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MANDATORY SECURITIES VALUATION RESERVE

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Panelists: NATHANIEL B. CABANILLA*
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Recorder: JAMES G. AUGER

- History and Current Status of MSVR
 - Origins of MSVR and its initial structure
 - Changes that have occurred over time
 - Recap of 1990 changes
 - Industry profile of current MSVR
- Ward Committee
 - Specific charge of the committee
 - Scope of review
 - Problems identified with current MSVR structure and objectives of new structure
 - Progress made to date, outstanding issues
- Regulatory Viewpoint
 - NAIC Solvency Agenda
 - Risk-based capital requirements
 - View of MSVR/Asset Valuation Reserve (AVR)
 - o reserve or surplus?
 - o role in Regulation 126 certifications

MR. JAMES G. AUGER: Our first speaker is Nat Cabinilla. Nat will give us a history lesson on the MSVR and also provide what I think are pretty interesting statistics on the industry profile of the MSVR as of the 1990 year-end. Nat is a senior investment analyst with the American Council of Life Insurance. He has 17 years of experience with the American Council of Life Insurance, where he has conducted studies on the investment operations of life insurance companies. Nat has both a master's and a Ph.D. in economics, from George Washington University.

After Nat, our next speaker will be Jim Reiskytl, who will discuss the work of the Ward Committee, of which he is a member. That committee has been commissioned by the NAIC to determine, what changes, if any, need to be made to the current MSVR. Jim is familiar to many of you. He is vice president of tax and financial planning for Northwestern Mutual Life Insurance Company. He has 30 years experience in the actuarial profession. He's a Fellow of the Society of Actuaries and a Member of the American Academy of Actuaries. A graduate of Lawrence College, Jim has a master's degree in actuarial science from the University of Wisconsin. He has served on numerous industry and professional committees, jointly written several papers, and has been a frequent speaker at Society meetings and related functions.

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PANEL DISCUSSION

From 1984 through 1987, he was a member of the Board of Governors for the Society of Actuaries. And I consider, given that busy schedule, we are very lucky to have him with us.

After Jim, we're going to wrap up by turning our attention to the regulatory viewpoint. I think of this as a reality check, to see if the industry and regulators are on the same wavelength with regard to the role and purpose of the MSVR. Lew Roth will be addressing those issues. Lew is a supervising actuary with the New York Insurance Department. He's been with the department since 1989. Prior to that he held several positions with Mutual of New York. He has over 30 years of actuarial experience. He is a graduate of Columbia University. And is both a Fellow of the Society of Actuaries, and a Member of the American Academy of Actuaries. He, like Jim, has written several papers for the *Transactions* and is a past Vice President of the New York Actuaries Club. And of particular importance for this session, he is a current member of the NAIC's Risk-Based Capital Working Group.

MR. NATHANIEL B. CABANILLA: I plan to review the history of the MSVR, since it's inception in the early 1950s, trace the major changes through the following years, and provide you with an overview of the recent changes in 1990. At the American Council of Life Insurance, we've been monitoring developments in the MSVR since the mid-1970s, and I will share with you some of our data on trends of the reserves and related variables.

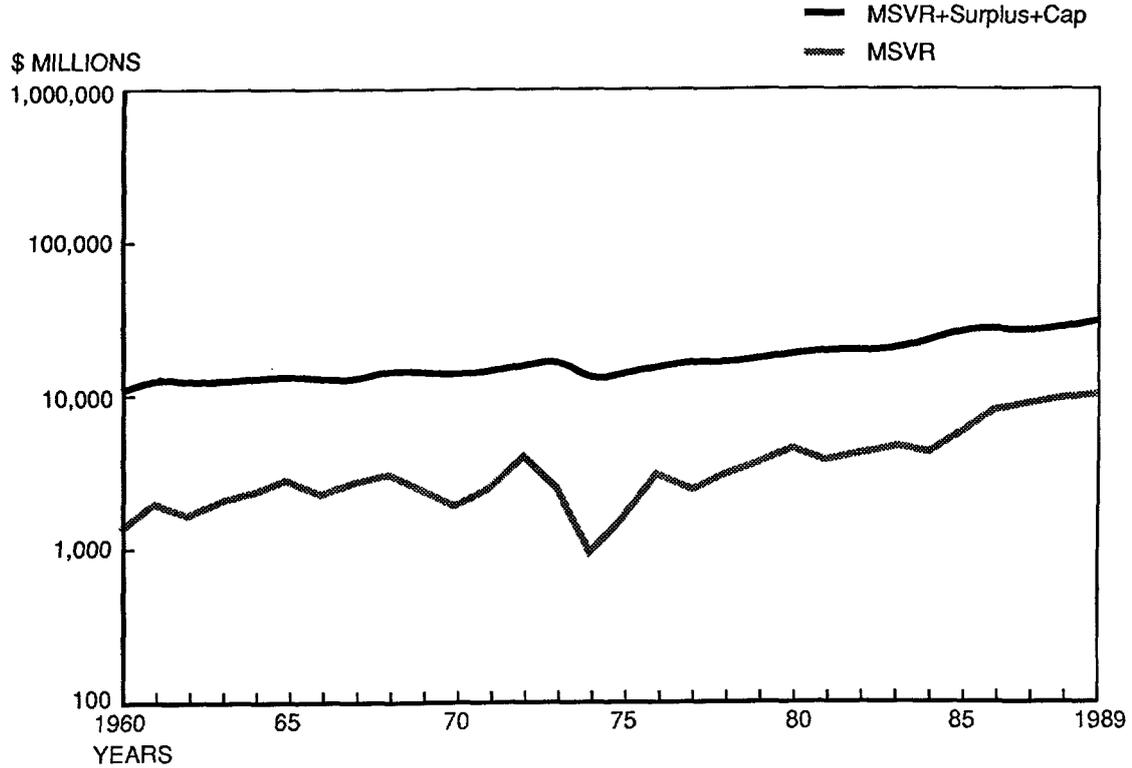
To begin let's look at Chart 1. It shows surplus, capital and the MSVR for the entire life insurance industry from 1960 through 1989. The chart is drawn on a logarithmic scale, and thus the slopes of the lines show the rates of change for the variables. The top line shows the growth of surplus capital plus MSVR over time. It depicts a steadily rising curve. It contrasts sharply with the bottom line, which shows the MSVR itself. Appropriately enough, because of its role as shock absorber of asset gains and losses, the MSVR is characterized by sharp upswings and downturns with a general upward trend.

The same data can be described as ratios of total assets. The well-noted trend is that capital and surplus have declined as a percent of assets over the last 15 years, from 8-6.5% in 1989 alone. The decline in capital and surplus, however, has been offset by the growth of the MSVR. So that the sum of the three variables has remained constant as a proportion of assets, at about 8%. Thus we note the quantitative importance of the MSVR in recent years. This is a matter of significance to regulators and rating agencies when considering the overall solvency picture of life companies.

Let's go back to the 1950s, when the MSVR was first introduced. One of the factors that gave impetus to the establishment of the MSVR was the rapid growth of private placements. This led to concerns about determining their amortizability, since those placements were not rated by the rating agencies.

Another factor was a felt need to dampen temporary fluctuations of surplus caused by capital gains and losses. The introduction of the MSVR was itself preceded by an intensive study of insurance business and insurance investments. An all industry committee was formed in 1948 to study the actual experience of the life companies'

SURPLUS, CAPITAL, AND MSVR 1960-1989



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investments in bonds and stocks. The committee came up with a set of conclusions that have long since formed an important theoretical background for the MSVR.

The committee concluded that market values behave poorly as valuation standards for bonds and preferred stocks and that insurance companies should value their assets primarily on a going-concern basis. Because of the long-term nature of their contracts and high degree of liquidity of their operations, life companies typically held their investments until maturity so that it was illogical to value these securities on a market or liquidating basis.

The committee depended heavily on bond studies showing that quality ratings of bonds by public rating agencies were efficient in distinguishing the degree of loss from default and credit impairment, and that earnings and debt coverage correlated well with eventual differences in default experience.

In order to cushion in advance the effect of losses, and security depreciation and appreciation, a plan was proposed for accumulating a securities reserve. The size of accruals to the reserve and the maximums were set according to the valuation risk of the covered assets.

