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INFLATION AND GENERAL ECONOMIC DIRECTION

*Moderator: IRWIN T. VANDERHOOF. Panelists: JAMES F. A. BIGGS, JOHN MARA**

MR. IRWIN T. VANDERHOOF: John Mara of Data Resources (DRI) has one of the 4 or 5 large econometric models in existence. DRI also has, in addition to their econometric model for the United States, a model specifically aimed at the insurance industry; that is, how the insurance industry will fare under different economic conditions, and that's going to be the essence of our first topic.

John is Managing Consultant in charge of insurance industry consulting for Data Resources. He developed an econometric model of the life insurance industry to analyze and forecast the impact of general economic activity in the industry. He also developed an econometric model to analyze and forecast the impact of economic activity on individual companies as a tool for corporate and strategic planning.

MR. JOHN MARA: I certainly welcome the opportunity to share the ideas of Data Resources with this distinguished group. Data Resources has worked closely with the insurance industry since its inception back in the late 60's. I have recently developed an econometric model of the life insurance industry to support that work. The model forecasts the industry as a financial intermediary, and in so doing we model the sources and uses of funds that flow through the industry. On the sources side of the model we forecast the flow of funds between the industry and the household sector as well as the flow of funds between the industry and the business sector.

Today I want to limit my discussion to one aspect of that model, the block that forecasts the cash flow between the household sector of the economy and the life insurance industry. More specifically, I want to discuss the impact of general economic activity and inflation on the ordinary life insurance product line.

*Mr. Mara, not a member of the Society, is a Managing Consultant with Data Resources.

I want to address the following questions: How will inflation affect the ordinary life insurance purchase decision that the household sector makes? How will it impact the term versus whole life decision? How will it impact the subsequent decision regarding lapsation and the policy loan alternative? What is the general economic outlook for the industry growth rate through the 1980's? My goal in sharing our research today is to offer you a framework within which to think about some of these issues, but before we begin I want to warn you that the prospects and possibilities that I present to you today for the product line are rather gloomy by historicial standards. For that reason I will offer some suggestions for some protection that we may be able to find for the 80's as I conclude my discussion.

As I discuss the ordinary life insurance line, I will refer to three economic possibilities for the 1980's, and these are the three economic scenarios that are customarily put out by the National Forecasting group at Data Resources. We have a Control Forecast, a Pessimistic Forecast and an Optimistic Forecast. My description of these scenarios will be necessarily broad-brushed, because for our purposes here we are more interested in analyzing the impact of these scenarios on the industry rather than pinning down the details of the economic contingencies.

The DRI control forecast assumes that the Reagan Administration will get about 2/3 of the budget cuts that they asked for. Personal tax cuts will stimulate consumption and the corporate depreciation package will stimulate investment. Under this scenario, the economy would enter a growth phase for the next three years and inflation would continue to abate.

The optimistic alternative is the administration scenario which we have heard a lot about recently. Under this scenario, investment rises far more rapidly, the inflation improvement is more dramatic. In both growth is a little bit more robust.

The pessimistic alternative shows a stronger economy in the near-term, which triggers further rounds of monetary tightening. We're really at a crossroads right now and this is a very appropriate scenario, because if interest rates continue to rise as they did yesterday, this scenario becomes more and more likely. These continued high interest rates would seriously stifle the auto and housing markets; both the business and household sectors would retreat under these circumstances, and they would really have to put their financial household in order. So that is really a broad-brush of the economic scenarios. Admittedly they are rather broad-brushed and I apologize for that, but we really want to analyze the impact on the industry, and the scenarios will become a little bit clearer as I continue the discussion.

First Slide)*

This is the ordinary life insurance sales growth rate. As you can see, in 1980 and in 1981 we expect that the growth rate would continue to be around 12%. This is somewhat down from what has taken place historically. Between 1976 and 1979 (which were the four years of economic expansion right before the recession of 1980) the growth rate averaged about 14.5%. In 1980 and 1981 we are expecting the growth rate to be around 12%, as I mentioned, and between 1980 and 1983 the growth rate should average about 13.5%.

At face value this seems to be only a minor decline, but we have to realize that the mix of term versus whole life is rising quite dramatically. There has been a lot of price cutting in the industry and these decreasing sale rates are taking place in an environment of high inflation. Therefore, the outlook really isn't that rosy and we are expecting it not to be too healthy in the near term.

Under the optimistic scenario, the ordinary life sales growth rate is a little bit more robust. The reason for this is that interest rates decline somewhat further under this scenario and people tend to purchase more whole life insurance. If that were to take place, other factors in the real economy would lead to a higher growth rate. (Under this scenario, income would be higher as well as employment).

If the pessimistic scenario occurs, interest rates will be very high, and people will look toward other financial instruments. At the same time the term versus whole life mix would be a lot higher. Under this scenario the growth rate would continue to be somewhat stagnant at around 12%. This gives us a good picture of how the growth rate of ordinary life sales would be impacted by various economic scenarios.

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The next item of concern is the lapsation rate. The actual lapsation rate that we are dealing with here is the lapsation rate on policies in force in two years or less. The purpose of this slide is to show you historically the relationship between that lapsation rate and price expectations. As inflation continues to increase, and as people expect inflation to continue to increase in the future, so goes the lapsation rate. The lapsation rate has tracked the direction of price expectations over history, and we are expecting that to continue.

Now, you might ask, what is "price expectations"? Price expectations at Data Resources is a behavioral equation which is an exponentially smooth function of consumer price indices over the past two or three years, so it's a behavioral equation. The theory behind price expectations at Data Resources is that the consumer learns from past inflation and that's what influences his price expectations.

*The slides used in Mr. Mara's presentation were not available for reproduction in the RECORD.

Now as you would expect, we are forecasting the lapsation rate to continue to follow price expectations into the future. Under the President's economic scenario (which is the optimistic scenario), we would expect price expectations to abate far more rapidly **than** under DRI's control scenario. If that were to take place, the lapsation rate would continue to decline far more rapidly than we are anticipating under our control scenario.

(Next slide)

Before we get on to that forecast I want to show you another relationship which enters into the equation for the lapsation rate. This is the relationship between the rate of lapsation and the unemployment rate for married males. As you can see, the direction is quite significant once again. This variable enters the equation to explain and forecast the rate of lapsation along with price expectations.

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Now this is what we're forecasting for the rate of lapsation under various economic scenarios. As you can see the good news is that we are forecasting that things are really leveling off. Between 1972 and 1978, the rate of lapsation averaged about 19% or 20% for this particular concept. In 1980, it rose to about 24% and the debate now is will it go up, will it go down, or will it stay about the same? Our control forecast is saying that we really reached a new plateau and we're expecting lapsation to plateau off at about 23% or 24% over the next few years, as a result of continued high price expectations, and a relatively high unemployment rate among married males. Also, real interest rates should continue to be high according to historical standards, and people will be more likely to turn in policies to invest in other financial instruments.

The pessimistic forecast has the rate of lapsation getting up to 26%. But something that is very interesting under these simulations is that, while things are a little tougher in the near-term under the pessimistic forecast, it really causes a ringing out in the economy. Interest rates get very high; the economy really grinds to a halt, and we would probably see about three quarters of negative real growth under this scenario. The household and the business sectors would get their financial households in order, and as you can see the rate of decline in the lapsation rate is quite precipitous after that ringing out takes place. In other words, what the simulations suggest is that perhaps the industry would be a lot better off under a near-term economic recession which would really ring the evils out of the economy in the near-term and cause things to be a lot rosier as we continue through the **decade of** the 80's.

