

**RECORD OF SOCIETY OF ACTUARIES
1986 VOL. 12 NO. 4B**

MARKET VALUE ADJUSTED PRODUCTS

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MR. DONALD R. SONDERGELD: Our first panelist is Dave Hall. Dave is assistant vice-president in the Investment Department of The Hartford's life operations. He is director of asset and liability matching. His responsibilities include researching and recommending interest crediting strategies for our interest-sensitive products. He also develops and monitors investment strategies for general account life and annuity products. Dave has had prior experience in product development, pricing, and financial reporting for fixed and variable annuity products, including group pension GIC and immediate participation guarantee (IPG) contracts.

Our next speaker will be Tom Bakos. Tom is president of Security Administrators Incorporated, a subsidiary of Security Mutual Life Insurance Company of New York. Security Administrators is an actuarial consulting firm providing full actuarial services to Security Mutual and its stock life subsidiary, Security Equity Life. Tom provides actuarial consulting services as well as

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pension administration services to companies outside of the Security Group of companies. Previously, he was vice-president and actuary for Security Mutual, and Tom continues to function as chief actuary for Security Mutual. He has just completed a three-year term as president of the Adirondack Actuaries Club. Tom served on two of the industry advisory subgroups to the New York Insurance Department, charged with recommending regulation necessary to implement the annuity law adopted in New York in 1985.

Our last speaker will be Bob Howard. Bob has worked for the Mutual Life Assurance Company of Canada for the past 15 years. He has held a variety of actuarial positions in the company. For the last several years, he has headed up the actuarial function for his company's individual division. Specifically, Bob has been responsible for all work done on pricing and dividend setting of individual products. He is also responsible for the wording of individual policies, a task which rarely proves too onerous in Canada. He is chairman of the Committee on Mortality and a member of various committees and sub-committees dealing with valuation of liabilities and general company solvency for the Canadian Institute of Actuaries.

There are seven general topics which we will cover. I will discuss background and product design. Dave will then handle NAIC model regulation, investment considerations, and financial reporting. Tom will give us an update on the New York scene, followed by Bob, our anchorman, who will describe the easy life for Canadian actuaries.

I would first like to provide some background on the need for market value adjusted products. As actuaries, we do not want to design products that contain uncontrollable risks. A large disintermediation risk can occur when interest rates rise and the market value of assets supporting policies with book value guarantees become materially less than the guaranteed surrender value. One way to eliminate, or reduce, that risk is to offer individual life and annuity products which utilize a market value adjustment formula in determining cash values. However, until 1985, book value cash surrender values were required on individual life and annuity policies in the United States.

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I am sure some of you have read the feature article in the December, 1985, *Best's Review* on new product profitability. It was titled, "A Tale of Two Countries," and was written by the president of Hartford Life, an actuary, R. Fred Richardson. That article compares the historical development of cash value products in the United States and the United Kingdom, and indicates the lessons that can be learned from our British relatives. The major ones are the need for market adjusted cash values and the use of cash flow matching.

During the early 1970s, in the United Kingdom, a number of life companies offered single premium deferred annuities (SPDAs) with attractive interest guarantees. As interest rates rose to unexpectedly high levels, a number of companies found themselves in serious trouble in meeting their withdrawal guarantees. This crisis resulted in a number of rescues of small companies by the industry, and one bankruptcy. This even caused great distress to policyholders and, of course, was of great concern to the industry and the regulators.

Through a company that The Hartford previously owned (Abbey Life in the UK), The Hartford has had extensive experience with SPDAs in a period of high inflation and volatile interest rates. Abbey Life wrote an "asset linked annuity." That contract has been very popular and, by its nature, avoids the inherent risks of the traditional SPDA by having surrender values related to market values. Abbey Life has been very successful in writing that product, and, as of year end 1983, held over \$500 million of reserves on its asset linked business. As a result of this experience, Hartford Life decided to launch a similar product in the U.S.

We wanted to market a "safe, single premium deferred annuity" to individuals; that is, an annuity with a guarantee of principal at a stated maturity date, and an attractive interest guarantee during that period, but with a surrender value that is equitable to both the policyholder and the company. The surrender value is adjusted upward or downward, based on market conditions at the time of surrender. We began offering this product in May of 1984, using an SEC registered group annuity contract.

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Our product is sold to customers of four broker dealers that are affiliated with The Hartford. It is sold to individuals who are issued certificates under four group annuity contracts issued to a Rhode Island Trust. We currently offer this product in only 42 states, as these are not legal "groups" in nine other states. Those states are Arkansas, Massachusetts, Nevada, New York, Oregon, Pennsylvania, South Carolina, Washington, and Wisconsin.

The certificate holder initially selects either a 3, 5, or 10-year guarantee period. We provide a simple interest guarantee over that period. Each year, the interest is either paid out or treated as a new single premium containing the original maturity date, but with an interest guarantee appropriate to market conditions at that time. At the end of the guaranteed period, the individual can choose a new guarantee period or take the principal.

If any certificate holder chooses to surrender during a guarantee period, he is given a surrender value based on a market value adjustment formula. The formula is designed to closely approximate the market value of assets needed to back the guarantee. This modification is why the product is called a modified guaranteed annuity. Our formula includes such factors as the period remaining in the guarantee period, the aggregate rate of interest being credited on the date of surrender, and the rate currently being guaranteed by the company on contracts with the same guarantee period remaining. This formula can obviously produce a result that is larger, or smaller, than book value. It is, however, fair, and removes the antiselection that the company would otherwise be subjected to when the market value of the assets were less than a book value surrender value. A rear end load is also applied on surrender.

As you can see, a modified guaranteed annuity product is one which can provide attractive interest guarantees to the contractholder and a guarantee of principal on a maturity date. At the same time, it reduces, or eliminates, the reinvestment risk and disintermediation risk which the insurance company might otherwise assume.

