

Contact	Phone
New York	
Scott Robinson	1.212.553.1653
Adrian Pask	
Joel Levine	
Robert Riegel	

Beware of What You Price For: Credit Implications of UL Secondary Guarantees for U.S. Life Insurers

Summary Opinion

Moody's has become increasingly concerned about the potential impact of universal life insurance (UL) secondary guarantees¹ on the statutory reserve requirements and profitability of life insurers that are aggressively selling death benefit oriented² UL policies. Moody's believes that the industry's exposure to this coverage has increased dramatically over the past few years due to the increase in use of death benefit oriented UL policies, often for use in estate planning situations.

Moody's fears that insurers writing these policies could suffer potentially large losses if aggressive pricing assumptions involving portfolio yield, surrender rates, letter of credit (LOC) costs and mortality rates do not materialize as expected. In addition, Moody's believes that some companies are not positioned to adequately deal with large future statutory reserve requirements and the resultant need for capital that can be created by this type of coverage.³

The UL marketplace remains intensely competitive, especially when comparing contracts reliant upon secondary guarantees. Anecdotal evidence suggests that the competitiveness of the UL market has also had a broader impact on the life insurance market as some policyholders have replaced existing whole life policies with UL policies with secondary guarantees.

To fully understand the pricing of and risks contained in these guarantees one needs to carefully dissect the assumptions made in developing these products. Moody's analysis indicates that many companies selling these UL policies with secondary guarantees are making higher than reasonable lapse assumptions⁴ and are consequently especially susceptible to adverse financial results. Additionally, companies using LOC as collateral to obtain statutory reserve credit for business ceded to unauthorized offshore reinsurers may also find expected profits quickly eroded by unanticipated increases in LOC costs.⁵

1. A UL secondary guarantee provides that the insurance policy will stay in force, as long as certain conditions are met, such as a specified level premium is paid. A UL secondary guarantee generally takes one of two forms: no lapse premium, or shadow account — both of which are described later. The important point is that under both of these secondary guarantee designs, the insurance company is assuming the risk that fees collected will not be adequate to meet pricing targets, and that accumulated policy values will not be adequate to cover scheduled fees or policy charges.
2. By death benefit oriented, we mean policies in which the cash value element is not emphasized in the product design or sales process.
3. Collateral requirements are mitigated for older in-force UL business as a result of the prospective nature of one section of Actuarial Guideline AXXX (see Reserving for UL Secondary Guarantees). However, companies need to contend with reserving requirements for recent and future sales, as well as for other products such as level premium term insurance. For additional discussion, please see "Hidden Credit Risks of Regulation XXX/Guideline AXXX Reinsurance Programs," January 2004.
4. In the case of a UL secondary guarantee that comes into the money, low lapse rates are detrimental to product profitability.
5. Many direct writers obtain reserve relief through the use of offshore captives, which typically secure collateral with 364-day letters of credit. Reinsurers are also large users of LOCs. The specifics of the pricing of a company's UL product is dependent on a number of company specific items such as the use of reinsurance (and LOC costs, if applicable), expenses, distribution costs, etc.

Most troublesome to Moody's is the tail risk that some companies have assumed by selling the UL product; i.e. the asymmetric return profile of the UL product with secondary guarantees can produce large losses for certain product designs in unlikely, yet plausible scenarios. The combination of a prolonged low interest rate environment, increasing LOC costs, higher than anticipated mortality rates, and low lapse rates can produce material losses for an insurer with a substantial block of UL policies containing these guarantees. The financial impact to the company of adverse development in these assumptions is multiplicative, not additive. For example, it is reasonable to expect a positive correlation between low interest rates and low lapse rates. The dollar impact of both of these events happening simultaneously can be many times greater than the impact of each event happening independently.

As a result of Actuarial Guideline AXXX (AG AXXX), the statutory reserving impact associated with secondary guarantees remains a significant challenge for the life insurance industry. Because many companies are not able to secure reserve relief in the reinsurance markets, as they were in the level term market, this risk resides mainly with the primary companies.

Two Major Credit Issues Associated With Universal Life With Secondary Guarantees: Pricing Assumptions and Reserve Requirements

Moody's believes that companies selling death benefit oriented UL products need to carefully address the following two risk management issues:

1. Moody's believes that a number of companies are using aggressive pricing for secondary guarantees. Specifically, companies may be assuming lapse rates and portfolio yields that are unrealistically high, in addition to optimistic mortality assumptions.⁶ Our analysis indicates that under certain conditions, providing these guarantees can result in a substantial loss.⁷
2. Similar to the statutory reserve strain for term insurance as a result of the NAIC's Valuation of Life Insurance Policies Model Regulation, or more commonly known as Regulation XXX, Moody's believes that companies selling UL with secondary guarantees need to quantify and manage their potential exposure. As is the case with level term insurance under Regulation XXX, statutory reserves under AG AXXX can grow dramatically over time, possibly requiring multiple times the expected GAAP reserve at their peak. The industry responded to Regulation XXX which was, intended to address reserve requirements for level term insurance and UL policies with secondary guarantees, by implementing measures to reduce the effectiveness of what many considered to be an onerous regulation.⁸ To address companies' avoidance of Regulation XXX, regulators and the industry cooperatively adopted Actuarial Guideline XXXVIII,⁹ attempting to close many of the soft spots and ill defined provisions of Regulation XXX. As had happened with Regulation XXX, certain companies are now implementing specific product design features that reduce the effectiveness of AG AXXX.

Moody's estimates that the potential collateral needs for the life insurance industry for level term and UL with various forms of secondary guarantee products to be between \$50 and \$100 billion over the next five years. Moody's believes that the majority of this amount is required for level term insurance policies; however, a non-substantial portion is required to satisfy the collateral needs for UL policies with secondary guarantees.

While many companies have been using reinsurance to manage Regulation XXX induced term insurance reserve strain, there appears to be far less reinsurance capacity available for the UL market. Many of the UL reinsurance treaties are yearly renewable term (YRT), or mortality-based treaties that leave much of the secondary guarantee risk with the primary company. In part, Moody's believes that this is the case because reinsurers themselves are concerned about the capital intensive nature of the UL products. Given the limited available capacity for banks to issue LOCs, reinsurers would rather reinsure a term product, that has less uncertainty surrounding some of the pricing assumptions than those embedded in the secondary guarantees of UL products.

6. Moody's believes that a majority of primary companies reinsure their UL mortality risk under yearly renewable term (YRT) treaties; however, recently increasing reinsurance rates could encourage companies to retain a greater portion of the mortality risk.

7. See discussion on scenarios in section: A Scenario Analysis of UL Secondary Guarantees: The Good, The Bad and The Very, Very Ugly.