If you'll notice, the control forecast is not that different from the optimistic forecast of the administration. (The real sensitivity comes in more of the financial disaster scenario). The one point that kind of goes through all of the issues we are dealing with is if we can ring things out in the near term, things would be a lot rosier in the long run. The question we have to ask is, is that too much medicine to take?

(Next slide)

It's interesting to note that the same types of variables come into play as we forecast the percentage of total life sales which are term policies.

You'll notice that the percentage of term sales as a percentage of total life sales was running between 40% and 42% between 1962 and 1972, and it's been rising quite dramatically ever since. We are expecting the term percentage to peak out. We're expecting it to peak out under the control forecast at about 60% in 1982. That's because price expectations begin to peak out; interest rates begin to come down, and people begin to save more-that's another variable that comes into play when we look at term as a percentage of whole life. We look at the degree to which people are saving money rather than spending money. It's a sort of **attitudinal** variable which is brought into play in our forecast of term policies as a percentage of total. But we are expecting (contrary to the belief of a lot of people) that the term percentage will peak out at about 60% in 1982, and then continue to decline.

The forecasts between 1981 and 1983 really aren't that dramatic. I wanted to show you the large increase that has taken place by historical standards, and although we are expecting a decline beginning in 1982, we really are expecting the level to remain quite high by historical standards.

(Next slide)

The next slide is just a microscopic view of 1980 to 1983 from the previous slide. I did want you to see that there is quite a disparity among the various economic scenarios even though the level will remain quite high, by historical standards. Again, we notice that in the pessimistic scenario (or the financial disaster scenario if you will) the term percentage peaks much earlier in 1981, and it peaks at a higher level (approximately 59.5%). The good news is that because we are able to ring out the economy, because the consumer really buckles down and begins to save, because interest rates begin to come down, and because price expectations continue to abate you begin to see a precipitous decline. Beginning in 1982, the term sales are actually a lower percentage of total life sales than they are under the other two, more optimistic scenarios. Again we bring up the point, that if **in the near term** we are able to ring out the economy and live with some recession in the near-term, this may be beneficial in the long run.

(Next slide)

The next issue that we're dealing with on cash flows between the life insurance industry and the household sector is the increase in policy loans. On this slide I'm dealing with the net increase in policy loans outstanding versus the prime rate of interest. If you'll notice, historically there is a quite dramatic relationship, and I'm sure that most people here have seen this relationship at some point.

(Next slide)

At the beginning of 1980 we had the very large increase in policy loans which were brought about by the very high interest rates and the credit constraints which were put on. This caused us to blow-up the scale quite dramatically, and the forecast that we're looking at from 1981 to 1983 looks quite less dramatic for that reason. If you'll notice again the pessimistic scenario shows another round of high policy loans in the second half of 1981, if another round of Fed tightening takes place, and if interest rates continue to go up. If we are able to live with that however, the policy loan increases again become even smaller than the other two scenarios beginning in the first quarter of 1982.

(Next slide)

The next slide shows policy loans as a percentage of total assets. This slide is a favorite slide for many people because it really shows the degree to which policy loans are straining the cash flow or investable assets of the industry.

The **pessimistic** alternative shows that we really reach a new level of strain on total assets of the industry if we have to live with another round of Fed tightening and money market interest rate increases. Up until the first quarter of 1981 we reached a level of about 9% of total assets being policy loans, which about equals the level which was attained during the last recession. Now if another round of **tightening** takes place we'll reach a new plateau of around 9.3%. There are many reasons for this: Not only would interest rates be high under this **pessimistic** scenario, but people would tend to consume more of their income currently, price expectations would be very high, and people would be spending a lot more, rather than saving. They would be going to both banks and insurance companies as sources of funds to finance their spending. Households would be much deeper in debt under this scenario, but again it would cause them to really turn around their financial balance sheets. I can't stress enough that this would **begin** to ring out the economy, and policy loans as a percentage of total assets would begin to decline precipitously as the recovery phase took place.

(Next slide)

This shows the growth rate of ordinary life premium receipts. In 1979 and 1980 as income was rather stagnant, as employment growth was rather stagnant, and as interest rates were quite high, we saw growth rates of about 6 1/2% to 7 1/2%. In the economic expansion between 1981 and 1983 we are expecting some recovery. In 1981 we are expecting premium receipts to increase by about 7 1/2% and we expect them to increase to 9% or 10% as employment becomes quite high, as income gains become quite high, and as interest rates continue to abate. You'll notice that there is relatively little sensitivity between the three economic scenarios, and at face value things really look quit rosy for cash flows. But I had warned you earlier that things are a little bit more gloomy and that's illustrated under the next slide.

This is probably my favorite slide in the presentation. What I did in this calculation was to index the growth rate of real GNP to 1952 and to index the real growth rate of individual life receipts to 1952 and to see how they have grown compared to each other from that time. The growth rate for the individual life product line was quite robust between 1952 and let's say 1973 and 1974. This product line was actually growing at a far greater rate than the economy was growing, but look at the gap that has taken place from that time. The yellow coloring illustrates the degree to which we are losing ground on the real economy and, as you can see, we are expecting that gap to continue to increase. As we have gone over some of the issues you can see that perhaps the bad news is behind us (or at least it's taking place right now), and things will start to get a little better. Still, it appears from the simulations that we have really reached a new plateau and that things will be relatively gloomy by historical standards. It appears as though all of the economic possibilities and problems could be with us to stay.

It's interesting that at Data Resources our work has really shifted recently. Historically it's been OK for every company in the industry to just grow along with the industry. If you were able to ride this wave, the results would be quite favorable. But it appears now that things will not be as favorable if we just continue to grow as the industry grows. There are some imminent problems taking place and our work has really shifted from one of forecasting how the industry will grow to trying to beat this downward cycle.

(Next slide)

Our work has shifted from one of forecasting or planning to one of strategic planning. This is a chart which summarizes a book by Professor Michael Porter on competitive stragegy, and it illustrates our thinking about what makes the industry run and what are some of the problems the industry will face as it goes through the 1980's. The block in the middle refers to industry competitors and existing rivalries.

We are already beginning to see quite a lot of price competition within the industry. On the left hand side we have the suppliers of funds to the industry, and I've been referring to those suppliers of funds as being the household sector. Now the household sector is gaining a lot of bargaining power as they have quite a few alternative financial instruments to choose from. Our feeling is that the industry must really begin to understand the diversity of growth opportunities from that household sector. As we mentioned, growth will begin to stagnate and it will be very important to identify disparate growth opportunities from that sector. We are beginning to identify different regions of growth. Growth will be quite different across various regions of the country. Growth will be quite different across various demographic cohorts within the household sector. Growth will be very different across various industrial markets. So to begin to be able to beat that negative decline in the real growth rate that the industry will be facing, we're really going to have to target the growth rate to these various sectors of the economy.

There is still a lot of opportunity out there, but we will not be able to ride along with the general growth rate of the economy. As far as the threat of new entrants and the threat of substitute products is concerned, we have already seen what money market funds and certificates and other financial instruments have done to the cash flow from the household sector to the life insurance industry. We're expecting that tax policy will encourage new savings and investment and this could further hamper the cash flow from the household sector to the life insurance industry. We're also seen a lot of mergers recently (actually two large mergers), and we can expect even more. The synergies of these mergers of databanks and distribution systems and the convenience that they provide will give even more bargaining power to the household sector, to these suppliers of funds to the life insurance industry. Thus, what we have begun to do with the industry is to try to identfy the various growth sectors of the economy. As I mentioned, we see a diversity of growth rates across various sectors of the economy and we've begun to work to try to identify those growth rates.