We would prefer to sell an individual policy, but our product does not satisfy the individual annuity nonforfeiture law (due to its market value adjustment formula), or the variable annuity regulation (which relates to separate ac-

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counts having unit values). Therefore, in 1984, Hartford Life began working with the NAIC Actuarial Task Force and the ACLI. Our efforts resulted in NAIC model regulation on modified guaranteed annuities (MGAs), which was adopted by the NAIC in June, 1985.

Although the NAIC model regulation on annuities was adopted in 1985, it is not yet in use by any state. We do expect its adoption in California, Connecticut, and Minnesota very soon. I would urge insurance company product development actuaries to become proactive, and help initiate adoption of this regulation in the states in which their companies are domiciled. I would also urge product actuaries to write to the ACLI to give active, rather than passive, support as the ACLI is acting as if the product was needed only by The Hartford, rather than by the life insurance industry.

Let me now turn to life insurance. In 1985, Hartford Life again worked with the NAIC Actuarial Task Force, and the ACLI, on a similar NAIC model regulation, which would permit use of a market value adjustment in determining cash values on individual life insurance policies. We are interested in including this guaranteed option within a variable universal life insurance policy. That draft was adopted by the NAIC in June of 1986.

An important feature of both of these NAIC model regulations is that the assets must be placed in a separate account, and valued at market. I strongly believe this discipline is essential to proper management of the assets supporting the liabilities.

MR. DAVID A. HALL: Don has provided a good background, so let me jump right into the NAIC model regulation on MGAs. Let us first list the key elements which distinguish an MGA: (1) It is an individual deferred annuity; (2) the underlying assets are held in a separate account; (3) account values are guaranteed as to both principal and interest if held until a specified maturity date; and (4) interim nonforfeiture values are based on a market value adjustment formula.

You may be familiar with the popular bullet guaranteed investment contract (GIC) group annuity contracts. An MGA is essentially the individual

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counterpart to a bullet GIC in many respects. There are some differences, and I will try to point out some of those differences as I dissect some of the model MGA provisions.

First, an MGA is an individual contract. No more elaboration is needed on this point. Second, the underlying assets are held in a separate account. Further, these assets are to be valued at market for statutory reporting. By comparison, some companies have established a separate account for their group GIC contracts, although in most instances these have been accounted for as though they were general account products (i.e. with "book value" accounting).

One further note about the MGA separate account. Unlike most unitized, separate account products, the assets do not necessarily equal reserves. In fact, all of the general account assets of the company are ultimately available to provide for guaranteed benefits, if necessary. Further, at each valuation date, the separate account must be kept fully funded to the level of statutory reserves. More about valuation later.

Third, account values are guaranteed as to principal and interest if held until maturity, and fourth, on any date prior to maturity, the nonforfeiture value is computed using a market value adjustment factor. This factor may, or may not, reflect the actual value of the assets held in the separate account. The formula must be stated in the contract, and must be applicable for both upward and downward adjustments. Further, the actuary must demonstrate that the formula provides reasonable equity to both the insurer and the consumer. A typical market value adjustment formula would include the average rate guaranteed under the MGA contract, the term remaining for the guarantee, and some "new money rate" bogey, such as a published index, or perhaps the insurer's own rate for similar new contracts.

In comparison, group GICs usually include premature market value discontinuance provisions as well, although traditionally this has been only a downward adjustment (i.e., the nonforfeiture amount is subject to a maximum of book value).

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The model regulation goes on to address limitations on loads and fees, mortality guarantees, and other traditional features in variable annuities. These are similar to the corresponding provisions of the model regulation for variable annuities. None of these merit special attention today, except perhaps to clarify that surrender loads are permissible in addition to any applicable market value adjustments. Also, you should be aware that agents must be licensed to sell variable annuities in order to be authorized to sell MGAs.

In most respects, the Model Guaranteed Life Insurance (MGLI) regulation is analogous to the MGA regulation. Basically, nonforfeiture values are subject to a market value adjustment at all times except for guarantee maturity dates. Further, unadjusted nonforfeiture values must comply with regular standard *nonforfeiture law minimums*. The loadings permitted in the *nonforfeiture* calculation are identical to those included in the variable life insurance regulation. If the policyholder is offered interest guarantee periods exceeding five years, he must also be offered at least one guarantee option of not more than five years. Also, MGLI contracts must provide for policy loans. Some flexibility is permitted in the design of this feature, although the interest rate must not exceed that permitted under state insurance law. The simplest loan design might be to treat loaned amounts as partial surrenders, subject to market value adjustment if applicable. Alternative designs are permitted which allow the collateral to remain in the separate account. There may be interesting applications of this type of scheme, and, if so, I am sure *some of you will work them out*.

As to reserve liabilities, the model regulation stipulates that they shall be established in accordance with actuarial procedures that recognize: (1) that the assets of the separate account are valued at market; (2) the variable nature of the benefits provided, and (3) any mortality guarantees.

In effect, what this says is that liabilities will be valued at market. As a minimum, the reserve cannot be less than the current surrender value (adjusted by the market value formula). Beyond this, the actuary must consider the degree of cash flow matching and the market yield of the asset portfolio, as well as all guarantees. If the actuary determines that the market value of the separate account is insufficient to provide for all guaranteed benefits, then

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additional assets must be transferred into the separate account to fund this deficiency.

Let me make one additional note on MGLI reserves. The model regulation states that reserves for all fixed incidental insurance benefits and any guarantees associated with variable incidental insurance benefits shall be maintained in the general account.

Having defined the distinctive features of modified guaranteed products, I will now move directly into a discussion of financial reporting. I will defer discussion of investment considerations until later, as I believe an understanding of the unique financial reporting structure is needed to develop an informed investment strategy for this product.

Clearly the most unusual aspect of MGA financial reporting involves the market valuation of both assets and liabilities. I think we all understand what this means for the asset side of the balance sheet. Even for those assets which are not readily marketable, some reasonable fair market value can be determined.

The MGA regulation stipulates that liabilities must be valued in accordance with actuarial procedures that recognize that the assets are valued at market. This has already provided an interesting challenge for us at The Hartford, inasmuch as we have also chosen to value our "group MGA" reserves at market value.

