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VARIABLE PRODUCTS -- UNIQUE PRICING PROBLEMS

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- o Minimum guaranteed death benefits
- o Reserve for minimum guaranteed death benefits
- o Cost of insurance and administrative charges expressed as a percentage of assets
- o General account investment options
- o Reserves for back-end loaded products
- o Sources of profit

MS. MARY ANN BROWN: Let's look at where we are one year after October 20, 1987. The gloom and doom results forecasted by analysts have not come to pass. Now, after a year of caution, the market has been recovering. The Dow Jones is at the highest point since the crash.

Some of you may have read in yesterday's *Wall Street Journal* that total securities transactions are down 22% from a year ago. Well, this is true also of Single Premium Variable Life Insurance (SPVLI) sold by stockbrokers. Most of these sales in the first half of 1988 have been reduced to about one-fourth of the corresponding sales in the first half of 1987. This is due to two equally important reasons -- the stock market crash last October and threats by Congress to the tax treatment of these products. As many of you know, stockbrokers will quickly drop a product associated with uncertain tax advantages and some insurance companies have even withdrawn these products.

Annual premium variable products, mainly Variable Universal Life (VUL), have not been adversely affected like the single premium sales, so 1988 VUL sales are on target with the 1987 sales results. I will give you some variable life statistics for a few of the major players. Monarch has the biggest decline, but has also been affected by the fact that they did not have a fixed account option in their product.

But even with decreases in SPVLI figures, we do have several reasons for optimism. First, it appears the worst is over regarding stock avoidance so the second half of 1988 versus 1987 comparisons will probably look better. And, as long as a product has a fixed account option or conservative account with some sort of guarantees, money is currently going into these products. Second, we should keep things in perspective. This year will still probably end up as the third best in history for variable life sales, and annual premium variable insurance product sales have not declined at all. Third, variable annuity sales have increased significantly during the past two years and have picked up at least

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<u>SPVLI</u>	<u>First 1/2 1987</u>	<u>First 1/2 1988</u>
Monarch	\$ 980 Million	\$172 Million
PRU	185	53
Guardian	103	19
Crown	62	19
Nationwide	<u>78</u>	<u>11</u>

Overall Industry Estimate \$1,600 Million \$400 Million

<u>VUL</u>	<u>Entire year 1987</u>	<u>First 1/2 1988</u>
PRU	\$ 718 Million	\$256 Million
Equitable	325	250
Hancock	80	20
Met	22	19
IDS	6	(up to) 11
Western Reserve	<u>9</u>	<u>7</u>

Overall Industry Estimate \$1,200 Million \$600 Million

half the amount of the SPVLI decline. This is true if a company has a variable annuity product to replace their SPVLI new business for salesmen who are uncomfortable about the tax uncertainties. Some companies are even offering special escape clauses in the SPVLI products (with surrender charges waived) or the opportunity to switch to an annuity in the event of tax changes. So, if stockbrokers have clients who are still speaking to them, they may still be able to sell one of the last surviving tax shelters around.

Regarding activity in fixed accounts of variable products, we obtained statistics for new premiums since last October or for the first half of 1988.

The percentages going into fixed account options for most of the major variable life and annuity products ranges from 60% to 85%.

Another interesting statistic is that the percentage of assets remaining in fixed account options is 10% to 60% which is much lower than new premium activity. However, you would expect this, due to what I call the "inertia factor." Many older contracts' fund distribution is the same as when they were sold, although overall, every company does have a larger percentage in fixed accounts this year than last year.

I was surprised to learn that 40% of Prudential's VUL products' assets are still in the aggressive stock fund despite the fact that they have many fund options available.

Regarding Security Exchange Commission (SEC) filing and approval activity to date (not counting the old fixed annual premium variable life products), we have seen the SEC declare 45 SPVLI contracts effective with 20 more pending as well as 45 VUL contracts effective with 15 more pending. Altogether, that is 125 variable life products in the last few years. For (nonqualified) variable annuities, significant development activity has occurred. More than 60 products have been declared effective since 1985 and about 20 more are pending before the

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SEC. We know of many others currently undergoing development, including some we are working on -- halfway between fixed and variable.

Even though many of these products are not yet selling as much as intended, the companies are in good market position to take advantage of investment changes and will not have to incur 18 months of development. They can add new funds when needed.

Once basic variable product design features have been established, future changes occur as with mutual funds -- by adding more investments. This has been the trend with variable annuity and insurance products.

