

STRUCTURED SETTLEMENT WORKSHOP 98TH ALIMDA ANNUAL MEETING SEATTLE, WA

Medical underwriting for structured settlements upon impaired individuals is relatively new to most medical directors. Only a handful of companies was involved in this line of business a decade ago. Today, more than one hundred companies actively solicit the placement of substandard structured settlement annuities and some medical directors personally underwrite several hundred medical cases each month in this type of business.

An elective medical underwriting workshop concerning substandard annuities was included in the program for the 98th annual meeting of ALIMDA in Seattle. The papers which follow were presented in that workshop (those by Roger Harbin and Dr. Ryan), or have been developed from the presentation given at the workshop (that by Dr. Chait and Dr. Wilmot). Attendance for this elective session was unexpectedly large, and active discussion accompanied these presentations, demonstrating the interest that many medical directors have in this subject.

ROGER H. BUTZ, MD.

PRICING STRUCTURED SETTLEMENT ANNUITIES

ROGER F. HARBIN, FSA
Vice President
SAFECO Life
Seattle, SA

The three main components in pricing an immediate annuity contract are interest rates, mortality rates, and expenses. Those are really the only ones necessary to mechanically come up with the price. Once you have a stream of future benefits, all that is needed is an interest rate and a mortality rate, at which those future benefits will be discounted to determine a net premium. Then that net premium can be increased by some amount to provide for the acquisition expenses. And there you have the price of an annuity contract.

What I would like to do today is go through each of these in a little more detail and tell you a little bit about how they work and the annuity pricing process. When I get to the mortality rate section I will go over that in some detail. Although I know you've been talking about mortality all week, I do want to give you something of the actuarial perspective of that topic.

Interest Rate. We start first with a gross yield. We need to be able to take in large sums of money and invest them. Investing them gets us a gross return on those investments, and that's the gross yield with which we start our computation process. From that gross yield we need to subtract some margins. Those are necessary because we can't afford to give away all the interest we earn. It's very important that we don't just go out and blindly invest in anything we can think of because there are a lot of other considerations that are important to worry about in structured settlement investing. One is asset quality.

If you are trying to achieve a higher gross yield on investments, a very simple way to do that is to accept more risk; that is, to buy lower quality assets. The difference between a triple A bond and a single B bond, is running over 5% right now. The junk bond premium, if you will. Junk bonds don't have a real

good reputation in the industry and so a company that invests in all junk bonds might not be a good place to put the money that is going to pay life-time benefits to severely injured people. So we want to make sure that asset quality stays very high so we don't become known as the industry that converts peoples life-time incomes into junk bonds. In fact, that's a very serious concern of the people in the industry and the brokers in the business, to their credit, take a lot of time and effort of trying to evaluate financial strength of life companies. Because it's important to them as well. So they do things like use A.M. Best Company ratings and try to stick to A+ or A ratings and stay away from the lower rated ratings.

Another thing to worry about is cash flow durations. Structured settlements go on for many many years, especially for young people. You might be faced with the prospect of paying benefits for 50 or 60 years. There is no investment out there that lasts that long. So an asset that needs to be purchased, that will produce enough income to pay the current stream of benefits. Also the excess income not needed to cover current benefits must be reinvested so that the future benefits beyond the period that is originally invested for can also be provided. Some sort of a determination will be in the company's mind as to what that reinvestment will result in long term, i.e., yields beyond the current; from this the first investment has to be determined.

Another critical area is call protection. That is to say that not every asset you buy is going to be there for as long as you thought it will be there. If you buy a thirty-year bond and interest rates go down substantially that bond may be subject to being called or re-financed by the company that issued it. They give you your money and you have to invest it at lower

interest rates than you started out.

Let's move on now to mortality. Of course since we're pricing annuity contracts we start with annuitant mortality. Annuitant mortality first of all tends to be somewhat better than either life insurance or population mortality. Annuitant mortality is primarily based on data involving people who are 60 years old and above, because it's derived from statistics having to do with people who have retired.