Overall the model has told us that the worst is behind us, but things will stay relatively bad by historical measures. A second point is, don't let the inflation mask the real negative growth rates that plague the industry. The third point is, let's continue to monitor the environment because of the diversity of growth opportunities. This is the way that we're going to be able to grow in the 80's. It's no longer going to be sufficient to ride along with the growth rate of the industry.

(Next slide)

The first sentence of Mr. Porter's book states that the essence of formulating corporate strategy is to understand your environment. Data Resources has been doing that over the years and we anticipate doing that in a different way as we try to identify new growth opportunities for companies within the industry throughout the 1980's. Thank you.

MR. VANDERHOOF: That was certainly an inspiring message, John. I particularly like the line about the worst is over but things are going to stay bad. There is always some fear that our meetings, our professional body, may be confused with agency meetings, and I think we've started off right now with an absolute line of demarcation between this and any agency meeting that I've ever attended.

There are three speakers on this panel, and I'm the second speaker. First I'd like to go into a little digression. It always seems to me that's a good way to start on a different subject.

I recently did a short article for Pension and Investment and in that article I unveiled the concept of AIMS, and you should know about this because AIMS means Actuarial Investment Management Systems. The idea of AIMS (which I consider a legitimate alternate to modern portfolio theory) is the production of specified needed results, and under this paradigm I claim are things like absolute matching of investments, immunization techniques, and the recent work that James Tilley has done on linear programming models of cash flow. I think that this differs from modern portfolio theory in that we normally are concerned with not only specified results but with a particular instrument to achieve those results, that instrument being bonds rather than stocks. Bonds differ from stocks in a variety of ways. They're "nice" as opposed to being "dirty" like common stocks, but they also differ in that the results of investment in one period are necessarily correlated with the results of investment in a subsequent period. If you have a bad year and own bonds then there must be some year in the future in which you'll have a good year. It must happen. Aside from questions of default it must occur because bonds always mature, and if they have gone down in value this year, there must be a year in which they finally reach their par value. This is a necessary distinction between what I argue are the AIMS techniques that are based upon certainty of results and modern portfolio theory which always assumes single period and uncorrelated results (no serial correlation results).

One of the AIMS techniques that I have been interested in for five or six years is an attempt to use the techniques of immunization on inflation. When I originally did work on immunization, interest rates were varying between 3% and 5%, and the higher they were, the better off we thought we were. We didn't know how bad things were going to be. At that time it was possible to consider that changes in interest rates in the environment were largely related to changes in the real rate of return in the environment. Subsequently we've come to know certain things about interest rates and their relationship to inflation. There seems to be some very clear relationship which we can never define.

Let's start off with a couple of simple points. One simple point is where does inflation come from? Five years ago and ten years ago there was a great deal of debate on this subject. There were the fiscalists and the monetarists, and the monetarists were the heretics and they lived in the Federal Reserve Bank of St. Louis, and they kept saying that money is what controls prices. That's not so much of a debate anymore. I think that all economists now generally agree that in the long range, that is over a period of a year, two years, three years, an increase in the money supply must necessarily be followed about by a corresponding increase in the general level of prices, unless in some magical way the economy can raise its real growth at the same rate. So the first thing is, money is related to inflation, if not on a three-month basis, then on a three-year basis. Where do increases in the money supply come from? Basically they come from the **government.** I have pointed out to a large number of people that I don't create money and I don't think you do. Insurance companies don't create money. Basically money creation must take place directly as a result of Federal Reserve activities and therefore the Federal Reserve either creates inflation or validates it.

If the Federal Reserve does not validate inflation through the money supply, it cannot occur. That is a general level in price increase. Why does the government create inflation?

It creates inflation to "steal" from you when you don't know it and they've been getting away with it quite well over a period of years. People may be catching on but there is not clear evidence that they're going to catch on enough to really stop it. But if there is a clear relationship between money supply and inflation, and there is a clear relationship between the politics of the United States (or any other country) and money supply, then you have to figure that inflation is something that's going to vary with the varying political destinies in the country.

Right now we have an administration which says it is, and seems so far to be dedicated to a decline in inflation. If the programs are successful through Congress, presumably there will be some decline in inflation, particularly since the Federal Reserve usually follows the election returns quite closely. How long will it stay? Politics and the crucial political events are not predictable, but they control the money supply which controls inflation. That to me leads to the conclusion that inflation is not predictable. Inflation can move in any direction; the whims of political change drive it. If we cannot predict inflation, is it possible to protect ourselves against inflation? I believe it may be the case, based upon free market relationships that have been demonstrated over a number of periods in our recent past. For one thing, Fama around the early 1970's demonstrated that short term interest rates are a better predictor of current inflation than opinions of the economists, that is short-term inflation is reflected immediately in short-term interest rates.

To the extent therefore that inflation is incorporated in interest rates, we can argue that it is possible to protect ourselves against inflation by building inflation directly into our actuarial calculations and our models and by assuming (and it can be a big assumption) that whatever happens to our expenses in a life insurance company, whatever happens to the developing benefit costs and benefit payments in a pension plan, are going to also be reflected in the interest rate in the environment.

$$1 + k = (1 + i) \times (1 + j)$$
$$V = 1/(1 + i); \quad w = 1/(1 + k)$$

$$\frac{\Sigma t_f A_t w^t}{\Sigma f A_t w^t + \Sigma x A_t v^t} = \frac{\Sigma t_f B_t w^t}{\Sigma f B_t w^t + \Sigma x B_t v^t}$$

There are two interest rates: i represents the real interest rate and k represents an interest rate including an inflation rate of j. We then have two discount rates, one v, for real items and one, w, for nominal items.

How would they be used in an actual calculation of a benefit, how would they be used in the calculation of a premium for a policy? Basically, every item that is automatically indexed with inflation has built into it a (1 + j) factor that goes along with the interest discount rate in every calculation involving expenses out for the next 20 or 50 years. Similarly some of the benefits under a pension plan are indexed to inflation. They automatically have a (1 + j) factor appended to them. Now since (1 + j) times w is equal to v the equations suddenly say that if you want a present value of a series of payments in the future, the payments that vary with inflation are to be discounted at a real rate of interest; e.g., 3%. The benefits or the expenses or the items that do not vary with inflation, like the benefits under individual life, are discounted with a w factor; that is, the nominal interest rate. I presume many of you know of my interest in the immunization paradigm over the last ten to twelve years. What I did in the lower equation really is set up the immunization conditions for inflation, supposing we're not immunizing against interest rates but immunizing against inflation. The numerators of those two equations are: the one on the left is really the present value of the assets that are fixed in nominal value. The right side of the equations have to do with the benefit payments or expenses that are fixed in nominal value. That really says that the duration with respect to inflation of the assets that are fixed in nominal value is related to the benefits that are fixed in nominal value.