Don mentioned that our former U.K. affiliate, Abbey Life, marketed a similar type of contract. Their procedures for valuing reserves involved assembling a "hypothetical asset portfolio" of gilts (the British equivalent of Treasury bonds). In effect, they assembled (on paper) a dedicated portfolio which was cash matched with the projected liabilities. These liability cash flows included provisions for expenses, income taxes, and a small contingency margin. The market value of the reserve was simply the current market value of this hypothetical asset portfolio.

We considered using this approach. We did not want to use a hypothetical portfolio of U.S. Treasuries, however, since the relatively low yields of these

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bonds would have produced a relatively severe surplus strain. A matched portfolio of AA quality would produce a more tolerable result, but no commonly recognized universe of AA bonds was available to suit this purpose. So, we tried a slightly different approach.

Because our annuities offer simple interest guarantees, each individual certificate can be reasonably modeled by a bond of identical maturity. Thus, if we could develop some sort of liability yield curve, we could value each certificate by discounting its projected benefits at that yield curve rate associated with its particular maturity. To construct this liability yield curve, we chose to look at the actual assets in our MGA separate account, and fit an average yield curve to these assets, based on their specific market values and maturities. We then deduct a constant margin for expenses and contingencies. This resulting yield curve is then applied in a seriatim valuation, with the aggregate reserve equal to the sum of the reserves for each individual certificate at its own liability rate.

By valuing assets and liabilities at market, we introduce an element of volatility in our corporate surplus. If we closely match our actual assets to our liabilities, the market values of each side of the balance sheet should move reasonably in sync, thus "immunizing" against fluctuations in surplus. However, if we elect to mismatch, our surplus grows or shrinks immediately with any change in market interest rates. If this accomplishes nothing else, this market valuation forces us to carefully consider any product strategy involving asset-liability mismatches, since the future profitability consequences of any mismatch are immediately discounted in today's surplus levels as interest rates change.

We have also chosen to apply this market valuation procedure to our GAAP financial statements. This involves some additional complexities, since we have determined that GAAP surplus must be valued at book value. I will not deal with these complexities today; in fact, we are still wrestling with some of the issues ourselves. Suffice it to say that again, any gains or losses due to asset-liability mismatching are immediately recognized in current earnings as interest rates change.

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For tax purposes, we believe we must use traditional Commissioners Annuity Reserve Valuation Method book value reserves. This is because the product does not meet the definition of a variable annuity under IRS code Section 817. For the most part, this seems acceptable, since the investment income is also taxed as though it is part of the general account; that is, unrealized gains and losses are excluded from taxable income. However, we have uncovered one potential anomaly which could produce adverse results. As I understand it, tax reserves cannot be greater than the statutory reserves held in the annual statement. If we are in a rising interest rate environment, and our liability market value is lower than its book value, by valuing our statutory reserve at market we have, unfortunately, created artificial taxable gains. In effect, the tax reserve ends up to be the lower of book or market value. Granted, this distortion is only temporary, as the market value reserve must ultimately converge to the book value at maturity. However, the potential acceleration of tax liabilities can have a significant impact on product profitability. In effect, we may find ourselves lending the government money at 0% interest relative to what I think most would consider a more reasonable emergence of tax liabilities.

A second problem has to do with the mutual company equity tax. I have no mutual company experience, so I must confess unfamiliarity with this tax calculation. However, sources who purport to be informed tell me that if interest rates decline, causing an increase in the reserve market value (and, therefore, a statutory reserve in excess of the tax reserve), the result is an anomalous increase in the mutual company equity base. Incidentally, an adhoc committee has presented these issues to Treasury officials and we are hopeful for a legislative solution -- perhaps in 1987.

Having discussed the more unusual financial reporting features, let me now comment on some investment considerations. As with any deferred annuity product, we face the basic dilemma, "Do we match, or go for yield?" (assuming a positive yield curve environment). At least for an MGA we avoid the issue of trying to provide for premature book value cashouts. I have seen option pricing studies which have indicated that the cost of fully hedging the contractholder's book value put option exceeds 100 basis points, a cost which I am sure is not incorporated into the pricing structure of most of those products.

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If it were, MGAs should offer such a significant price advantage as to insure their place in any broker's arsenal of annuity products.

In spite of this absence of the book value cashout option, there are still some interesting investment angles to consider. In particular, if surplus stability is required, asset-liability coordination must be very acute, since even temporary mismatches can manifest surplus volatility due to the market valuation process. As investors, we like to think that (at least over time) we can add value by anticipating interest rate movements. However, when the score is reported quarterly, or even monthly, we must be aware of the degree of risk our timing judgment involves.

For example, suppose we sell \$10 million of 5-year simple interest contracts in a given week. If we elect to forego immediate investment of these funds in anticipation of an interest rate upturn, but instead rates decline by 25 basis points, right away we recognize an unrealized gain in our liabilities of 1% (or approximately \$100,000) against which we have no corresponding asset based increase. In effect we have taken that \$100,000 hit to surplus immediately. Compared to book value accounting, where the impact of this \$100,000 loss would be spread over 60 months, we have significantly leveraged the current recognition of our investment decisions.

Of course, this market valuation leverage is a two-edged sword. The game is fair, in that mismatch winnings as well as losings are front ended as they occur. The shrewd portfolio manager can actively trade in and out of matched positions, locking in gains when calling the near-term market right, and effectively indexing to his liabilities in times of uncertainty. In many respects, this process converts the traditional "buy and hold for book yield" mindset into a total return emphasis, where instead of relating our portfolio performance to an external stock or bond index, we measure success relative to our internal liability portfolio. Thus, I believe that, far from handcuffing us into a passive investment management mode, the market valuation process encourages us to continually reevaluate our risk/return profile and to actively manage our portfolios with regard to asset-liability matching.