These ideas were incorporated in a plan known as the Hubbell Plan, named after the chairman of the industry committee. The MSVR was introduced in 1951. And the rules setting it up largely followed the recommendations of the Hubbell Plan. I don't have a chart for the 1951 MSVR, because soon it was amended to include more refined tests for determining amortizability of bonds. This was done in 1953 (Table 1).

TABLE 1
The MSVR in 1953

	Annual Accrual	Maximum
Test 1	0.0005	0.01
Test 2	0.0100	0.20
Other	0.0100	0.20

In general for publicly rated bonds, all bonds in the first four ratings of any accredited rating agency automatically passed test one. For private placements, the level of debt ratios and average earnings were among the information used to discriminate among securities for credit risk.

Both test one and test two bonds were amortizable with test two bonds requiring higher annual increments. At this time both preferred stocks and common stocks were valued at market, as were bonds that failed test two.

The MSVR continued to evolve. For example, in 1957 the NAIC adopted provisions for stable values for qualifying preferred stocks. Also in that year the maximum for common stocks was raised to 20%. In 1960 the maximum for common stocks was further raised to 30%, where it currently stands.

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The next important development came in 1965. When the MSVR was divided into its two current components: the Bond and Preferred Stock Component and the Common Stock Component (Table 2).

TABLE 2
MSVR in 1965
Bond & Preferred Stock Component

	Annual Accrual	Maximum
Test 1 Bonds	.0010	.02
Test 2 Bonds	.0050	.10
Other Bonds	.0200	.20
Preferred	.0025	.10
Other Preferred	.0200	.20
Common Stock Component		
Common Stocks	.0100	.30

The rationale for the separation of the reserve into two components relied on the notion that each component served a different purpose. The bond and preferred stock component is primarily a reserve against losses from defaults, write-downs in values of bonds, and realized losses. The common stock component was primarily thought of as a reserve to which declines in market values of stock holdings could be charged and to which profits on stock gains could be credited without affecting surplus. Each component now stood on its own with regard to meeting the maximum.

Other changes included an increase in the annual accumulations and maximums from previous levels for test one bonds while cutting in half those for test two bonds. U.S. government bonds were not excluded from the calculation of reserve requirements.

These features would remain essentially intact for 25 years. Subsequent changes would tinker with the MSVR structure. And we shall conduct our discussion of those changes in each component separately.

Let's first turn to the common stock component. The major changes in the common stock component after 1965 were associated with a traumatic experience of 1973-74 when the stock market prices experienced an unusual two-year decline. This led to an exhaustion of reserves for many companies. In 1974, 118 out of a sample of 153 companies saw the common stock component reserves wiped out by capital losses resulting in surplus incursions amounting to 11% of surplus.

In the following year the commissioners gave the companies a temporary permission to devote net capital gains of common stock to restoring surplus. In 1978 this permission became a permanent feature.

The condition of the reserve in the 1980s can be contrasted with the 1970s, a bear market decade for stocks. Since then, the common stock component has grown and remained at a high level, reflecting the secular increase in prices of common stocks

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during the 1980s. This healthy condition is indicated by the narrower gap between maximum and actual reserves during the last decade.

Let's turn to a description of the changes in the bond and preferred stock component (Chart 2). The top line shows the maximum reserve. It's a function of the size and quality composition of the portfolio. It has grown steadily over time.

The line for actual reserves is in sharp contrast more volatile. Showing ebbs and flows in the component of the last 20 years, reflecting the affects of gains and losses. And the slower cumulative effects of annual accruals over the longer run. I draw your attention to 1975 and 1984. Both years were preceded by a serious depletion of reserves as a result of capital losses. In response to low levels of reserves, the component was strengthened by introducing so-called multipliers, rather than raising the annual increments themselves (Table 3).

TABLE 3
Multipliers

Ratio of Actual to Maximum	1975	1984
0.000 - 0.249	2.0	3.0
0.250 - 0.499	2.0	2.0
0.500 - 0.749	1.0	1.0
0.750 or more	1.0	0.5

Multipliers are factors applied to the annual increment. As designed the lower the reserves are the higher the applicable multiplier and the larger the resulting required annual contribution. With this change, required contributions became reserve dependent.

In 1975 a doubling of the increment was required when the ratio of the actual to maximum reserves was below 50%. When the ratio was 50% or more, the doubling requirement ceased, and the multiplier became unity.

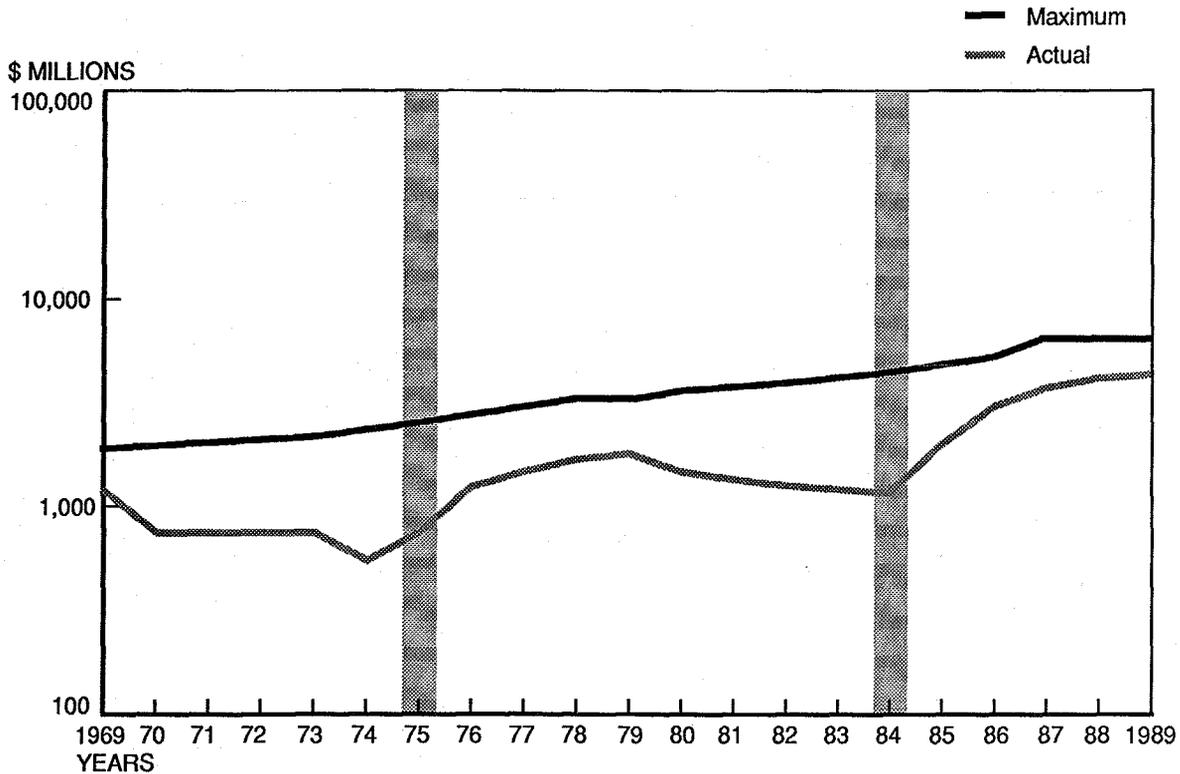
In 1984 a steeper schedule of multipliers was introduced. As you will see in Table 3 when the reserve is below 25% of the maximum, the formula addition is tripled. When reserves are substantial, relative to the maximum, however, for example at 75% or more, the formula addition is reduced in half.

What were the effects of introducing the multipliers?

All variables in Chart 3 are scaled to assets in the component. The chart shows required formula addition as the dashed line. To help your eye I have included the average value for three periods, depicted by three unbroken horizontal lines.