8. To lower the reserve requirements for XXX reserves, companies have been, ceding reserves through the use of reinsurance or financial markets, and using creative product designs, including shadow accounts.

9. To avoid confusion, we refer to Actuarial Guideline XXXVIII as AG AXXX throughout the special comment. See section entitled: Reserving for UL Secondary Guarantees.

The Credit Impact of UL Secondary Guarantees

The potential impact of an insurance company's risk profile to UL secondary guarantees depends on a number of factors, the most obvious being a company's overall exposure to secondary guarantees. Additional factors include the pricing of the guarantees, the company's approach to dealing with the potential increase in reserves, and risk management at the company.

The first step in risk management is quantifying the potential risk under different scenarios. As was the case with the life insurance industry's experience in dealing with secondary guarantees in variable annuities¹⁰, Moody's believes that many companies have inadequately quantified their exposure to UL secondary guarantees. Most importantly, they have not fully analyzed their exposure to extreme tail events. **Moody's believes that the focus at many companies has been more on meeting market demand for products that sell than appropriately managing the risks from these products.**

When assessing the credit impact of this product, the challenge is to identify those companies with a material or growing exposure to mispriced UL secondary guarantees. Clearly, as a company's exposure increases, we will place additional emphasis on the product in our analysis of the company's risk profile. As a first step, we look to see if a company can quantify their exposure, and how they reflect the pricing of the secondary guarantees in their product pricing. Secondly, we look to see how a company will deal with projected increases in statutory reserves.

Combined with the need to fund reserves for some level-term products, Moody's believes that securing collateral for UL secondary guarantee products remains a significant challenge on the horizon for the life insurance industry. While UL statutory reserves may prove to be redundant for the majority of the time — excluding those companies using aggressive shadow account designs — under certain severe scenarios, they may be inadequate. It is these scenarios that we believe that companies must fully understand, as a first step in managing the risk. Additionally, while statutory reserves may be considered excessive under most scenarios, companies need to be able to fund these required reserves, regardless of whether they exceed the economically required reserves. That is, a company may be "economically" solvent based on its own analysis, but insolvent on a regulatory basis.

The Importance of Disclosure: A Lack of Disclosure May Indicate a Lack of Risk Management

We believe that companies that share more detailed information on risks such as secondary guarantees with the external marketplace are more likely to understand the potential risk they face. Moody's recognizes that such public disclosures need to be tailored so as to not disclose too much proprietary information that would be useful to competitors. Additionally, such disclosure is necessary only if the company has a "material" exposure to secondary guarantees. Unfortunately, some companies may take the position that very few risks are "material," and therefore provide little information to investors.

In certain instances, tail-type risks considered "immaterial" by a company may be especially important from a rating (and investor) perspective, especially if the risks are growing rapidly. For those companies with growing blocks of UL with secondary guarantees, Moody's believes that it is essential to understand how the company's UL products are performing versus pricing assumptions, the potential impact of a downside scenario, and the potential reserve requirements for the company.

Some companies are well aware of the risk of secondary guarantees and have taken prudent steps to deal with the issue, through product design and/or pricing. Unfortunately, it is all too often difficult to identify those companies based on publicly available information.

The History of Secondary Guarantees

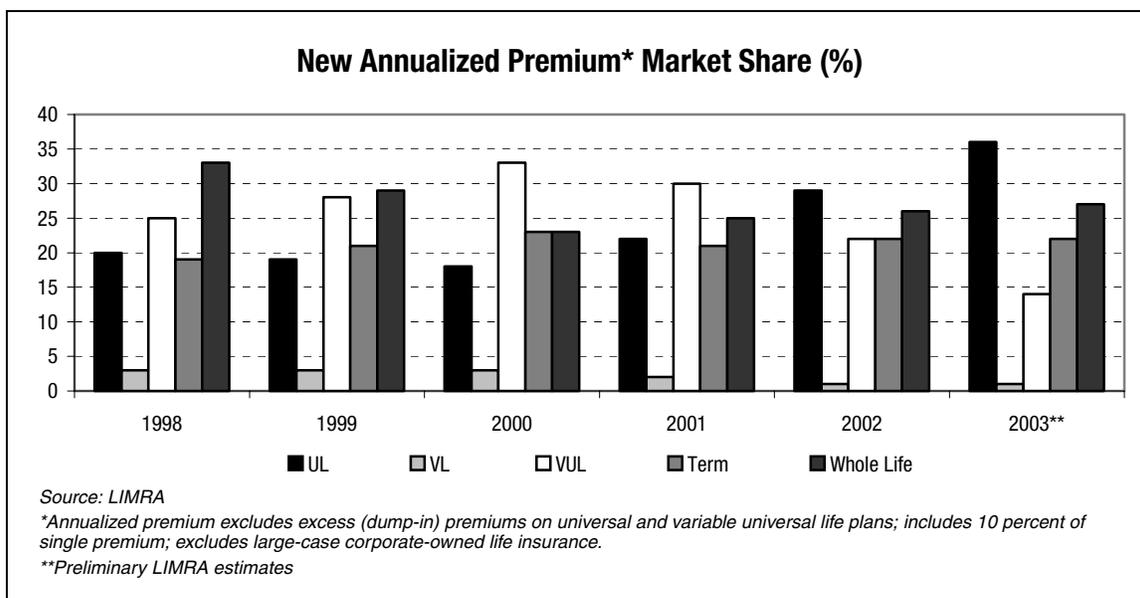
THE HISTORY OF UNIVERSAL LIFE

Increasing Importance of UL to the Life Industry

During the past several years, consumers have increasingly sought guarantees in an effort to reduce their exposure to equity market volatility. In response to equity volatility, insurance buyers have shifted toward fixed life insurance products and away from variable life insurance products. Notwithstanding the market rebound in 2003, customers have favored fixed products and equity-oriented products with guarantees, such as variable annuities with living benefits. The decline in variable universal life (VUL) products has been largely offset by an increase in UL sales.

10. See "Bells and Whistles: The Credit Impact of Annuity Secondary Guarantees," October 2000.

According to LIMRA, total annualized new premium of life products in 2003 amounted to \$11.75 billion, an increase of 1% from the prior year. UL constituted approximated 36% of this amount, followed by whole life, term and VUL with 27%, 22%, and 14%, respectively, of the market share. During 2003, as was the case in 2002, increasing UL sales replaced lost VUL sales.



The increase in sales of UL only tells part of the story. Moody's believes that a large proportion of new UL policies are much more focused on providing death benefit protection than in the past. Death benefit focused UL is a recent innovation; previously, UL had been sold more as a transparent, flexible cash value oriented product.

