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## RESERVES, CONTINGENCY RESERVES, AND SURPLUS FOR LIFE INSURANCE COMPANIES

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1. What adverse deviations should be covered by statutory reserves?
2. Should special contingency reserves be used to provide for wide fluctuations in investment values and adverse effects of inflation?
3. What prescriptions for minimum and maximum surplus appear desirable under current circumstances?
4. What balance between statutory reserves, special contingency reserves, and surplus is likely to enhance the solvency of life insurance companies?

MR. EDWARD A. LEW: I am under the impression that prevailing attitudes toward reserves, contingency reserves, and surplus are colored by the enviable experience of almost uninterrupted growth and stability during the 1950's and the 1960's. At that time, as one financially successful year followed another, little fundamental thinking was done about surplus funds. But at this time, facing 75 billion dollar government deficits, the threatened bankruptcy of New York and some other large cities, as well as the specter of continuing high rates of inflation, many of us are still psychologically unprepared to change to a much more conservative stance. It is imperative, however, that we now give diligent attention to the premium margins and surplus funds needed in stormy economic weather.

An integrated system of reserves, contingency reserves, and unassigned surplus funds, such as could guide us in the accumulation of total funds and in their allocation between reserves, contingency reserves, and unassigned surplus, would be highly conducive to the maintenance of solvency under difficult financial conditions. We have unusual opportunities to check on and react to the directions in which events are taking us whenever we make our periodic valuations of assets and liabilities. When these checks and other indications disclose adverse trends or latent critical situations, we should not hesitate to buttress our total funds promptly so as to be able to deal with future predicaments more effectively. Actions to this end would be facilitated if the system of reserves, contingency reserves, and unassigned surplus was programmed to respond more swiftly and more automatically to feed forward or feed back data that signalled potential trouble.

A more prudent and flexible approach to the management of total funds is called for by the unsettled and irresponsible economic climate unfolding before us. We must be careful not to freeze an excessive portion of these funds in reserves. We might rely instead on substantial additions to contingency reserves or to unassigned surplus and determine the amounts thereof, not by a rigid retrospective formula such as that used for the Mandatory Securities Valuation Reserve, but rather on a more discretionary prospective basis related to impending economic conditions. It is the contingency reserves and the unassigned surplus, not the reserves, that are available to absorb sudden unexpected losses. We can enhance the capacity of contingency reserves and unassigned surplus to perform this essential function by anticipating ad-

verse developments and building surplus funds up accordingly.

The accumulation of adequate reserves does not raise any new problems. The methods employed in the computation of reserves - more particularly the net premium valuation method and its modifications for ordinary insurance - have proven themselves over a long period of years.

The same cannot be said unequivocally about the methods used in the valuation of assets. They had to be suspended during the depression of the 1930's. While they served us well over the ensuing four decades when investment values were relatively stable and companies operated on the assumption of a positive cash flow, they are currently being questioned on the score of their efficacy to cope with highly volatile investment values, and the possibility of forced liquidation of assets.

In order to visualize more clearly the roles that reserves, contingency reserves, and unassigned surplus might play in stressful circumstances, let us focus briefly on the rationale of the mortality and interest assumptions made in the calculation of reserves on ordinary insurance.

When we examine the death rates assumed for reserve computations, we should keep in mind that mortality on ordinary insurance has shown little change during the past twenty years and that it followed an irregular but distinctly downward trend during the preceding half century, interrupted only by the influenza epidemic of 1918-20. Margins for sporadic large mortality losses, as well as for unfavorable fluctuations in death rates, have long been included in the mortality tables used for reserve calculations.

While variations in the level of death rates have had pronounced effects on premium rates, they have generally produced only small changes in the aggregate reserves on ordinary insurance. The comparative stability of death rates in the recent past suggests that the need for special contingency reserves to cover unusual mortality losses is not pressing, even though some provision therefor is advisable. The possibility of higher death rates on group life insurance has been taken care of by many companies through special contingency reserves. In the case of ordinary insurance, there are grounds to expect some increases in death rates at the advanced ages in the not too distant future. When such a trend becomes evident, it would be entirely appropriate to set up a special contingency reserve to cover this rise in mortality, since it would result in a steeper mortality curve and, hence, larger reserves.