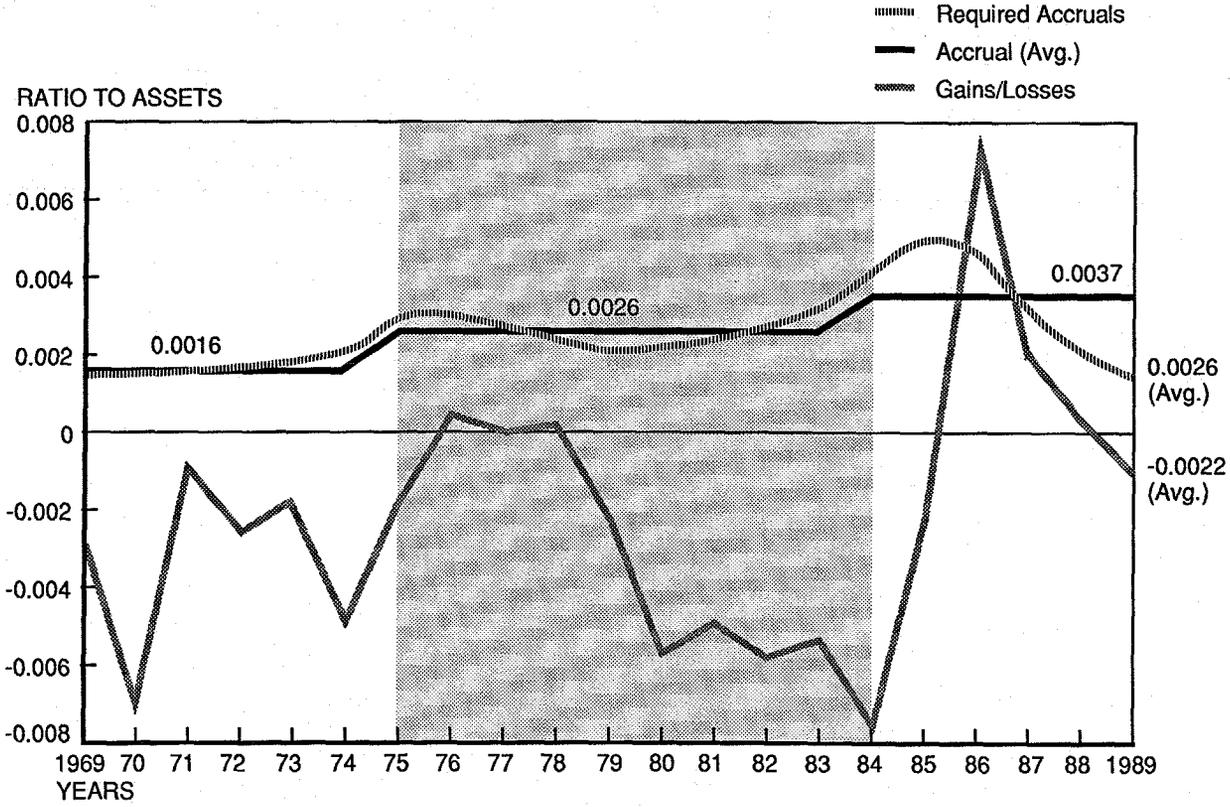
Compare the dashed line with the straight line at the point of initiation of change, as in 1975, when doubling of increments was introduced. The large multipliers result in above average accruals, followed by declines. This occurs again in 1984 when a tripling of the additions was introduced.

**B&PS COMPONENT (SAMPLE COS.)
Actual vs. Maximum Reserves**



REQUIRED FORMULA ADDITION & NET LOSSES

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CHART 3

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The larger rise in accruals after 1984 reflects the augmentation of the multipliers. Both episodes demonstrate precisely the intended effects of the changes. To raise the size of required formula additions when reserves are low.

Note an interesting development in 1988-89. The accruals are less than those seen 10 years earlier. This is a consequence of an improvement in reserves with companies being shifted to the middle and lower ranges of the schedule of multipliers.

In summary we conclude that the introduction of multipliers has resulted in a steady increase in required formula addition shown by the higher, average contribution over time.

The chart also shows capital gains and losses. It is the line that traces a more flamboyant pattern, reflecting mostly the impact of interest level changes under reserve. Note, that the swings of the net losses line, from the negative to the positive result in offsetting values that help produce an average of minus 0.22% for the 20-year period shown. This compares well with the overall average for required accumulation of 0.26%. I'll use these facts later to help evaluate some of the changes adopted in 1990 to which we now turn our attention.

In 1990, the NAIC introduced the following changes in the bond and preferred stock component. The bond categories were expanded to six classes. Larger annual increments were introduced to be phased in over six years. Maximums were mostly kept the same. Quality designations of public bonds by the standard valuation office (SVO) will use ratings of public agencies. For private placements a wider set of information will be consulted, going beyond financial ratios to include data on covenants, collateral, etc.

Let's take a closer look at the changes in the categories and corresponding increments. Table 4 shows an expansion in the number of categories from four to six. One way to describe the change is to say that the old Yes category has been split into three classes, while keeping the three lower categories.

TABLE 4
Comparing Annual Increments: 1989 and 1995

1995		1989	
Category	Annual Increment	Annual Increment	Category
Class 1	0.001	—	—
Class 2	0.002	0.001	Yes
Class 3	0.005	—	—
Class 4	0.020	0.005	No
Class 5	0.050	0.020	No
Class 6	0.050	0.020	No

The table also shows the annual increments in 1989, and those instituted in 1990 to be phased in over six years.

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The new increments shown are the values when the phase-in is completed in 1995. The 1990 change involves an upward shift in the schedule of increments and a steepening in the slope of the schedule. The change in the slope would tend to encourage closer attention by life companies to the costs of the benefits of a particular credit risk strategy. It does this by sharpening the differences among the increments.

Now consider the upward shift. This is the first time in 25 years that the annual increments have been raised. The increments for class two at 0.2% and for class three at 0.5% are considerably higher than the 0.1% applied to the old Yes category. The lower-rated bonds show annual increment increases that are at least double prior figures.

What do these new annual increments imply for the actual amounts to be set aside for the reserves? Among other things these amounts will depend on the actual quality distribution of portfolios. Let's work with newly available data on quality distribution of bonds for a sample of companies to give you some idea of the overall results.

In January 1991 the investment department of the ACLI conducted a survey on the amount of bond holdings under each new reserve class for year-end 1990. The results of this survey are shown in Table 5. Classes one, two and three each represent 65%, 24%, and 5% of life company bond holdings. These three categories sum up to 94.1%, which compares with 93% in the Yes category in 1989. These data show that a preponderant share of life company bonds are in the top three categories, and that the two highest categories account for close to 90%.

TABLE 5
Quality Distribution of Life Company Bond Holdings

1990		1989	
Category	Percent	Percent	Category
Class 1	64.8	--	--
Class 2	24.3	93.3	Yes
Class 3	5.0	--	--
Class 4	4.0	3.3	No
Class 5	1.3	3.0	No
Class 6	0.5	0.3	No
Total	100.0	100.0	

It is these underlying amounts from the survey that permit us to calculate the annual increments under the new categories. Chart 4 provides the resulting figures. Chart 4 is a busy chart. I'll try to explain it carefully since it contains a crucial point I want to leave with you. The figures under the 1989 column show what the annual increments would have been under 1989 rules. It is the benchmark against which we compare the other figures.

Annual Increments Under 1989 Rules, 1990 Phase-In and
1995 When Phase-In Is Completed

Categories	Portfolio (Year-end 1990)	Annual Increments (Amounts in Millions)					
		1989		1990		1995	
		Rate	Amount	Rate	Amount	Rate	Amount
1	\$260,870	.001	\$261	.0005	\$130	.001	\$261
2	122,271	.001	122	.0010	122	.002	245
3	25,314	.001	25	.0025	63	.005	127
Subtotal			\$408		\$315		\$633
4	\$20,288	.005	\$101	.005	\$101	.020	\$406
5	6,673	.020	133	.020	133	.050	334
6	2,736	.020	55	.020	55	.050	137
Subtotal			\$289		\$289		\$877
Grand Total	\$438,252		\$698		\$606		\$1,508
Increments as Percentage of Portfolio			0.0016		0.0014		0.0034

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Let us look first at the row category one. It shows that, under 1989 rules, the annual increment for the first category would total \$261 million. Under the phase-in rules, the amount is lower for 1990 at \$130 million, but would rise to \$261 million in 1995 when the phase-in is completed.

Look at the dollar figures at the bottom. They show that overall there's a slight decline in 1990, compared with what would have been under 1989 rules. It is \$606 million versus \$698 million. This stems from the fact that a large proportion of bonds are in the highest category, which in 1990 has a low annual increment formula due to the phase-in provision.

In 1995 when the new increments are fully effective, annual increments for the same portfolio would amount to \$1.5 billion, more than double the amount for 1989. The larger amount would represent 0.34% of the portfolio, compared with the corresponding ratio of 0.16% in 1989. Now remember these postulated effects are prior to the action of the multiplier.