The Rebirth of UL and the Introduction of the Secondary Guarantee

Currently, the UL market is divided into two segments: the cash accumulation market and the modestly funded (death benefit) market.

UL secondary guarantee products were initially developed for the estate planning market where the buyer requires a guarantee of death benefit coverage if certain conditions are met such as a specified amount of premium is paid. The guarantee can be defined for a specific number of years, from five to the lifetime of the policyholder. Policyholders can often choose the duration of the desired guarantee period, with commensurate premium requirement. This guarantee can insulate the policyholder from the possibility that poor investment experience or increases in charges could drive the account value to zero and cause the coverage to lapse at high ages when, obtaining replacement coverage would be difficult, cost prohibitive, or impossible. Since this product is guaranteed to not lapse and pay the stated death benefit regardless of the cash value of the policy if certain conditions are met, this policy feature is popularly referred to as a "secondary guarantee" feature.

There are two major types of secondary guarantee designs: specified premium amounts and shadow accounts. Under the minimum premium guarantee, the coverage will not lapse if a minimum amount of premium has been paid even if the policy no longer has a cash value. This type of guarantee may be costly to the insurer in terms of a high level of statutorily required reserves for products with this design.

Shadow account designs have been introduced as an alternative to the premium based design. The coverage is guaranteed so long as a "shadow" UL account value is positive, even if the actual account value is negative. The shadow account uses different crediting rates and/or mortality and expense charges than the actual account value calculation. The shadow account design has the advantage that the guarantee is more flexible than a premium-based guarantee. As this design became more popular, the reserving requirements were amended, intending to yield similar amounts of reserves under both designs. However, as has happened in the past, product design elements are being included specifically to reduce statutory reserves under the new guideline. For an in-depth discussion on reserving requirements for secondary guarantees, see the section on reserving for UL secondary guarantees.

Another type of secondary guarantee design, the annual renewable term (ART) approach, is a hybrid of the first two designs. Under this approach, the product will not lapse as long as the cumulative sum of premiums is greater than a minimum amount at a specified time.

Reserving for UL Secondary Guarantees

Minimum statutory reserves for UL products are generally governed by the NAIC's UL Model Regulation. Because the model regulation did not address UL products with secondary guarantees, new regulations and actuarial guidance were implemented to deal with evolving product development.^a

The NAIC's Life and Health Actuarial Task force (LHATF) approved AG AXXX (officially Actuarial Guideline XXXVIII) in June 2002. An Actuarial Guideline provides actuaries professional guidance on how to apply certain actuarial standards. In the case of AG AXXX, guidance is provided on reserving for level premium term and UL products with secondary guarantees. The guideline was developed to address "innovation" by companies to manage potential increases in statutory reserves required by the NAIC's Valuation of Life Insurance Policies Model Regulation, more commonly known as Regulation XXX, and to clarify ambiguity in Regulation XXX.

AG AXXX describes how to apply Regulation XXX to different product designs. To avoid Regulation XXX, companies had developed term life products that included the ability to increase premiums only if Treasury rates changed by a specified amount, a refund of premiums if premiums were increased, and guarantees by affiliated companies. For these and other cases, the guideline states that the companies need to reserve for policies with these features as if they were fully guaranteed. Section VII addresses premium "catch-up" features in policies. Section VIII, the only prospective section, deals with shadow accounts.

As was anticipated with AG AXXX, new policy designs have emerged. In Moody's opinion, companies not following the intent of the guideline may face increased regulatory risk.

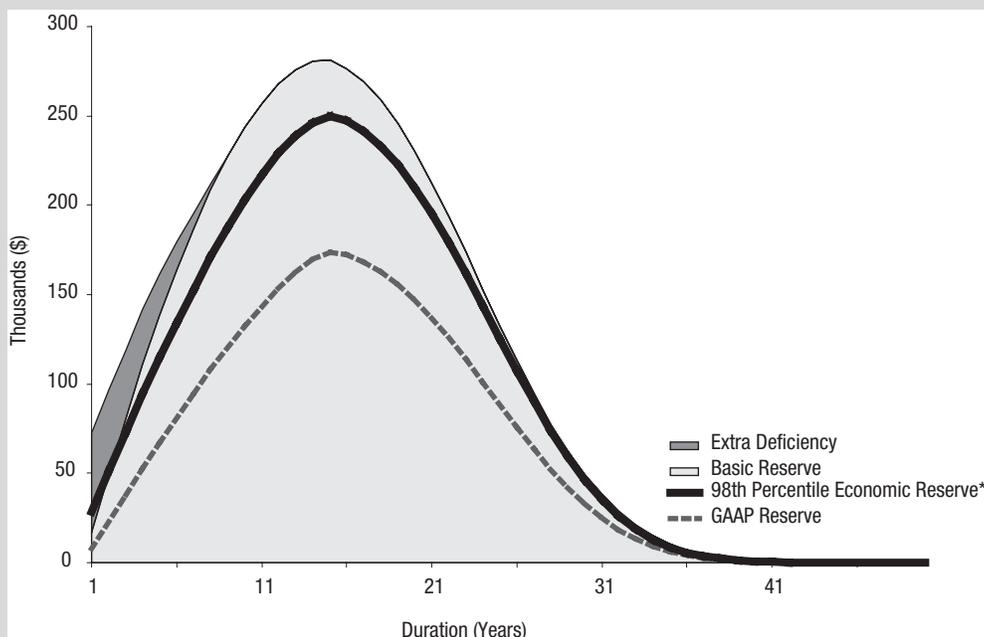
As stated in the introduction to AG AXXX: *"Obviously, new policy designs will emerge subsequent to the development of this document. No statute, regulation, or guideline can anticipate every future product design, and common sense and professional responsibility are needed to assure compliance with both the letter and the spirit of the law. While the Model is a complex regulation, its intent is clear: reserves need to be established for the guarantees provided by a policy. Policy designs which are created to simply disguise those guarantees or exploit a perceived loophole must be reserved in a manner similar to more typical designs with similar guarantees."*

One approach being advocated by some regulators and members of the American Academy of Actuaries is standalone asset adequacy under a large number of stochastic scenarios along the lines of the process currently being finalized for variable annuities with secondary guarantees. Given the complexity of the UL secondary guarantees and the industry's experience with variable annuity secondary guarantees, it is likely that that such a proposal would take years to implement.

The typical "humpback" reserve pattern for UL policies with secondary guarantees can be seen in Graph 1 below. The increasing reserves mean that even if a company does not write any more business, additional collateral will be necessary to meet reserve requirements. Note that in this example, the company is not making an effort to reduce AG AXXX reserves; for example, by using a shadow account design, the company can reduce statutory reserves.

