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ANNUITIES FOR INDIVIDUALS

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- Products; design and cost
- Marketing
- Investment and reinvestment: the C-3 Risk and beyond
- Accounting: GAAP; statutory; tax
- Measurement of results
- Taxation: to the individual; to the company
- SEC considerations
- Determination of excess interest
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MR. RICHARD A. SWIFT: Today we will discuss many types of individual annuity products including single premium, annual premium, and flexible premium deferred annuities and structured settlement plans. Our panelists are:

Joe Blattner - who is Executive Vice President and Chief Actuary of Capitol Life,

John Montgomery - who is Chief Actuary and Deputy Insurance Commissioner of California,

Jim Robinson who is Assistant Vice President of USAA Life.

Our first topic is single premium deferred annuities (SPDA's). At the Atlanta meeting, Bruce Caldwell provided some interesting information on current SPDA contracts. A survey of 13 large SPDA companies indicated an average crediting rate of 11.34% as of March 31. Surprisingly all these companies had current interest rates in a narrow range between 11% and 12%. Bests also surveys annuities. Their most recent survey included 129 companies. 35 of these companies had interest rates of 11% or more. Of these 35, 10 paid the state premium tax, the others did not, in other words they "back-ended" the tax. 13 had a bail-out feature, 4 of which had a window only bail-out. First year surrender penalties ranged from 10% all the way down to 5%. The duration of surrender penalties ranged from 13 to 5 years. The most popular surrender penalty started at 7% for the first year and decreasing 1% each year, expired after 7 years. Only 4 had front end loads, only 4 had maintenance fees. The conclusion is that the SPDA is a very competitive product. Profit margins are being squeezed.

Our first panelist is Joe Blattner. Joe will direct his remarks to SPDA's since this is a product that Capitol Life specializes in.

MR. JOSEPH L. BLATTNER, JR.: The one word which best describes the current situation with respect to deferred annuities is reexamination. I believe that almost every aspect of this product is under serious reexamination: pricing and product design, valuation (both statutory and GAAP), marketing, and regulation. I will discuss some of the current considerations under examination and where I believe they are likely to end up.

First, I think it is important to realize that the reexamination is from at least five different viewpoints:

1. the marketers;
2. the state regulators;
3. the federal regulators;
4. the current and potential clients;
5. the underwriting companies themselves.

Each of the first four groups has its own perspective and concerns; the last group, the companies, must take everyone else's concerns into consideration in addition to asking why they are in the market in the first place.

Product design is going through its third phase. The early and mid-70's saw products designed for long term participants--relatively vanilla provisions--anticipating annuitization as the ultimate contractholder activity. The market focus was on elderly people who did not want to risk their savings and saw the benefits of tax deferred income for retirement. In those days, some companies did not even price profit into their products during the accumulation phase. They expected to make their profit during the payout. When interest rates skyrocketed in 1979 and 1980, a new generation of products entered the marketplace emphasizing much shorter guarantees (usually 1 year or less) and withdrawal features that maximized the product as an investment: penalty free surrenders recognizing the FIFO tax treatment, and disappearing surrender charges. Since the interest guarantees were short, the bail-out provision was developed which gave the annuitant some feeling of protection that the company would keep the rates relatively close to the initial rate or at least competitive with the marketplace. The focus was on the rates and maximizing the tax benefits with emphasis on making the original premium funds available to the participant.

All of these products, either first or second generation, had three features in common:

1. a guarantee of money back at maturity;
2. a guaranteed interest rate given either directly or through some form of indexing;
3. guaranteed cash values on withdrawal.

In short, a guarantee of principal and interest (subject to some surrender charges) over the lifetime of the contract, available at the discretion of the participant.

Companies attempt to meet these guarantees using one of three basic strategies:

1. What I would call the immunization strategy. Under this scenario, the company would invest in traditional instruments (bonds, mortgages, etc.) and attempt to anticipate expense and benefit cash requirements. Under this strategy, the duration for investments and the mix of assets would change as investment market rates change--moving to more liquid positions as interest rates increase and moving to longer term as interest rates decrease. The basic problem with this strategy is threefold:

First, it is impossible to accurately predict what policyholder activity will be. Our company found during the years of increasing interest rates that the change in the increase in rate, not the increase itself, was more the cause of increased or decreased policyholder activity. For example, at one time we were experiencing terminations of approximately \$30 million per month when interest rates went from about 11% to 14%. Then interest rates leveled off, it was still in many of the contractholders' best interest to roll their policies into the new higher rates which were being offered elsewhere. However, terminations during that period of time dropped from the \$30 million level to \$6 million per month. They remained there for three or four months. When interest rates went up from 13% to 15%, terminations increased again.

The second basic problem with this strategy is that it is sometimes impossible to react quickly enough to changes in the market. One cannot liquidate a portfolio overnight, so a dramatic change in interest rates cannot necessarily be met.

Of course, the final risk is that one may just have the wrong investment strategy. One could easily be caught short when interest rates drop dramatically. One could be locked into substantial guarantees to the contractholder which could not be met with the longer term investments that one could ultimately be able to purchase.

2. The second investment strategy is to just invest short term. This strategy was particularly viable when short term interest rates were at 17%, 18%, and 19% and the interest yield curves were inverted. It was quite possible for the company to invest its money short term and make a substantial spread and remain totally liquid. The problem, of course, is that this situation did not last forever and the company had to make a choice on how they would respond to a more traditional yield curve. If one remained short term, then one became uncompetitive.