Though the annual increment implied by the new rules at 0.34% of assets is more than double the previous rate of 0.16%, it's difficult to say whether the increase is appropriate or not except to relate it to the risks attending the reserve.

One relevant set of information is the data on capital gains and losses charged to the reserve, which we saw earlier (Chart 5). Now first let me point out that at the ACLI we have data on write-downs and the carrying value of bonds. Our data show that write-downs 0.40% of the bond portfolio during the last 14 years. However, these are gross losses. In a diversified portfolio, there will be gains from interest rate changes that will offset some of the losses. Thus net losses are the appropriate variable to compare with the postulated effects of the 1990 changes.

As indicated earlier net losses averaged -0.22% during 1969-89. In comparison the potential formula addition in 1995 of 0.34% seems large. In fact, 1.5 times larger than net losses in absolute terms.

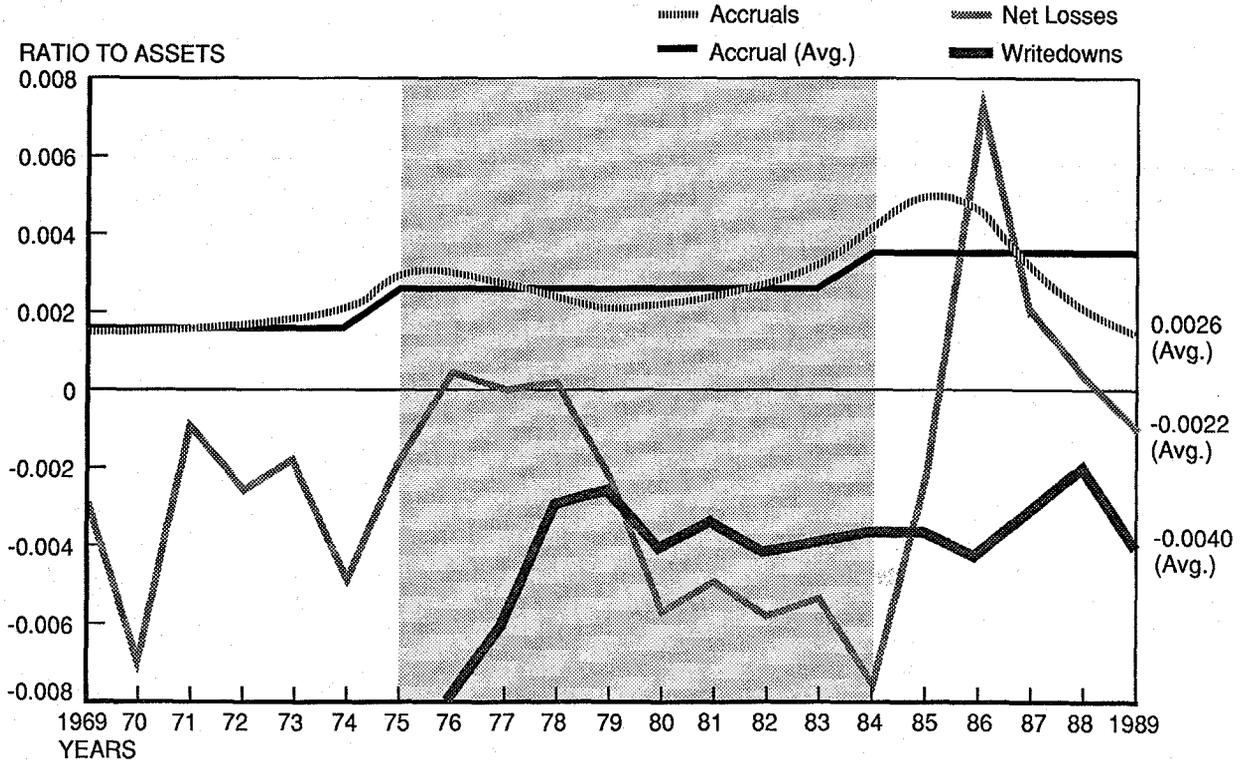
This is the point I wish to leave with you. Such a potential rise in reserves should be viewed with concern for two reasons. First, the average required contribution would be larger because of the multiplier. Second, there are plans to widen the assets covered by the MSVR – a widening that is thought to result in a doubling of the current size of the MSVR.

When the 1990 rules were adopted, the plan was to continue to monitor and study the effects of the changes. With newly available information on the 1990 quality bond distribution, the potential effects of the higher increments are now clearer. And they suggest themselves as fine candidates for close study.

I'd like to conclude by making some remarks about the condition of the bond and preferred stock component (Chart 6). The bars depict year-end reserves. The straightline below shows losses charged to the reserve, and the line hovering above, shows the maximum. All variables, once more, are scaled to assets in the component.

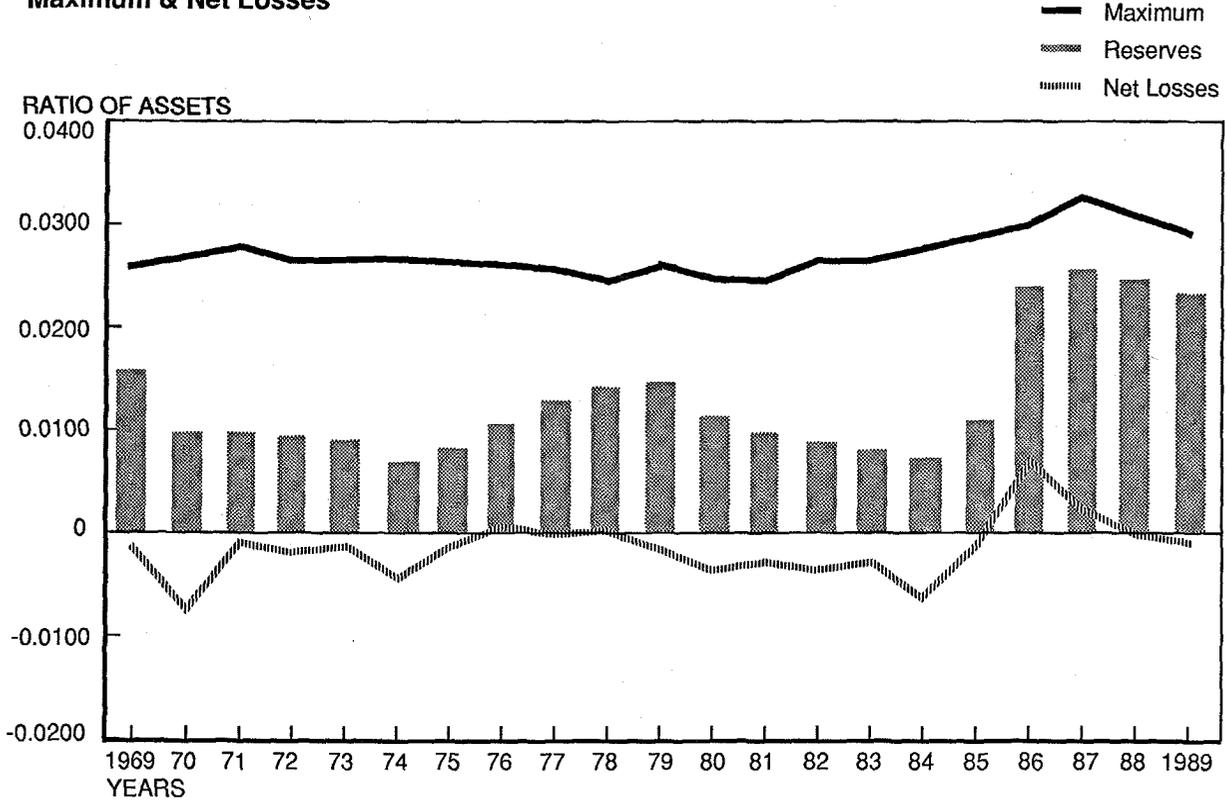
WRITEDOWNS, NET LOSSES & REQUIRED FORMULA ADDITION

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MANDATORY SECURITIES VALUATION RESERVE
CHART 5

**B&PS COMPONENT: YEAR-END RESERVES
Maximum & Net Losses**



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CHART 6

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Currently the component is doing very well, which is a result of a favorable interest rate climate, giving rise to capital gains or small net losses. And because of the strengthened formula additions, the growth in the reserves is indicated by taller bars in recent years. While the bars have grown, the maximum line above is trending downwards to indicate a further source of health in the component. The previous rise in the maximum line during the early 1980s reflected the relative growth of lower rated bonds. It's declined since 1989. This speaks of overall improving portfolio quality. We can thus assert that the improvement in the component shown by the narrowing of the gap between actual and maximum reserves reflects two features of the recent history of the MSVR: increased capacity to absorb losses and reduced exposure to credit risk. The changes in 1990 were motivated by a perception that certain life insurance companies were accumulating junk bonds in imprudent proportions. Let's inquire whether this perception is true for a large number of companies. At the ACLI we have been conducting an annual survey on the quality of bond portfolios during the past 14 years. You've seen the MSVR categories as our lens, by which we examine the quality of life company bond holdings. This set of data forms the basis for an overall bond quality index. I've calculated for this talk for the sample companies that have general account portfolios representing 65% of industry assets.