And in fact, those people have made a conscious decision about whether they want to take their retirement money in a lump, or whether they would like to convert that to a lifetime income. And if they convert it to a lifetime income it's frequently based on the perception that they are going to be long lived. They will need something that they cannot out live and therefore they tend to buy lifetime income if they are going to have good longevity. You wouldn't think the people would be very astute at doing that but as a matter of fact they are and the impact of that is measurable. That's why the annuitant mortality comes out much more favorable than other types of mortality. So obviously that's not a good one. Most companies have settled on something similar to population mortality. I don't know of anybody who uses just straight population mortality, as that may not be completely appropriate either. Let me give you a couple of reasons. First, if you think about a population mortality statistic, what that involves is the entire population of a country, typically. That population consists of people who are healthy, it consists of people who aren't so healthy, and it consists of a few people who have brain damage and are quadriplegic and all these other things that are severe impairments for which we are asked to price structured settlements.

If you get a cross section of the population buying structured settlements which includes a proportion of healthy and not so healthy people, you then achieve population mortality, without having given a sub-standard rating to anybody. But if the people who are impaired for some reason then come to you for a sub-standard rating, you take them out of that group of people and give them some other method of pricing. The remainder, which are now considered your standard group, no longer are population mortality. They are something better. So the companies which are using a straight population mortality assumption for their standard mortality maybe somewhat over optimistic about that. I say maybe because there is precious little hard data on this subject. Many companies will look at their data on emerging mortality experience and compare that with what they have priced and try to see how they are doing.

What is needed in this area is a combined inter-company mortality study. There is one now under way that is being sponsored by the Society of Actuaries. Those companies who have been writing structured settlements are now in the process of submitting some data to the Society of Actuaries and having a study done which will try to shed some light on the appropriateness of a population mortality assumption for structured settlements. But suffice it to say at the moment that there is not enough to say that that's a good standard basis.

Well if it isn't good for standard is it good for sub-standard? I would submit that it's not entirely appropriate there either. There are a couple of things that can go wrong on the sub-

standard side. From a company's point of view, a request for a quote that has been submitted to 12 or 15 companies, which means that every quote that we see is also going out to a bunch of other companies. All of these companies are sending back their quote to the broker and which one is the broker likely to use? The most aggressive, the highest rated up age. Which means that among the universe of all structured settlement cases quoted, that tends to be the ones which have been most aggressively priced. Now, if we knew exactly what we were doing and if we were all within a year or two of each other, then something else might be going on and we would say well, they just happen to like this company versus that company today and they got the business. Unfortunately if you look at the spread of quotes that come from a number of companies, you'll see age rate ups that vary from none at all, to a dramatic rate up 30, 40, 50 years.

As a group, the universe of people who receive structured settlement rate ups tend to cover a broad spectrum. Which suggests to me, at least, that perhaps there is incomplete information for us to be doing a fully knowledgeable and scientific job on this underwriting. Put another way, we tend to place our mistakes. They may not really be mistakes per se, maybe we can live with them, but in the sub-standard range they certainly are much more aggressive than our average quote that we are making. The business placed is more thinly priced than the business quoted.

Another area in which population mortality tends to fall apart, is that there is no established basis of projection for future mortality. You can fall back on annuitant mortality projection. That is to say, how much better in a given year is population mortality going to be than it was the year before. Many companies simply choose to ignore that fact and use a straight population mortality table, which is to say that if a person is 50 years old this year, on today's mortality table, next year they will be like a 51 year old on today's mortality table. And that's not true at all. Next year they will be like a 51 year old on next year's mortality table. Which is different from this year's mortality table. That needs to be taken into account and frequently is not.

All of this then is used to arrive at a sub-standard age. This assumes that somebody is a physiological age higher than they really are chronologically. This is certainly not correct. Almost nobody is going to exhibit that exact mortality pattern of jumping into the table at a higher place, then following that from there on up. These people are going to be much different in most cases, such as a high mortality tapering off, high constant mortality as a ratio, or some other pattern. However, it is practical in that it can be used by the brokers in the field to produce a quote. And it also tends to be, if you will, a little bit on the conservative side because mortality as it actually emerges under the real pattern, death may be somewhat sooner than would be suggested by the table age you are using. The point is, the life expectancy or the expected value of the number you are using comes out about the same in both cases. So you are using the number that will be o.k. on the average. It's just that it won't be the right pattern.