As you know, since the stock market fall, security features have been very important (albeit temporary). But, a temporarily popular fund will help make the sale on one of these products. Therefore, most of the new product development activity has been associated with adding fixed accounts or more conservative funds. A stockbroker told me recently the three most important new features in a variable annuity are guarantees, guarantees, and guarantees.

Some of the more popular new fund additions include:

- Government Funds
- Investment Grade Bond Trusts or Income Funds (JH, Keystone, etc.)
- Asset Allocation (Monarch, JH/Colonial)
- Global or Overseas Bonds and Equity Funds
- Natural Resources
- Gold Funds
- S&P Indexed Fund (Pacific Mutual)
- Zeros (Monarch, New Fidelity)

Most economic indicators are up, and most funds look reasonably attractive except gold, which has gone down significantly since last year.

One consideration in profitability is that if a company offers too many choices, the volume would not be high enough in any particular fund to generate high yields or profits to the investment manager. This, combined with insurance companies wanting the investment expertise of national or regional investment houses, has caused many companies to use outside fund managers, for some or all of their funds, and pass that portion of the profit (or loss) onto another party.

As you know, some of the fund managers who offer investment portfolios to one or more insurers are Fidelity, Scudder, Oppenheimer, Neuberger, Berman, Dreyfus, American Pathway, Benham, and others.

In addition, many joint ventures have been formed between fund managers and insurance companies for distribution of the product in addition to the investment management.

With regard to design trends and product pricing, we have primarily seen activity in development of annuity products this past year. If you look at the whole continuum from fixed account products to variable, you will find several in between. Examples are Hartford's market value adjustment product guaranteed equity annuities and those with surrender charges containing formulas to adjust

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for the current interest. We call them "interest only" adjustments and they are approved in most states. Also, it appears they do not yet need SEC registration if interest guarantees are at least one year -- then they would fall under the SEC Rule 151 Safe Harbor.

Other annuity product designs continue to be similar to the past, with shortening surrender charges or raising commissions (both eroding the profit margins). However, one new variable annuity product really is a "no load" -- the Hancock/Colonial Life Variable Annuity product. It has no upfront or administrative fee or surrender charges -- just M&E and fund management charges. Colonial offers the seven funds.

As already mentioned, most variable products have added a fixed account option if it was not already there. But, the credited interest rate does not have to be as strongly competitive as in a stand-alone annuity where "what you see is what you get." Because a variety of variable product funds are available, perceived value is added in these products, so companies should be able to obtain a reasonable interest profit margin (as compared to some other interest sensitive products in which spreads have been squeezed away).

One word of caution, though -- if the restrictions on transfers out of these fixed accounts are not made clear during the sale, we may have policyholder unrest when they later want to transfer to equities or other funds (similar to dissatisfaction with supplementary contracts when interest rates increased outside of fixed products).

As with variable annuities, the structural product design changes on variable life products have plateaued. Due to tax uncertainties, many companies are focusing more on the annual premium life products with insurance agents' distribution. You may have read about Integrated's new VUL product for this market -- called RSVP. It is similar to their stockbroker product except it has four medical underwriting classes (including preferred NS & SM). Because of its sales proposal system, it is also designed to be used in the corporate benefit market and business and estate planning markets.

One of the design issues that poses unique problems for variable products is expressing charges as a percent of assets, which may be moving about. Most are aware that this is true for fund management fees, but it is also true at the product level in terms of M&E, Administration or Cost of Insurance (COI) asset based charges. One company described this as "sharing their fortunes" with the policyholders' investment choices; this fact kept a few companies from offering the more aggressive types of "go-go stock funds" (with high betas).

This pricing concern creates a need to test a variety of fund performance scenarios. In doing this, we found that, if a COI charge is not expressed as a percentage of assets, it can have an offsetting effect to other asset charges such as M&E (and administrative, if any) in profits. This is because, unlike most interest sensitive products which obtain their profits from the spread, a significant portion of profits from variable products is found in the mortality component (mainly due to SEC design constraints which allow profit in COI). Therefore, the lower the fund goes (in a level death benefit design), the greater the mortality component and greater profits. This has made some companies somewhat indifferent to stoppage of premium payments in VUL products, but they would still like to see higher fund performance for marketing reasons.

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We all know that the worst enemy to variable product profits is low sales since a substantial amount of overhead and systems costs must be covered.

Speaking of systems, some of these constraints have prevented companies from offering asset-based COI charges. It can be pretty tricky because you really need to set both a floor and a ceiling on these asset charges. The ceiling is needed to help comply with the SEC limit on sales loads while the floor is useful to protect profits in the event of poor investment performance. Also, from a pricing perspective, it is difficult to use the same COI charge for different ages, policy years, and risk classes. While 60 basis points might be enough at issue age 45, it probably would not cover the cost of mortality at older ages. Usually, rough approximations, with differences in COI rates by groupings, are necessary. This COI-based asset charge was more important for stockbroker SPVLI products and is not as important to the traditional agent VUL products.