This has a number of interesting implications. One is if you have a pension plan, say, that is totally indexed to inflation, you want only investments that are totally indexed to inflation; if the numerator on the right-hand side is zero, the numerator on the left-hand side must be zero under the immunization conditions. That says therefore if your pension plan is totally indexed to inflation you have several strategies. One is have no assets, everything on current contributions. Second strategy is, if you're forced to have assets by some group like the IRS or some of those people in Washington, they should be short-term assets. That effectively advocates a bills-only strategy. The same thing is true for a life insurance company; it does imply that if a substantial part of the operations cost of an insurance company is expenses rather than simply death benefits, it needs to have a very substantial portion of its assets in short-term instruments so that the return on those short-term instruments will keep matching the increase in costs of the expenses of the operation.

I have been troubled with these equations for several years now. One reason is that they make this magnificent assumption that inflation automatically enters precisely and exactly into interest rates. If that were true then these equations would, I believe, provide a precise technique for managing company funds to protect the companies against inflation, but I have been unable to determine if it is true. I most recently read an article in the Reports of the Federal Reserve of St. Louis which implies that every time you try to fit an equation representing inflation expectations to interest rates you automatically have a built-in bias.

So I think we have to come down to something like a matter of faith. We have to assume that somewhere or other people are smart enough to include an inflation expectation in interest rates. If they have included an inflation expectation in interest rates and that expectation changes, then interest rates will change. Is that good enough? I think it may be good enough; I don't think it provides a necessary reason for changing the strategies implied by the immunization-against -inflation equations.

They do however have an interesting confirmation for a technique which I understand is now used by some pension actuaries. That is, take the current long-term interest rate, subtract 2%, and use whatever is left over as the inflation assumption in the calculation. That essentially amounts to developing from interest rates a consensus inflation expectation. By using that as the inflation expectation in the pension calculation what you've essentially done is establish consistency between the nature of the pension plan, and the way that it will develop over the years, and the nature of the assets. The only remaining problem which is not solved by that kind of a technique is that to the extent to which the cost of the life insurance company or the benefits under a pension plan are going to be totally indexed to inflation, we still would need very short assets to provide the variations in return on our assets required by the equations.

That really concludes my presentation. It's defective I guess in the sense of not necessarily providing a completed answer to anything. But I think that it is interesting that the mathematical techniques can support the activities and the action of practitioners already in the business. I think that's really to be expected, the people actually doing the work had better have some feel for the right answers whether or not the equations have previously been developed. But certainly the actions of practitioners in the business and the actions of companies are consistent with these concepts and will, I hope, prevent all of the terrible things that John talked about a few minutes ago from absolutely destroying us before the end of the year.

Our third speaker today is James Biggs. Every time I talk I always talk a little bit about investments, a little bit about life insurance, a little bit about pensions, which almost always guarantees that I'm in trouble with one of the other speakers. I'm waiting now for Jim to jump on me because he's really our pension expert. He's a Principal in Peat, Marwick, Mitchell & Company in the New York office, and primarily concerned with consulting services with respect to all types of employee benefit plans, particularly defined-benefit pension plans.

MR. JAMES BIGGS: Thank you Irwin. I'm going to touch on, briefly at least, each of the four sub-topics that were included under the program topic today, that is the prospects, possibilities, problems and protection (or solution). The dividing line between prospects and possibilities is a very thin one; I'm not really sure where it lies. We find that in this inflation area, solutions and problems keep running into each other because frequently the solutions in turn may become part of the problem.

Turning first to prospects, there is of course a wide range of estimates that you'll find at any time as to inflation prospects, either short or long term. Let me first call your attention to a survey that our firm makes. We have an Investment Supervision Consulting Group in our firm and each year they go out and interview the economists who are working for a substantial number of insurance companies, banks and other money managers as to what their expectations are as to inflation, investment returns and so on over approximately a 20-year time horizon. Let me just give you some of the results. In our 1980 survey, which was made in the Fall of 1979 the so-called experts estimated that inflation in 1980 would beat the rate of 9.7%. The actual rate in 1980 was 12.55%, so we have a 29% deviation from the opinions of the experts-which simply shows the difficulty of forecasting even over a short range. When we turn to our 1981 survey and look at the average estimates that are made by these economists, we get the following figures: for 1981 they were estimating 10.1%; for the period 1982 to 1987, an average compounded rate of 8.6%; and when we get further out into the period 1990 to 2000, they're estimating 6.8%. Now this pattern of interest rates which are assumed to be high and then decline over the years is a very typical one in estimates that you see made by both economists and actuaries. One of the things that concerns me is the question of whether these estimates are based on anything but the discomfort level that people find with assuming that interest rates are going to remain high and inflation rates are going to remain high for a period as long as 20 years. I suspect that in many cases it's simply a desire or an instinct on the part of the individual who is making the estimates to believe that rates are going to come back to the zone with which they are to some extent comfortable. I would contrast that with what Irwin was referring to a few minutes ago as the consensus expectation that you get from simply deducting a real rate of return from the bond rate. I don't know all that much about bond yield curves but people who do tell me that when they look at the bond yield curve it indicates to them that interest rates are expected to remain at the 11%-13% level for perhaps the next 20 years, this would suggest that the people who are putting their money behind their predictions really expect a continued high level of inflation.

Second set of estimates: we make a internal survey of our own pension actuaries within Peat Marwick as to their expectations as to CPI, as to rates of return and other economic variables.

We have done a mini-survey of about the first 100 or 150 annual reports that have come in from large corporations. We find that the rates of investment return that were being used by actuaries and plan sponsors for this reporting in 1980 range from a low of 4 3/4% to a high of 12.2%. Now this seems to me to suggest one or all of three things. Either actuaries and plan sponors did not read FASB 36 or did not understand it; actuaries and plan sponsors read it but do not give a damn what the Financial Accounting Standards Board says, or, to some extent, there is a real diversity of opinion among actuaries and plan sponsors as to the likelihood of future inflation.

Turning now to possibilities: Obviously there is an enormous range of possible future inflation scenarios, and John was talking about a couple of them in the relatively short range. Historically, of course, there have been periods of deflation when the CPI in fact declined. Going to the other extreme, in at least some other countries, you have the history of the Weimar Republic in Germany where you had to trundle a wheel-barrow of marks down to the grocery store to hope to buy a loaf of bread. In this country from roughly 1951 to 1966 we managed to hold the CPI increase around or below the 2% mark. Now we only hope to get it down in the 6% range. Will we accomplish this? Maybe. But consider that there are a number of new forces operating which certainly did not **prevail** during those happy 1950s and 1960s. Irwin talked about the basic cause of inflation in terms of monetary policy. Let me go to even a more basic level and simply suggest that when demand increases faster than the supply of goods and services in a market economy, prices will be bid up, and that increase in prices constitutes what we call inflation. "Demand" in this case I mean to be effective economic demand. Not just desire but desire backed either by money or some alternative to money. Domestically we have seen desire stimulated by advertising and by exposure through the print media and television to what might be known, at least from an economic standpoint, as "the good life." The middle class and the economically underprivileged classes in this country know now exactly what they are missing because they see it every Friday night on "Dallas". As far as turning this desire into demand, as Irwin indicated the creation of money plus the ready extension of credit through consumer loans, through credit cards, through low down-payment-mortgages, has turned these desires of most working Americans into demand. For those who are not eligible for credit, a philosophy that might be described as the philosophy of entitlement has come to pervade our social welfare program, suggesting that everyone regardless of ability or willingness to contribute to the supply of goods and services has a right to a share of that good life. I am not making a value judgment here, I am not arguing whether that philosophy is appropriate for a social welfare program but I am simply suggesting that it has a **significant** inflationary effect on our economy.