Graph 1

UL Reserves (base case described in Appendix)



*The 98th percentile is shown for informational purposes only.

Reserving for UL Secondary Guarantees (cont'd)

Graph 1 shows that under most scenarios, statutory reserves appear more than adequate to cover requirements. In fact, in the example shown, basic reserves are greater than the 98th percentile economic reserve. Again, note that no effort is being made to minimize statutory reserves in this example; many companies have adjusted their product designs and reserving methodologies, resulting in significant statutory reserve reductions as compared to this example. The deficiency reserve, or the additional reserve required under Statutory Valuation Law when the gross premium is less than the net premium, is present in the early years.^b

As expected, the GAAP reserve is the lowest of all shown reserves. GAAP reserves are calculated using more reasonable expectations, with some provision for adverse deviation.^c SOP 03-01, Accounting and Reporting by Insurance Enterprises for Certain Nontraditional Long-Duration Contracts and for Separate Accounts, provides guidance to account for UL secondary guarantees.

a. Regulations will continue to evolve and impact reserve requirements. For example, the adoption of the 2001 CSO mortality table would reduce reserve requirements for newly written UL secondary guarantee business.

b. Note that the Deficiency Reserve Work Group, which reports to the NAIC Life and Health Actuarial Task Force, was formed in late 2003 to look into eliminating or replacing the formulaic deficiency reserve approach.

c. A prudent company may either hedge the tail risk of UL secondary guarantees, or will hold significantly higher reserves

Understanding the Key UL Pricing Assumptions

The key pricing assumptions for secondary guarantee coverage are the interest rate implied by the guarantee, the cost of the LOC (if appropriate), the assumed persistency of the business, and the anticipated mortality rate. The implied interest rate is a function of the relationship between the guaranteed premium and age at issue. Anecdotal evidence indicates that to meet their target pricing spreads on policies that continue to meet the guaranteed premium requirements and stay in force until death, companies need to earn between 5% and 7% on their investments over the life of the policy. In practice, companies do assume some level of lapses in their pricing. Allowing for a relatively modest lapse assumption that we believe should accompany this business, companies still need to earn between 4% and 5% lifetime, with some of the more aggressive companies needing to earn 5.5% and above. It is important to note that, in order for this to have a material impact on the product's actual profitability, the earned rate must be below the implied rate for an extended time period.

The cost of a LOC is relevant for companies with offshore affiliates that have used such instruments to meet their reserve requirements. For highly rated companies (Aaa/Aa) with strong relationships with banks, LOC costs can range between 20 to 40bp. Lower rated companies (A/Baa) can expect costs in the 50-100bp range. Because the cost of a LOC is often times negotiated annually, the company is periodically subject to increasing LOC costs that could quickly erode anticipated profits. It is especially disconcerting that LOC costs are likely to rise when a company is already under financial pressure.

A third key assumption for secondary guarantees is the persistency of the business. Secondary guarantee business may be lapse supported, meaning that profits from terminating policyholders are necessary to offset less profitable business from persisting policyholders. If the policyholder termination rate is lower than expected, then the profits from surrendering policies may be insufficient to support the losses sustained by the persisting policyholders. Moody's analysis indicates that the profitability of this business can be sensitive to small changes in lapse rates.¹¹

Based on our discussions, we believe that a number of companies are using 4% to 5% annual lapse rate assumptions for policy years five and greater. **Because of the long-term nature of the product, an error of even 1% in the lapse rate can have a material impact on product profitability.** Lower-than-anticipated lapses have already turned out to be a significant problem with term-to-100 policies in Canada and long-term care (LTC) policies in the US.

If not reinsured, mortality can also have an impact on determining product profitability. However, we consider mortality to be less important than the other mentioned risks: lapses, interest rates, and LOC costs.

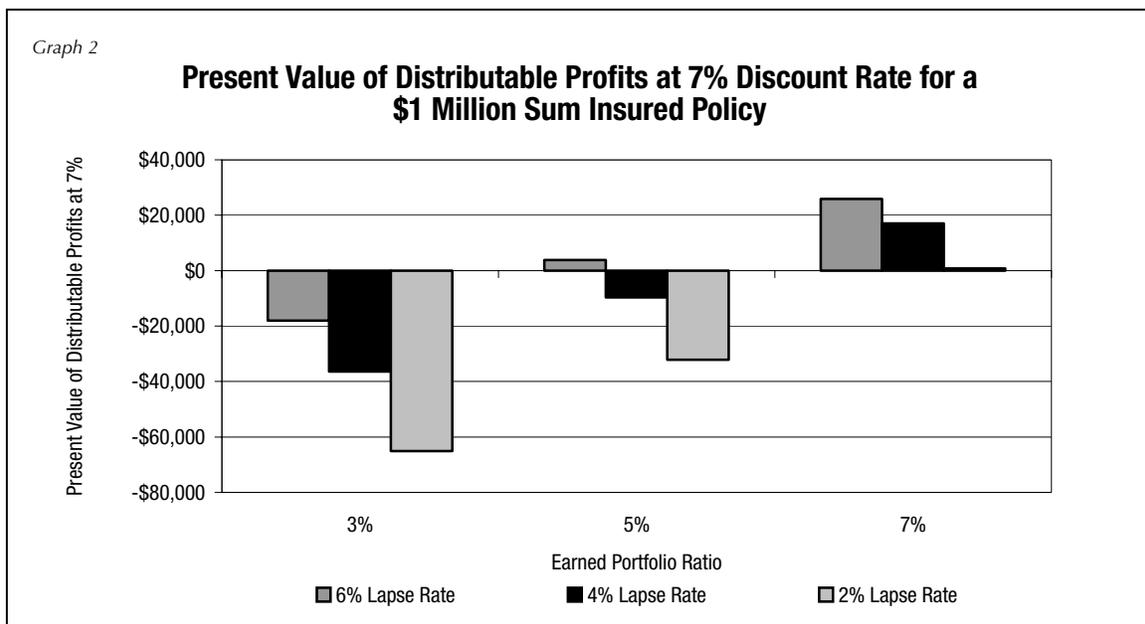
As we mentioned previously, the impact of the simultaneous occurrence of the events discussed above are multiplicative, not additive, and some of these events are highly correlated. For example, Moody's would expect that prolonged low interest rates would enhance the value of the secondary guarantee to the policyholder, and as a result, the persistency of the business would likely increase. As demonstrated below, the dollar impact of both of these events happening simultaneously has an impact multiple times that of each event happening independently.

¹¹. Because we are not assuming any cash value in our model, we are overestimating the profitability's sensitivity to lapses.