The last area I will mention today involves what reserves companies have decided to hold for back-loaded variable products. Some of us feel partly responsible for this, having served for three years on the ACLI 807(h) Committee -- which ended in 1986 with a decision not to decide on these reserves. In the absence of definitive regulation, companies have sought the advice of their own actuaries, consultants, and surveys to see what other companies are doing. (Although parents do not usually go along with the excuse "everyone else is doing it," this seems to work at some insurance companies.) Luckily, most agents do not yet understand reserves well enough to successfully influence this decision, so it is up to the actuaries.

According to our recent survey on variable life and annuity reserves, we found that about a third of companies are holding only the cash surrender value, while two-thirds are holding the account value or a CRVM-type reserve that is slightly less.

One way some companies use to approximate CRVM reserves, in the absence of a guaranteed interest rate, is to accumulate at the valuation rate net of asset charges and discount back at the gross rate. Another method is to hold the fund, less a portion of the CRVM expense allowance.

Of course, tax reserves are a consideration here, and most companies tax deduct the full statutory reserve. That motivates some of the more surplus-rich companies to hold the full account value.

We could discuss various theoretical reserve issues here, but the bottom line is that on a cash basis, the full account value must be held in the separate account (the green book). So, holding a reserve less than that is really a financial statement game -- designed so that any difference between the account value and reserve flows through as surplus when transferred to the blue book. However, more companies would like to see their pricing concerns about surplus strain become a reality because that would mean they are selling enough to bring in large amounts of profits.

Judging from the experience in other countries, we at Tillinghast think that variable products will continue to strengthen throughout the next decade.

MR. WILLIAM E. CONNOR: I will focus on five aspects of fixed rate options: treatment in prospectuses, credited rate, transfer restrictions, effect on illustrations and popularity since the crash.

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Just how are fixed rate options treated in prospectuses for variable products? In two words, fixed rate options are treated concisely and separately.

Prospectuses, as we know, are lengthy documents. And yet, with all of the written disclosure contained in prospectuses, surprisingly few words are devoted specifically to fixed rate options. Most of the text pertains to the contract itself or to the available variable investment options with, in some cases, relatively scattered references to fixed rate options.

In virtually all prospectuses for products with fixed rate options, you will, however, find a separate section which provides the key details of the fixed rate option. It is often located in the later pages of the prospectus and is likely to open with something akin to the following text in bold-faced type:

The Fixed Rate Option. Because of exemptive and exclusionary provisions, interests in Company ABC's general account have not been registered under the Securities Act of 1933 and the general account has not been registered as an investment company under the Investment Company Act of 1940. Accordingly, neither the general account nor any interests therein are subject to the provisions of these Acts, and Company ABC has been advised that the staff of the Securities and Exchange Commission has not reviewed the disclosure in this prospectus relating to the fixed rate option. Disclosure regarding the fixed option may, however, be subject to certain generally applicable provisions of the federal securities laws relating to the accuracy and completeness of statements made in prospectuses.

The remainder of the section will cover the basics of the fixed rate option. It usually points out that net invested premiums may be allocated to the fixed rate option and monies allocated to variable investment options may be transferred to the fixed rate option. It also describes that amounts in the fixed rate option with a rate, or rates, declared by the company. This section of the prospectus also will disclose the minimum crediting rate, such prospectus sections such as those detailing limits on transfers involving the fixed rate option.

How are crediting rates established for fixed rate options? And, how are contract owners notified of crediting rates?

There is a specified minimum rate, such as 4%, below which the crediting rate is guaranteed not to fall. Current crediting rates may be established solely at the company's discretion, subject to the minimum. Different crediting rates may be established for different portions of the contract fund invested in the fixed rate option. And, subject to applicable law regarding general account investments, the company has sole discretion over the investment of the assets of the general account which support the fixed rate option.

Beyond this, companies are free to take a variety of approaches when it comes to setting crediting rates. The rate-setting process is one which requires input from numerous sources, including the product manager, the investment manager, and marketing executives. One approach would be to have a periodic, for example, monthly, interest rate review committee with responsibility for the rate-setting process.