Having determined interest and mortality as I said, you can now take your future stream of benefits of the claim at hand

and discount it using interest and mortality. On top of that is added some loading which will pay for a number of things.

Commissions. Most of the brokers that work in this industry do it on a commission basis. It is kind of unique because they provide a professional type service which is customarily provided on a fee for service basis by most professionals, such as defense attorneys or claims adjusters. But in their case they do it and earn their livelihood from the commission on the annuity contract which is sold.

There are some issue costs involved, such as the cost of getting the contract issued and to put it on your administrative system. You hope that it is an elaborate enough system to be able to deal with the complex schedule of benefits which has likely been negotiated. Such as a system which has compound increasing benefits in future years, it has some lump sums spaced out at some future point for a college fund for the children, for retirement income supplement. It may have some extra benefits scattered in there. Ideally your administrative system can accommodate all of these schedules in a tightly controlled environment and pay them all when due. Failure to pay a benefit payment when due is one of the major sins of a life insurance company in the structured settlements business. All the people involved have been in court or in the process of a lawsuit, and all have their loaded guns at each others head.

There's another area of expense loading and that comes in the annual expenses. It certainly isn't free, after the fact, to be able to have these things on the books and pay these benefits. It sounds pretty easy. You just pay benefits. You don't even have to determine whether they are owed. But that's not entirely the case of course, some of them are life contingent benefits and it's necessary to determine if the person is still alive. So you can do a number of things. You can call them up and say are you alive. And you may get a variety of answers. There are some inspection services which will for a fee send somebody out every year and look at the person and try to tell you if they think they're alive. Or if they're not in the life contingent portion but still in a certain or a guaranteed portion, look at the check they've signed every year.

Another expense on an ongoing basis is investment expenses. You can't just put those assets in a pool of assets and just let them be for 30 years. In fact our portfolio of assets that backs up our structured settlement line of business turns over about 200% per year. That is to say almost everything in our portfolio is sold and bought in a space of five year's time. Seems like a lot of transactions going on but we do a lot of that for various reasons, for example to improve call protection. If two assets are virtually identical but one of them can be called and another one can not be called, we'll just swap one for the other so that we improve our call protection. Another one is improving yield. Perhaps you can have assets that are exactly equal but one of them has maybe two basis points more yield. That can be attractive when you consider the amount of compounding that goes on for a third year of a fifty year period. Those little bits add up significantly.

Another one is improvement in quality. There has been a strong tendency to try to get investment portfolios at a higher

quality than this industry intended to start out with early on. Because of the highly competitive nature of the business many companies went to riskier investments that might have been prudent and today they are trying to move back to higher quality. As a matter of fact, the state of New York mandates that a life insurance company can have no more than 20% of its asset portfolio in bonds which are below investment grade, and is now requiring companies to come down below that ratio. I think there were only two companies in New York that fall in that category, but still you can see the concern of the regulators. So the investment area is a complex one and it can be an expensive one.

Federal income taxes. Life insurance companies typically keep at least three sets of books. There are statutory accounting, and stock company GAAP accounting. If neither one of those gives you quite the flavor you want then you may have some sort of true earnings accounting that management uses to control what is going on. And then there is regular federal income tax accounting, and finally we have alternative minimum tax accounting. And in 1990 we plan to move to yet another method of tax accounting which is called the earnings and profits method. So we have lots of accounting things going on.

Structured Settlements have a very interesting federal income tax impact. Because of the large amount of statutory reserve which must be established for a structured settlement, there is a tax loss at the time of issue of a structured settlement contract, especially one involving life contingencies. That's because the federal tax authorities allow the use of statutory accounting methods which prescribe conservative mortality assumptions and conservative interest assumptions and generate initial reserves in excess of the amount of premium that has been received. These losses are tax deductible losses.