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Matching, of course, can assume a variety of meanings for this product. Most straightforward would be absolute cash flow matching, which may be plausible for simple interest guarantee contracts, but would be difficult for compound interest contracts, since the availability of suitable, yielding zero coupon investments is limited. More likely, matching will typically mean duration matching. A plethora of literature is available on this topic, and new research is being published each week. Let me capsulize by suggesting that with any duration matching approach, you must also pay attention to the relative convexities of your assets and liabilities or you may discover that you have, in effect, negatively immunized your portfolio, locking in future adverse performance if interest rates should change in either direction. For those of you who may be unfamiliar with the concept of convexity, a full definition is beyond the scope of this session. However, it is a measure of the rate of change in the duration as a function of interest rate changes. More theoretically, it is related to the second derivative of a security's price change with respect to yield changes. (I am told that some of the immunization "gurus" of the world are now studying ways to measure asset price volatility associated with third derivative characteristics of cash flow. Clearly, this is an area where actuaries have much to learn, and presumably, much to contribute.)

Let me make one final investment observation. It is important to consider and provide for the liquidity needs of this product. Even in rising interest markets, some policyholders will find reasons to take premature surrenders. And, at maturity, it is not unlikely that a significant proportion of policyholders may roll their proceeds into a competing product. Certainly, to the extent this business is sold by stock brokers, there will be a tremendous incentive to churn these policies at maturity in order to generate new commissions. Thus, if you wish to invest in relatively illiquid investments such as private placements or commercial mortgages, make sure to keep a sufficient percentage of the portfolio in readily marketable securities to avoid possible liquidity squeezes.

MR. THOMAS L. BAKOS: A market value adjustment feature may now be added to life and annuity contracts issued in New York. Under recently adopted New York law, these products must provide an unadjusted, guaranteed

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cash surrender value at least once very ten years and at maturity of the contract. Between the dates on which the guaranteed values are available, a market value adjustment formula can be applied to adjust surrender values to account for any changes which may have occurred in interest rates since the rate on which the interest guarantee was made.

The terms *modified guaranteed life* or *modified guaranteed annuity* have been used to describe products of this type. However, the definition of these terms as contained in NAIC model regulation requires that the assets supporting the liabilities of these contracts be held in a separate account. The New York law and regulation does not refer to these products as modified guaranteed contracts nor does it require that the supporting assets of products with a market value adjustment be held in a separate account. Rather, under New York law, the assets backing this type of product, at the insurer's option, can be invested in either the general account or a separate account. If the general account is used, the regulations adopted by New York strongly encourage an asset segmentation approach as will be seen later when we look at the regulation in more detail. If a separate account is used, it may be the type of separate account in which assets are valued at market value or book value. Separate accounts are covered in Section 4240 of the New York law.

BACKGROUND

Efforts to change legislation in New York to allow modified guaranteed annuity type products began in 1984. Concurrent with the development of the NAIC model regulation for modified guaranteed annuities, New York was working with an industry advisory group on legislation that would permit MGA type products with investments in either the general account or a separate account, and which would permit the use of a market value adjustment. These changes were part of a package of legislation that would tighten up the annuity valuation law to give the New York Insurance Department increased authority over reserve calculation. Through the law and the accompanying regulation, it was intended to force extreme conservative valuation requirements, or penalty reserves as the New York Insurance Department calls them, on insurers which did not adequately match assets and liabilities for deferred annuity contracts. This was intended by the New York Insurance Department to ensure the financial soundness of the

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insurer issuing the annuities. The new legislation would also authorize the issuance of annuity certain contracts and simplify and update provisions of the annuity nonforfeiture law.

A bill containing these provisions was introduced into the New York Senate in May, 1985. It became effective in August, 1985. An industry advisory group was formed in September, 1985, to help in drafting the regulation required by the new law. Work on this regulation drafting process took longer than originally planned. Final regulations were not released by the New York Insurance Department until late August, 1986. A public hearing was scheduled and held on September 25, 1986. It is expected that final regulations, Senate Bill 6136A, will be promulgated by the New York Insurance Department in December, 1986. They will take the form of two separate regulations with a third following sometime in 1987.

- o Regulation 126 addresses the application of the annuity reserve valuation method to annuities and guaranteed interest contracts and prescribes the form and substance requirements for an acceptable actuarial opinion and memorandum.
- o Regulation 127 addresses market value adjustments (including funding and reserve requirements for annuities which contain a market value adjustment), withdrawal charges, and the availability of cash values for contracts subject to Section 4223 of the insurance law. Section 4223 is the Standard Nonforfeiture Law for annuities.
- o Regulation 128 will address the types of assets and the valuation of assets and reserve liabilities with respect to annuity contracts which utilize a market value separate account and are not subject to Section 4223. This regulation has not yet been issued.

The legislation authorizing a market value adjustment for life insurance developed in a similar fashion to that for annuities, but about one year later. The legislation became effective in New York in August, 1986. Like the annuity law, the authorization of a market value adjustment for life insurance is part of broader changes which also amend the life insurance nonforfeiture law to

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require all life insurance policies, on which excess interest may be credited, to meet new minimum requirements for determining cash surrender benefits. These new standards may also be applied to traditional, noninterest-sensitive forms of insurance. The existing nonforfeiture standards introduced with the 1980 CSO tables remain unchanged in the law.

Work on drafting the regulation required to implement this new life insurance legislation has just begun. The New York Insurance Department will very likely form a department task force later this year to interface with an industry advisory group in order to draft the regulation necessary to implement the new law. It is safe to assume that, with respect to market value adjustments, many of the rules will be similar to those adopted with respect to the modified guaranteed annuities with a market value adjustment as expressed in Regulation 127.

With respect to the effective dates of the annuity legislation:

1. The provision of the annuity law amendments allowing annuities certain to be issued became effective January 1, 1986.
2. The annuity reserve valuation changes apply immediately to all annuities issued after January 1, 1986. The valuation changes will be applicable to all annuities, annuity benefits, and guaranteed interest contracts in force in a company January 1, 1988 or an earlier date if elected by a company. This application to issues of 1986 as to this year end, issues of 1986 and 1987 as of next year end, and all inforce business as of December 31, 1988, provides for a kind of phase-in of the new annuity reserve requirements.
3. Changes in the annuity nonforfeiture section of the law, including those allowing market value adjustments, were effective January 1, 1986 subject to the right of each insurer to elect an earlier operative date.