3. The third strategy is one of hedging. At least one company contends that it hedges its entire portfolio through the use of futures contracts. By doing this, they can invest funds long term and use the futures contracts to remain liquid. These companies will not be totally hedged because the T-Bills that underlie the futures will not change in basis in exactly the same way as do the underlying long term assets. However, the difference between the futures contracts and the underlying asset should remain at relatively acceptable levels. The drawback with this strategy is that it costs something to hedge. Proponents of this method would argue that if one doesn't hedge, then the risk of capital loss should be priced into the contract. They go on to argue that if this were done, the rates offered by other annuity carriers would be more in line with the rates available through a hedged portfolio.

The new generation of products takes an entirely different approach. It addresses the question of the necessity of the company to make guaranteed cash values available to the participant at all times from issue to maturity. Rather than to try to find some investment strategy which might be able to provide this guarantee at significant risk to the company or at cost in interest rate to the participant, these products provide a surrender value which has market value adjustments for premature surrenders. Several of these products are on the market already and many more are being developed.

A typical contract of this type guarantees that the principal and interest will be available in full at the end of some period, say five years. If the contractholder stays with the company five years, he can surrender without penalty of any type or he may elect to take an additional five year period of guarantees then offered by the company. However, if the policyholder chooses to surrender prior to the end of the period, any surrender value will be computed using a formula recognizing the market value of the underlying assets. The formula includes such factors as:

- a. the duration remaining in the guarantee period;
- b. the rate of interest being credited on the date of surrender;
- c. an index, either external, such as a T-Bill rate, or internal, such as the rate currently being guaranteed by the company.

Some products also protect the company from reinvestment risks by providing different interest guarantees on the increase in funds, year by year.

These market-value adjusted products provide attractive tax-deferred guarantees to the long term annuitant and yet protect the company from disintermediation. A strong marketing point that can be made to the client is that if he is in one of these contracts, he is protected from the activity of the other policyholders. Stated another way, there is no way that the value of his contract can be diminished because other people may take premature surrenders. The company is not jeopardized nor is he.

Essentially, this is the direction companies in the U.K. took when it became clear that interest rates could no longer be assumed to remain stable.

If this product gets us back to providing real benefits to the true long term annuitants and reduces or eliminates much of the catastrophic risk inherent in the deferred annuity business, why doesn't everyone offer this product? Well, there are a few problems.

First, the market-value adjustment flies in the face of Standard Nonforfeiture Law for individual annuities. Statutory regulations for individual contracts do not make provision for such adjustments. Group annuity laws have allowed such provisions for years, so the only route now available is through the group approach. This raises the whole question of nontraditional groups (groups other than employer/employee). A major attack on such group contracts is just forming. Several states have never recognized such groups and recently more states are prohibiting group annuity contracts that do not fall under traditional definitions. If this product is to become viable, regulators must change the nonforfeiture laws for individual annuities. This represents a major change in the concepts underlying statutory regulations. I am convinced that if it happens at all, it will not happen quickly.

Second, the question of SEC registration is unclear. I make that statement because some products exist that have not been registered, and I am not aware of any action taken against them to date. However, it is my opinion that a product of this nature, which transfers a potential loss of principal to the participant, must be registered. If I am correct, the marketing of this product must be through dually licensed agents, which could greatly decrease the existing marketing force for some companies.

Third, if this product is successful, other financial institutions may attack the tax-deferred features on the basis of the "level playing field." The recent attacks on the fixed deferred annuity under TEFRA and in the current tax bill make that clear.

Fourth, the administration of this product is more complicated than the administration of a normal fixed annuity. Systems will need to be modified. We all know what a joy that is.

Fifth, many participants would rather not take the investment risk. If companies are willing to accept it, they would just as soon leave it with them.

I see this generation of products as being a viable alternative to the fixed annuities that are currently being sold. The tremendous variation in underlying assets that the company is able to invest in without market risk could provide annuitants with a variety of different mechanisms to achieve their long term goals. Once the company has eliminated the market risk in the underlying assets, it is able to potentially secure much higher interest rates and protect itself and its policyholders to a much greater degree than it can

presently. However, without regulatory action, these products will have a short life. A change in nonforfeiture laws is required.

Valuation

Let's turn to a more mundane topic--valuation. Certainly the Commissioners' Annuity Reserve Valuation Method (CARVM) has provided us with a framework under which to work. Combined with the dynamic interest provisions of the valuation law, we have a basis that follows traditional valuation principles. However, certain questions with respect to interpretation have already arisen, valuation of the bail-out feature getting the most attention recently.

In 1979, when the bail-out feature started to become commonplace, our marketing people requested that we include such a feature in our annuity contracts. I told them that such a feature would produce a substantial surplus strain because we would have to recognize the bail-out in our valuation. They pointed out that certain companies were not doing so, and asked me to prove that my method was proper. So I presented to the NAIC Subcommittee On Valuation the question of how the bail-out should be valued. Ted Becker, who was then chairman, and his committee responded to my questions that yes, my interpretation of the CARVM valuation was correct. I submitted the question strictly for selfish reasons; I did not want to include a bail-out in our contracts and believed that an adverse ruling from the NAIC would then eliminate these provisions generally, and our contracts would be competitive without them. However, the ruling by the committee was never publicized. I did receive a nice letter from Mr. Becker indicating that my interpretation was correct and a notation was made in the proceedings, but that's as far as it went.