More generally, the prospect of any significant financial drain on a company, foreshadowed by feed forward or feed back information, could be provided for by means of special contingency reserves activated by and oriented to the probabilities and the severity of the contingencies guarded against.

When we turn to the interest rates assumed for reserve computations, it is manifest that a rate greater than the maximum presently prescribed is warranted by current experience. In the last two years or so, gross yields on new investments have been at historic highs and the outlook is for a continuation of high interest rates. However, the maximum interest rate for reserve calculations must take into account, not only the high gross returns conservatively estimated for the future, but also the sizable decrements operating to produce a distinctly lower net interest yield. The principal decrements that must be allowed for are federal income taxes and possible increases therein and investment losses or asset depreciation, particularly on default or sale. These losses will probably be much heavier than those experienced in the past,

if only because the expected continuance of high interest rates will automatically depress the value of old investments made at lower interest rates.

In addition, allowance may be made for the possibility of materially lower investment returns in the more distant future, simply by assuming a scale of interest rates diminishing with duration.

In the minds of many, the most urgent need at the moment is to provide for possible investment losses stemming from violent fluctuations in investment values, which may shift securities now valued on an amortized basis to market values, and also for losses occasioned by forced liquidation of assets due to a negative cash flow. These contingencies cannot be provided for as a decrement from the anticipated interest yield. The lower the interest rate assumed for reserve calculations, the higher will be the resulting reserves, and, other things being equal, less is likely to be on hand for surplus funds to cushion the impact of sharp drops in investment values or losses on liquidation of assets.

The Mandatory Securities Valuation Reserve cannot, in its present form, be counted on to cushion sharp drops in investment values or losses on liquidation of assets. When economic conditions deteriorate rapidly and surplus funds are most needed, the Mandatory Securities Valuation Reserve is apt to disappear. This reserve was, after all, established for a different purpose at a time when investment values were not as volatile as they have been lately, and companies could reasonably look forward to a continued positive cash flow.

In the rough economic weather that appears ahead, we must watch economic barometers more closely and react to them more swiftly. When a business recession is in sight, we should quickly begin to build up special contingency reserves for possible financial losses and increase or reduce them by reference to selected economic indices and trends. The practical development of such contingency reserves to cover fluctuations in investment values and losses on forced liquidation of assets requires a new commitment by American actuaries to observe and analyze investment performance under unsettled economic conditions as they affect life insurance and pension funds. I believe this important task ought to be undertaken by the Society of Actuaries through a separate Investment Experience Committee with a broad assignment, perhaps along the lines of that of a similar committee of the Institute of Actuaries, which has contributed so much to the high standing of the actuarial profession in Great Britain.

One of the projects for the new committee would be to formulate the principles and assemble the experience data on the basis of which special contingency reserves for financial losses might be accumulated. If such reserves were expressed in terms of specific mortality tables and interest rates, they might conceivably qualify for tax exemption. With such an advantage, they would undoubtedly become a major instrument in the financial management of life insurance and pension funds.

Even without tax exemption, special contingency reserves have considerable merit. When we resort to them, we indicate plainly what the main reasons for surplus funds are, and put ourselves in better position to blunt the uninformed criticism of surplus funds. Furthermore, an allocation of surplus between reserves, contingency reserves, and unassigned surplus funds (for unforeseen contingencies, catastrophic losses, and the financing of new business and new ventures) provides us with a system of management controls. I see the main responsibility of the actuary in the job of controlling the dynamic develop-

ment of a life insurance company or a pension fund within the bounds of solvency.

And now to the meat of our topic. Paul Sarnoff will present the issues from the vantage of a large mutual company. Gary Corbett will give us the perspective of an actuary of a small or medium-sized stock company. Bob Miller will address himself to the distinctive aspects of reserves, contingency reserves, and surplus for group life and health insurance, as well as group pensions. Finally, John Angle, as the anchor man, will provide us with an overview of the broad subject of this concurrent session.

MR. PAUL E. SARNOFF: This afternoon I plan to examine the need for and the uses of surplus in a mutual life insurance company, and whether such a company should set up a contingency reserve.