The problems are similar on an international level. People in underdeveloped countries are not content with their lot. They know now (they have transistor radios in their villages) and they are told regularly either by their own leaders or by leaders from abroad that we Americans, we Europeans are far better off than they are, and that this is unjust and that something ought to be done about it. We, here in America, were in a very happy position following World War II, at least from an economic standpoint. We were the dominant power in the world. We could tell the rest of the world the prices that we would pay for their goods. We as a nation, I think, became fat, dumb and happy. That party, I think, clearly is over. OPEC and the price of petroleum is the most obvious example. We are in many areas a resource-poor country. As a result, I think, there is a very credible possibility of other resource cartels developing, telling us what prices we are going to pay-or else. Maybe even scarier is the example that we have seen in the case of Japan, which is not a resource-rich country, but which by and large in many areas is simply outproducing us.

When we get to the point where the world simply does not value very highly what we as a nation have to sell, dollars in the world will not buy very much, and, again, American inflation moves along.

Now, dealing with the specific problems related to inflation, let me deal with two which I would refer to as the differential impact and the difficulty of prediction. Differential impact is simply a fancy way of saying that not everybody is a loser, and not all losers lose to the same extent. There are differences in an inflationary economy between borrowers and lenders. The impact in a borrowing and lending situation will depend upon the ability of the two parties to predict what the inflation rate is going to be. When I lend money I want to get back enough money or resources at the end of the line to match the purchasing power of my principal, plus a fair rent on my money. If prices are increasing at 10% and I lend somebody $100, I should get back, say, $112 or $113 at the end of a year in order to break even. If on the other hand, I as a lender, expect 4% inflation and lend money on the basis of 4%, plus say 2% or 3% return, and I actually experience 12% inflation, basically I am losing on every loan that I make. Another aspect that has to be considered in this connection is that the return that I am talking about is the return after taxes. If I expect an inflation rate of 8% and I collect an interest return of 12% and indeed inflation does turn out to be 8%, if more than a third of my return is taxed away, I do not get any real rate of return whatsoever on my money. Other differential impacts depend very much on what I might refer to as power relationship. Some businesses have the ability to raise their prices to meet inflation, others because of conditions in their industry or conditions within their organization find that they cannot do that. Some workers have the power to demand higher wages. Other workers, again, because of industry problems or company problems, simply are locked in to accepting increases which are less than the inflation rate. Power takes many forms. Power in this sense can represent the ownership of desirable resources, and anybody who is in a happy position of selling a home in California in the last 8 or 10 years knows exactly what I mean. It may take the form of political power. We have seen within the last month or so the fact that the Reagan administration, while perhaps intellectually recognizing that indexation of Social Security benefits is a problem, simply at this point does not have the political courage to face up to that problem. We have other situations - UAW negotiations, for example, with the auto companies. In every negotiation for at least the last 25 years, benefit increases to retired employees have been an important item on the table. Now I am sure that at least in part that results from the belief of the UAW leaders that this is a socially desirable thing to do but it may possibly also be impacted by the fact that although the retirees do not vote on the contract, they do vote in the election of union officers. Finally, power can take the form of unique skills. I would not want to attempt to convince Dave Winfield or Sugar Ray Leonard or any number of people like that the inflation that has taken place up to this date is a bad thing. I would lose that arguement. On a somewhat more mundane level, I think, fortunately actuaries have skills which are sufficiently unique, that actuarial salaries over the last couple of decades have more than kept pace with inflation rate.

The big losers obviously are those who are on fixed or relatively fixed incomes and do not have the real power to change that. For them in a highly inflationary economy there are nothing but desperate hopes. Now there are derivative problems coming out of these problems, and perhaps the most important derivative problem-to some extent Irwin was referring to **this** in connection with government-is the fact that because there are winners as well as losers you create an inflation constituency. As with other sports, the winners want the game to continue. Governments at various levels may well be winners, at the very least in the short run.

Those of you who are familiar with the newspaper reports of the financial condition of New York City know that the City's financial prospects for fiscal 1981 are far better than they looked when the budget was prepared a year ago, and the most important element of that is the fact that the inflation rate has been high and, therefore, tax-receipts are considerably higher than were anticipated in the preparation of the budget. Again, there was an interesting article on the front page of the New York Times about a week ago with respect to the Reagan budget. In effect, it was a sensitivity analysis of the budget deficit to GNP growth and to inflation, and it pointed out that at least in the short run the higher the inflation rate the greater the tax receipts and the lower the budget deficit the administration was going to run. In that sense, there is very little incentive for public officials to attempt to put the brakes on inflation.

Turning finally to the area defined as protection or solutions. As I said, some of these solutions may themselves be problems or exaggerate the problems which already exist. The first solution, of course, is to stop inflation or to slow it sharply. Unfortunately we have not been very good at that in the last several years. We have tried wage-price controls: we have tried credit controls, we have tried to some extent monetary controls; we have tried exhortation whether it be jawboning or everybody in the administration running around with little "WIN" buttons on his lapel. None of those has had very much success. The Reagan administration at this point is attempting, at least in some areas, to promote budget cuts and thereby reduce demand, promote tax cuts and thereby, at least in their opinion, to stimulate investment, in accordance with what has come to be referred to as supply-side economics. In theory each of these can be an appropriate move in inflation control. The problem is-is the balance right, or are we still going to be in a situation in which as a country we are trying to buy too much of both guns and butter? If we cannot lick inflation then presumably we are going to have to find various ways of coping with it or adjusting to it. Some of the ways people are using now are: (1) Showing a great **reluctance** to lend money for any long period, or (2) agreeing to lend money only where the interest rate itself is indexed or (3) varying the rate with inflation, or (4) where **the** loan carries some form of equity participation. (5) In many cases businesses are increasing substantially the rate of return which they are demanding on capital investment, and (6) they are shortening the require pay-back period because of future uncertainty.

(7) As far as individuals are concerned, some individuals are choosing to invest in such collectibles as art, Chinese ceramics, (8) going off into tax shelter gimmicks such as investment in unreleased and probably unreleaseable phonograph record masters or unpublished and presumably unpublishable books. (9) In the extreme case, you have many individuals whose philosophy has become simply one of "spend everything, do not save anything because whatever you are buying it is going to cost you more tomorrow".

With respect to benefits, and with respect to many things, a solution which has been proposed is indexation. The question, of course, in indexation becomes who should be protected, how fully should they be protected and to what extent may protection aggravate the problem? Do you index prices; do you index wages; do you index interest rates; do you index public benefits; do you index private benefits, and then what measure do you use as the basis for indexation? Do you use the CPI, the GNP Deflator, some kind of personal consumption index; do you use a specialized index such as an index of cost for retired lives or do you use for example wage levels as a basis for indexing such things as pensions? In the benefit area it comes down essentially to a question of how the burden and how the risks related to inflation will be distributed between the employer and the employee. Interestingly, the decision frequently is related to the actuarial cost method that is being used for financing these benefits. Take group term life insurance for active lives for example. The increases are typically tied to salary levels and, therefore, the benefits themselves increase automatically as inflation occurs. If it is not a salary-base plan the benefit levels are nonetheless frequently adjusted in recognition of inflation which has occurred or is occurring. Similarly, disability income, both short term and long term disability income, usually is related to salary and, therefore, the benefits adjust automatically-at least they adjust automatically up to the moment of disablement. Hosp-Surg-Med coverage, the use of either service-provider type organizations such as Blue Cross, Blue Shield, HMOs or the provision of usual and customary charges in contracts-will provide an automatic indexation of the benefits themselves. All of these benefits in most cases are being financed on the basis of one year term costing. The employer's ability to pay will depend on the current earning posture of the organization, which may in most cases be expected to rise as prices rise. On the other hand, when you turn to such benefits as group life insurance for pensioners, there is coming to be more and more prefunding through such things - such devices as retired life reserve. Increases in those benefits are not at all common. Pensions, of course, are the big problem. A substantial portion of the pension benefit even for a relatively mature plan is expected to be provided by investments which have already been made.