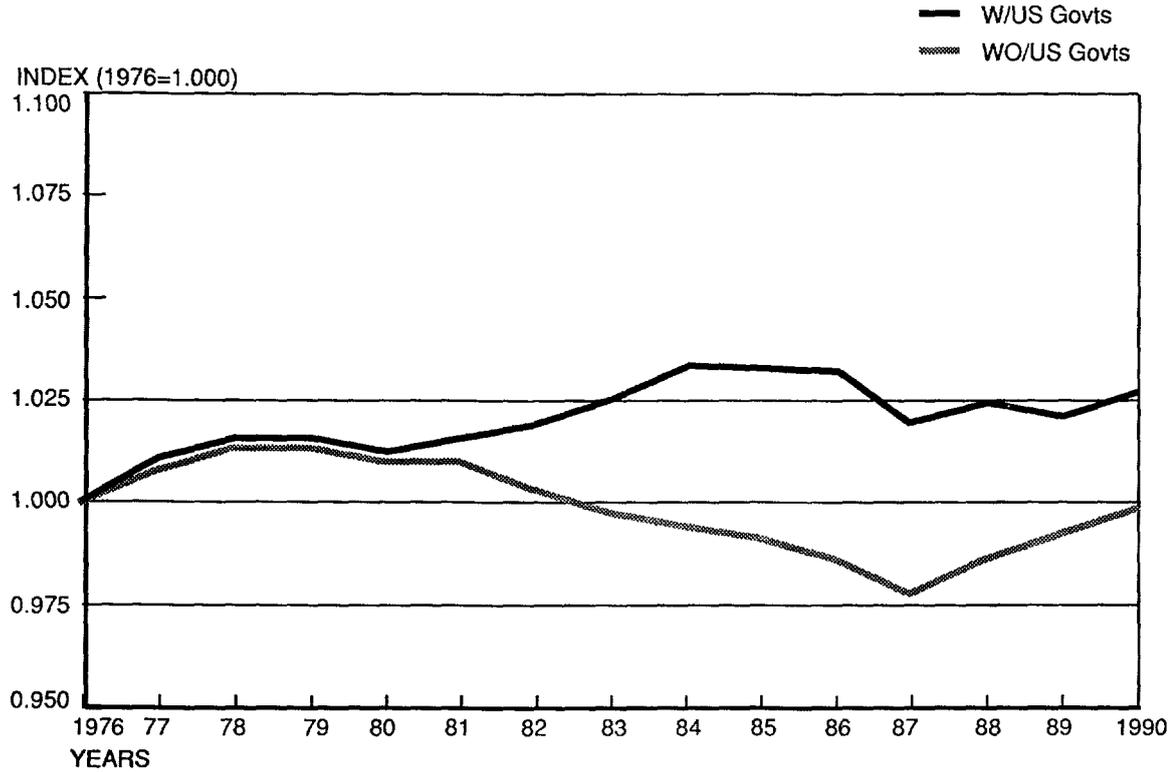
The bond quality index is measured in such a way that higher MSVR quality bonds have a higher rate than lower quality bonds (Chart 7). When it includes U.S. governments bonds, the bond quality index shown by the top line tells us that the portfolios of the sample companies have improved in quality since 1976, the index base year. The line below is the bond quality index without U.S. government bonds. It shows that indeed the index has deteriorated somewhat during the mid-1980s, a trend, however, that has begun to be reversed beginning in 1988 and has continued to improve in 1990.

MR. JAMES F. REISKYTL: I'm going to cover the Ward Committee, of which I am a member. Basically I'm going to go back to why we felt some change should be made in the MSVR, what the shortcomings are, what the charge was to our committee, the key assumptions that we have made in coming up with our recommendations, and our objectives. We will also touch on progress to date. So as a progress report, we are not done but we've come a long way. And to emphasize that point I will then cover what many of the outstanding issues are that currently exist. Many of these we have opinions about, but we haven't actually finalized recommendations. I'll end with a review of our timetable. We originally thought we had another year. It's been reduced now because of the recent activity in the real estate and mortgage area.

In 1989 the NAIC established the advisory committee to examine the role, purpose, and suitability of the existing MSVR. It was at this same meeting that the NAIC adopted the report of the special advisory committee on valuation. And you may recall that report included a recommendation that further work ought to be done on the MSVR to make it compatible with the recommendations.

Well after the committee reviewed this work and other studies, it concluded that the current MSVR had many shortcomings. We believe that the focus of the MSVR is

INDEXES OF QUALITY OF BOND PORTFOLIOS With and Without Exempts (US Govts)



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too narrow, since it only covers 60% of the invested assets. Frankly we don't know why it doesn't cover mortgages, real estate or other invested assets.

Furthermore, it isn't clear what the purpose of the current MSVR is. Many people think of it as allocated surplus, covering default or credit risk of selected assets. Well, some valuation actuaries think of part of it as being a reserve. And of course, it's called a reserve, it's above the line, but it's not calculated like a reserve. And some would conclude that it really is both a reserve and allocated surplus.

The MSVR, it has some attributes of a reserve since it does provide some protection against expected capital losses. And it also seems to be something of a smoothing device. And so we felt it would be desirable to clearly define what this critter should do. The committee also believes that the MSVR fails to distinguish between fixed-income, capital gains and losses generated by transactions, frankly, that have very little economic substance, and other very substantive capital losses, which occur on defaults or credit deterioration. And the third factor in there is common stock gains or losses. So we have some very significant economic substance for some capital gains and losses, and some are reported to have very little. It's probably obvious what I mean by the latter, but this is due to change in interest rates. You buy a bond, you sell it in another market, but you're really using it to back up some liability. And the only thing that happens in the transaction is that you record a capital gain or loss and pay some taxes or get a tax credit. But the real substance when you get all done in selling and repurchasing is very little economic substance, unless your investment people are smarter than the market.

The MSVR is incompatible with the valuation actuary concept. One of the problems a valuation actuary has is what degree of conservatism is built into this reserve? Or how do you interpret and integrate it into your cash-flow analysis if you're doing that? And finally what do you do with these fixed-income gains that, in fact, are tied to your liability when you want to get a reserve?

Some also feel there's a shortcoming with the MSVR in that it has the two components that were just described. One component can be at its maximum releasing funds at the very time the other component is very weak.

Finally there's a question of the funding level. Clearly it's an accumulation process where there are pluses and minuses. But at any one point one isn't quite sure what level it has achieved, unless one looked at the more detailed recording. And is that appropriate?

So as a result the committee decided working with the NAIC, to accept the following charge, and develop an asset valuation reserve or an AVR. The AVR would include all the invested assets. It would have a methodology; it would be consistent with current statutory bases for determining assets and liabilities, that is, we aren't going to change any of the annual statement rules. And that would be consistent with the advisory committee on the standard valuation laws previously mentioned.

The task of the committee is to examine the valuation of all life insurance assets so as to determine what role this AVR should play. The new AVR, we believe, should

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recognize both current experience and potential future experience. Both adverse and favorable in the value of assets.

Certain key assumptions were made. It's always good to share them with you, so you know where we're coming from. We did this to limit the scope of the study. And to insure that it would provide what we consider to be a practical, implementable recommendation.

These assumptions include that there will be no change in the valuation of liabilities. The committee believes that if any significant change in determining statutory reserves was made, we'd have to reexamine our recommendations. We're only applying the AVR to life insurance. We're not looking at how it would apply to other financial institutions or their insurers.