Certainly laws need to be reviewed and interpreted for proper application to today's products. My concern is that the simplistic approach will prevail; that is, when in doubt, take the conservative route. CARVM is a conservative valuation standard and I would hope that people use common sense and reasonable judgement as well as just taking the easy way.

A more appropriate course, in my view, is being taken by those who are reexamining the underlying concepts under which we value annuity contracts. The most obvious assumption underlying our valuation principles is that liabilities can be valued independently of assets. We have done this in the past for several reasons:

1. The laws work reasonably well for the products that were in existence at the time the laws were written. Interest sensitive products such as universal life and annuities cause the problems.
2. The economic environment allowed it. Although there were fluctuations of interest rates in the past, they were small by current standards.

3. Because it was auditable. Clear limits could be defined by law: maximum valuation rates, valuation methods, defined values for assets; the regulators could relatively easily determine whether you were obeying the law or not.
4. Because it was practical. It was just not possible to go around revaluing your assets or liabilities on different bases with the then available computing technology. It still isn't easy.

I think it's clear that the independent valuation of assets and liabilities produces a distorted picture of the financial solvency of a company dealing with interest-sensitive products. The difficult question is how do we proceed. Changing to an entirely new basis of valuing a life insurance company is tricky business. A lot of people are going to resist because the traditional methods are understood and well-known. Others will resist because they will not like the results. However, the change must come if we are to properly insure the benefits of our contracts.

I am particularly fond of the approach promulgated by New York with respect to GIC's and other similar contracts. That state allows a company to use higher valuation rates if the actuary's analysis of the liability and asset cashflows under various interest rate scenarios demonstrate they are appropriate. If the actuary chooses not to do the studies, lower valuation rates are prescribed. New York authorities have admitted that they have not yet determined exactly what form the studies should take. They are taking a "wait-and-see" attitude, allowing the companies to experiment and provide various approaches. This is a truly commendable approach.

Regardless of the problems, there is no question that some type of interdependent valuation of assets and liabilities for interest sensitive products is coming.

GAAP Valuation

There has been a lot of reexamination of GAAP valuation concepts in the last several years. The situation is pretty much solidifying: the "audit guide method" which was used by many companies in prior years has fallen from grace. This method first projected benefits and expenses of the contract, with provision for adverse deviation. This liability stream was then discounted at an interest rate reflecting current investment levels, net of expenses and an additional provision for adverse deviation. The method front-ended a significant portion of the profits one expected to earn over the lifetime of the contract. It was based on a strict interpretation of the audit guide method matching principal: "Premium revenues should be matched to costs incurred." This was not unreasonable if interest markets were stable and one viewed the annuity contract as a long term vehicle.

The AICPA Nonguaranteed Premium Task Force has concluded that a more appropriate interpretation of the matching principal is that "premium revenues should be recognized over the life of the contract in proportion to performance under the contract..." and the performance of an

annuity contract is the interest spread earned--the difference between the rate earned and that credited to the contract.

There are two methods currently used to implement this concept:

- 1) The "retrospective method" holds the current contract values (surrender charges are sometimes recognized) as the policy reserves and sets up a deferred acquisition cost (DAC) to be amortized over some period, usually five years or so. Profits emerge as the rate earned exceeds the contract values.
- 2) The "prospective method" projects a liability stream as per the audit guide method but discounts it at a break-even rate--a rate that causes the present value to be equal to the gross premium so that profit/loss at time 0 equals 0. The reserve at any duration is just the present value of the remaining stream at that break-even rate.

If the projected liability stream is accurate, the two methods will produce the same results.

All of the above methods are ways of valuing liabilities independently of assets. It is therefore very important to carry out loss recognition testing which compares the cashflow requirements of the current inforce with the cashflow from the underlying assets. Only in this manner can one be truly satisfied that the GAAP reserves, and for that matter your statutory reserves also, are adequate.

Some companies still use the audit guide method. However, I think it's clear that this method will soon be unacceptable for new business.

Segmentation

The question of segmentation of funds is one that all of us dealing with interest-sensitive products need to consider. It is quite likely that segmentation will be required in the future. If one is to analyze the ability of the assets to meet liabilities for interest-sensitive products, it seems pretty clear that segmentation would be a first step in the process unless one were to do the analysis on the whole company.

If segmentation is ultimately required by statute, I hope the regulators allow companies significant freedom in determining the components of various cells. Real benefits of investment flexibility and protection can be gained by combining different types of business in the same cell. If the business is segregated too narrowly, matching parameters may be so limited that the company would have difficulty in meeting the limitations for any single cell. As long as the company is not allowed to manipulate the assets and liabilities at its whim, it should be allowed to determine for itself the appropriate cell components.

Brokerage Review

More and more, outside institutions are reexamining their roles and responsibilities with respect to deferred annuities. This is clearly demonstrated by the recent activity by the stock brokerage firms who have been a major marketer of these products for the last several years.

Certainly, the Baldwin United situation caused several of the larger firms to reexamine the way they do business. Some of their decisions have been politically motivated to "protect their rear end." However, they are now going to take a more active role in determining what gets sold in their shops and by whom.

To a large degree this involvement is overdue. Hopefully, they will not overreact. If done properly, due diligence on their part will only make them more knowledgeable about the products offered, will make for better sales, better persistency, and better business. However, while their perspective is changing and they are redefining their role, it will be difficult for some of us who have been in that market.

The questions now being raised by the brokerage firms are appropriate and sometimes tough to answer:

- a) Do you have sufficient surplus for this type of business and what is sufficient surplus for this type of business?
- b) What is your ability to withstand a run on the bank?
- c) What is your mix of assets?
- d) Are you setting up sufficient reserves?
- e) Do you have sufficient surplus to sell new business?
- f) What happens if interest rates change, particularly upward?