While the fixed rate option is only one of numerous investment options available within a variable product, its crediting rate is highly visible. Many companies

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therefore strive to credit a competitive new-money rate. Most responsive to changing circumstances, many companies review the rate monthly. Others may choose a different frequency. Again, the ability to at least review rates more frequently allows more responsiveness to changes in the general level of interest rates. Once money has been in the fixed rate option for a defined period of time -- such as one year -- it may "roll-over" to an old money crediting rate based on year of issue or year of entry into the fixed rate option.

Contract owners may be notified of crediting rates in different ways. For example, it is not uncommon to notify contract owners in their annual statements of the different crediting rates set during the past contract year as well as the then applicable rate(s). This information, of course, is also available upon request.

What restrictions do companies impose on transfers involving fixed rate options?

Restrictions on transfers involving fixed rate options may take any or all of three shapes -- there are restrictions which limit the timing of transfers, restrictions which limit the frequency of transfers and restrictions which limit the amount of transfers.

The basic purpose of any such restrictions, of course, is to protect the company from significant disintermediation. While there is no one exact manner in which restrictions are imposed, it is true to say that most companies impose restrictions of some type. To illustrate how this might work, I will use as an example the restrictions in our product *Variable Appreciable Life (VAL)* at Pruco Life.

In VAL, transfers from the fixed rate option to the variable investment options are restricted as to timing, frequency and amount. Transfers from the fixed rate option are allowed only during the 30-day period beginning on a contract anniversary. Transfers from the fixed rate option are allowed only once each contract year. The maximum amount which may be transferred is the greater of \$1,000 or 25% of the amount in the fixed rate option.

I should point out that we have variations on our restrictions from product to product within our company. And certainly other companies will have varied restrictions. As you can see, there are effective ways to successfully protect against disintermediation.

I would like to cover one additional aspect of transfers involving fixed rate options. Variable life contracts must provide for an exchange of the contract for a fixed-benefit contract for a limited time after issue. With the existence of a fixed rate option within a variable life contract, this requirement may be met by allowing a transfer of the entire amount held in the variable investment options to the fixed rate option at any time during the first two contract years.

What is the effect of the fixed rate option on illustrations for variable life contracts?

The short answer to this question is no effect at all. But let me expand a little bit on that.

Illustrations for variable life contracts typically show results assuming gross rates of return of 0%, 6% and 12%. In many cases, the client may also be provided with results at a fourth, optional gross rate of return, not to exceed 12%.

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For each of these gross rates of return, there is a corresponding net rate of return. Again, using VAL merely as an example, a purchaser of a \$100,000 VAL policy would see a spread of 1.15% between the gross rate of return (for example, 12%) and the net rate of return (for example, 10.85%). The difference represents the sum of the mortality and expense risk charges as well as the average investment advisory fees and expenses of the underlying mutual fund. In some contracts, there may be other asset-based charges which influence the gross/net spread. The fixed rate option has no effect on the gross/net spread.

The question sometimes arises as to how you illustrate the fixed rate option in a variable product. While you really do not illustrate the fixed rate option (you only demonstrate how the contract will perform at specified rates of return), it is possible to simulate the fixed rate option. In the example I used, a \$100,000 VAL policy, let's assume that I have presented a client with results at gross rates of 0%, 6%, 12% and 10% (as the optional rate). Now, 10% gross will equate to 8.85% net. Therefore, results using 10% gross/8.85% net will simulate how the contract will perform if the crediting rate for the fixed rate option remains level at 8.85%. (Remember, the asset-based charges which enter into the gross/net spread are charges which are assessed against the variable investment options only, not the fixed rate option.)

What about the increased popularity of fixed rate options since October 19, 1987?

Earlier this year, in the newsletter for the Individual Life Insurance and Annuity Product Development Section, I reported on the noticeable shift from variable investment options to fixed rate options which we had observed at the Prudential. I would like to briefly update a portion of that report.

Our variable universal life product, VAL, is our premiere variable product. The 1% of all new monies allocated to the fixed rate option in September of 1987 had grown to 50% by May of 1988. Since then, the percentage has continued to stay at or somewhat higher than 50%. As a result of this, as of the end of the third quarter about 13% of total VAL contract owner assets were allocated to the fixed rate option.

Similar shifts have occurred within our single premium products. For Discovery Plus, a single premium variable annuity, only 20% of total contract owner assets were in the fixed rate option pre-crash. That percentage rose to over 40% by May of 1988 and now has risen to 50% as of the end of the third quarter. For Discovery Life Plus, a single premium variable life contract, the pre-crash 10% rose to nearly 30% by May of 1988 and now has risen to one-third as of the end of the third quarter.