We assume, as is consistent with the rest of the statutory blank that the enterprise on a going-concern basis; that is, it will continue to write new business. Of course, the valuation is done only at one point in time, and it does not reflect future cash flows or revenue that might arise from some new business.

Our final assumption is that the focus is on solvency not earnings, as you're well aware is true of the statutory blank.

Well, after a lot of give and take, the advisory committee established the following role and purpose of the AVR. I don't want you to get too hung up on the words because we continue to review them. But I think the substance of what we're trying to accomplish is stated here.

First, we want to insure that assets and liabilities are reported on as consistent a basis as is practical. If you're going to try to insure solvency of a company, you want it assured that the assets are invested, so they will have a probability of meeting the contractual obligations of the company. If you're going to assess, if the company can, in fact, remain solvent, you want to have a consistent basis for determining assets and liabilities. Obviously if you do not, neither the company nor the regulator will have any clear clue from a statutory blank, whether you, in fact, are achieving that objective.

Second, we believe that the AVR should provide a mechanism which makes adequate provision for the volatile incidence of asset losses. We'll cover that in more detail. And third it will provide a mechanism to appropriately recognize long-term expectations on equity and investments.

Well, the current thinking is that the AVR will not provide for every conceivable fluctuation in the asset value at every time. Surely there are catastrophes that can only be covered by risk-based capital, and that's being covered by a second committee that's advising the NAIC at this time.

We believe that we have accomplished a lot, but an awful lot remains to be done. The structural components of this new reserve are pretty well-defined, especially those that have fixed-income assets. The fixed-income components will cover all types of fixed income, as mentioned earlier, including bonds, mortgages, preferred

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stock and Treasuries. They will probably have two subcomponents: an investment maintenance reserve and a default reserve. So out of those two things, the investment maintenance reserve will amortize realized capital gains and losses that arise from some changes in the overall level of interest rates, mentioned previously. The investment maintenance reserve will amortize them into income over the remaining lifetime of the investments sold. This in effect treats the situation as if it hadn't happened. The default reserve will provide for future losses due to credit deterioration. It too may have two subcomponents: one for bonds and preferred stock and mortgage-based securities and the other for farm, commercial and residential mortgages. We believe the differences between these investments are substantial enough that it would be desirable to have a separate subcomponent for each type of asset.

The other major component is the equity component. It will provide for the risks that arise when insurance liabilities are balanced by equity investments. Two subcomponents of the equity component will be common stock and real estate and other invested assets.

The proposed income components require that we distinguish between realized capital gains and losses and losses recognized in the annual statement when you write down investments at the time of default. We realize that trading this structure could develop a potential for manipulation by the company. So we intend to require the company at the time of sale, to certify that it in fact was in good standing to qualify for the spreading technique. Or to report the defaults as credit losses, if they're not in good standing. Treasuries, of course, will only have a gain or loss due to interest rate changes, since there wouldn't be any credit risk.

I have a few other comments about the investment maintenance reserve. We believe that it is a true reserve, not a contingency surplus. It avoids the problem for the valuation actuary, particularly dealing with guaranteed investment contracts. Theoretically it could be positive or negative. There may be some that will feel that it's for conservative purposes, that we should put some limit on this negative feature. That will have to be discussed further.

We believe you can amortize the investment maintenance reserve in a variety of ways. Using the constant yield method, or straight line, or some simple approximation will achieve the objective. We also have to deal with federal income taxes since the transaction will typically incur a tax or a credit. We believe taxes should be spread consistently with the pretax results.

For the fourth component, the recent changes in corporate securities and the tight schedule, we concluded to pretty much stick with the interim report just described. That is to use the current procedure for bonds and preferred stock and add mortgages. Well, of course, we will be changing the procedure to the degree that we're limited to credit risk. And we'll modify possibly the annual contribution, and do it in a more uniform fashion.

You look at the task of achieving consistency between equity investments and your insurance liabilities, and I would see a much more difficult task than was true for the fixed income. That's frankly why we made better progress on the fixed-income side. This difficulty is compounded by a difference in annual statement treatment, real

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estate schedule B assets and common stock. I would say some of them are at the market to market, some are not. The actuarial subcommittee of our committee has developed a unified approximate approach to dealing with this. Frankly it's quite detailed, complex and given our time constraints, I'm not going to cover it in any detail. I will be happy to give anyone who is interested a copy of the write up as we have it.

I'll make one comment about the approach. I guess it would help explain the general procedure of both the fixed component and the equity component. The amortization process is analogous for either function. You begin with the balance at the beginning of the year. You add recognized gains or losses. Now recognized, of course, is annual statement recognition. So it would include both realized gains and losses on sales and unrealized gains and assets that are recognized in the annual statement. I would say that's unaffiliated common stock. Then there will be, as is today, a required annual amortization. This annual amortization will be proportional to the difference between something we will define as a maximum balance and that current accumulated balance. And the proportion we're looking at currently is 20%. You'll notice that in this process that we will be involved with the market value of all equities. That will require determining a market value of real estate for purposes of determining this annual contribution factor. There are many issues, of course, when you get into more current market value, such as, they're going to require appraisals. Who will do them? How often? And what amount will we use? If you contemplate that, you're going to use the current market value, less estimated selling expenses.

We also recognize that some companies have very little real estate in their portfolios. And perhaps there will be exceptions for those, but that has little impact on the final result.

I hope this gives you some idea of the structure that we're looking at. It's taking it's final form. And as it becomes finalized, of course, then we have to fill in many of the details. I will discuss some of the issues that we are grappling with at the moment. Going through them, they're not in any particular order of importance, but surely all must be resolved.

First is, what's the degree of conservatism desired for the new asset valuation reserve? Should it be the same as that of liabilities? Should it cover most of the C-1 risk? And what does either one of those things mean anyway? Does conservatism mean 70% probability? Ninety percent probability? Or what about mortgages? Should we create six categories as we have for bonds? Beginning with Federal Housing Authority (FHA), maybe the second category would be urban, the third one agricultural, and so on.

Should we adjust the conservation for individual company experience? So if you're delinquency rate is much better than average, you would have a lower factor, and vice versa, if your experience was worse, you'd have to carry a higher factor. Of course, such an adjustment would be a simple way to reflect differences in quality of portfolios without getting into a lot of detail.

Well what about subsidiaries? If a subsidiary has an AVR we believe you exclude it from the parent. Of course, if that happens the equity value of the subsidiary would

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have to be net of its AVR. If the subsidiary doesn't have an AVR, current thinking is that you should look through it. Look through to the assets and treat them just as if the parent owned them. I mentioned earlier about appraisals of real estate. How often should they be done by whom? I'm well aware of the fact that we don't want the cost of doing appraisals to more than offset any value that could come from recognizing that value in this process. If we do this, do we have to be audited by an outside auditing firm? Or perhaps would an outside firm only audit the procedures that you use to determine this?

What about funding levels? Should they be similar to the current MSVR? Should they accumulate faster or slower? What about targets?

And, of course, taxes always come into play. Even if they are not a factor in the current MSVR, as I mentioned earlier when you get involved with the spreading as we are proposing and you get into market values, the issue of taxes will arise. Clearly we'll have to decide what to do, and for mutual companies you have the issue of the impact of extra tax.

And clearly we'll have to finalize the factors. We have some ideas, but they are not final. And right behind knowing what the factors are is how are you going to get from the present MSVR to the new one? We have given some thought to that but haven't final recommendations yet.

Then, of course, I would hope that each one of us would always step back from this whole process and say, what have we created? And could we have done it more simply? We sure don't want to create a lot of work for very little final differentials in the final work product.

Well, I hope that will suggest that we have a few things to do. It may suggest that we're a lot further away from conclusions than, in fact, is the case. Because on most of these issues we do have some opinions. It's just that we haven't had a consensus at this time among the committee.

That's the timetable. Originally we thought we would have this all done, wrapped up neatly with a bow by 1992. That doesn't look quite so realistic. The NAIC has speeded up the timetable as I mentioned earlier, looking for recommendations this year. And hence we have taken some shortcuts. As you're well aware there are any number of committees. It seems like every time we go to a committee meeting we find out there's three more committees formed. I just saw there were a couple of papers at this Society meeting on current default studies, and obviously the ACLI just mentioned some new results that hadn't been seen before by the group.