The regulation implementing these law changes will be finalized in time for use in connection with the completion of the 1986 annual statement. As I have said before, promulgation of Regulations 126 and 127 is expected in December, 1986.

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The effective date of the amendments to the valuation and nonforfeiture laws for life insurance is January 1, 1988. Companies have the option of electing an earlier operative date.

PROVISIONS OF THE ANNUITY LAW AND REGULATION

The introduction of the market value adjustment concept will allow insurers to safely introduce products which might otherwise have created a serious investment risk. Under the prior New York law, an annuity that allowed surrender for cash at any time prior to maturity, must also have provided for a guaranteed cash surrender value at every point in time. Thus, in the past, if an insurer funded its contract with debt obligations having the same maturity period as the interest guarantee period of the liabilities under the contract (which would seem like the thing to do), it ran the risk of financial loss if the contracts were cashed in when interest rates rose, causing the value of the underlying assets to fall.

The new law permits insurers to avoid this risk by issuing contracts which, although guaranteeing cash values at specified times, provide cash values at interim periods which are determined in accordance with a market value adjustment formula. Generally, when a market value adjustment formula is used, it must provide for increasing as well as decreasing the amount of surrender value paid. Withdrawal charges may still be applied when computing the cash surrender value if a market value adjustment is used, but they must be graded down to zero by a reduction of at least 1% for each year the contract has been in force. Thus, the way it works in New York is the market value adjustment formula is applied to compute an adjusted accumulation amount and a graded withdrawal charge may then be used to reduce this to the cash surrender value.

Alternatively, a type of market value formula can be used to compute a withdrawal charge which is limited in size to the maximum withdrawal charge allowed under the law (which is 10% less any premium percentage charges). This is referred to in Regulation 127 as a "withdrawal charge formula." A withdrawal charge formula functions only to reduce the value paid and, when used, the maximum withdrawal charge does not need to be graded down to zero.

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The law requires or allows several things when a market value adjustment is used.

1. The law states that an annuity form containing a market value adjustment must be filed with a memorandum in form and substance, satisfactory to the superintendent describing the market value adjustment formula and stating that, in the opinion of the insurer, the formula provides reasonable equity to terminating and continuing contractholders and to the insurer. Regulation 127 makes it clear that the opinion must be an actuarial opinion. The regulation also requires that the memorandum demonstrate compliance with Section 4223 of the law (Standard Nonforfeiture Law for annuities). The requirement that the substance as well as the form be satisfactory to the superintendent is a significant addition to the law and regulation.
2. The law allows the insurer to take into account any increase or decrease in the annuity's cash value as a result of the operation of the market value adjustment when a premium refund is made during the 10-30 day "free look" period.
3. The law requires that the market value adjustment formula be described in the annuity contract and that it make provision for increasing as well as decreasing the accumulation amount. An adjusted value must be provided at least once every ten years and at maturity. The market value adjustment formula makes reference to either an: internal index, which is the interest rate applicable to contracts of the same class as the contract being surrendered; or an external index, which is an interest rate on publicly traded obligations or other investments. The formula must take into account the length of time between the date on which the contract is surrendered and the next date on which the contract would have provided an unadjusted cash surrender value.

Regulation 127 is a 51-page, double-spaced document. In the time allotted, it would be impossible to do more than just summarize its salient features. I should point out that the companion Regulation 126 is 84 pages with a 36-page addendum: so there is a lot of reading.

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Regulation 127 defines the market value adjustment formula and its application in single premium and flexible premium annuity contracts. It describes when cash surrender benefits must be made available. Of particular note is that the specified time interval for any guaranteed interest rate cannot exceed ten years. This follows from the fact that unadjusted cash surrender values must be provided at the end of each interest guarantee period, which must be at least once every ten years.

The regulation describes the form of the actuarial memorandum and opinion. It sets forth advertising and disclosure requirements, as well as required policy form provisions for annuity contracts which contain a market value adjustment feature. The regulation provides seven examples of the application of market value adjustment formulas that meet the requirements of the regulation. These examples cover both single premium and flexible premium annuity contracts using formulas with either an internal or external index.

The last section of the regulation covers funding and reserve requirements for annuity contracts with market value adjustments. The requirements distinguish the types of accounts in which the assets supporting the annuity product are held. As I have indicated earlier, New York provides for the use of a market value separate account; a separate account with assets valued at book value as in the general account; or, the general account.

When a company chooses to use the general account, it must maintain "clearly identifiable assets supporting the reserves for its contracts," in addition to other requirements, in order to qualify for a less conservative minimum reserve. A company which fails to satisfy these conditions will probably be forced to hold higher reserves.

PROVISIONS OF THE LIFE INSURANCE LAW

The motivation of the New York Insurance Department for allowing market value adjustments in life insurance is the same as its motivation for allowing this provision in annuity contracts. It is a mechanism that allows the insurance company to avoid the disintermediation risk when it makes long term interest guarantees. The life insurance law, with respect to market value adjustments,

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is consistent with the annuity law I have just discussed. It is not possible to describe the life insurance regulations at this point since they have not been drafted. As I said earlier, however, it is safe to assume that they will follow along the same lines as the annuity regulation.

MR. ROBERT C. W. HOWARD: It is fun to design products in Canada. There are very few regulatory restrictions. Our creativity can have free reign. The only drawback is that we often have to develop the philosophical framework from scratch; but that can prove to be an advantage if it is done well.

I will first talk about the concepts that underlie the market adjustments to nonforfeiture values in Canada, then I will give you some of the background and how we got to where we are. Finally I will describe some of the products that are presently found in Canada.