We also have a flexible premium variable annuity, Prudential's Variable Investment Plan, with a fixed rate option. For that product, the pre-crash fixed rate option percentage of less than 3% has by now grown to one-third.

Clearly the shifts in business I describe represent only one company's experience. Other companies may have experienced milder or stronger "corrections" as a result of October 19.

Now, I would like to shift our attention briefly to our real estate investment option. This investment option was first made available in November of 1986. As of the end of the third quarter, contract owner assets allocated to the real estate investment option had grown to nearly \$100 million. For all of our

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variable products combined, the percentage of new monies going into real estate has grown to 12% in September. For VAL, the real estate investment option is especially popular with 18% of September's activity in real estate.

Effective September 19, we began selling VAL on Prudential paper, rather than through Pruco Life. We are now selling the Prudential VAL in all states.

When we first developed and introduced VAL, we did it through Pruco Life because it made sense at the time. For example, there were certain regulatory requirements which would have made it very difficult for us to introduce VAL through Prudential as quickly as we did through Pruco Life. But, the world has changed somewhat. There are now no major regulatory barriers to issuing VAL through Prudential and VAL has become a very significant part of our business. Hence we thought the time was right to make this move.

Along with moving VAL to Prudential, we have tinkered a bit with its inner workings. We have found a more attractive way to treat some of the sales load. We have made our very best rating classification, which we call select, available at a lower face amount threshold. We have moved to the separate nonsmoker and smoker mortality tables. This results in lower premiums and guaranteed mortality charges for nonsmokers, and the reverse for smokers. We have also made VAL a participating contract so that all of the benefits of favorable expense, mortality and investment experience are passed on to VAL contract owners. And, we have made a number of other changes too.

On balance, we believe that Prudential VAL represents an excellent value for clients. We will be interested to see if other companies also begin to move variable products from subsidiaries to parent companies.

MR. JOHN M. O'SULLIVAN: Guaranteed Minimum Death Benefit (GMDB) on Variable Contracts is an especially appropriate topic given the display in volatility that we have seen.

The volatility shown in the markets is borne directly by the customer. In fact, this is merely the flip side of the bull market which convinced many companies to develop and market variable products. From the customer's viewpoint, they are assured a high level of integrity in the actual credited rates. The customer gets what is actually earned (good or bad) less certain well-defined charges, the investment risk to the customer (to the extent that there is no Fixed Account Option). But it is important to realize that the GMDB shifts some of that investment risk back to the company.

Let's take a closer look at the GMDB on Variable Life Insurance (VLI). The best place to begin is with the earlier products since there were fewer choices about plan design. This starting point also provides a valuable insight into the regulatory context.

At the start of this decade, VLI was marketed by only three companies. The products were counterparts of a traditional whole-life product. The NAIC Model at that time required that the product have only scheduled premiums and that they be level for the premium-paying duration. Moreover, as long as the scheduled premium was paid when due, the death benefit would never be less than the initial sum insured. Hence, the benefit derived its name. But there was more to the benefit than initially met the eye.

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Two types of designs were marketed at that time: the Equitable design (which adjusted the death benefit using paid-up additions) and the New York Life design (which used premium-paying additions). The cost charged for this benefit was about twice as much under the New York Life design because of its more responsive death benefit. The reason revolved around two facts. When there was good investment performance, the benefit increased more under this design. That meant that there was less cash value at the end of the good years because of the higher aggregate charges for the cost-of-insurance. Secondly, both product designs provided for an automatic scaling down of the cost-of-insurance charge when there was a period of poor investment performance, but the level varied by design. In other words, the cost-of-insurance deduction was based on the Variable Death Benefit (VDB), the benefit that could be supported by the separate account reserve and future net premium.

The concept established with these early products was that the reserve for the VDB would be held in the separate account while the general account would hold the reserve for the GMDB (that is, the excess of the face amount over the VDB). This reserve for the GMDB involved a two-part test: a one-year term reserve and an attained-age level reserve. The higher aggregate total is the reserve actually held in the general account.

As mentioned in the commentary to the model, the one year term reserve is meant to cover short term fluctuations. A company holds the one-year term costs for the excess of the GMDB over the VDB, where the VDB is calculated assuming a one-third drop in the value of the assets followed by a net investment return equal to the Assumed Investment Rate (AIR).

The Attained Age Level (AAL) reserve is a complicated animal and is meant to build up a large reserve in an extended period of poor investment performance. Basically, the reserve is strengthened over the premium-paying period from a one-year term type of reserve to a whole-life type of reserve for the excess of the Guaranteed Death Benefit over the Variable Death Benefit. When poor investment performance reverses itself, the reserve is gradually released. This, of course, stabilizes company surplus.