So obviously what we intend to do, as these new studies become available, is take a look at the factors and see if they're still appropriate. That means that we may introduce our recommendation in 1992. And all actuaries please note I said may, I didn't say we will. We may introduce this in 1992 with further refinements in 1993 or thereafter.

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Also, if the NAIC or others would decide that we should, for example, break down mortgages into more categories, you might see factors changing there, too. We will continue to interact with the NAIC. We have been reporting to them regularly.

MR. LEWIS P. ROTH: First of all I have to tell you as a member of the New York Insurance Department that anything I have to say is my own opinion and does not reflect the opinions of the department. And that's either official or unofficial or in any other way. I was supposed to give a report on what happened at the most recent the NAIC meeting. And I can't do that because I wasn't there. My source of information was there on the first two days, but had to fly back because of some events which were happening in New York with regard to a small subsidiary of a large California company that I can't mention. And some of the disjointed remarks that I have to say, you might take with that in mind.

Well, at any rate, Nat has given you the history of the MSVR. And Jim has identified the progress, or sometimes I believe the lack thereof, in restructuring the MSVR into what's now being called an AVR. There are numerous problems with it, and there are a number of proposals to change it. But my understanding is that we're still, what I would call, philosophizing and that no document has been given to the NAIC that it could actually study and comment on. There has been, of course, a lot of discussion, and I think a lot of the people involved in this project on both the regulatory side and the industry side have had a lot of discussion about it. But there's nothing that you can really put your hands on and say, this is it, now let's go through it point by point and come to some resolution on the issues. So that's where we stand right now. I hope there'll be progress this year.

I want to turn away from the MSVR or the AVR for a minute and just talk about regulation because I think that has quite a bit of interest to it in connection with the subject of MSVR and MSVR-type statutes. The regulator basically has one job to do and that is to protect the interest of the policyholders. And he does this by focusing in four areas. One is the quality of the insurance product sold. Second is the manner in which the product is sold. Third is the fairness and the equity involved in underwriting claims, practices, service, dividends, administration, and that type of thing. And fourth is the ability of the company to meet its obligations. By far the most important objective of regulation is this fourth, namely the ability of the company to meet its obligations.

And how does a regulator attempt to monitor that ability? Well, I think it's done in three very broad areas. One has to do with requirements for reserve liabilities. One has to do with requirements for asset-type quality and asset valuation. And the third has to do with requirements for minimum surplus or capital. Of course, that describes the balance sheet. And that describes any way of looking at the status of any company. But what's important here is that you can see all three of these items, assets, liabilities and surplus or capital are in a state of substantial change at the moment.

Starting with this last requirement, it's obvious the current regulation with regard to minimum requirements for capital and surplus is outrageously inadequate. The requirements for initial capitalization are even more severe than the requirements for continuing surplus, which in my mind is absolutely backwards.

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The New York requirement for \$6 million in capital and surplus being required for a life insurer to commence business is not enough, obviously. And to continue in business, even less is needed – only \$2 million of continuing surplus. As a matter of fact for companies licensed many years ago, the requirement can get as low as \$350,000, which by the way is applicable to the Metropolitan Life Insurance Company of New York. And New York is one of the toughest states. In fact it is the toughest state. Louisiana has a \$300,000 initial and continuing requirement.

I should hasten to point out though that regulators don't just depend on the law for regulation as you well know. We do look at statutory capital and surplus requirements more than just for the purpose of maintaining or continuing a license to do business. Whenever an insurer comes to us, where under the law a change is required "with the approval of the superintendent," we make sure that there is adequate capital and surplus to support that change.

The NAIC has been concerned with insurers' financial conditions over, many, many years. This is obviously not something new. The predecessor to the annual statement, which really was the beginning of severe insurance restriction, was started as early as 1875. And the Securities Valuation Office, which decides which category for MSVR purposes the assets are going to go, was started as early as 1909. So the regulators have been in that business for many, many years.

The MSVR itself, of course, as you heard earlier was started in the 1950s. But other devices for solvency testing and early warning have been created since then. In 1972 an early warning system was instituted. And in 1978 the IRIS, or Insurance Regulatory Information System was started.

And I want to speak a minute about this IRIS system. Because there's some problems with it, I think, and I'm sure you'd agree. The IRIS focuses on the adequacy of capital and surplus. And there are seven, I believe, of the 11 financial ratios which measure the company's ability to withstand adverse impacts on surplus. But the predictive value, which is why it was created in the first place, has really come into question. And although there have been in my checking, I believe, 60 companies that eventually failed, over the period of time that I look, only four of those companies were not identified early enough as being potentially troubled. The problem comes on the other side.

Many, many more companies were picked as being potentially troubled through these ratios that turned out to be perfectly healthy. And that leads to some credibility questions about how predictive these ratios are and how effective they are in identifying potentially troubled companies.

More recently, however, questions have been raised regarding the appropriate minimum capital and surplus requirements and the need for, or the possibility of, variable-based or risk-based capital, as opposed to the same requirement for every company depending on what year it got started, which certainly should not be the criterion. As I'm sure you know, there are such requirements currently in Canada and in several European countries. And there are in some states the beginnings of some simplified formulas, both in the property/casualty area and in the life area with regard to risk-based capital requirements.

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From the set amount for all companies, regulators have proceeded at least to looking at a percentage of liabilities as one of the criteria. That was one of the standard tests for many, many years. You know 5% of liabilities or 8% of liabilities or something like that. But distinctions were not made with regard to the mix of business. And that certainly caused some problems.

New York currently has some guidelines with regard to what kind of surplus it would expect for a major shift in product line or for a change in some aspect of license, or for a change in control. At least we've been able to convince the people reviewing this, that it should not be just a set dollar amount or even just a set percentage of liabilities. The percentage should at least vary by the kind of business the company intends to sell. Currently those guidelines, for your information, are 5% of liabilities for guaranteed life products and 4% for guaranteed annuity products. Where there's been reasonable matching of assets and liabilities, the guidelines are 1% for separate account business, and 35% of premiums for A&H including disability income business. As simple as that sounds, and as nonactuarial as that sounds, believe me it was a major step to get to that guideline from the old 5% of liabilities, regardless of product line.

But to continue the process even further, the NAIC, with New York and I personally as a committee member cheering, has established a committee to investigate risk-based capital requirements for life companies. The NAIC task force is looking to adopt a target surplus or benchmark surplus objective which along with other solvency measures can be used to measure the life companies ability to continue taking the risks that they have been taking.

The target surplus formula we're looking at right now will use the traditional C-1 through C-4 factors. It can be used in a number of different ways. One would be to actually establish minimum surplus requirements for companies to not only start in business, but also to continue in business or continue to maintain a license at least in a state which adopts the regulation.

Second, it could be used just to monitor along with other factors, of course, as to whether or not you should be reviewed annually, triannually, quinannually or whatever. It could also be used to give priority to potentially troubled companies and actually have people on site auditing almost on a daily basis if that ratio really gets into trouble. There are surplus reviews somewhat like this in Wisconsin and Utah, I believe, although they're not as extensive as this.

We would hope that the formula that we actually came up with would be simple enough to not require a tremendous amount of work and calculation. I understand from my talks with the people in Canada that their risk-based capital formula is so complex that it literally takes many days to just get the numbers together to calculate the formula results. We would hope that everything necessary to be provided would be right on the annual statement, and it would be information that you would have to complete anyway just to get your statement through.

Now that was the surplus part of regulation. We also need to look at assets and sufficiency of reserves as regulators. And here's where the MSVR comes in.

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As was said before, the MSVR has two purposes: (1) to provide for the losses where quality has actually deteriorated to the point of default (something like a bad debt reserve), and (2) to insulate surplus against fluctuations. And to provide for both of these, there's a mandatory accrual with a gradual buildup of reserves, but also the requirement to add or subtract all capital gains and losses. Originally that was thought of as a way to accelerate the process of building up the reserve. But I think we're now coming more and more to the realization that those capital gains may be needed for other purposes in support of the liabilities. And as you know the task force is looking into just that question.

From the regulators' point of view, as you know, the MSVR is a liability. It's above the line, it's a liability and you can't even talk to anybody about it being anything else except a liability.

