholder behaviors. The policyholder has the ability to refund the coverage. The policyholder has the ability to stop funding the coverage for a while and then begin funding again. Policyholders have the ability to do everything from a single-premium, whole life contract, which is very heavily funded to a very low-level term premium funded contract. That’s no surprise, but you have to look at historical experience. I think you also have to look at the design of the contract that you’re contemplating to figure out what you think is going to happen under future market conditions. And then, there are the demographics by issue age, sex, gender, and that sort of thing. There can be very different pricing results among the different pricing cells.

I think Chart 2 does a nice job of piecing together all of the professional standard parts of the puzzle that the pricing actuary needs to contemplate in looking at UL. In the upper left is the illustration actuary hat, and with this you then have to look at the scale of nonguaranteed elements that you’re projecting in a simplistic fashion to determine that they’re self-supporting and that the self-support is not lapse supported. To do that you may not consider any future improvements, which is especially relevant to mortality. You may want, for competitive reasons and even for economic reasons, to try to reflect mortality improvement in the base pricing that you’re doing, but the policy pricing of any nonguaranteed element then has to stand on its own without reflection of future mortality improvement.

On the right-hand side, the cash-flow testing gets back to the investment strategy and the asset and liability management. The theoretical application would be to take a look at the liabilities that the company is going to be assuming. Under different economic conditions, what sort of investment strategy and what sort of investment results would you get that would keep that book solvent?

Again, you would have to reflect different policyholder behavior under different economic conditions. In the middle is the Actuarial Standard of Practice on pricing analysis, something that I'm sure those of us who do this for a living have all committed to memory. The essence of that is that you need to report and summarize to management what the financial risks are that you're taking, and what the management policy is for that. Why should the investors be happy with this product going out to the market and the risks that they assume by selling it?

On the left-hand side of Chart 2 there are the statutory reserves. In the pricing exercise, you want to reflect what the reserve cost is going to be. Also, when filing with the states, you need to indicate that you are going to hold the minimum statutory reserves following the Commissioners' Reserve Valuation Method applied for UL or some sort of an indication like that. You certainly have to be able to justify that the reserves that you believe you priced for are going to be appropriate reserves to hold for this book of business. They're going to be sufficient to meet those liabilities and, what's more important is, they're going to be at least the legal minimums that are applied to that book of business. I think we found that there is some difference of opinion as to how well scoped out that is for UL under the current regulatory environment. Certainly, XXX, in its new format, is attempting to further define or better define how those reserves should be calculated.

Similarly there are the minimum nonforfeiture values in the lower right-hand corner of Chart 2. There is the policyholders' share of those reserves that they're entitled to, and you must make sure that the cash values meet the minimum. This is another area where the actuaries' professional judgement is called upon. We must demonstrate that the policy that the consumer is purchasing, were they to exit that contract in some future year, is giving them fair value based on our Standards of Practice.

I wanted to take all that and try to put it into a little bit more of a real-world sense and use some numbers here by performing a very primitive case study. I'm not going to get into a lot of depth on this. I'm going to cut a lot of corners, but I wanted to just try to do something that would be a little more analytical to bring it all together. I decided to take a look at a last-survivor UL product, and I decided to look just at a single cell. If you remember earlier, I had suggested that it's really important to look at a lot of cells. If you were really going to offer this liability to a wide range of potential insureds, I'd suggest you'd need a lot more than this. But for the purposes of today's rather short discussion, I just took a look at a male, age 60 and a female, age 60. They are part of the last-survivor market looking to purchase \$2 million of coverage. This might be the average if you were to take high-level averages of all the estate planning insurances being sold. I need the product to be modestly competitive. I'm not going to try to be a

market leader, but I'm going to look at the market for last survivor UL today. Based on what's out there, I'm going to try to come up with something that looks relatively competitive.

To provide \$2 million of death benefit to those two 60-year-old, non-tobacco using healthy folks, the market would project an annual gross premium, if I wanted to be on the high end of the competitive companies, of about \$16,000 a year. The guaranteed annual premium, which would guarantee that that policy would never lapse and would pay a death benefit as long as they pay the premium every year, is \$22,000. That's what I started with. Those are the numbers that I have to find a way to design my coverage to meet.