A Scenario Analysis of UL Secondary Guarantees: The Good, The Bad and The Very, Very Ugly

The scenarios described below are for a hypothetical policy with \$1 million dollars of coverage. The pricing example is only meant for illustrative purposes. We made a number of simplifications in the model because our goal was to analyze the interactions of different pricing assumptions. One simplification is that we assume no cash value in the policy¹², which increases the sensitivity of profitability to lapses. That said, we believe that the model provides a valuable perspective on the potential magnitude of the issue and the interaction between different variables. (Refer to Appendix I for more details on the pricing example.)

Aside from looking at the emergence of GAAP and statutory earnings, most companies also look at a number of other profit measures. Internal rate of return (IRR) is one measure. Under the base case scenario described in the appendix, the IRR is 12%. Companies may also look at the net present value of distributable profits (PVDP), which we show in Graph 2 below for different lapse and earned portfolio yields.



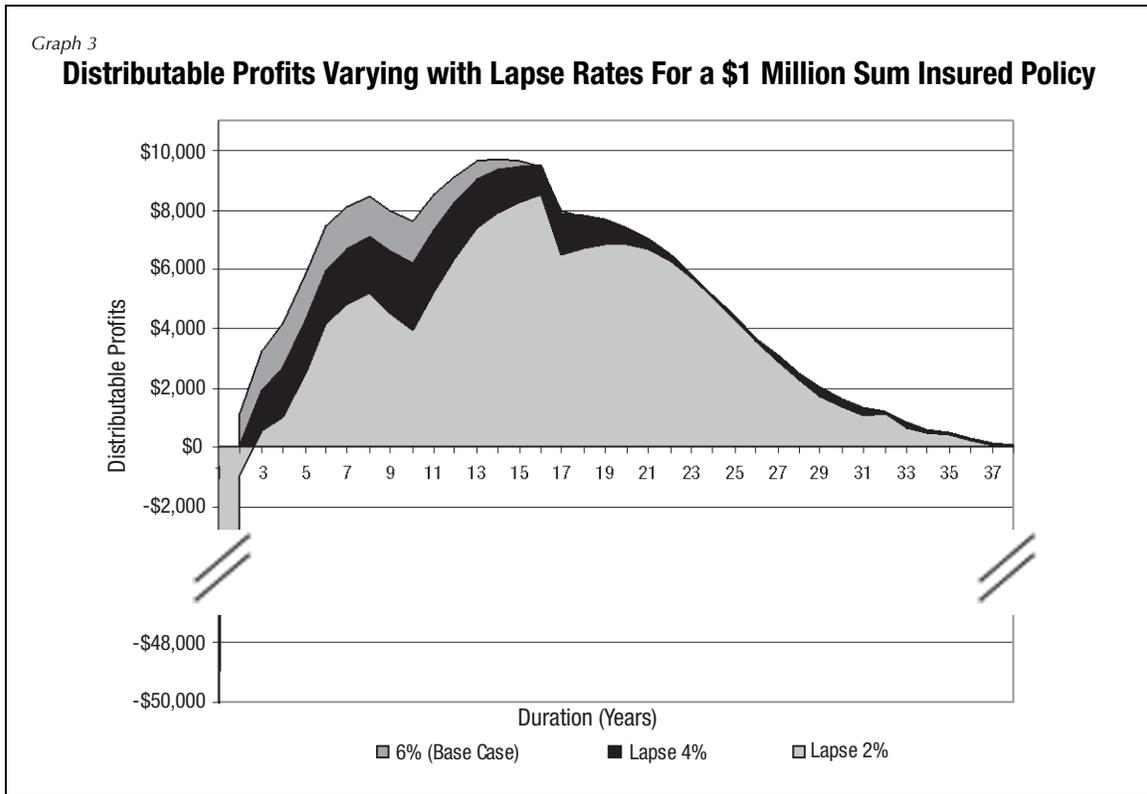
It is important to note that each scenario's probability is determined by different drivers and is not equally likely. The portfolio yield is determined by long-term economic and market conditions. The illustrated low investment scenario would require portfolio yields to remain at depressed levels for decades.¹³ On the other hand, the probability of a low-lapse scenario is determined by the policyholders' behavior, the distribution channel, sales practices used when the coverage was sold, and the value of the option.

Moody's believes that the likelihood that the actual lapse rates are less than pricing assumptions is high, given the powerful economic incentives that will be present as these policies age. Once the secondary guarantee becomes valuable, the lapse rate could be very low, if policyholders recognize the value of the option. Even worse, if the value of the option is high enough, outside parties may find it profitable to help policyholders monetize their options, making it all the more risky for insurance companies to count on inefficient policyholder behavior in their actuarial pricing models.

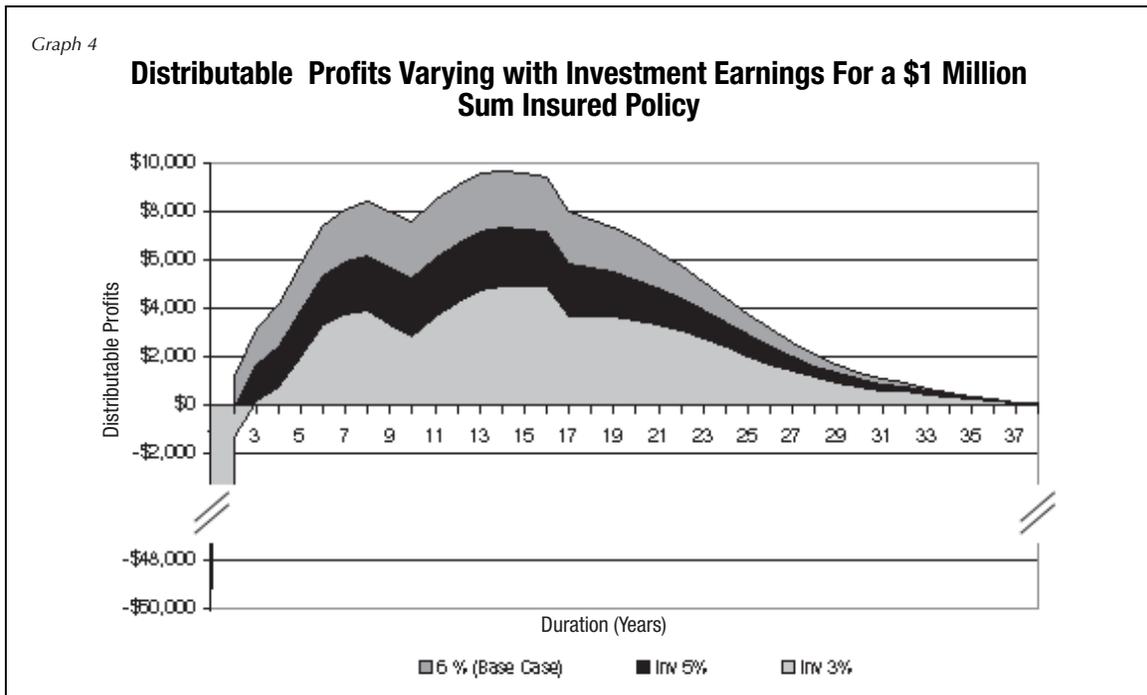
12. Many of the aggressively priced, death benefit oriented products have little cash value; we have observed some UL illustrations that have no cash value.