If those investments do not earn a return which is equal to inflation plus a fair reward then the difference (if the benefit escalates) either has to be made up by additional contributions from the employer or else the employee is going to have to accept lower benefits. And additional contributions in turn will mean either higher prices or lower profits.

This problem, of course, affects decisions by the employer as to his funding levels, whether he is going to use maximum or minimum funding, whether he is going to use conservative or optimistic assumptions, and it even raises the question, in some cases, of whether benefits should be funded at all, subject, of course, to ERISA requirements. Investors have had a significant problem of earning a real rate of return in periods of high inflation. Let me just give you some figures from a study which took averages over various five year periods, the first of those five year periods beginning in 1950, the last of those five year periods ending in 1979. In the first 15 of those periods which ran from 1950 to 1968, the CPI increase averaged 1.7%. The return on the Solomon Brothers high grade bond index averaged 2.3%, a modest real rate of return. The average return on the Standard and Poor's 500 Common Stock Index was 14.4%, a very substantial real rate of return. But then we turn to the period beginning in 1965, and when we take the five year periods, the first one beginning in 1965 and the last one ending in 1979, we get a very different story. That was the period of high inflation, and there we have an average CPI increase during the period of 6.1%. We have a nominal rate of return on bonds of 4.7%, therefore, a negative real rate of return on bonds. The S&P 500 during that period averaged a return of 4.6%, again, a negative real rate of return on common stock. Now the 1975 to 1979 five year period was considerably better, at least for common stocks-1980 was a good year for common stocks. This may indicate that investors are learning to make money even in an unexpectedly high inflationary economy. But I think the jury has to be out on that question.

In any event, employers, I think, are still-certainly in the private sector-unwilling to commit themselves to automatic indexation of benefits throughout the life of an employee. As a result some devices have been developed which have the effect of passing this risk on to the employee. You will all remember the variable annuity; it was once looked upon as a panacea. It was said that inflation would automatically cause common stock yields to rise, and as a result the two will track and sort. In the long run that may yet prove to be true.

Unfortunately, in the short run from time to time you get perfectly horrible correlation, so that over the retired lifetime of one individual the results may not at all be what the individual expected. Another alternative which is being adopted in some cases is to provide as an optional form of benefit, an escalating pension option so that the employee can turn in his level lifetime income for income which starts smaller but which is guaranteed to increase at a fixed rate. This kind of option obviously is only attractive if the employee perceives that his income at the moment of retirement is more than adequate and I suspect that the number of pensioners who perceive that is rather limited.

I would in closing call your attention to an article that appeared in the New York Times just this past Monday which dealt with the subject of inflation in Argentina. The headline on the article was "Inflation Makes Argentines Gamblers in Risky Game".

The article referred to the fact that the Argentines in one sense were very proud. They have reduced the CPI or the equivalent of their CPI increase from 450% per year in 1976 all the way down to 90% in 1980. Unfortunately, it is expected to increase in 1981. The article indicates that what they refer to as playing the interest rates has become a national pastime, because the annual rate of interest is about 100%. Now I describe it as an "annual rate of interest", but apparently nobody will lend money for more than 30 days at a time. Consumer loans are indexed to inflation so that when you buy on credit in a sense it is an adventure because you never know what it is really going to cost you. The article indicates that a number of Argentines have been attempting to borrow dollars from American banks, convert them to pesos, make loans in pesos, and hope that they will win if the interest outpaces the devaluation of the pesos. Some Argentines obviously are managing to keep pace. Some salaries are indexed. Professionals can to some extent control the prices that they charge and as a result they can keep pace with inflation. But many other Argentines, it is said, are living on the verge of bankruptcy. The article concludes by pointing out that psychiatrists and psychologists in Argentina speak of an explosion in the number of people seeking help because they simply cannot cope with constant economic anxiety.

You may recall that ERISA was frequently described as a boon to both the work load and the income of actuaries and attorneys. I would hope that the Reagan budget and the Reagan tax program will not some day come to be looked upon as the "Mental Health Professional's Full Employment Act of 1981.

MR. VANDERHOOF: Thank you very much, Jim for a very fine presentation. Do we have comments, questions?

MR. VICTOR MODUGNO: I have a question for Mr. Mara. In your projections, do you take into account possible legislative changes; for example, the savings industry is now lobbying for restrictions on money market funds, or the possible tax deductions for retirement savings?

MR. MARA: Let me answer that in two steps. First of all we model the life insurance industry as a financial intermediary, and in so doing we model the industry as competing for the surplus dollars from the household sector with other financial intermediaries. So in that sense we do look at alternative rates of return. Now, as far as explicitly entering legislation in our equation, there is no time series data available for those sort of things, so they are not explicitly entered. However, when you look at the various financial instruments, they basically fall into just a few categories, they are just given various names. We are able to look at the rate of return on various financial instruments and make projections that way. You are correct; we are in an environment right now of vastly changing financial instruments. They are being added quite rapidly. But as far as modeling them is concerned, the various financial instruments get down into a few basic categories where the rates of return are the important items that we model.

MR. DONALD CODY: I must congratulate the panel for making it so clear that we have to do long range planning into a future which we do not adequately understand and which is completely new. I thought that it might be interesting to recite some ongoing activities, showing the response of professional actuaries to this problem. The activities are in three areas: (1) professional, having to do with the Society directly; (2) regulatory, having to do with the National Assocation of Insurance Commissioners; and (3) industry-wide development of new products compatible with the new environment in both insurance and investment areas.

At the professional level, some years ago the officers of the Society became aware of the problems which are now arising and which you described so well, and formed the Committee on Valuation and Related Problems, whose chairman is Professor Trowbridge. Recently, the ACLI Subcommittee on Valuation made a recommendation as to dynamic valuation, nonforfeiture and policy loan model statutes notably involving dynamic interest rates. The NAIC appointed the Technical Advisory Committee on Dynamic Interest and Related Matters under Charles Greeley. The Technical Advisory Committee, building on the background of the Trowbridge Committee, modified some of the ACLI recommendations. The new model valuation statute, which was approved by the NAIC for consideration by the state legislatures, contains categorizations of products with emphasis especially on the design of voluntary withdrawal values. We also made some minor changes and some clarifications on the ACLI recommended model nonforfeiture statute and firmly supported the dynamic policy loan interest statute. We paid special attention to investment type vehicles like individual deferred annuities and group GIC's. It is becoming quite clear that you cannot use the conventional general account for these and there are wide-spread activities in the industry to segment the general account to enable appropriate matching of assets to the shorter liabilities of these types of contracts.

Now, returning to the professional activity, the Trowbridge Committee has recognized three areas of risk which use up the capacity of a company and for which there is need for surplus. The first is what we call the C-1 risk for asset defaults and variations in the market value of common stocks, which is well known. The C-3 risk is the change in interest environment risk, we know the downside interest risk but we have little experience with the upside interest risk. The C-2 risk covers the rest of our risks having to do with premium shortcomings, such as variations in mortality and we are experienced in these. Some of us have begun to talk of a "C-4" risk having to do with the risks caused by guarantee funds, which will be enhanced by the new more liberal valuation standards.