I will be speaking primarily about our savings product, which provides for the accumulation of funds for a fixed period of time at a fixed interest rate with principal being available without penalty at the end of that period, or, in short, an endowment certain. The question then before us is, "What happens if the policyholder wants to get his money out early?" I refer to this as an "early cashout," a "market cashout," or simply a "cashout."

CONCEPTS

I always like to start with a question like this: In the absence of any constraints, how would I handle an early cashout? This is not an academic question. In the Canadian environment, there are no real constraints, other than perhaps the level of sophistication of the buyers and the practicability of the system.

The principal which I consider to be fundamental for the financial services industry is this: No financial system can exist for long unless it serves the good of the public. Set aside considerations such as, what will give your company the most protection? what will allow you to make the most money; and what do your brokers want? If it is not good for the saving public, it is not good! And it will have to change. The sooner it changes the better.

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In the financial services industry, the best we can hope for is equity. Whatever is done for early cashout must be every bit as fair for those who take their cash out early and those who leave it in. It must also be fair for the owners of the company -- participating policyholders in the case of my company.

A market value calculation is the best way to preserve equity. Policyholders will usually have open to them the possibility of borrowing on the security of the policy, whether at a fixed interest rate for a fixed term or through a demand loan. Unless the early cashout amount is a fair market value, there will be situations where the policyholder has a clear advantage to taking the loan or getting the cash from the policy itself. Similarly the owners of the company will be indifferent to the cashout only if a market value is used. There would, at least notionally, be assets liquidated to pay the cashout amount. Since the assets will be sold at market, it makes sense to settle the cashout on that same basis.

Looking down on the subject from my ivory tower, I wonder why guaranteed cash values are permitted at all. Certainly there are times when a much larger cashout could be allowed, and, conversely, other times when some benefit unduly to the detriment of the majority who do not seek an early cashout.

The main point is this: Movement in interest rates is not an insurable risk. Interest rates cannot change for one person in isolation from everyone else. When the capital markets decree a change in interest rates, the same change occurs for everyone in the economy. The market values of all fixed interest securities change at the same time and in the same direction. In Canada it would make about as much sense to sell insurance against snow falling on your driveway. Both risks are so likely to occur and so pervasive when they do occur that people must learn to cope with them without insurance.

For the market value to deliver equity, it is required that it be determined fairly. In Canada, the market value adjustment is often made in one direction only. Most people would recognize that "heads I win, tails we break even" is not a fair game. This is trying to get the best of both worlds for the company, and obviously it delivers the worst of both worlds for the buyer. I

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consider this an abuse which violates the good of the public. I am glad to see that your model bill does not allow this sort of thing.

HISTORY

There has never been anything like your minimum nonforfeiture law in Canada. The British tradition of insurance is fairly strong. As you may be aware, guaranteed cash values are rare in the United Kingdom. Anyone wanting an early cashout would ask for a quotation. The regulatory climate in Canada has not interfered with this tradition. However, the U.S. tradition is even stronger, so that until about a decade ago guaranteed cash values were found in the vast majority of policies.

Through the 1960s and into the 1970s, insurance companies had a very small segment of the savings market. Certainly the presence of guaranteed cash values is part of the reason. The main savings products for anyone other than the very wealthy were term deposits from banks and other savings institutions which had fixed terms of up to five years. These instruments were generally completely illiquid until maturity. The best you would be able to do would be to borrow from the issuing company on the security of the certificate.

My company was the first to essentially compete head on with the banks in the savings market. The product that we introduced in 1975 bore some resemblance to a 5-year term deposit. I would describe it as a 5-year endowment certain with a 6% front-end load. Our plan was unusual in that we allowed an early cashout, but it employed a one-sided market adjustment. (That is one of the abuses that I referred to earlier.) It was probably not seen as much of an abuse at the time by the market since we permitted the early cashout where most did not, and we allowed the policy to be converted to an immediate annuity at any time at par.

The market adjustment caused us a lot of problems. Partly because it was one-sided, but much more because the buyers did not understand it. (Neither did many of our agents.) It got so bad for a while that we even despaired of allowing early cashout. However, since then we have put a lot of effort into training, we have made quotations available on line and we have made our

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market adjustment two-sided. Things have been much better for some time now, but the jury will remain out until interest rates rise again.

ENVIRONMENT IN CANADA TODAY

Today, there are basically five types of savings products available in Canada.

1. Guaranteed cash values. These were once commonly offered by life insurance companies, but are now very rare and quite uncompetitive.
2. No early cashout allowed. Most plans offered by banks are like this. Also a few life insurance companies do not permit cashout.
3. Interest rate penalty. This is primarily found in the banks and works something like this: If the holder of the certificate wants an early cashout, the interest rate is decreased by, say, 2% from what was originally agreed to and then interest is paid from the issue date to the cashout date at this lower interest rate. This strikes me as a penalty that does more harm than good. The swing in market values is greatest soon after issue, but the penalty is peanuts. As you get close to maturity, the market value is almost indifferent to interest rates, but the penalty can be huge. I do not know of any life insurance company that uses this approach.
4. One-sided market value adjustment. Most life companies who allow early cashout pay the lesser of book and market. I do not think this is fair, but the market seems to be letting them get away with it for now.
5. Two-sided market value adjustment. These allow early cashout to exceed book value if interest rates have fallen sufficiently. This makes the transaction a fair game, although, like in the casinos, the house insures that it gets its share. This is usually done by doing the present value calculation at an interest rate somewhat higher than current levels.

Now if I turn to life insurance products, there is far more variety. The market value adjusted life products have been on the market in Canada for a

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number of years. Most of these have come from British companies. In some cases only the cash value is adjusted; in some cases the premium is adjusted; in some cases the death benefit is adjusted. These can be found in all eight possible combinations. In some cases the formula is specified in the policy; in other cases it is subject to management discretion. Few of these products have really taken off. I suspect that at least part of the problem is that few people, other than the actuaries who design the plans, have understood them sufficiently to be comfortable selling them.