I mentioned that my examination is from the standpoint of a mutual life insurance company for a very basic reason. The special way in which mutual companies establish their price structure leads to a philosophy of surplus that differs from the approach that is proper for a company that sells only non-participating insurance. Of course, some stock companies offer participating insurance. The surplus philosophy of such a company may resemble that of a mutual company or that of a stock company, or be a blend of the two.

The important feature of the mutual life insurance company's pricing structure is the use of the dividend mechanism to meet its objective of providing insurance to each of its various classes of policyholders at as close to actual cost as possible. This is done by periodic revisions of the dividend scales in such a way as to make the business self-supporting in the aggregate, and, as well, by classes. The objective is to maintain a suitable overall surplus accumulation to help, during periods when divisible surplus in some classes is temporarily negative, to carry those classes so that they can again become self-supporting without ultimate charge to other classes. Of course, we can't do a perfect job of seeing that each individual subdivision receives its insurance at its own exact cost; there must be a certain amount of averaging of experience factors among the subclassifications. However, our objective is to provide insurance to each at as close to its actual cost as can be accomplished with the tools of measurement available to us.

In view of the objective of providing insurance at as close to actual cost as possible to each class of policies, even in the event of adverse future experience, we establish premium rates at a level higher than the level that results from using most likely assumptions. No company can survive if it sells insurance at premium rates that have only a 50 - 50 chance of being self-sustaining. Therefore, premiums are set conservatively and the pricing structure is modified in the future, as experience develops, by means of the dividend scale. This pricing structure for a mutual company, whereby changes can be made in the net cost for old business as changes in experience factors emerge after issue, has an important bearing on the rate of accumulation of surplus in mutual companies. At any one point in time, the company does not need to have on hand the surplus that would be required to protect against the most adverse plausible future experience, since the margins in the premiums it charges provide a source for future adjustments if and when adversity strikes.

With this background of mutual company operations in mind, let's turn to an examination of the needs for, and the uses of, surplus. The main use of surplus, of course, is to guard against unfavorable experience. It is important to note that unfavorable experience may be broadly classified into two types. The

first, and more serious, is an unfavorable long-term trend in one or more of the key factors of mortality, morbidity, investment results, or expenses. This is the kind of unfavorable experience which is best dealt with by changes of premium rates and dividends. The other kind of adverse experience is exemplified by a sudden catastrophe. Such an event does not necessarily imply a change in the long-term trend of the company's experience. Still, the company must be able to withstand the event by paying whatever claims or costs arise from it. Surplus funds, rather than a dramatic reduction in policy dividends, will generally be used in a well-established company to cope with such an event. The depleted surplus funds, however, would need to be restored, usually over a period of years.

Naturally, some kinds of unfavorable experience are easily classified as either a change in long-term trend or a sudden disaster. However, some events have some characteristics of both a change in trend and a sudden disaster, and can't simply be classified as either one. A large scale war or a depression, for example, may last several years. A mutual company would probably respond to either of these events by adjusting its dividend scales, while at the same time, suffering a reduction in surplus.

The first kind of adverse experience that comes to mind in connection with a life insurance company is that of an adverse trend in mortality. There has been a long-term trend towards reduction in mortality rates, but in recent years this improvement has slowed considerably. In the opposite direction, increasing urbanization and pollution may begin to take their toll. Even if mortality rates were to reverse the long-term downtrend and turn up again, this would probably take place only gradually, and we should be able to make appropriate adjustments in premium rates for new policies, and in dividends. Therefore, an unfavorable trend in mortality is not a contingency against which surplus is needed, since it can be provided for by premium rate margins.

Next we should explore the effect of a natural or man-made disaster -- for example, an epidemic, such as the 1918 influenza epidemic, or a severe flood or earthquake. The most severe disaster of this type that we could visualize, short of nuclear war, would have a cost on the order of 1% of assets. If such a disaster occurs, surplus would certainly be needed. The question then comes up as to how sharply to reduce dividends to restore surplus to its predisaster level, before another need for it arises.