I've taken the basic notion of an asset share and tried to really simplify it. What I've done in Table 1 is accumulate those current premiums at \$16,000 a year at some interest rate for some period of time to see what I get. This shows just simple interest accumulation. If I take that current premium of \$16,000, for which I've told the consumer I will provide a \$2 million death benefit, and I chose 5% in 35 years, I would have accumulated \$1.5 million. Let's say I was able to invest at that rate. Let's say I didn't have to pay expenses, didn't have to prepay any early claims, or didn't have any of the normal asset share concerns. I just had that one case that I was managing personally. If I invested the money at 5% and one died 35 years from now or the second death occurred at 95, I'd be about \$500,000 in the hole.

TABLE 1
CURRENT PREMIUM (\$)

Interest	25 Years	30 Years	35 Years	40 Years
4%	692,988	933,253	1,225,573	1,581,225
5	801,815	1,116,173	1,517,381	2,029,436
6	930,502	1,340,827	1,889,934	2,624,763
7	1,082,824	1,617,169	2,366,615	3,417,753

What I was trying to do was figure out how I could get this number to be greater than \$2 million. That's when I win. Depending on the interest rate you use, you can determine where that time frame is. If you get out to an interest rate of 7%, it's somewhere between 30 and 35 years. This is the not-so-typical way, although not typically an actuary would look at it, and it is the way that a lot of consumers might look at the deal, to figure out if they think they're getting a good deal. Is my money returning a fair value to me? They might expect, for a couple of 60-year-olds, that their life expectancy is around 30 years. The actuaries might think it's more like 32 or 33 years for the second death. They're saying that on the premiums, it is an implied rate of return of between 6% and 7%. That is before you've considered any expenses, taxes, commissions, the cost of

setting up reserves, the cost of paying some claims before 35 years, and the benefits of paying some after 35 years and some lapses and such.

Next, let me take another very crude proxy for that and assume that I have to keep 10% of the premium to cover my profit and economic vitality concerns. Let's say I just took 90% of that \$16,000 and I invested that the same way at some interest rate for some period of time. You can now see in Table 2 how the hurdle or the number of years that they have to live or the interest rate that I have to use gets a little bit higher. In fact, it's pretty hard to get over \$2 million.

TABLE 2
90% CURRENT PREMIUM (\$)

Interest	25 Years	30 Years	35 Years	40 Years
4%	623,689	839,928	1,103,016	1,423,10
5	721,634	1,004,555	1,365,643	2
6	837,452	1,206,744	1,700,940	1,826,49
7	974,541	1,455,452	2,129,954	3
				2,362,28
				7
				3,075,97
				8

What if you were to create a payout chart? Let's say you subtract \$2 million from all these numbers. That would be what your return would be. At this stage, I'd like to personalize it. As an investor in my life insurance company, it's fairly easy for me to do that and say, "Would I be willing to go to Vegas and take this bet?" Would I be willing to say, "I'll do that and I'll win when you live longer than this or when I can return more than that amount of money?" That's the heart of the deal in a very simplistic fashion. I recognize that there are a lot of other things that complicate the picture, but I think you can see, just from these high-level numbers, that profitability is pretty tough.

I went then to the guaranteed premium to do the same kind of exercise to see the implicit rate that I'm guaranteeing or the implicit mortality (Tables 3 and 4). Let's say I'm willing to guarantee an interest rate of 5%. That's on the high end of what most companies would have as an inherent guarantee. I would then need to have a guaranteed life expectancy of close to 35 years for it to be a wash using the guaranteed premium. If I wanted to retain a little bit of the premium on the guaranteed basis, then I would have to go to about 37 years to cover that.