Since there was no future premium paying period on Single Premium Variable Life (SPVL), the AAL reserve requirement made SPVL products much heavier users of surplus. The saving grace was that in setting up this reserve, the short-fall could be minimized by assuming that future net earnings were equal to the maximum valuation rate. If there is some margin between the maximum valuation rate and the AIR, this leads to a decreasing term type of death benefit rather than a level death benefit.

In 1982, the NAIC updated the VLI model to permit more modern designs. Specifically, flexible premiums were permitted, and the design was no longer restricted to just the paid-up and premium-paying designs. The model provided that the GMDB reserves for flexible premium products would be the aggregate total of the term costs, if any, covering the period provided by the guaranteed assuming a one-third drop followed by a net investment return equal to the valuation interest rate. This was an unfortunate oversight since it did not insulate company surplus from the vagaries of the market. More importantly, it had a chilling effect on the GMDB for flexible products.

It is obvious that the GMDB reserve requirement for flexible premium products was meant to cover the usual 61-day grace period on Variable Universal Life

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(VUL). The criterion that is established in the commentary to the model is that the GMDB reserve should not overreact or underreact causing unnecessary fluctuations in surplus, while at the same time being adequate (except in the most extreme circumstances) to cover the GMDB claims for the next year. Looking at a fairly typical VUL funded with a single premium, the current model leaves much to be desired.

There has been some recent activity in this area. The industry has drafted a revision to Article V of the current NAIC Model. The proposed revision, which will ensure consistent treatment for both scheduled and flexible premium products, is expected to be acted upon at the December meeting of the NAIC.

Rather than having separate sections for scheduled and flexible premium products, Article V has been revised so that for all products:

- a) The OYT reserve would be based on a .75 drop and would cover the GMDB for a one-year period or any shorter period during which the guarantee is not funded out of the Separate Account.
- b) The AAL reserve would apply to both scheduled and flexible premium contracts with the reserve strengthening occurring over the future period for which charges for the risk are being collected.

When one analyzes the GMDB on the more recent forms of variable life, it is obvious that the focus of the GMDB is more upon premium stability than upon the level of the death benefit. With the early versions of variable life, there was no question about the premium level -- it was level and only scheduled. Hence, the "variable" was the death benefit level the variable sum insured. Hence, it was natural to talk about the guaranteed minimum death benefit. However, the more recent forms of VLI do not dynamically adjust the net amount at risk for investment performance except to maintain compliance with the tax definition. The "variable" in this case is the premium.

One side-effect of this misnomer is that some regulators initially react negatively to VUL products. During the past year, I have been part of an industry team dealing with the update of the Massachusetts variable life regulation. The first reaction seemed to be that the industry was going too far in not even guaranteeing a death benefit. Of course, the actual fact is that premium flexibility is a two-edged sword, giving rise to both the potential for premium instability and the freedom to pay at your convenience. Depending on the degree of flexibility that is desired by the customer, there are the old scheduled-only products, the variable-universal products, or the hybrids that occupy the middle ground. I feel very comfortable with giving customers a choice.

Looking at the GMDB as a device to stabilize premiums, a possible design feature for VUL is to offer a planning service whereby a minimum premium would be periodically established, say every ten years. As long as the customer meets this optional schedule, the contract will remain in-force regardless of actual investment performance. At the end of ten years, another premium level is established based on the actual level of cash value. Some of you may recognize this as a very slight variant of the practice done in the United Kingdom. For the very risk-averse, this planning cycle can decrease in duration as the attained age of the insured increases -- ultimately, reducing to a yearly event at the older ages, say above age 75.

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Developing a GMDB feature for a variable life product is a three-part iterative process. Define the specific nature of the guarantee. Establish a price for the guarantee. From a customer's viewpoint, compare the perceived value with the additional cost.

It is advisable to do the GMDB work as part of the basic plan design and pricing work. Certain basic design features will affect the price of the guarantee. The use of the guideline premium test for the definition of life insurance for a single premium product would lead to an implicitly higher guarantee for a separate account investment return, raising the cost of the benefit. A product which allows a premium schedule to be met on a cumulative basis (that is, for the GMDB to remain in-force, the cumulative premiums received to date must at least equal the sum of the scheduled premium) will tend to have more exposure because of the absence of dollar-cost averaging.

It is also worthwhile to test refinements to the guarantee so as to optimize the balance between cost and perceived value. For example, a product, which scales down the cost-of-insurance in periods of poor investment performance, will have a much higher cost since "living" benefits are being provided.