13. A loss of principal through credit or equity losses would also have an impact.

Graph 3 shows statutory profits after tax under three different lapse assumptions.

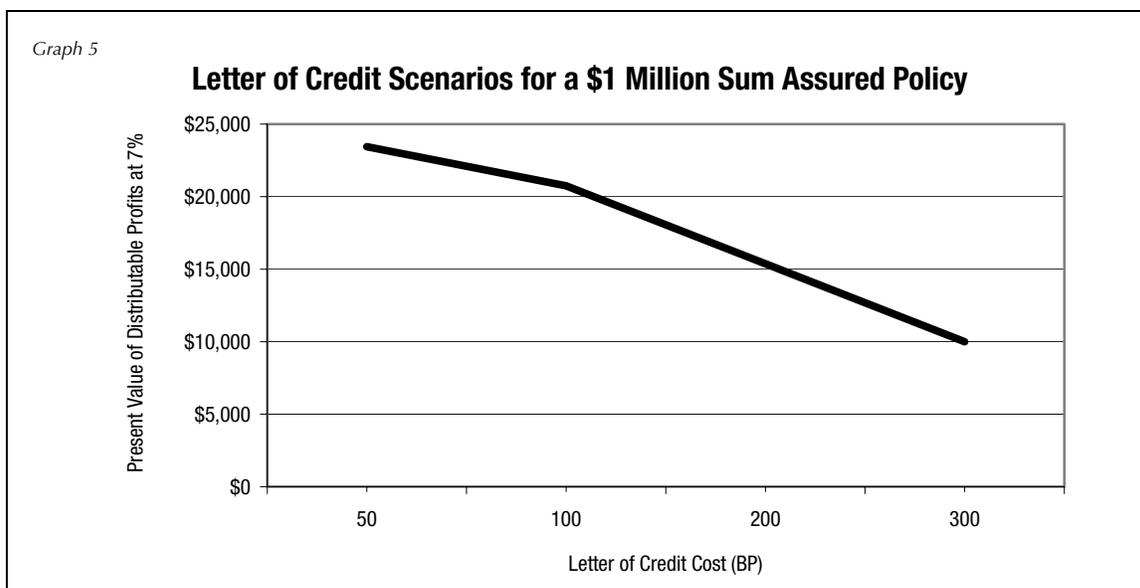


The realized investment yield is another important assumption, especially if no LOCs are used to fund reserve strain. Graph 4 shows the statutory profitability of UL under different investment yields.



A third pricing assumption is the LOC cost. LOCs are used to secure off-shore reinsurance reserves, and their costs are typically between 20 to 100 basis points, depending on the insurer’s credit rating. Moody’s believes the major risk with LOCs is that the demand for LOCs may outstrip the supply, driving up prices to levels that were not anticipated in pricing; or worse yet, companies will not be able to secure sufficient LOCs to use as collateral.¹⁴

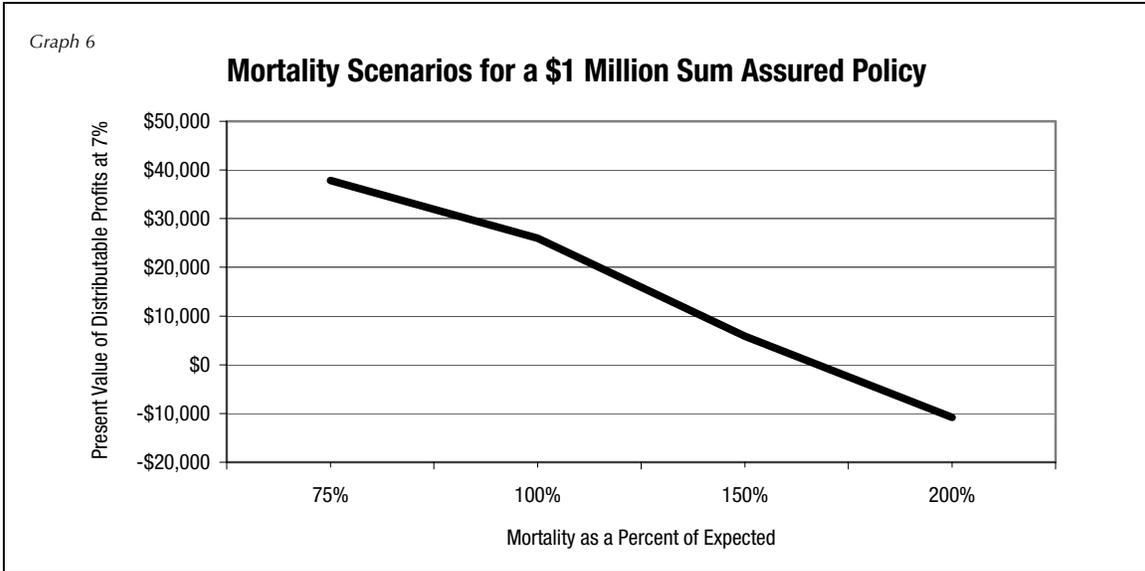
Note that in this pricing example, the “redundant” reserves, or those reserves that are greater than GAAP, but less than statutory, are funded with LOCs. This substantially reduces the surplus strain and improves profitability as measured by return on capital, assuming that premiums are unchanged. In the simplified example below, we have not adjusted the premium, as our focus is on the sensitivity of profits to a change in LOC costs. **In practice, in a highly competitive market, most of the savings are passed onto consumers in the form of reduced premiums. As a result, the insurer has the same return, but at a higher risk.**



A fourth and less critical pricing assumption is mortality. For companies with large blocks of mortality business, the major risk is the systematic mis-estimation of mortality, as opposed to year to year fluctuations in mortality. The probability of an adverse scenario occurring is driven by an insurance company’s ability to assess and underwrite properly the risk of the individuals it insures, as well as predict overall changes in the trend of mortality. The financial impact of misestimating mortality is likely to be less meaningful when compared to the other pricing assumptions. Furthermore, many companies reinsure mortality on a YRT basis.¹⁵ In the example below it is important to note that each scenario’s probability is not necessarily comparable to the scenarios in the other examples; i.e. it is more likely that a company will experience 2% lower lapses than actual mortality that is 200% of expected mortality.