TABLE 3
GUARANTEED PREMIUM (\$)

Interest	25 Years	30 Years	35 Years	40 Years
4%	952,858	1,283,223	1,685,163	2,174,184
5	1,102,496	1,534,737	2,086,399	2,790,475
6	1,279,440	1,843,637	2,598,659	3,609,049
7	1,488,882	2,223,607	3,254,096	4,699,411

TABLE 4
90% GUARANTEED PREMIUM (\$)

Interest	25 Years	30 Years	35 Years	40 Years
4%	857,573	1,154,901	1,516,647	1,956,765
5	992,246	1,381,264	1,877,759	2,511,427
6	1,151,496	1,659,273	2,338,793	3,248,144
7	1,339,994	2,001,246	2,928,687	4,229,469

In order to do a real pricing analysis, you need to set up a profit model. You want to calculate asset shares. You want to look at the interest yields that you think are going to get the right kind of spreads. As Dan mentioned, the market has pushed those down a little bit less, but you want to find out what you could get under different economic scenarios. You want to look at your actual company expenses. You want to look at the mortality that you're going to expect. You want to factor in all of the things that we talked about to do a full-blown pricing analysis. I'm not suggesting that the back-of-the-envelope way is really the way to go.

Another area I touched on before that I want to explore a little bit further is what kind of sensitivity analysis one has to do. In this case I just want to focus on one particular area. I think there is a breadth of things that ought to be analyzed for sensitivities, but just look at mortality because that is so critical in a last-survivor product.

There's something that happened about 15 years ago. It is a concept that has become pretty popular. The Frazerization of two mortality streams has changed into a single mortality stream. This concept has become pretty popular for last survivor policies today. A long time ago, there were people who did dual-status policies, but that isn't happening anymore. Nearly every policy in today's market I think has some implied Frazerization in the underlying charges and in the pricing.

There has been some discussion of whether those two lives are really independent decrements. Typically, a husband and a wife buy a joint policy. Aren't there things like joint accident risk? Don't they travel together a lot, so that there's some lack of independence on the mortality risk? Another contagion factor is the heartbreak syndrome that has been hypothesized and,

to some extent, demonstrated. This has to do with the fact that if one spouse dies, the other spouse is more apt to die shortly thereafter. There could be a whole lot of reasons that get factored into that, but the bottom line is that most people do not believe they are independent decrements, and as a result, they try to build in some sort of contagion factor to reflect that.

I want to go to a different type of sensitivity. I want to look at what I would characterize as anti-selective lapsation. This is another concept that we have recognized, especially in the term market, when policies renew for a steep premium increase that it is priced for. Empirical evidence has shown people will or will not continue coverage based upon their understanding of underlying mortality and whether or not it is personally a good deal. After the policy is issued, as the insurance company, we no longer have the ability to select. It is now the individual who decides whether or not the coverage stays in force.

When you are looking at the lapses in a last-survivor pricing exercise, you probably started with a fairly low level of lapses. It's common in the industry to look at something like 3–5% a year. You may turn those lapses off at some point in the future, too. Certainly, in illustration model regulation testing, you're going to have to turn them off to prove that your product pricing isn't lapse supported. But you do have some number of policies in a last-survivor pricing model. There is some part of your original cohort that you are assuming is going to lapse. If you've assumed Frazerization, you're assuming that lapse decrement is independent of their underlying mortality. That means that somewhere in your model some portion of that cohort may have already had one death and is then assumed to be lapsing.

There are a couple of reasons why I think those lapses are going to be anti-selective. In fact, the ones who do lapse are probably both going to be alive and probably be fairly healthy. The first is that many of the lapses in the estate planning market are 1035s, and that means they've gone through fresh underwriting with a new carrier. You are carving out a fairly healthy subset of your cohort of lives when they leave. The second point is—and I just think this is fundamentally true—that a widow is less likely to lapse that estate-planning coverage than she is when both are alive. In the basic model, it may be hard to reflect this. It is yet to be seen as to how much of an impact this has on the market, but the arbitrage opportunities inherent in the pooling of the mortality risk are starting to be exposed. Viaticals have made a play at trying to get into the marketplace in a whole bunch of different ways. We'd certainly be able to find a contract where, if it were a Frazerized set of pricing and one life was already dead and, perhaps, the other life was even impaired, it clearly made sense for them to buy that contract. They would offer more in terms of value for that contract to keep it in force than the insurance company would to the individual to surrender it.