Each class of investments is going to have its own price for the guarantee. A short-term bond portfolio has less volatility than, say, an aggressive stock portfolio. The overall cost for the guarantee is going to depend not only on the future investment performance, but also on which portfolios are chosen by the customer. Even if we had a crystal ball that provided us with some good ranges for the future investment performance of each portfolio, we would have to make some assumptions about which portfolios get used. One concern is that customers are chasing yesterday's winners. This is probably self-correcting in that if customers are unable to choose reasonable rewarding investment portfolios, they are likely to leave. An effective remedy may be to educate customers about the benefits of diversification and the logic in choosing more conservative portfolios as they get older and their risk tolerance decreases (and the chance of becoming a claim increases). Another remedy would be the use of managed accounts, perhaps two, as Prudential has. The more conservative managed account could be used for older folks while the more aggressive may be more appropriate for younger folks.

In addition to weighting the impact of the various portfolios on the cost of the guarantee, judgment needs to get exercised about the level of lapsation and the tax treatment of the charges for the guarantee. For example, a product with a level death benefit, level premium, and no scaling-down of insurance costs develops a cost pattern that is zero until the later durations when the cost rises dramatically. Since charges are made throughout the life of the policy, a fund is being built up to handle these benefits. Higher lapses help in the pricing since there are fewer lives to cover and the GMDB does not have cash values. Judgment is needed here because if you have managed to get a policy's cash value down to zero through a combination of poor investment performance and mortality charges, you are probably subject to a high level of selective lapsation. The lives remaining may be only those that nobody else would insure. Moreover, the tax treatment of reserves for this guarantee may not be very favorable since in many years, you are accumulating funds for a future contingency.

What techniques can you use to actually price the GMDB benefit? The most dangerous method is to do an intercompany comparison and set the rate solely on

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the results. Comparisons are useful, but sometimes lead us to act like lemmings. Another approach is to do some scenario testing. At the very least, this will sensitize you to the costs and risks being assumed. A refinement on the scenario approach was developed by John Fraser in the early days of variable life. The basic method was to establish an assumption about the level of future investment returns for a particular investment class and then impose a "market cycle" upon the trend line. Lastly, there is the simulation approach in which a model is run many times based on either past experience or assumptions about the future mean and standard deviation for a class or composite of assets.

Having been exposed to many of these methods, I must admit that in the end, you wish you had more information and less data on which to base the decision. You also realize that the past may not be reflective of the future. For example, would someone pricing out a GMDB for a bond portfolio in 1970 have factored in enough volatility to cover the situation that happened in the 1980s?

Despite the pricing uncertainty, there may be real appeal for customers in the GMDB. It always helps sales when you can say guaranteed. Moreover, it may give customers a sense of security so that they stay with the product during the down markets. With a flexible premium product, it may be a useful tool to promote premium persistency.

However, the ultimate consideration is cost. If the guarantee is available as an optional benefit, it may be a difficult sale to convince someone to purchase a variable product and then attempt to sell an additional rider to provide benefits only when there is poor investment performance. If they felt that poor investment performance was a likely occurrence, they probably would not purchase the product in the first place. On the other hand, if the GMDB is automatically a part of each policy, a company would be at a natural disadvantage in a comparison of values with a product that had no such benefit.

Although variable annuities are much simpler than variable life, there are several interesting things happening with respect to the GMDB on that product. You may recall that the typical guarantee (for those products which have one) is to pay upon death, the higher of either the purchase payments (adjusted for any partial withdrawals) or the account value.

One company in redesigning their product introduced a GMDB which ratchets up every seven years. In other words, the death benefit is guaranteed to be the higher of the current account value, the aggregate purchase payments, or the contract value on the last "seventh" anniversary (i.e., years 7, 14, 21, etc.). The idea here is to remove an incentive to "roll the contract over to a new product so as to lock in a higher death benefit guarantee."

Another company recently introduced a single-premium combination annuity with a death benefit guarantee that increases at an annual rate of 5%. For example, if death occurs at the end of the fifth contract year and the purchase payment was \$10,000, then the death benefit would be the higher of the current contract value and \$12,763. One byproduct of such a guarantee is that it strengthens the argument that the insurance company has borne a significant mortality risk during the accumulation period. Although the safe-harbor rule (SEC Rule 151) does not specify that the insurance company assume a meaningful mortality risk during the accumulation period, it does have a very subjective criterion that the product should not be marketed primarily as an investment. Such a death

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benefit guarantee would seem to help support the argument that the product is an insurance product.