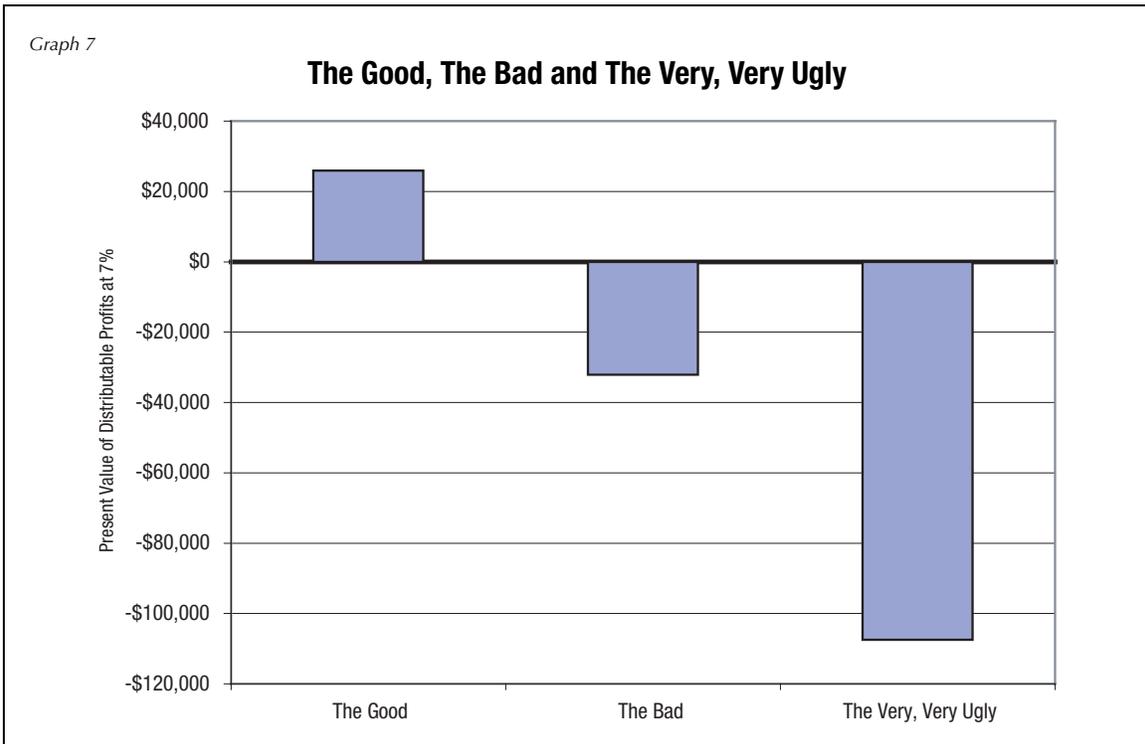
14. Recently, Moody’s notes that the supply of LOCs has increased; however, the long term supply of LOCs remains uncertain.

15. Moody’s notes that in extremely adverse mortality scenarios, reinsurers can be expected to increase premiums under a YRT treaty. If the secondary guarantee is in effect, the primary insurer will not be able to pass the added cost to the policyholders.



The worst-case scenario for a company is to experience prolonged depressed investment returns combined with high mortality and low lapse rates.¹⁶ As seen below, the combination of low investment yields, low lapse rates and adverse mortality has a dramatic impact on profitability.

Scenario Descriptions				
Scenario	Investment Yield	Lapse Rates	Mortality as % Expected	
The Good	7%	6%	100%	
The Bad	5%	4%	150%	
The Very, Very Ugly	3%	2%	200%	



16. If a company relied heavily on LOCs, a dramatic increase in LOC costs could produce the most severe scenario.

EARNINGS MAY NOT REFLECT TRUE ECONOMICS

An interesting observation from this pricing example is that, in adverse scenarios, the statutory losses do not emerge until the secondary guarantee is in the money, usually many years after issue. Once losses emerge with secondary guarantee policies, they continue until the end of the contract period.

FASB Statement No. 97 describes how to account for UL policies, but it does not provide guidance for features such as UL secondary guarantees. Statement of Position SOP 03-1, *Accounting and Reporting by Insurance Enterprises for Certain Nontraditional Long-Duration Contracts and for Separate Accounts (SOP)*, provides guidance to account for UL secondary guarantees.

This SOP, which was effective for fiscal years after December 15, 2003, describes how to calculate reserves for secondary guarantees. A number of companies had to set up, or increase reserves for their secondary guarantees as a result of the new SOP. Thus, for lapse supported products, the new SOP changes the pattern of earnings, shifting more of the earnings to later years to offset previously projected losses.

Notwithstanding the new SOP, as with any product that falls under FASB No. 97, Moody's believes that a company has the ability to delay the impact of poor experience on its UL earnings. For example, a company may experience low lapses and not recognize anticipated low lapses in its calculation of expected gross profits (EGPs)¹⁷ for DAC amortization purposes; if so, it may delay a major DAC unlocking event and therefore avoid recognizing a loss.¹⁸ However, companies that pursue this accounting practice will eventually encounter large loss recognition events when they can no longer deny problems.

The Risk of Mispricing: The Convergence of Capital Markets and Insurance Products Forces Market Efficiency

Moody's believes that as the capital and insurance markets converge, companies relying on "inefficient" policyholder behavior in pricing their products will become increasingly at risk. This is especially true for product features such as UL secondary guarantees, which have the potential to hold substantial value and can be quantified by outside parties.

In their pricing of the UL guarantee, companies assume that a certain number of individuals will lapse each year, even if the option is well "in the money," or has value to the policyholder. In an efficient market, the value of the option would not be lost, but either retained by the policyholder or sold to a third party. Under such a scenario, the insurance industry may have increased persistency, leading to substantial losses for in the money options.

The growth of the life settlement market and the increased use of premium financing indicate that market efficiencies are improving. Securities have been issued in capital markets taking advantage of these opportunities inherent in insurance contracts. While the size of these markets are small today, their existence and growth should serve as a warning to companies relying upon policyholder inefficiencies to validate their pricing assumptions.

How Can Companies Manage Risk and Capital?

Primary companies can manage their risk and collateral requirements either internally or through external reinsurance, captives or securitization. In the absence of an external reinsurance solution, companies will likely experience surplus strain, set up reinsurance captives, or turn to capital market solutions to both manage risk and meet reserve collateral requirements.