What would be the impact of having some sort of smart lapse along those lines? What if we recognized that some of that initial cohort that we've assumed is going to lapse and the pricing is actually not going to lapse in the way that we've assumed it independent of their underlying mortality? This is a tough concept to get your arms around. There are a lot of different theoretical techniques that you can take to try to do this. I took a very simple notion of it. I said I'm going to take my original cohort of lives, and I'm going to look at how many people I think are going to lapse, using a lapse rate assumption of 3% a year to age 90 and 0% thereafter. Then I assumed death before age 100. If I had 1,000 lives, some number of those lives were going to lapse and then die before age 100. I'm going to say that some of these people are going to be smart and they're not going to lapse. I'm going to trade them with the lapses or people who would have lived to age 100 and kept the policy in force. I'm suggesting that my overall lapse assumption may not be wrong, but those who I'm lapsing out of that cohort may be too friendly to my pricing. It's a somewhat arbitrary way of trying to reflect it.

So what if those lapsers were 50% smart? In other words, what if I replaced people who lapsed and then died before 100 with people who lived to 100? In fact, that's probably an overly conservative scenario because I think I actually got to the point where I couldn't replace anymore. In other words, I didn't have enough people living to 100 to make a fair replacement. But just by having those people stay in force, which might actually mean that, ultimately, if the exposures went up a little bit under this scenario, this is what happened to the claim costs in the different years. In the first 10 years of the policy, they were up 108% and by the final 10 years they were up 176% (Table 5). If you were to go back to your asset share analysis or your basic pricing analysis and increase your mortality by that kind of a factor, you'd have a dramatically different pricing result.

TABLE 5
ANTISELECT LAPSES

Period	50% smart	10% smart
1st 10 Years	108%	102%
2nd 10 Years	128	106
3rd 10 Years	156	111
Final 10 Years	176	115

What if they were only 10% smart? What if only one in 10 of my lapses were someone that I had to trade for somebody who knew a little bit more about his or her mortality? The impact was, obviously, less in that scenario, but still it was fairly significant in the out years. It would still have more than a 10% bump

in the years where most of the claims are happening to the underlying spikes of mortality.

I'll put that all together on this single case study. With some very crude analysis, it was pretty tough for me to get that back of the envelope comfort that I wanted to make this investment. I saw some real risk when I started to play the scenarios. I couldn't find a whole lot of upside scenarios anymore. We seemed to have squeezed a lot of those out, and the basic economics didn't seem as appealing.

What arguments could I put forth as to how someone who's charged with pricing these products, being competitive, and keeping the company financially strong can get comfortable with what they're apt to embark upon today? The first comment I'll make is very conceptual, but it's just an observation that pricing probably will work. The reality is that the pricing over the last 20 years, in most cases, has been O.K. In terms of mortality and some of the other experiences that we have had, things have gotten dramatically better than we might have expected they would have been 20 years ago. The second point, and this sounds a little bit facetious but it's true, is it will be a long time before anybody knows, especially in the last-survivor market. The claims aren't expected to occur for 15 or 20 years at any kind of noticeable rate. It would be a long time before the pricing inadequacies of those payoff grids, that could potentially be negative, would be realized.

That competitive offering for a company that's dependent on being in the market and the top-line effect of being in the market is going to be immediately apparent. You have the potential adverse long-term bottom line, and you may find ways to help manage around that. But you have a certain adverse top line if you ignore the marketplace realities today and decide not to be competitive for that offering.

Mr. Robin Brull Fichtelberg: Do you know how many companies are charging COI charges after age 100 for maturity age extensions beyond age 100, and how can that be justified?

Ms. Osgood: I have not taken a full look at the industry. I couldn't tell you what the total number of companies is that offer these extensions. Of the market leaders, of which there are about 12, I'm only aware of one company that does say that they can access COI charges after age 100. I'm not sure how they justify it. I haven't asked that question. I've been more involved in the discussion that you can't justify COI charges beyond age 100.