While we can see that the mortality risk is an important reason for a company to maintain an adequate surplus, this use is far overshadowed by the investment risk, which is the main purpose for which a mutual life insurance company maintains surplus. There are a number of ways in which adverse investment experience may affect a company. One possibility is a drop in interest rates. Normally, investment return is a major component of insurance earnings and of dividends to policyholders. For that reason, important changes in rates of return must be reflected in premium rate and dividend scale changes. Fortunately, changes in overall portfolio yield, although they may have a large cumulative effect over the decades before the trend reverses, are usually gradual from year to year. There is time to recognize trends in a company's overall investment yield and to make the appropriate changes in premium rates and dividends. Therefore, it is not the type of investment risk associated with a drop in yields that gives rise to the need for surplus. Rather, it is the risk of impairment of asset values. The different kinds of life insurance company investments are subject to the risk of asset value loss in different ways. Stocks and bonds are subject to the Mandatory Securities Valuation Reserve, which serves to protect surplus, to the extent of the respective re-

serve components, from securities values losses. However, once a Mandatory Securities Valuation Reserve component is exhausted, further loss in that type of security affects surplus directly. Common stock statement values are very volatile, since these securities are carried at market value. Bonds in good standing may be carried at cost, adjusted for premium or discount, as long as they are amortizable according to NAIC rules. However, bonds that lose their good standing must be valued on the basis of market value, and this can result in a sudden and serious decline in statement value.

While such a deterioration in the credit risk of a bond almost surely results in at least a temporary loss in the statement value of a bond, a default in a mortgage loan does not, necessarily, result in a reduction in its asset value. The answer depends on the subsequent experience of the company in either collecting the amounts overdue, or disposing of the property after foreclosure.

In the case of real estate investments, these are generally carried at historical cost less book depreciation. In the event of an impairment in the income-producing capacity of the property, it would be necessary to write the value down to the then market value.

Thus, for all the main types of insurance company investments, surplus is necessary to absorb large unexpected declines in statement value. However, these declines do not necessarily occur in the space of one year, and they may be reversed as individual investments are disposed of at more than the written-down statement value. In a mutual life insurance company, dividend scales may have to be reduced to prevent excessive depletion of surplus, and to help restore it after the crisis years are over.

Another aspect of the investment risk is the cash flow. In most normal years, the life insurance company income from premiums, investment repayments, and investment income are more than enough to cover its benefit payments, expenses, taxes, and net policy loan extensions, and to meet its previous investment commitments. Thus, at most times a company has a free net cash inflow, which it can carry in bank deposits or temporary investments, while awaiting disbursement for permanent investments. However, in times of abnormal cash demands, such as a financial panic, it is possible that reduced inflow of premiums, investment income, and investment repayments, combined with an increase in benefit payments, net policy loan extensions, and disbursements to meet investment commitments, may produce a temporary reversal in cash flow. If the temporary outflow of cash cannot be met by sale of temporary investments or short-term borrowing, it may become necessary to dispose of some assets at depressed prices. Thus, a certain amount of surplus is required to help absorb the loss that arises from such a forced sale. However, I would like to stress that the primary protection of the company against a reversal of cash flow is not the surplus that it maintains. The primary means of safeguarding the company from the adverse effect of a cash flow reversal is careful attention at all times to the controllable elements of cash flow, so that there is a margin of cash available to cover temporary cash flow reversals.

Another possible risk is that of increased expenses. Most expenses increase gradually enough that provision can be made for them through dividend scale changes. However, occasionally surplus is needed to provide for an unanticipated charge, arising out of an event that has previously occurred and been accounted for. There might be unanticipated demands arising from a lawsuit, or high unanticipated assessments for back taxes.

Another use for surplus is to finance the growth of the organization. Surplus

is needed in order to help absorb the issue strain that results from current sales. Vitality and growth of the organization are important in keeping the cost of insurance to existing policyholders as low as possible. Surplus is used in this way to increase the base of insurance over which the organization overhead can be spread. In addition, it enables the organization to develop new products and forms of coverage, so that the field force can continue to be successful.

Given the need for a definite minimum amount of surplus, a properly managed company can take advantage of the presence of this surplus to operate more effectively for its policyholders. Here are a couple of ways this can be done.

First of all, the presence of surplus makes it possible for a company to make investments having the greater yields associated with greater investment risk. Secondly, it enables the company to provide insurance policies in larger amounts, in relation to its average size policy sold, than if it had no surplus. We know that the greater the spread of the distribution of policies by size, the greater the variability from year to year, of a company's loss experience about its average. Surplus helps absorb these variations in experience, while enabling the company to insure and retain risks it otherwise would lack the capacity to cover.