I don't think there's any way of knowing whether it's surplus or a liability or exactly what it is until you separate those parts of it which you are holding for different purposes. Until you understand the purpose of why you're holding the money, and how much goes into each pocket, would you know whether it's surplus or liability, and how much of each? I don't think it's terribly important actually until you come to rating agencies and solvency tests and that sort of thing. If the rating agencies consider MSVR to be surplus, well then you don't have a problem. If you can get the regulators to consider MSVR as surplus, then you don't have a problem again. This risk-based capital formula which New York is in the process of putting together is in a very preliminary stage. It's being used experimentally just to test companies. It's not adopted in any official way. But the NAIC committee is using it as a base at least for what the NAIC may, in the future, adopt. That allows the MSVR to be added to surplus in computing the ratio of actual surplus to needed surplus. Basically the reason for that is we're using on the risk side the C-1 through C-4 factors. And if the MSVR is looked at as an offset to the C-1 risk, then you really ought to count it against the C-1 risk. That concept was not easy to explain even within the New York Insurance Department, where I think people do have a pretty good understanding of insurance.

Two of the recommendations that I think we ought to look at is one that the good and sufficient standard for the calculation of policy reserves might also be applied in determining the asset valuation reserve. The second is that any minimum capital surplus requirements for assets should be deferred until this NAIC committee, which I am on, enunciates some overall framework for those requirements. Now, I don't think specifically these two recommendations are what's holding up the work of that particular task force. But you can see that they are somewhat connected, and even my disjointed remarks here come together when you think of the MSVR, and the new AVR, as one of the pieces that's necessary in the determination of whether or not you have sufficient capital to carry on the risks, or take the risk that you've been taking.

You saw on one of the graphs a 1988 shift in quality with regard to assets. I'm hoping that New York can take a piece, at least, of that credit, because I think it was in 1988 that New York adopted its junk bond regulation. New York required at least that no new junk bonds be added to the portfolio if certain levels of lower quality investments were already there. And by the way I should mention for those of you

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who don't know, that regulation has just been changed now. And it's actually been toughened. The limitation used to be a 20% overall limit on investments in medium- and lower-grade bonds. New York has now put inside limits on junk bonds, or as it calls them, high-yield securities, of 1% in category six, 3% in the combination of five and six, and 10% in the combination of four, five, and six. All private placements are now included, whereas some private placements were excluded previously. The NAIC, I believe is also looking at a regulation on high risk, high yield securities. But to be honest with you I don't know where that stands at the moment.

We turn to the question of solvency. I've always looked at solvency as having three lines of defense. The first line of defense is proper pricing. The second line of defense is proper reserving. And only third, is surplus. A lot of state regulators take the other approach. And they go directly to the surplus and say, for companies a certain surplus ratio is needed for solvency purposes. To me that's not good. You've got to understand the other two lines of defense first before you can really make a reasonable decision on how much surplus a company ought to hold.

The middle ground now becomes the valuation of the reserves. One step back from surplus is reserves. The whole concept of a valuation actuary has great meaning there.

It used to be that actuaries knew how to do reserves. They'd look a number up in the book, and they'd take a factor and multiply by the in-force business, and that was the reserve. And so be it. I don't know what reserves are any more, certainly not in New York. Under Regulation 126, an actuary will come forward based on his certification and will say, this makes good and sufficient provision for the liabilities that the company's incurred. He will do a lot of testing and modeling. He might run 10 cash-flow scenarios and make decisions as to what reserves would be adequate. I have a problem when a company comes to us or an actuary comes to us and has tested 10 scenarios, seven of which are beautiful and three of which fail miserably, and says, this makes good and sufficient provision for the liabilities. It's a very tough call. It's hard to get information on pricing. In fact it's illegal to get information on pricing.

It's very hard to understand the reserve liabilities today, especially in New York. And what makes good and sufficient; are the reserves adequate or not? And we want to make sure the company stays solvent. So we need to require a certain amount of surplus and capital.

The three tools that the regulator has to regulate are all up in the air. And a lot of it will depend on professional integrity as opposed to the regulators' old way of doing things, which is to look up in a book and look at the law, and look at the formulas and check it off, yes or no. That's just not going to happen anymore.

A lot of companies are concerned about extending Regulation 126 or the valuation actuary concept. Because of the work that's involved, and the money it might cost, the actuaries themselves are quite concerned about their own personal liability with regard to what they say. I hope when the regulation gets through the NAIC and the regulations and the laws and so on are adopted, a lot of these questions will be answered. But I think the Actuarial Standards Board of the Society has to come up

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with more than what we have right now to say, yes, this will be acceptable as proper reserving if these tests are done and this result is obtained. And I don't think we've reached that point yet. I think a lot more work has to be done there.

I think on a national level right now there is an exposure draft which originally was supposed to come to the June 1991 meeting of the NAIC on the valuation actuary concept. But from what I'm hearing it was postponed once, then is likely to be postponed again. It's a tough item. And the writers are really struggling with it.

Finally, now we ought to just look at what has actually happened to life insurance companies. I've spent quite a bit of time in the last several weeks on the Executive Life situation myself. And I've come to find out that that's only the second time that a life insurance company has been taken over by the superintendent of insurance in New York. And the first time was basically a health insurance company. It was a life company. But they did mostly property/casualty and health insurance. So, New York does not have a whole lot of experience with life insolvencies.

There have been problems, obviously, in the rest of the country. I looked at some 70 life company insolvencies from January 1985 to September 1989 and found that 47 of them were due to fraud, or questionable practices among parents and subsidiaries. We had a tendency to look at the C-1 through C-3 factors as being the causes or the problems with insolvencies. And yet the history shows us that it's really mismanagement or fraud that caused most of the problems.

Twenty-four of those 70 insolvencies were in the three states with the lowest capital requirements. And this kind of information, you know, needs to get out. I'm talking about state regulation versus federal regulation. Obviously, Congressman Dingell is going to have a heyday with Executive Life. But the fact of the matter is that state regulation has been pretty good, at least in those states that have the funding and the people to do a reasonable job. It's almost impossible to regulate against fraud. There's no doubt though that regulation needs to be added. And there are several areas where I think it probably will be just to give you a hint of coming events. I think there's going to be increased scrutiny in the areas of examination authority, and of course, capital and surplus requirements and in holding company systems and inter company transactions, affiliates, subsidiaries and parents especially, and investment regulations and reinsurance. Many of the problems that companies have had involve reinsurance either within their own system or outside of their system.

Financial surveillance will obviously also be increased. I might just as a final comment point out that as a start the NAIC has developed a self-evaluation program for state accreditation and for states to look at, to see if they are performing the functions which need to be performed themselves. It's a peer review type thing. I'm proud to say that New York and Florida are the only two that have passed the examination.

MR. WALTER C. BARNES*: I'm curious as to what the Ward Committee is doing with commercial mortgages, and how it's going to determine the requirements for

* Mr. Barnes, not a member of the sponsoring organizations, is an Assistant Vice President of Travelers Realty Investment Company in Hartford, Connecticut.

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reserving against the asset default probabilities? How are you going to determine what sort of reserve requirement you're going to put up for commercial mortgages, like you do with the public and private placement bonds now?

MR REISKYTL: I'd try to suggest at least two ways that we would do that. One is we not any distinguish between the various types of mortgages. We would just use the one factor. The Asset Committee has picked a factor it thinks will conservatively reflect the potential credit losses. I also tried to suggest that there is another way we might do this. We could break the mortgages down into categories similar to the bond categories and then get into the whole appraisal process. As you might guess, there are a number of advisory services that would be more than happy to rate our mortgages, provided you want to have them rated. The other way is to go with one factor for all of them and possibly just stop there for now until we get better information.

MR. BARNES: Did you ever talk with anybody on the real estate side to find out what it thinks? I guess one of the problems that we at The Travelers have is people on sort of the liability side are making recommendations for the asset side where they may not have the necessary knowledge to do that.

MR. REISKYTL: I share your concern that we need to involve individuals with expertise on both sides of the balance sheets, assets as well as liabilities. The Ward Committee has responded to this concern by including industry representatives from both insurance and investment areas. There is a particularly heavy representation of investment professionals on the Asset Subgroup, which is charged with developing the actual contribution and reserve factors that will apply to various asset categories. In addition, we are also open to any suggestions that you or others may have to assure that the proper expertise and insights are brought to bear on the various problems faced by the committee, whether they be of an investment, insurance or combined nature. If you have any specific suggestions, I'd be glad to hear them.