The brokerage houses have already had to set up reserves for Baldwin United's contracts; they don't want to be left holding the bag again.

These are difficult questions which must be answered to people who do not really know much about insurance. They understand financial antiselection and what causes it. They want to know what we are going to do about it.

The basic problem is that oftentimes people want quick rules of thumb rather than complicated and complete explanations. Interest spread is a buzz word in this industry. While I agree that it is critical that one be able to invest currently so that the yield on the assets exceeds current guarantees, I see people asking for the "spread on the portfolio" and other such strange beasts. A company's financial position cannot be measured that way.

The point is that quick rules of thumb are used and will continue to be requested. We actuaries must be diligent in our efforts to make sure that they are only used by those who understand what they represent. We must always consider the background of the people with whom we are dealing and take pains to educate whenever possible. Most of

us know how difficult it is to explain a technical actuarial concept on two pages, double spaced, no formulas, please--but we must try.

It appears to me that an increased interest on the part of the brokerage community is going to assist in the movement to market adjusted products. Although they would like to retain all of the provisions of traditional deferred annuities, the more knowledgeable they become, the more they will recognize that these products provide the insurance company, and ultimately themselves, with protection. The fact that the brokers are already dually licensed will not be lost in their deliberations either. They can sell that product today.

Other outside reexamination of our business is going to get stronger as well: Congress, the SEC, and the IRS are all giving more attention to the insurance industry in general. Annuities have certainly been a genuine concern due to the tax-favored features. The question of registration to protect annuitants has been raised again because of the Baldwin United problem. And of course, the whole question of adequacy of state regulation of insurance has been raised again. The fact is we are going to spend a lot of time, money and effort providing these people with information and arguing our positions.

MR. JOHN O. MONTGOMERY: Concerning market value adjusted products, aren't they very close to variable life and variable annuities?

MR. BLATTNER: I think the answer is that they are close. The distinction is made between a variable product and a fixed product in that with the latter there is a fixed guaranteed rate for some period of time. A person does participate in the assets during the interim period, with the rate that he is guaranteed if he stays with the contract for five years or whatever the guarantee period is, fixed. That risk of having the assets available and earning the rate over that period of time still goes with the company. Generally these products don't have a separate account, they may have segregated funds, but not a separate account.

MR. MONTGOMERY: The NAIC is considering whether all market value adjusted products, both life insurance and annuities, should require segregated asset accounts.

MR. SWIFT: Our next speaker, John Montgomery, will provide comments on annuities from the regulators' viewpoint.

MR. MONTGOMERY: Of particular interest to the regulator are the agenda items "Investment and Reinvestment: The C3 Risk and Beyond" and "Statutory Accounting".

Recent events concerning writers of large volumes of SPDA's have brought the problems of inadequate matching of assets and liabilities, the sudden influx of large amounts of money into companies who are not prepared administratively to handle such rapid increases in business, and the temptation of the owners of such companies to use such new

found funds to expand into other areas of business rather than to see that they are used first to support the interest guarantees in the contracts sold. The actuaries of such companies have in some cases been ignored by aggressive managements and in other cases have been blinded by the apparent infallibility at the time of dynamic management personalities.

These are problems that face all actuaries and are reasons for regulators to tend to discount or doubt the value of statements of actuarial opinion in an aggressively competitive marketplace. It is this situation that has prompted the American Academy of Actuaries and the Society of Actuaries to actively look towards standards of practice regarding the valuation actuary. This is true not only for individual annuities but for all insurance products. However, it is the regulatory crisis with SPDA's and other deposit type products such as universal life that makes the need for defining standards of practice so urgent at this time.

The CARVM was adopted by the NAIC in 1976 and is effective in nearly all jurisdictions in the United States. There are several problems in interpreting this statute and some modification may be needed. Discussed here will be surrender charges, "bail-out" or "window" provisions, provision for inadequacy of investment yield, disclosure of the effective rate of yield, and investments in affiliates. There may be other problems which I hope will be brought up in the discussion session following the panel presentations. I will conclude with some basic guidelines on the valuation of individual annuities.

Surrender Charges

Many contracts now have surrender charges equal to excess interest paid for ten years or more. The universal life model regulation adopted by the NAIC limits such charges to no more than 12 months excess interest payments and many states, either by bulletin or regulation, are applying similar rules for interest paid on annuity deposits. Practically all fixed premium universal life policies at this time violate these requirements. Companies ignoring this may find it a considerable administrative and surplus burden at some time in the future, after a financial examination, to track down persons who have received surrender benefits and pay them additional amounts of excess interest withheld at the time of such surrenders. NAIC Actuarial Guideline X for individual deferred annuities permits the portion of the maturity value arising from the amount of interest credited in excess of the minimum rates guaranteed in the contract to be discounted to the date of surrender at an interest rate 1% higher than the rate specified in the contract for accumulating such amounts. In view of current developments a revision of this guideline may be needed.

Bail-Out or Window Provisions

A bail-out provision states that if the interest rate credited to a contract for a specific period is reduced below a specified interest rate then the surrender charge will be eliminated if the policy is

surrendered within a specified time, called the window, after such a reduction in credited interest rates becomes effective.