In approving the dynamic valuation statute, the NAIC Technical Advisory Committee realized that the new more liberal valuation standards could not be adopted safely by companies unless actuaries know more about the matching of assets and liabilities and about the effects of upside interest movements which cause disintermediation with resultant interline and interproduct borrowing with erosion of margins or sales of assets with immediate capital losses. It became quite clear that we actuaries do not know enough about this

and the Society has formed the Task Force to Study the risk of Loss due to Changes in the Interest Rate Environment with Carl Ohman as Chairman. We have just begun to organize. We expect to illustrate the extent of this risk, to provide measures of surplus needed and to make available background for consideration by the NAIC Technical Advisory Committee to recommend the kinds of actuarial scrutiny that must accompany the new valuation bases. Some of us feel that it will be necessary to examine and certify as to reasonable matching of assets to liabilities with respect to many of the new product designs. There will be general and quantitative papers, concurrent sessions and hopefully, seminars coming out of our activities. The quantifications will be produced by the computers of several companies.

We will probably work in at least six categories: conventional life insurance, par and nonpar; group life and health; group pensions other than GIC's; GIC's; individual deferred annuities; and universal life. Each of these categories are likely to require different configurations of assets for reasonable matching of asset cash flows to liability cash flows in the variable interest environment anticipated in the foreseeable future.

I thought, Irwin, that those here today might like to know that a sizable group of well informed Fellows of the Society are working hard in this important area.

MR. VANDERHOOF: Thank you very much for your comments, Don. I do appreciate your bringing the membership more up to date on the work that you along with Professor Trowbridge certainly have been instrumental in keeping moving.

MR. RICHARD HUMPHRYS: I have a question to pose to Mr. Mara in connection with some of the charts that he displayed showing certain historical series. I have observed what I think is a fundamental change in the nature of the product being delivered by the life industry, at least in Canada (I am not sure to what extent it applies in the United States). We have seen for example, that more than half of the premium income now of the Canadian Life Insurance Companies is for deferred annuities, which in effect is savings dollars. So it seems to me that we are in a situation where the old actuarial bug-a-bear about "Buy term and invest the difference" is now "Buy term and let us invest the difference for you". I would like to have some comments from Mr. Mara along the lines of what he thinks should be the interpretation of his charts in the light of what I think is a reorganization of the traditional product that has been sold in splitting the savings element from the term element.

MR. VANDERHOOF: Can I ask you one question Mr. Humphrys. Does the type of deferred annuity or the type of annuity that you are describing have some tax-deferral implications?

MR. HUMPHRYS: Yes, I think it's very much a tax-deferred product. We do not have the figures to split it, but certainly that is the great stimulus.

The tax-deferred product is sold as a deferred annuity, but its form is such that it is very close to being a term-savings instrument. It is in direct head-on competition for the savings dollar with the savings banks, the savings and loans, and the trust companies, and it is really marketed in that area I think it is greatly taking over the place that was one time served by what you might call the savings element of the level premium life insurance product, or indeed going back several years, the endowment product.

MR. VANDERHOOF: Just before John answers the question, I would like to add that the Equitable has a single premium deferred annuity which really got off the ground I think late last year and I think they are revising upward the sales projections on that particular product almost monthly.

MR. MARA: Yes, I want to answer that in two steps. First I want to answer it and then I want to throw something out that refers to the last comments that I made about how we can perhaps beat the negative real growth that the industry will be experiencing throughout the 1980's. My comments today were limited to one product line, the ordinary life insurance product line. We do as I mentioned analyze, model and forecast other flows of funds from the household sector, beside the ordinary life insurance line, and we do in fact model individual **annuities as those** premium dollars flow from the household sector into the insurance industry. Although at the industry level, we, of course, just model total individual annuity premium receipts, at the company level we are able to break that down even further, into single premium and other types of annuity programs. We are expecting individual annuities to be one of the fastest growing product lines, and in fact things are not as gloomy for that product line. Individual and group annuities will be two of the fastest growing product lines in the 1980's. They really stalled somewhat over the past two years as interest rates have been quite high, but to the degree that interest rates come down in the next few years, those premium receipts will pick up quite dramatically. In fact the simulations that we have done with our models show that the individual annuity product line will really take off. Beginning in 1983 the growth rate should be above 20% for that product line. So we are seeing, as you mentioned, a shift in the thinking where people will buy term and invest elsewhere. Instead of finding alternative financial instruments, you the industry are now offering an alternative financial vehicle to compete with some of those substitutes and other financial institutions, and you are keeping the household premium dollar within the industry.

The second point I would like to make is that we should really look at the growth areas. There is a large diversity of growth areas among demographic characteristic's we know that is going to be a fast growing product line, but where will it be growing? Let me give an example: the fastest growing demographic cohort in the 80's will be the age group between 25 and 34 making between $30 and $40 thousand per year. Now knowing that will be the fastest growing cohort, what is the industry doing to provide products-annuity products in this case-which deal with spending and saving habits of that particular cohort.

In other words, let's try to find the high growth cohorts as we analyze the demographic and then we can beat that industry growth rate. People that are able to analyze and get at those diverse growth cohorts in the 1980's, we feel will be the winners in the insurance industry.

MR. VANDERHOOF: Is that adequate, Mr. Humphrys?

MR. HUMPHRYS: Yes I think that's adequate. I draw from that, however, that the chart showing the ratio of term to ordinary life is more or less irrelevant and does not really permit one to draw any significant conclusions from it, because the fact is that the ordinary life product is being greatly changed and being torn apart into two different products.

MR. MARA: Yes, that is somewhat correct because as I said, I very much limited my conversation to one particular product line, and we should, of course be interested in the total cash flow from the household sector. We are not really concerned if those dollars are coming as a result of the purchase of a whole life policy or the purchase of some kind of a combination of term and deferred annuity. That is correct.

MR. CODY: One brief follow-up comment on Mr. Mara. He said that he thought the growth rate and the deferred annuity would take off if the interest rate dropped. I think what we are observing is an enormous growth rate linked to high interest rates because this, combined with tax deferral, is stimulating the savings into that element and the industry is designing the so-called deferred annuity product to make it really a term savings product, with a rapidly changing interest rate to attract the current market. The growth rate is enormous right now.

MR. MARA: It is a very attractive product and it will be more attractive as soon as the yield curves take their proper shape. Right now they are inverted and a consumer can earn a higher rate of return by investing his dollar in the short run rather than investing in long run with such financial instruments as these deferred annuities. As soon as the short-term interest rate declines and moves below the long-term interest rate, you will then begin to see more and more flood of dollars into that area.

MR. VANDERHOOF: Don, I think there is an interesting implication on what is going on because John has indicated that lower interest rates would from some points of view make the annuity products more attractive. What Mr. Humphrys is pointing out, and what I also see, is that as companies find ways to modify the annuity products so that the high returns are tax-sheltered then suddenly the high returns may have a positive aspect from the point of view of sales. Several companies have recently announced products that seem to have some tax-deferral in mind as an essential feature.

I think the Occidental has a "T-Plan life" which seems as far as I can tell to defer short-term income. Dreyfus is marketing wrap-around variable annuites. The savings and loans have been trying to wrap-around variable annuities.