I mentioned reserves and I need to talk a little bit about reserves and statutory surplus because this is an important aspect. No company has an unlimited capacity to write structured settlements. Because the statutory reserves, as I already said, are on a conservative basis and they tend to exceed the premiums received, you will suffer a surplus strain upon issue of contracts which could run anywhere from 5% to 20 or 30%. It depends to some degree on the company's financial reporting philosophies. There are of course methods prescribed in the law that tell you how to establish your reserves. Creative people can always read the same thing slightly differently under certain circumstances. And there are companies whose interpretations of the statutory reporting standards are different from others, in some cases rather surprisingly aggressive. If you wanted to however, you could for example look in the Statutory Statement, the blue book, on exhibit 8 and it will tell you the reserve that's held for sub-standard structured settlement annuities and it will also tell you the statutory reserve that would have been held had that company used a standard mortality table for those structured settlements.

I think it might be instructive to pick up the blue book and find out how much of company surplus would be impaired if that company were forced to value structured settlements on a standard basis instead of the sub-standard basis that it has elected. Statutory profits tend to combine as a negative up-front and then be released as positives over a period of time,

which means that a company which grows on a fairly controlled and discipline pace can ultimately achieve enough statutory profitability to be able to fund the statutory losses up-front on its block of business. It can become self sustaining.

The last area I want to talk about is interest rates. At the beginning I talked about competition, one of the items you have to be concerned about. This is an extremely competitive business. Only a few dollars difference in price can make the difference in having a sale or not having a sale. And certainly the sub-standard age that is applied to a case can make a big difference. So interest rates are important and companies achieve competitive edges by being more aggressive in their assumptions for interest. But there is also the problem that interest rates don't stay the same. They tend to go up and down. I can't tell you whether they will go up or down but I can tell you that one or the other of those two is certainly going to happen. But they both present certain challenges to the life insurance company. When interest rates go up a company would be well served to respond to those rising interest rates by having lower annuity prices and doing that very quickly to be able to generate business inflow. Because as interest rates go up then, that's more business that can be invested and probably invested at even a higher rate than you thought you were going to get because interest rates have now risen in the amount of time it took for the business to come in and the time it took you to get it invested. So there's an opportunity that when interest rates rise, to respond very rapidly and try to bring in a lot of business. There is also an opportunity when interest rates rise, to invest very short term. Because if you only invest say for six months or a year, then when that asset matures, you can reinvest it at even a higher rate. I suspect that you see some dangers in that. The fact that interest rates might not go up at all, they might go down in that period of time.

Before I get to that, let me talk about falling interest rates, because that poses an entirely different set of risks. If you think that interest rates are going to go down, these are a couple of strategies you might adopt. One of them is that you might go out and buy or commit to a whole bunch of assets. You don't really have the money right now but you promise you are going to buy them. Then as interest rates fall down, you just leave your prices based on higher interest rates which makes you relatively more competitive than your competition. The money finally does come in, it comes in at a fairly rapid accelerating pace as you become relatively more competitive than everybody else is.

And then you are able to buy these assets that you promised you would buy. Again you can see the risk in that. You go out and promise to buy \$100 million of assets and interest rates go up instead of down and then you've lost again because now you have to buy it at such a way that it does not support the business you are able to bring in the door. And in fact you can't even bring any business in because you may find yourself not competitive anymore. So the temptation exists among life insurance companies to try to out-guess the market. To try to guess are interest rates going to go up, are they going to go down and what kind of strategy should I follow at a given point and time. When should I change my guess as to whether they are going up or going down? The investment professionals have a word for that, they call it market timing. And most of them consider market timing to be not a particularly smart thing to do, because nobody knows whether interest rates are going up or down. So it's important for a life insurance company to avoid the temptation to engage in market timing and to maintain the discipline to invest in appropriate investments of the proper duration. That is to say long investments that provide the proper cash flows for the structured settlements business.