Mr. McCullum: Actually, I would like to comment on that, because I guess it's a matter of perspective. I don't know how you wouldn't charge for a net amount

at risk for a 99-year-old. I don't know how you'd look at a 99-year-old and think you can afford to provide free net amount at risk this year for that individual. The fact that the person has turned 100, 101, or 102 doesn't make me any more comfortable with it. In the classic way of pooling mortality and assessing an annual charge commensurate with the risk that that individual is contributing to your pool, I don't see how net-amount-at-risk charges are ever free. That's my personal, rather unique and strongly held bias, but maybe somebody could take the opposite perspective and tell me how you justify not charging for mortality.

Mr. Howard M. Callif: As the products get more complicated and as you start adding more complicated features, it really gets harder to explain. Do you think UL will try to keep up with this kind of illustration-format type and try to really explain it? Or when you start going to the equity-indexed products do you think they'll try to go the annuity route, trying not to add to the additional explanations that we constantly need to explain? Which way do you think they'll go?

Ms. Osgood: That's a loaded question. With the addition of all these features into UL, it has become quite a complicated product. Will UL continue to be a product that is illustrated? I think it will. I'm basing that on some of the equity-indexed, UL discussions that I've had with companies that have struggled with how do you illustrate this? There is one company, in particular, that offers a fixed as well as an equity-indexed option and has chosen to illustrate the fixed rate for all sales. It hopes to be able to evolve to the equity-index UL being a concept sale not needing an illustration. That hasn't happened and it has been a year-and-a-half. I think that there needs to be a big culture change in the UL marketplace for it to be a product that's not illustrated. Could that happen? Yes. Will it be a while? Yes.

I think that, to the extent possible, these features that are being added to UL will be packaged in terms of a simplified way of describing it without having to get down into all of the details. Make sure that the proper disclosures are made and that the consumer does understand what they're buying.

Mr. Byrne: I guess in the marketplaces we have seen a couple of impacts of the illustration regulation. On one side, you see pressure from a regulatory perspective to wind down the voluminous amount of disclosure, because it has, in many applications, seemed relatively ineffective because there's just too much of it to be worthwhile. I think you will see a decline in the pressure from a disclosure perspective. But from an equity-indexed, UL perspective, I would not see it applying to that, because that appears to require more disclosure rather than less.

Mr. Calif: The breakdown for VUL doesn't have any of the same disclosure requirements as UL. Is it more likely going to be added to the UL or is it going to be more likely removed from the UL equity-index? It's just hard to compete when they're on such different footings. My personal opinion is that it really is needed and we need the disclosure of the VUL. I would hope it would get added by the industry supporting it before big losses cause it to be added.

Ms. Osgood: Will VUL start being more disclosed or will UL be less disclosed? I think it is more likely that it will be the former. There will be more regulations applied to the VUL.

Mr. Bruce E. Booker: Deanne, I would suggest and my antitrust actuaries would make me say right here that any company can price any way they want to, so I'm not saying what we should do. But as professional actuaries, I would think that if we would have to rely on any of those three statements, we should probably look real hard at where we are and where this deal is.

Mr. McCullum: Personally, I couldn't agree more. I probably said it a little bit stronger in some ways than I might otherwise have, but I wanted to illustrate the point that it is a tough market to price in today. We do have a lot of professional standards to adhere to. You're absolutely right. They aren't appropriate justifications, antitrust notwithstanding. You could say, I want to be a loss-leader for a while, and that's certainly fine. I think the important thing is that if you're taking that kind of risk, you must disclose that and discuss that with the management so the company knows what you are getting into. My slide was facetious. It was supposed to inspire some kind of reaction from folks. But I really haven't, even going to the back of the envelope, been able to make rational sense of the current pricing from the perspective of somebody who wants to invest in it.

Mr. Calif: Deanne, you said that the equity-indexed products kind of function the same as the UL. There are just a few additions. The ones I've seen have been really a lot more complicated. They allocate funds to specific accounts and then they take loans. If there's a loan, or withdrawal, or anything like that, it all functions very differently than a regular UL. Could you explain that a little more?

Ms. Osgood: I was referring more generally to the underlying mechanics of the product. Equity-indexed ULs are more difficult, and even the underlying pricing structure is very different from traditional ULs. The two ULs are different in terms of premiums in and monthly deductions coming out, and even in terms of how the excess interest is credited. But the underlying mechanics between the two product types are very similar.