In summary, the cost of a GMDB is not insignificant. Hence, you need to look carefully at exactly what you are guaranteeing. There are nuances in design that can either increase or reduce the cost. There is a great deal of judgment to be exercised in assigning a price to the benefit. Finally, this is an area where you may be able to exercise a fair amount of creativity and product differentiation.

MR. RICHARD J. TUCKER: Is there a statutory maximum death benefit that you can place on a variable annuity contract that would clearly eliminate it from a life contract?

MS. BROWN: I do not know the answer to that. In fact, the death benefit is not even required in most of the state models for the annuity. It is more of a marketing reason that it is offered as a return of premium. You cannot put cost of insurance charges into an annuity product and have it approved.

MR. O'SULLIVAN: I agree with Mary Ann. I would view it as saying that the primary purpose of both products is very different. The annuity is meant to accumulate the funds for retirement and provide for the orderly distribution of those whereas the life insurance product is meant to guard against premature death. So, I would use that as the common sense kind of distinction.

MR. DANIEL J. MCCARTHY: In the question that was just asked, in the New York law for example, there is a statement which says that the maximum death benefit on a deferred annuity is of the design described as being the account value or the premium, whichever is greater. However, the New York insurance department, in at least one case, was persuaded by the rollover argument to interpret that so as to allow a ratchet provision. So, there is apparently some room for maneuver there.

Mary Ann observed offhandedly something I have always assumed, but cannot prove, that there is actually a requirement that, whatever your reserve level is, you must have in the separate account, assets equal to the accumulation value. I cannot prove to myself from any source that that is true. Furthermore, you can make out an economic argument under which it would not necessarily have to be true.

Let me give you an oversimplified example as a basis for comment. Let's assume we have a single premium deferred annuity and that it is totally backloaded with 7, 5, 4, 3, 2, 1, 1% surrender charges. Let's also assume that the actual acquisition costs to the insurer are exactly 7%. Furthermore, assume that in the aggregate, you are going to hold a reserve of 93% initially someplace and then grade it towards 100% as the surrender charges wear off. On the day you get the premium and you pay out your acquisition cost, you actually have 93% of your customer's money. The other 7% in whatever sense, is going to come out of your surplus. So, if you put 100% in the separate account earnings rates over the intervening years during which, as a minimum, you would have to move 1% interest adjusted per year into the separate account, you can demonstrate that you could come out ahead or behind. In short, you have a risk either way.

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Is there an absolute requirement that you have to put the accumulation values in the separate account? What are your thoughts on the economics of it?

MR. O'SULLIVAN: The NAIC model for variable life, I believe, has in it a requirement that the assets in the separate account be at least equal to the investment base. I looked up the Texas version of the variable annuity regulation and there was a requirement that an amount at least equal to the benefit base be in the separate account. I do not now whether that is part of the NAIC model or if it is a universal rule that is in most regulations.

MS. BROWN: I am not familiar with any model annuity regulation that does require that. Perhaps, it could be an SEC requirement that premiums less loads within seven days are required to be deposited in a separate account but I am only sure about it for the life contract.

MR. ALAN F. HINKLE: In talking about the fixed account option and the restrictions on transfers to prevent disintermediation, Bill, there seem to be great lengths gone to for that. With the availability of the policy loan provision, it seems that there may be ways to do things indirectly that you cannot do directly. I would like to have you comment on the policy loan provision and how it affects the fixed account and what is done to reduce disintermediation risks available with that option.

MR. CONNOR: There are a couple of ways that fixed rate options affect the loan provisions. One is that in making a loan value available to a client, you will find in filing contracts in various states that, while you may provide a loan value of 90% of the cash value for amounts that are invested in variable investment options, there are states that will require you to make 100% of the cash value attributable to that fixed rate option available as a loan to the client. That is one way in which the fixed rate option affects the loan provision. But, what the question seems to be getting at is a question of protection against disintermediation.

Since you do have a loan provision in a variable life contract and many of them now have fixed rate options, you do have to be aware of the opportunities that the combination of those two could present for disintermediation. In general, a prospectus will spell out the way in which a company will allocate things among the variable investment options and among the fixed rate options. And while a prospectus will not fully spell out how things like loan repayments get credited back to the fixed rate option, the company generally reserves the right to credit different rates of interest to different portions of the fixed rate option. Typically, that is based on when money goes into the fixed rate option. It would be a difficult position for a company to put itself in if old money rates on a fixed rate option were at a relatively low level and a policyholder were to take a policy loan and repay it ending up with a then current higher new money crediting rate. So, a company has to be very careful to establish rules concerning what rates are credited on such things as loan repayments.