As discussed, for those companies (including reinsurers) relying on bank letters of credit (LOCs) as collateral, Moody's believes that the reserve requirements could outstrip the available LOC capacity in the near to medium term. Insurers who have locked in long-term LOC capacity and rates will be at an advantage; those who have the option to renew LOCs at prevailing rates will be a disadvantage if bank LOC capacity contracts and prices rise. Insurers who are not able to renew LOCs may not be able to fund collateral requirements when they need it.

External reinsurance

Primary insurers have two major choices if they want to manage their risks through reinsurance. The first form of reinsurance is mortality reinsurance. Mortality reinsurance will reduce the volatility of earnings due to mortality fluctuations. Currently, there are multiple reinsurers offering mortality coverage, and Moody's believes this market will remain competitive with sufficient capacity. However, reducing mortality exposure does not hedge the company's

17. Under FAS 97, DAC is amortized based upon EGPs.

18. In Moody's opinion, DAC amortization for UL products is an area in which increased disclosure would be especially valuable to the analyst community.

exposure to the secondary guarantee and does not address the reserve and capital requirements imposed by this type of coverage.

In a second type of reinsurance transaction — most commonly coinsurance — the primary insurer passes all (or a pro-rata share) of the policy risks on to the reinsurer, including the secondary guarantees. Based on our discussions with reinsurance companies, most have chosen not to be in this market because the high reserve and capital requirements make other opportunities more attractive. Consequently, we believe there will continue to be a very limited supply of this type of coverage. As a result, the majority of primary insurers will have to assume the risks associated with secondary guarantees themselves, or find other solutions.

Captives

The use of offshore captives allows companies to retain profits within their organizations. However, with the possibility of additional future profits comes associated incremental risk. Where appropriate, Moody's looks carefully at the use of captives, identifying the economics of the transactions and risks that are retained with the ceding company.¹⁹

It is important to understand that exposure to an unaffiliated reinsurer secured by a LOC is very different from exposure to an affiliated reinsurer. In either case, the ceding company can always draw down on the LOC in order to receive cash. However, in the case of the affiliated reinsurer, the affiliate needs to repay the bank. Given the growth in the use of affiliated reinsurers, we believe that it is essential to identify and understand such arrangements.

Capital Markets Securitization

Moody's believes that if there is a shortfall in the supply of LOC capacity, then the capital markets may provide another opportunity to manage risk and fund reserve/collateral requirements, possibly at a more attractive price. As we have already seen in the level-term market that is impacted by Regulation XXX, it is possible to use the capital markets to fund collateral requirements.

In a "typical" life insurance securitization, the target block of business is reinsured into a special purpose reinsurance company (SPRC) in order to isolate the related insurance cash flows and wall off the results from the rest of the business of the sponsoring issuer. The SPRC would then issue debt supported by (1) the underlying reinsurance profits, (2) the initial equity transferred into the company, and (3) the residual value of the assets purchased with the debt proceeds, which are held in a reinsurance trust account. In most cases, the debt may be first issued to an intermediate bankruptcy-remote trust, which would then issue debt to the capital markets — on identical terms — to the capital markets. The debt issued to the capital markets may also be credit-enhanced by a monoline guarantee.

Moody's believes that the added complexity of UL secondary guarantee products, as compared to the level-term business, makes it more of a challenge to use capital markets solutions to fund "excess" regulatory reserves. Additionally, a company contemplating such a transaction needs to demonstrate to outside parties that its AG AXXX reserves are truly redundant. For those companies that hold redundant AG AXXX reserves, the economic forces to obtain reserve relief are strong, and will only increase if LOC capacity diminishes.

Conclusion and The Future of the Market

Although it was hoped that AG AXXX would help add some pricing discipline to the marketplace, we believe that the market will remain highly competitive. If interest rates remain low and/or LOC costs rise, we expect that certain companies will report reduced earnings from their UL product lines in the future, particularly if they have been using aggressive lapse assumptions. If interest rates continue to rise, the issue will be how aggressive companies will become in reducing the premium required to support their secondary guarantees on new business.

Some of the larger UL writers have set up offshore captives; we anticipate that the use of such captives to manage reserve strain will continue. Increasingly, companies will seek to find multi-year solutions for their collateral needs.

We believe that long-term winners in this market will have a full understanding of their exposure to secondary guarantees, will exhibit pricing discipline, and will have addressed the potential problem of reserve strain well ahead of the time if it could become an issue for the company.

19. It is possible to identify specific reinsurance transactions and the collateral backing those transactions by examining Schedule S of the statutory statements. Unfortunately, using the publicly available data, one is unable to specifically identify those LOCs backing a ceding company's exposure to the UL business of an affiliated reinsurer. LOCs may support a number of other products than universal life policies with secondary guarantees (such as guaranteed level premium term products subject to Regulation XXX). Note that a number of the transactions listed in Schedule S are short term, surplus relief treaties with non-increasing collateral needs (the opposite of the XXX/AXXX pattern).

Appendix I: Under the Hood of the Pricing Example

ASSUMPTIONS

The pricing example reflects a “typical” high end policy sold in the UL secondary guarantee market. The \$1 million policy is sold to a select preferred risk, age 65. The secondary guarantee premium is \$21,500 which is a median value for this market. The company pays a commission of 99% of premium in the first year and a 5% renewal commission. The contract expenses are a fixed expense of \$100 per year, a premium tax expense of 2% and a per-thousand of face amount expense of \$1. The company holds capital at 225% of the NAIC risk-based capital company action level. The pricing assumptions are summarized in the following table.

As stated earlier, the assumptions used are for illustrative purposes and are not reflective of the results of any particular company.

Issue Age	65
Rating	Select Preferred
Coverage Amount	\$1,000,000
Secondary Guarantee Premium	\$21,500
First Year Commission	99%
Renewal Commission	5%
Per-Policy Expense	\$100
Premium Tax Expense	2%
Per-1000 Expense	\$1.00
RBC Ratio (Company Action Level)	225%
Letter of Credit Cost	50 Basis Points (if applicable)
Cash Values on Surrender	None (All Years)
Lapse Rate	6%
Portfolio Yield	7%
Mortality	75 - 80 Basic Table mortality grading from 31% to 100%

Related Research

Special Comments

[Hidden Credit Risks of Regulation XXX/Guideline AXXX Reinsurance Programs, January 2004 \(# 80935\)](#)

[Bells and Whistles: The Credit Implications of Annuity Secondary Guarantees, October 2000 \(# 60688\)](#)

Industry Outlook

[U.S. Life Insurance Industry Outlook, January 2004 \(# 80468\)](#)

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Authors

*Scott Robinson
Adrian Pask*

Senior Associate

Marc Abusch

Production Specialist

Yung Chu

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