The one plan that shows some similarity from one company to another is universal life with an investment option that approximates a term deposit. Generally speaking, these allow for cashout on a basis very similar to the corresponding savings product of that company.

I cannot resist the opportunity to mention "term to 100." This plan is at the top of my infamy list. It is usually a permanent insurance plan, often with guaranteed premiums, but with no cash values, no loan values and often no paid-up values. When paid-up values are allowed, they usually are not present until a very considerable time after issue, such as the latter of 20 years and age 65. Since there are no cash values, it is obvious that there is no market value adjustment. So why mention the plan? I think "term to 100" is a time bomb. The public will eventually become so upset with what they have bought that some minimum nonforfeiture law will be enacted in Canada.

I believe that market value adjusted products, provided the adjustment is done fairly, give far greater service to the public than any other form of product. We are in real danger of losing all this. If the legislators feel that they have to take away some discretion from us, they are going to do it in a way that will seem simple for them. A product is now being sold in Canada which is a significant abuse, and to stop that abuse, we will probably end up with only guaranteed cash values being permitted. That would take all the fun out of plan design in Canada! I might just as well move to the States.

MR. ROBERT J. CALLAHAN: Tom mentioned that one of the New York Insurance Department's motivations in allowing MGAs and MGLI was to allow companies to protect themselves against C-3 risk. We as regulators generally

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wear a couple of hats. One of the hats that we wear is to look after the solvency of the companies. Another of the hats we wear is to look after the consumers. In trying to encourage this product, we were also hoping that it would result in companies being able to safely invest in longer term assets which in turn would have higher yields than the shorter term. These higher yields could be passed through to the consumer so that, overall, the consumer would get a better product.

MR. SELIG EHRLICH: I am a little confused as to how most companies will be protected from the C-3 risk. As I understand it, the interest guarantee period is crucial in two regards. You have to have a book value cashout at the end of each period and the term of that period is used within the market value formula. There are companies that have written a great deal of single premium annuity and life business with 1-year guarantees, where it is obvious that they have gone out longer than one year (perhaps more than 5 years). Is the existence of a market value adjustment going to help them at all in the C-3 risk that they face?

MR. HALL: I think the motivation here is to provide a means by which the insurer can protect himself from a disintermediation risk if he wants to. No regulation can protect the insurer from himself. If he chooses to mismatch, he just has to recognize that he is going to take that risk. Certainly if you are selling a 1-year renewable guarantee and you are investing for 5 years, there is nothing that you can do in this type of product to insulate yourself from problems if they arise.

MR. EHRLICH: Do you know of any companies that are not doing that at the moment -- that are investing in 1-year instruments? I agree with what you are saying, but if the market value adjustment was developed in response to the problem with these sorts of vehicles, and the reality is that companies, for whatever reason, have gone out longer, I do not see how the solution is going to fit the presumed problem.

MR. HALL: I do not know of any companies selling this type of product with the 1-year guarantee. There are very few true modified guaranteed products offered today. I believe in addition to the one The Hartford has, the

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Travelers has a similar product; beyond that I am not sure of any that are actually being sold. There are certainly a lot of book value cashout SPDAs out there which may have an interest guarantee that extends for 1, 3, 5 or 10 years, but those have no market value provision in them to begin with, so that is all the more risky. Having a 1-year guarantee with a book value cashout in the absence of a market value in a 1-year product does not add much risk to that because your risk is only within that one year.

MR. BAKOS: I want to make the comment that it seems to me that a market value adjustment protects an insurance company against its market, taking advantage of it when interest rates change. At least in New York, an actuary will have to form an opinion about the adequacy of reserves backing such contracts. If adequate asset liability matching is not done, then the reserve requirement will have to be higher so companies are being forced to do the right thing or do the thing they should be doing with respect to matching assets and liabilities. And maybe they aren't doing it now.

MR. EHRLICH: Even though it appears that there is a mismatch here of a 1-year interest guarantee with a longer asset, I am not sure everyone would agree that the liability is a 1-year liability simply because there is a 1-year interest guarantee period.

MR. HALL: I think that depends on what you want to do at the end of the year. If your company wants to offer an interest guarantee for the second year that is reflective of current market rates at that time, then, in spite of the fact that cash may not actually go out the door at the end of one year, that is a 1-year liability and you have to invest for it as such.

To some extent choosing to value your assets and liabilities at market does not necessarily force you to do a better job of matching, but it certainly increases your awareness of what you are doing. An insurer who is investing in 5-year securities and offering a 1-year guarantee essentially has a liability that is at book value, because the liability becomes a book value liability at least once a year. Should interest rates rise, there can be a severe loss in the market value of the assets without a corresponding drop in the liabilities.

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You cannot hide that mismatch in your income statement the way you can with book value accounting.

MR. STEPHEN L. WHITE: I am curious as to what aggressive positions companies may take with respect to federal securities requirements on modified guaranteed products. I suppose The Hartford has taken certain positions as to what securities laws apply. Do you have a prospectus for this product?

MR. SONDERGELD: Yes we do. There are a number of securities laws, the 1933 and 1934 Acts, that have a definition of a security. There are three tests that you have to look at. If you fail any of these tests, it is a security. One test is how the product is sold. We did not really look too hard past that test because we have, as I mentioned, four broker dealers that are affiliated with The Hartford. We know they are going to sell the product as a security. Therefore, it is a security. So, we felt we should register it under the 1933 and 1934 Acts.

Another test is worded something like, "Is there a substantial investment risk passed on to the buyer?" I guess you can argue either side of that coin. I know on which side I prefer to argue. I feel that if you have a product that is subject to a market value adjustment, upward and downward, even though the policyholder can hold it to maturity or the end of the guarantee period and get 100 cents on the dollar, the fact that the policyholder might not seem to me to provide an investment risk. We did not specifically argue that question with the SEC. We just jumped to the conclusion that since our product was going to be sold as a security, it should be registered as a security under the 1933 and 1934 Acts.