There are some companies with variable life that have separate accounts backing the fund, besides the older, classical common stocks. So the introduction of a little tax-deferral or a little favorable tax treatment may make an old product suddenly seem new and shiny to an otherwise disenchanted clientele.

MR. CHARLES GREELEY: Just to follow up on the same chart I cannot understand if term insurance has been increasing as a proportion of life insurance over the last ten years, why would you expect it to go the other way in the next three years or so, especially since that chart excludes annuities, and if you throw annuities in there then you see that term insurance would be decreasing even more. I know all three scenarios and I am curious what the explanation was.

MR. MARA: Let me refer to the variables that we used to forecast that equation. We have noticed that the term versus whole life mix is very much related to the real rate of return on interest rates. As the real rate of return is higher, the consumer will tend to purchase more term insurance and invest elsewhere. Secondly, as price expectations increase, the consumer tends to buy more term insurance. The investable portion of the whole life policy is not yielding a high enough return to make it worthwhile to invest in a whole life policy. Third, the unemployment rate among married men seems to be a very strong indicator of the mix between term and whole life. Now we are expecting those three variables to turn in such a way that would influence the percentage of term vs. whole life in a way that would cause that ratio to decline. It's been increasing through the decade of the 70s, but finally we are seeing a plateau. Now as I mentioned we are not expecting it to be that rosy; it's just plateauing at a much higher level. The only argument I can see against that is that as more consumers become aware of the rate of return on the investment portion of the whole life policy that could cause a continuation of the higher percentage of sales being in term insurance. But those are the three primary reasons. As I illustrated graphically, historically those three variables have tracked quite nicely with term as a percentage of whole life, and we expect those three variables to turn in such a way that would influence the percentage of term to decrease.

MR. VANDERHOOF: I would think also that the nature of our tax laws is such that individual whole life has been a relatively less efficient way to save money than some products like deferred annuities. If interest rates drop, then the efficiency of whole life might increase.

MR. MELVILLE YOUNG: I could comment on something that Jim Biggs my old roommate talked about. Jim talked about the differential in inflation and how some people are treated one way and some the other way. Of course, as we have this trend towards the breakup of the whole life policy into term insurance and some kind of buildup, whether for Universal life or SPDA's, the effect on agents, the whole agency system, is tremendous.

Some are riding with it and selling a lot of annuities but others are being decimated as they are selling $100,000 policies for a $200 premium; it's a whole revolution going on out there.

I would also like to ask Jim a question. He made a very interesting analysis of between 1950 and 1968 when the inflation rate was very low and interest rates were low and, of course, in the 70's. It is interesting that between 1950 and 1968, mortality increased not at all or almost nothing for men, whereas in the 70's where we have this tremendous inflation rate, mortality is improving very rapidly. I am just wondering if you can explain this correlation?

MR. BIGGS: No, I have no idea Mel, whether there is any reason for these two to go together.

I might make one comment incidentally on a previous comment concerning the difference between an actuarial meeting and an agency meeting. It is interesting to me to sit here and listen to rather gloomy comments related to the rate of return on the investment portion of a whole life policy, having sat through any number of presentations within the last year or so by agents who are attempting to persuade our clients that in fact the greatest investment in the world is the whole life insurance policy and you can provide all sorts of executive retirement and death benefits and it will not cost you a thing.

MR. VANDERHOOF: I think the tax law and portfolio lag has dominated the position of the individual life policy. To the extent to which the ACLI attempt or some other mechanism to modify the taxes to which the individual life policy reserves are subject, to the extent to which we can get our portfolios up to a current return, the individual whole life policy as far as I am concerned will not have changed its position as a desirable investment. Right now you have the most magnificent creation of the human mind fettered by the Federal Government and by an inflation rate that has kept ahead of our portfolios.

MR. JACK BRAGG: I think I might like to say something in favor of the whole life contract, Irwin, and perhaps along the lines of believing that it may have a better future than some of us might have thought. If you actually make some whole life premium calculations using the 4 1/2% reserves and 5 1/2% cash values that are now generally available, and if you go to the indeterminate premium approach and especially if you go to, for example, a nonsmoking mortality approach, you will find that you are producing premium rates that are remarkably low, especially if you use the high investment return you can probably justify if you are going with the indeterminate approach. You are probably going to be looking at rates that are of the order of 60% of what we all thought of as the typical rate. This fact combined with the fact which Mel has already alluded to, that the field forces vastly prefer the traditional contract, makes me believe that we may see a resurgence of the fairly typical whole life product.

This more or less tied in with some of the comments you had to make, John, about the stabilization of the situation. I do not know if anybody wants to comment on what I am saying or not.

MR. MARA: Actually, I am glad that you brought it up because I referred to my notes after I made my initial comments about the term vs. whole life mix. It appears as though there are two further reasons that I did not mention as to why we feel that the term percentage will plateau and decrease. First, the rate of household savings which is the percentage of dollars that the household doesn't consume that are put into savings for future use will be 4.5% in 1981, and it has been steadily decreasing since 1975. Now, this goes along very well with the fact that the percentage of term has been increasing. Because price expectations will begin to go down, because interest rates will begin to come down, we see that rate of household savings moving from 4.5% in 1981 to 6.1% in 1983. This would suggest that as people save they would begin to purchase whole life insurance because that is one of the vehicles for savings. Secondly, the interest rate spread, which has actually been negative recently, will turn around and go positive. In other words, longer term interest rates will be higher than shorter term interest rates, and when that takes place, consumers begin to expand the duration of their investment portfolio. They invest in the longer term rather than rolling over three or six months certificates, and when that takes place they will be investing in longer term financial instruments, one of which is the whole life policy. So it appears as though we have 4 or 5 indicators that would say that the percentage of term will peak out probably in 1982 or 1983.

The timing of the peak is not as important as that. It will in fact even perhaps come down a little. The unfortunate part is that it will stay up in the 56% to 58% range after it peaks rather than getting down to the historical levels of between 40% and 50%.

MR. BRAGG: I would like to make a little further comment. Here you have a product that was designed in an age when interest rates were 3% or 4% or 5%. It seems to provide people with something that was of value to them at that interest rate level. Then you have increasing levels of inflation and corresponding levels of interest rates on new money. All of a sudden the insurance companies do have portfolio lag. The portfolio rate is below the new market rate. In addition the form of the tax law, as we all know, means higher and higher marginal rates as the level of interest rates go up. So these were two things which would really fetter the ability of this perfectly reasonable product to perform its traditional function. The kind of modifications that you are talking about essentially release those fetters and, I would expect, allow the product to again provide it's traditional utility to the buyer.

MR. SAM ECKLER: I want to react to Jack Bragg's challenge, but first to comment on what you have said. It seems to me you may have a real rate of interest trend closer to 3% or 4%, but so long as you have an inflation rate and the market rate is much larger than that, the typical, conventional, former "whole life policy" does not make any sense in that kind of an environment, and that is what we are thinking of.

I think that if Jack is including in the term "ordinary life" the variations such as "adjustable life" and "universal life" I will go along with them. But if he means the typical whole life product that's in fixed dollars, and if we believe most of the scenarios that the economists have given us that inflation at the most optimistic level is going to continue at the 6% rate for some many years in the future, I do not quite see how the typical conventional whole life product makes any sense.

MR. BRAGG: Well, I did not intend to get this entire audience at this moment involved in the general subject of indexed whole life, but I do include that. I do not know whether that answers it or not.