Mr. James F. Reiskytl: I have a question for the marketing man. What should you be doing for a possible owner who faces a \$100,000 premium 40 years from now? Do you believe they should be alerted somehow, and what would be the process to do that?

Mr. Byrne: The process that I think should be undertaken and, hopefully, is done in most situations is the annual review with the policyholder. That should include an in-force projection, a reprojection provided on each policy anniversary with its comparison to the original illustration, and then a disclosure of any additional premiums.

Mr. Reiskytl: A very reasonable answer. I have another question. Have you talked to the valuation actuary at all? I know you do when pricing. A valuation actuary has to look at these cash flows that are flowing from this product. I don't know if you get involved with that, but someone has to have responsibility for that.

Mr. McCullum: I think the point is an excellent one. The valuation actuary needs to understand what's happening in a fast-paced and rapidly evolving product development world. As Dan pointed out earlier, market forces clearly drive where the market shall go. In my personal case, I've taken a pretty hard stand against matching the market. That may be obvious in some of my comments, and I wish I could prove myself wrong. I'm losing a lot of professional credibility in my company by not being able to "keep up with the Joneses" on this one. My valuation actuary is very aware of what I'm not doing. What he hasn't been able to help me figure out is how I can be better at doing what the top marketing pricers are doing today. But I agree with the point, and I think it has been proven that the valuation actuaries don't always have as strong of an understanding of the liabilities, like the secondary guarantees that are embedded in the products, that they're starting off on. I think that it is inappropriate not to have that level of discussion.

Ms. Osgood: As for the secondary guarantees, even the companies that might be basing their reserves on the requirements of the UL model regulation are going through the cash-flow testing process and determining whether additional reserves would need to be held. We haven't talked to any who are actually holding additional reserves, but there is a tax disadvantage in terms of deductibility if additional reserves are held as a result of cash-flow testing. But that's how companies are approaching it. That would suggest that there is some interaction among the pricing and product development actuary and the valuation actuary because they are able to bring these benefits into the marketplace.

CHART 1
CURRENT TRENDS IN DISTRIBUTION

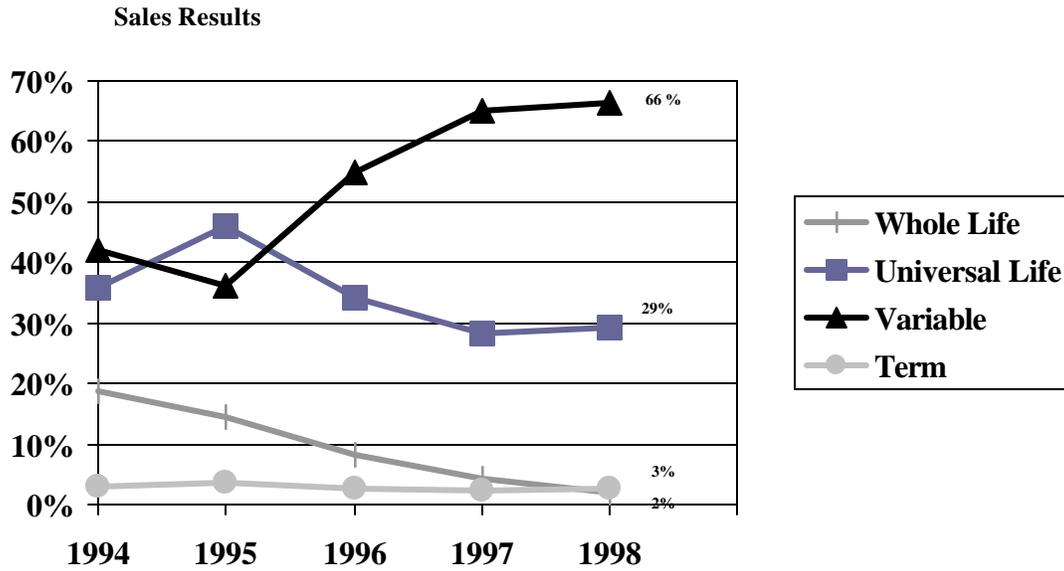


CHART 2
PROFESSIONAL STANDARDS