The State of Connecticut Insurance Department recently withdrew approval of all policy or contract forms with a bail-out or window provision, and is reviewing each form now submitted carefully with respect to the features of such provisions. Several insurers deducted surrender charges either directly or indirectly from reserves held on policies with such provisions, particularly when application of such provisions was applicable for only a limited period of time, such as 60 days, after the bail-out interest rate was pierced. The reasoning of such insurers was that since the policy anniversary did not fall during a window period the surrender charges could be deducted from the reserves on such policies. This was not the intent of the NAIC in drafting the CARVM and is not a conservative valuation practice. Most states do not allow such a practice. However, when the bail-out interest rate is so low as to have little likelihood of being pierced, some provision for exception should be made. The NAIC Standing Actuarial Task Force is considering a model regulation or guideline with respect to the practice of deducting or offsetting surrender charges in the calculation of reserves.

Provision For Inadequacy of Investment Yield

The inadequacy of the investment yield to support the greater of the guaranteed interest rates for an annuity contract or the valuation interest rate assumed in calculating minimum policy reserves is an item which should be reserved for. The NAIC Task Force will consider this at its next meeting. However, David M. Youngstrum, Chief Actuary of the Colorado Insurance Department, has suggested a procedure which will probably serve as an initial exposure draft for an NAIC guideline or Model Regulations.

Basic features of this suggested procedure are:

1. Whenever the investment yield rate or the segregated investment yield rate is less than the yield rate assumed in developing minimum CARVM reserves, the deficient investment yield reserve shall equal the excess of the reserve calculated using the investment yield rate or the segregated investment yield if applicable, and the Commissioners Annuity Reserve Method over the actual reserve established by the company.
2. The investment yield rate is defined as the ratio of net investment income to the mean assets as detailed in the annual statement.
3. The segregated investment yield rate, occurring where all assets are allocable to particular blocks of business, is defined as the ratio of the net investment income from such allocated assets to the mean allocated assets, analogous to that ratio calculated for the investment yield rate, with such allocated assets valued at a date not more than three months prior to the date of valuation. If such segregated investment

yield cannot be determined within the maximum three month period the investment yield rate defined in 2 above will be assumed for the segregated investment yield rate.

Disclosure of the Effective Rate of Yield

The interest rate credited to an annuity contract is not the effective rate of yield available on surrender due to surrender charges and possibly other charges such as for mortality for some types of annuities. The NAIC Standing Actuarial Task Force is developing an index of effective rate of yield for all insurance and annuity products assuming a standardized mortality charge wherever applicable. The Cost of Insurance indices assume a standardized interest assumption. The Effective Rate of Yield index is intended for the comparison of products where interest yield is emphasized for competitive purposes.

Investment In Affiliates

The recent bulletin of the Connecticut Department of Insurance contained two paragraphs which are likely to become a feature of future regulation, either by bulletin, regulation, or even by statute if that is really needed. These are directly in response to recent regulatory problems and are urgently needed. The Connecticut wording has been expanded to include a broad range of products. It is:

1. Companies that sell plans involving deposit features such as Single Premium Whole Life plans and some forms of Universal Life plans, cannot reinsure these lines of business with affiliates, subsidiaries, parents, or insurers that are controlled by parties producing the business, without prior approval of the Insurance Commissioner of this state.
2. Policy reserves of plans involving deposit features, such as Single Premium Deposit Annuities, Single Premium Whole Life plans and some forms of Universal Life plans, may not be invested in parents subsidiaries or affiliates except that companies writing these products may invest up to 100% of their capital and surplus (plus the mandatory securities valuation reserve) in parents, subsidiaries or affiliates.

Some Basic Guidelines On the Valuation of Individual Annuities

The principal purpose of standards for minimum policy reserves is to provide in advance for all future anticipated drains on surplus. With respect to the valuation of individual annuities:

1. Policy reserves should be determined as the present value at the date of valuation of future guaranteed benefits as defined below. The law actually states "guaranteed benefits at the end of each respective contract year" which has led some entrepreneurial actuaries to provide markedly higher benefits during but not at end of each contract year. This was not the intent of the drafters of the law.

2. The interest assumption for determining such present values is the lesser of the guaranteed interest rate or the valuation interest rate specified by statute for minimum policy reserves.
3. The present value of future guaranteed benefits for a plan with surrender charges not contingent on credited interest rate levels is the greatest of the present values of future guaranteed cash surrender benefits.
4. The present value of future guaranteed benefits for plans with surrender charges contingent on credited interest rate levels generally is the greatest of the present values of future accumulated values with no deduction or offset for surrender charges. The NAIC is considering a modification of this rule to provide for bail-out interest rates at levels so low that they are not likely to occur.
5. The policy reserve level for individual annuities depends on the guaranteed interest rate for accumulations after the date of valuation, the amount of accumulated funds as of the valuation date including those derived from excess interest credits, the interest rate requirement for statutory minimum policy reserves, the pattern of surrender charges, the existence of a bail-out provision, and for some plans a mortality assumption.

MR. SWIFT: John mentioned the problem of investments in affiliates. That seems to be a common problem among the companies who have had financial difficulties. They are often unable to make interest on the loan to the affiliates that is commensurate with the amount they need to credit to the policyholder when crediting rates are high. Another common situation relates to the line of communication between the operating departments of the company, particularly the actuarial and accounting functions, and the investment department. The investment department strategy is often to invest in whatever seems to be the best deal on the day they are doing the investing and not worry about matching. There are obviously many types of investments that are inappropriate to back deferred annuities. Common stocks are not appropriate. Real estate probably is not liquid enough to safeguard the company from the items that Joe was mentioning: a run on the bank or a lot of terminations. Companies with a long term portfolio have a problem because as interest rates rise, the market value of that portfolio goes down. If a company cannot meet current interest rates being paid by other companies, a surrender problem exists.