As far as the Investment Company Act of 1940 is concerned, when we were initially selling the product, we actually went to the SEC and said the assets were in a general account valued at book. We told the SEC we did not think that was the right way we should account for the product. We wanted to put the assets in a separate account valued at market. We indicated to the SEC that making that accounting change, which is transparent to the policyholder, should not cause us to be subject to the Investment Company Act of 1940. The SEC said, "Of course not." So we said, "Will you give us a private letter ruling

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to that effect?" and they said, "Ask us for one and we will give it to you." We did and we got one.

So as far as our dealings with the SEC are concerned, the specific discussion was on the Investment Company Act of 1940, where we do have a private letter ruling saying that it is not subject to the Investment Company Act of 1940 in spite of the fact the assets are in a nonunitized separate account which is valued at market. As far as the 1933 and 1934 Acts, we do sell a registered product.

MR. WHITE: With respect to your first rule, no one is saying that SPDAs are sold as investments. Therefore, perhaps some companies will argue that MGAs are not sold as investments.

MR. SONDERGELD: I think that each company can make their own arguments with the SEC.

MR. RONALD J. WELCH: Is there any progress, any movement, in the various states on the MGLI model? What are your thoughts on the interest in the marketplace in a MGLI product?

MR. SONDERGELD: I think the honest answer to both your questions is that I do not know, but let me expand on that. The states are slow to react to NAIC model regulations because they have an awful lot of things on their plate and it is a question of priorities. States are just starting to turn to the NAIC model regulation on annuities that was adopted in 1985. So, to consider a NAIC model regulation on life insurance that was just adopted this June is, I guess, too early. Some states are starting to move on the annuity regulation. I did mention that at least Connecticut, California, and Minnesota were states that I was aware of that are moving on the annuity side.

As far as to what the market is demanding for life insurance, I really do not know. I do know that we, The Hartford, are not interested in selling products with substantial investment risk. We would like to offer in the variable universal life area something in addition to the unit linked separate account products. We would also like an MGA type option within a variable universal

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life policy, which would allow a person to pick a 3-year, 5-year, 8-year, 20-year, or whatever guarantee period with a market value adjustment that could meet his or her needs.

MR. CALLAHAN: I would like to add one more thing here. Although Regulations 126 and 127 may not be issued in final form until December, they will be applicable at least for the issues and, also, for 1982 through 1985 issues where companies have used the higher valuation interest rate.

For the 1986 annual statement, I do not feel that the gist of the regulation, as far as the actuarial opinion and memorandum, comes as a surprise to most valuation actuaries. About a year and a half ago, we alerted all the accredited reinsurers that they were going to be subject to this. As a matter of fact, we even alerted them to the fact that for the 1985 valuation, if they used the higher valuation interest rate, they had to be subject to it. We were under the impression that all the licensed insurance companies were aware of the change in law in 1985.

The gist of the regulation, for the actuarial opinion and memorandum for the group area, comes from circular letter 33, 1982, which was widely disseminated. Perhaps new techniques are incorporated in the regulation for individual single premium deferred annuities such that companies can assume persistency at the end of one interest guarantee period and go on to the next one. We had four subgroups and some of those subgroups consisted of as many as 25 people. This was one of the means that we used to help disseminate what we were doing as we were going along. We also thought that the American Council of Life Insurance plus the Life Insurance Council of NY was providing some drafts as we went along. I certainly hope that nobody has been hit by any surprises at this late date.

MR. EHRLICH: For policies that have the market value adjustment, do you see the surrender charges that have been typical being reduced now that there is one less risk that the back-end charge needs to cover, or will it stay at its current level as a way for us to attain the profitability which we might not be getting currently?

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MR. BAKOS: I am not sure that the surrender charge actually ever covered the risk that the market value adjustment is meant to address. I know theoretically it should have, but I always thought of the surrender charge as a way of recovering expenses when products terminated earlier than expected. So I do not think there is a reason for the surrender charges to come down just because there is a market value adjustment.

MR. HALL: I know that in many of the products that we have designed at The Hartford that have surrender charges, we have tried to price a surrender charge pattern such that the profitability is more or less immune to differences in persistency. You neither count on getting some of that surrender charge to make the product profitable nor do you need it to deter policyholders from surrendering. To the extent that you were using surrender charges to provide for market value risk, I suspect that it was not very effective and probably will not be. I do not think a lot of companies are using it specifically for that purpose.

MR. SONDERGELD: I do not think the products have been, in general, adequately priced today; so it is not a question of charges coming down, it is being able to, on a more sound basis, price the products we will be offering.

MR. CALLAHAN: In the original NAIC law on the single premium deferred annuity nonforfeiture value, they provided for roughly a surrender charge equal to 1% for each year remaining to maturity. This was so that companies could invest in long-term bonds and could match it with the maturity of the deferred annuities. That is not, in practice, the way the product grew up. By the time we got around to writing our New York law, we felt as though such a penalty could be too severe when there were many years to run to the annuity commencement date, and we chose to have a flat 7% surrender charge and permit it at each and every year including the annuity commencement date. This could have been used for expenses or it could have been used as some hedge against asset depreciation. In practice, it was used by most companies for the amortization of expenses.

In this new Regulation 127, we have decreased the total charges against the premium of roughly 9% upfront plus 7% in the rear to a 10% total. That 10%

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surrender charge is available only on a no front-end load contract. The regulation does put out some ideas wherein the 10% charge can be used as some hedge against asset depreciation. It can be kept constant until the interest guarantee maturity date, then waived, then reimposed if the individual renews for a new interest guaranteed period of time.

Under the new regulation, we definitely are trying to get the idea across that the maximum 10% surrender charge can be used as an alternative to a market value adjustment. There are going to be many small insurers which will not have the sophistication to come out with a market value adjusted product in a separate account. For those insurers, we want to provide some means by which they can protect themselves against disintermediation while investing in longer term bonds. This will allow them to be able to pass on the highest interest rate possible consistent with solvency and hopefully, in the end, the consumer will benefit.