John, I wonder if you could state in a few simple words, just what the valuation of annuities is all about. You went through the legal description of what has to be done under CARVM. What is the rationale behind this method?

MR. MONTGOMERY: The important thing in the valuation of annuities is to be sure you have locked up enough surplus to provide for all the risks such as excess interest, and possibilities of withdrawal and things like that. It is really a matter of making sure you have provided for all possible future drains on surplus. That basically is the philosophy of valuations, to make sure you are providing in advance for possible future drains on surplus.

MR. SWIFT: Joe, how do you relate GAAP reserves, at least under the new method, to statutory reserves at issue. Are they fairly close?

MR. BLATTNER: It think it really depends on the design of the products. One of the reasons people use one year products and bailouts is because the strain produced on a statutory basis is minimal. Even if you have a bailout you can compute the present value of whatever the accumulated value is with no charge at the end of one year. Obviously you do not get to defer any acquisition costs so that generally you are going to end up with strain in that situation equal to whatever your acquisition costs are, say a 5% commission, plus usually in the neighborhood of 3%-4% for a total strain of 8%-9% initially. This runs off over the policy year which makes it very nice. You really only have to hold, on the average, half of that strain at 12/31. On a GAAP basis, you end up with reserves equal to the cash you have in hand. So, for a one year product with a 5% commission you may end up with an initial statutory reserve of 103¢ on the dollar. On a GAAP basis, you would end up with 95¢. Longer guarantees tend to create a lot more strain. I hope that if we move to the valuation of assets and liabilities together, statutory regulation may move faster than GAAP and the statutory reserves we ultimately hold may end up being GAAP reserves as well. But right now GAAP reserves are considerably less than the statutory reserves.

MR. SWIFT: I understand the development of the new GAAP reserve method for SPDA's is now coming into common use. Although this method was never officially passed by the AICPA governing board, FASB, the SEC now requires the method for any companies filing with the SEC. Joe, when that method was adopted by your company, was that done just for 1983 business or was it done for prior business as well?

MR. BLATTNER: We had, probably, a unique situation. First, it was put in place for all business, but we had done some loss recognition testing during the high interest rate kickup that we experienced in 1979-80 and that caused us to set up loss recognition reserves on a GAAP basis anyway, so our reserves already exceeded those values because the underlying assets of our portfolio had remained the same while we were losing our old lower yield rate business and gaining new higher yield rate business. So, being in the business from, say 1973, really put us in a unique situation. I think you find both approaches among companies, but a lot of them are holding the audit guide reserves for their older business and changing to the new basis voluntarily for new business.

MR. RICHARD JUNKER: Regarding 5 year guarantee contracts, shouldn't you value the reinvestment portion of the guarantee and not just the interest on the principal?

MR. BLATTNER: Yes, that's true. The contracts that we have, and most of the contracts that I've seen, guarantee the reinvestment of funds so the value at the end of the fifth year, if the interest guarantee is 12%, is really 1.12 to the fifth times whatever the original premium was. There is a reinvestment risk and that sometimes creates a problem.

MR. JUNKER: I would like to address a comment to you, John. You were talking about the reserve valuation method and it is really quite conservative in that you are using the fund before reduction for surrender charges. There was an article in the Transactions about the CARVM method and there were discussions where people were talking about discretion on the part of the actuary in choosing, with a particular provision, whether or not it would be permitted for them to take credit for surrender charges. Are you saying you disagree entirely?

MR. MONTGOMERY: That's right, we, the regulators, disagree entirely with some of the treatments in that paper. It has given us a great deal of difficulty. That is one of the reasons for the current situation we now have with some companies which really got into trouble. They were following that paper and improperly valuing their commitments.

MR. WALTER N. MILLER: A question for John, in your capsule description of the annuity valuation process you stated, and I would say correctly, that what it all boils down to is having a liability item that adequately recognizes all of the various sorts of risks that might be involved. We all know that a lot of good work is going on now, which can perhaps be loosely put under the umbrella of hedging techniques which, if successful, can reduce the exposure to certain of these risks associated with things like maintaining guarantees, the probability that a bail-out would be triggered, mismatching of assets and liabilities and so on. Do you think that the NAIC and others who are revising standards for computing liability items adequately recognize the fact that a good hedging operation really can significantly reduce risk and presumably should lead to a reduction of the level of required reserves?

MR. MONTGOMERY: I think first of all it has to be demonstrated that those operations really do the job that they are supposed to do. We have to see some practical results before we can really adopt much in that line. In other words, we need proof and we don't have any. We are perfectly willing to provide for many of these so-called hedging techniques if it can be demonstrated that they really are effective.

MR. PAUL D. YEARY: John, you mention the NAIC interest in effective yield rates for various lines of business. In the past, I assumed that the NAIC had supported the industry because it felt the industry was right by not coming forth with such proposals. One of the reasons given for the current interest in these proposals is that the federal government is breathing down our necks.

MR. MONTGOMERY: It's not just the federal government, it's the public too.

MR. YEARY: Well, I wonder how that has been reflected. Are you saying in self-appointed advocates speaking for the consumers?

MR. MONTGOMERY: No, I'm talking about the consumers directly, in complaints to the department.

MR. YEARY: Bringing in the federal government as a reason to do something dilutes reasons why the industry should support state regulation of our business. There are other problems that exist with state regulation. There are so many states that you have to wait around to figure out who is going to do what or whether it will really be done even after the NAIC approves it. It seems to me that one of the things that is going to be required to continue support of state regulation is that when the industry does have good arguments that we be supported by the NAIC.

MR. SWIFT: Our next speaker, Jim Robinson, will discuss flexible premiums and structured settlement annuities.

MR. JAMES A. ROBINSON: I feel I should say a few things about my company, USAA Life, before I start talking about annuities. Most of you have already heard of Capitol Life and most of you have already heard of the State of California. But you may not have heard of USAA Life. Our primary markets are military officers and ex-military officers. While our parent's homeowners and automobile insurance is available only to officers and former officers of the armed forces, our life insurance and annuities are available to the general public. However, they don't know of our existence. Over 98% of our sales are to our target market.

We are not a giant writer of annuities, our characteristics being more like those of medium size companies. Annuities do represent an important flow of premium income to us and are a major asset builder. The changing of the law in 1982 regarding who may contribute to an individual retirement account has had a major effect on us. At the end of 1983 annuity assets exceeded \$150 million, and by now they should have broken \$200 million.

Interest sensitive products such as annuities and Universal Life now represent over 50% of our reserve liabilities.

We advertise by mail. We do not pay commissions to our sales representatives, instead they are paid a salary. Much of the IRA annuity solicitations are such that we elicit a direct response, that is a completed application blank and a check for \$2,000. The sales representative only gets involved when a customer calls to talk about life insurance and the representative asks if he has made his IRA contribution for the year.

Most of our advertising is done in February and March as, unfortunately, that seems to be the time when a lot of people are doing their tax planning for the prior year.

The selling of Tax Sheltered Annuities (TSA's) requires more agent involvement, but still is an important market for us.

First I will talk about investment strategy (see Exhibit 1). We have a special department called Asset/Liability Management. It is their purpose to match asset liquidity with maturities of our liabilities, both current and future, for each liability segment. To determine the liquidity needs of our various segments we examined annuities surrendered as a percentage of the in force for the years 1980 through 1983. We used three segments; non-qualified annuities, qualified annuities, and single premium deferred annuities. Surrenders peaked in the second quarter of 1981 for non-qualified annuities. At that time we were losing our assets at an annual rate of 11%. The surrenders of qualified annuities peaked in the first quarter of 1981 at an annual rate of roughly 3%. SPDA's also peaked at something less than 3%. So we proposed that we have a minimum base of 10% of the assets of each segment invested in short term maturities; at least 5% of which should be in commercial paper. An additional percentage of short term assets by segments are to allow for possible negative cash flow and market value fluctuations in our investment portfolios. Accordingly we wanted 3% additional for non-qualified annuities.

Specific tactics, of course, differ for different segments. In the case of structured settlements, customized annuities designed to take care of needs of casualty claimants, since we know how much and when each payment is to be made, we buy assets exactly to provide the desired cash flow. This is exact matching. We buy discount bonds in order to avoid calls.

For single premium deferred annuities most assets mature in one to five years. Sometimes we first buy an asset, such as an issue of 14% preferred stock, and then we acquire liabilities to match that asset. Mortgage pass-throughs are also very popular in this segment.

Another investment segment is composed of assets backing IRA's and TSA's. I have already mentioned its liquidity requirements. Again mortgage pass-throughs are popular because the principal is repaid rapidly. Maturities of five to seven years are common.

Expenses are an important assumption in the pricing of any product. They are especially important when you have no front-end loads to cover expenses. So we were concerned as to how our expenses compared to that of other companies regarding annuities. Using the annual statements of various companies we developed an index by which we could compare our efficiency in selling and administering annuities as compared to other companies. We call this the ACE (Annuity Cost Efficiency) Index. The ACE Index (see Exhibit 2) is equal to the ratio of a company's actual annuity expense divided by a standard allowance for expenses. Their actual expenses are taken from page 5 of the annual statement, Analysis of Operation by Lines of Business. The standard allowance is derived as follows: 1) Take 15% of first year premium as given in Exhibit 1. 2) Take 5% of single premiums as given in Exhibit 1. 3) Take 0% of renewal premiums. 4) Take 1.5% of the reserves set up for annuities in Exhibit 8, Part B. The sum of the four numbers is the standard allowance for annuity expenses.

These percentages were derived such that a ratio of 1.0 represents par or average; 1.0 was the average for the nine companies I used in establishing the index methodology. In comparing the nine companies regarding their ACE indices, the worst company was at 1.75, the best company, USAA, was at .53. While this was an occasion for us to be pleased, our pricing assumption said we should have been at .36. Given this, we wonder if anyone is making money on IRA's.

In the pricing of our individual retirement annuity we needed to make several assumptions. Functional cost studies helped us come up with the expenses we incur for acquisition of IRA's. We hope as we become more efficient and as we become more popular with our members in competing for their IRA's that these numbers will decrease. One assumption we played around with is the interest margin we can get on the investments and keep for ourselves to cover the expenses. We played with a 2% assumption and a 1.5% assumption. We were forced by competition to use 1.5%. Competitive reasons will continue to keep our spread down; this makes things tough when competition does not permit you to take a front-end load. All of your expenses have to be covered through this spread. So let's assume 150 basis points is all the spread one is going to get, what then becomes the next most important assumption? The answer is premium persistency. We need the fund related to each policy to build and build such that we get a spread, albeit a small spread, on an ever increasing fund. One percent of \$2,000 is \$20, one percent of \$20,000 is \$200, that is when the product begins to be profitable. So we need people to keep on paying into the funds with a minimum of effort. Therefore we need to know about premium persistency.

Exhibit 3 shows the relationship between premium persistency and the year in which we project the product will break-even assuming we require a 12% return on invested capital. As you can see it doesn't take much in the way of a policyowners failing to pay renewal premiums to cause the break-even year to be far out in the future.

I suspect most venders of IRA's are never going to realize any profits from the sale of this product. But it is a great asset builder.

None the less, we like to compare our realized experience against our assumptions. If the experience is considerably adverse compared to the assumptions, then we are willing to change the product to do what is necessary to make that product profitable. Therefore it has become necessary for us to monitor our premiums for IRA's. IRA's first really became popular in 1982 so we have just been able to complete a persistency study. We paid particular attention to the issues of 1982 because we now have roughly two full years worth of experience on those issues.

To establish premium persistency, we look at the ratio of renewal premium to first year premium. We were looking for a ratio of 97%. Let me tell you what we obtained. (Pause) I said nothing, to emphasize that even with computerized records it may be impossible to get meaningful results. Computer systems record what is paid on a policy year basis; policyowners act on a tax year basis. Exhibit 4 is

an example of what can occur. All of the listed payments, in excess of \$7,000, would be considered to have occurred in policy year one, although the policyowner was making payments to obtain deductions in three different tax years. Our ratio was 58% for policy year two payments divided by policy year one payments on policies bought in 1982. We threw that result out as invalid. We will use sampling to determine premium persistency and the analysis will be done manually. One hundred issues from 1982 will be selected somewhat randomly. An analyst will examine each payment and assign that payment to a tax year. Transfers from other institutions will not count in this analysis. I suspect our ratio will turn out to be much higher than the 58% we calculated originally.

Finally, I will comment on how we determine excess interest. We declare interest rates monthly for most of our products. The interest rate committee has as its members our president as well as representative from marketing, finance, actuarial, and investments. It is a disciplined group and they usually maintain the interest spread required in the product pricing. As a result, we are now actually making a little profit on our annuity operations in spite of a large volume of new sales.

QUESTION: I have a question for Mr. Montgomery. Earlier it was mentioned that New York State was considering it acceptable that the actuary certify the sufficiency of assets being set aside for interest-sensitive products as opposed to literally following the law. Are other states going in this direction?

MR. MONTGOMERY: We are considering the New York regulation as a model but we want to see how that works in New York before we go too far, but we probably will have a model regulation based on the New York ruling.

MR. SWIFT: Jim, how do you compare the results you're getting with those of other financial institutions in the IRA market?

MR. ROBINSON: I do not have any definite comparisons yet. I would think, on account of the loyalty of people who buy from us, that our financial results would be superior to almost any other institution. You don't have to pay a commission to get the business, the sales are basically passive. We would hope to make a slight profit if we maintain our interest spreads.

MR. SWIFT: Are your crediting rates competitive with other insurance companies, and with the banks and savings and loan institutions?

MR. ROBINSON: Roughly. We were crediting 11.25% during April.

Exhibit 1

Investment Strategy

Asset Liquidity/Maturities

- Minimum Base of short term assets to provide adequate protection in case of adverse economic conditions and;
- Ratio of short term assets (maturity less than 1 year) needed by segment to cover possible negative cashflow.
- Short term assets defined as:
 - Commercial paper/bonds with maturity less than one year,
 - Bond/Preferred stock with a market value greater than book value.

Proposal

Minimum Base: 10% of each segment invested in short term maturities; at least 5% of which should be commercial paper

Additional Ratio of short term by segment to allow for possible negative cashflow and market value fluctuations in our investment portfolios

Non-Qualified	3%
Qualified	2%
SPDA	1%
U/Life	3%
GIC	1%

<u>Segment</u>	<u>Min Base</u>	<u>Add'l Ratio</u>	<u>Total</u>
NQ	\$4,500	\$1,300	\$ 5,800
Q	8,500	1,700	10,200
SPDA	2,000	200	2,200
U/Life	500	150	650
GIC	10	1	11
			<u>\$18,861</u> 1)

1) based on 7-31-83 accumulated values

PANEL DISCUSSION

Exhibit 2

Annuity Cost Efficiency (ACE) IndexStandard Allowances

15% of first year premium

5% of single premium

0% of renewal premium

1.5% of reserve

$$\text{ACE Index} = \frac{\text{Actual Annuity Expense}}{\text{Standard Allowance}} \times 100\%$$

1982 ACE Indices

(9 sample companies)

A	- - - - -	175%
B	- - - - -	170
C	- - - - -	121
D	- - - - -	117
E	- - - - -	116
F	- - - - -	113
G	- - - - -	92
H	- - - - -	54
USAA	- - - - -	53
USAA Pricing Assumptions	-	36

Exhibit 3

Premium Persistency

	Lapse Assumption		<u>Break-Even Year</u>
	<u>Years 1-3</u>	<u>Years 4+</u>	
Scenario 1	3%	0%	10
Scenario 2	5%	5%	15
Scenario 3	7%	7%	20

Exhibit 4

IRA Premium Example

<u>Date</u>	<u>Transaction</u>
April 15, 1983	\$2,000 for tax year 1982
July 1, 1983	Transfer \$3,000 from XYZ institution
December 20, 1983	\$2,000 for tax year 1983
January 1, 1984	Starts contributing for tax year 1984