It should be clear that there are limits to the safety factor represented by the surplus of a mutual life insurance company. No company could withstand the effects of an all-out nuclear war, or a continuation of runaway inflation that makes contracts worthless. As far as the kinds of events that can reasonably be expected and be provided for is concerned, the surplus of a mutual life insurance company does not have to do the job alone. Surplus is normally protected by the Mandatory Securities Valuation Reserve and may be restored by increases in premium rates and reductions in dividends.

Since surplus is held for a number of different contingencies, it is reasonable to expect that the amount held should be less than the sum of the amounts that the company believes it requires for each of the individual contingencies. This is true because the various contingencies are each rather remote and, therefore, it is very unlikely that all contingencies that should be provided for would actually arise in the same year. A mutual company will almost surely find that the aggregate surplus it can retain, and still furnish current policyholders their insurance at anywhere near actual cost, is less than the sum of the possible amounts required for each contingency.

The mutual life insurance company's objective of providing insurance to each class at as close to actual cost as possible implies that, by the time a given cohort of policies leaves its books, the amount of funds that the class leaves with the company has been reduced by guaranteed benefits, expenses, taxes, and dividends to only a small sum, for any contingencies that might have occurred during the policy's existence, but did not. The funds in the year of issue of the policy are usually negative, since the first year commission, underwriting, and other administrative expenses, and taxes of the first policy year generally total more than the premium actually received for that year. In subsequent years, the initial deficit is restored, and a suitable amount of surplus is accumulated, so that the initial deficits of succeeding generations of policyholders can be covered during the period they are accumulating funds to restore their initial deficit. Thus, at any one time, surplus consists of a cross section of individual surplus positions on different cohorts or generations of policies. For some generations, surplus positions are greatly negative; for others, they are positive and increasing as a percentage of the

corresponding assets, while for still others, they are positive but decreasing as a percentage of the corresponding assets. Thus, requiring unreasonably large surplus in the aggregate results in either inappropriate limitations on new business or highly tontine dividend scales, which force early terminators to pay much more than, and let persisting policyholders pay much less than, their reasonable share of the aggregate cost.

The question next comes as to what is a proper and desirable level of surplus. I know of no way to come up with a mathematical formula for quantifying the proper level of surplus for a company. The purpose of accumulating surplus is to meet a variety of different needs, and a quantitative standard would have to take into account the importance of each of these needs in a company. Every company is different as to where it stands at a given time in the cycle of accumulating surplus. Furthermore, the desirable level of surplus depends on the relative mix of product lines, since each product line has its own special needs for surplus accumulation. And the level of surplus depends on the rate of growth of the company, and the relationship of its income to its issues.

Moreover, formulating standards for the provision for the various contingencies is a very formidable statistical and research task. The experience of the industry and the NAIC with the Mandatory Securities Valuation Reserve illustrates this. Substantial research preceded the original adoption of the mandatory reserve for life insurance companies for 1951. This was then followed by a massive study by the industry, the NAIC, and Professor Fraine of the University of Wisconsin, culminating in the general revision of 1965. While this revision stood up fairly well during the relatively prosperous times reflected in the next eight years' statements, the massive stock market decline and widespread troubles of individual corporate borrowers of the last two years, have necessitated the adjustments that will first be implemented this year.

Research is even more incomplete with respect to the mortality catastrophe risk, and the problem is much more thorny for these two reasons. First, a new company builds up its exposure to a mortality catastrophe much more rapidly than its exposure to investment losses, and, secondly, there is much more variation between companies in the provision in the premium rate for adverse experience and in the right to change them for various lines of business. Moreover, it is quite clear that determining rates of occurrence of such catastrophes must extend over long periods of time, during which the technological and sociological characteristics of the population may change.

Therefore, the best that can possibly be done is to establish a range between a minimum desirable level of surplus, that recognizes the long-term and contingent nature of life insurance obligations, and a maximum permitted surplus for mutual life insurance companies that prevents them from unreasonably deferring dividends to policyholders. To require allocated contingency reserves for various specific contingencies would produce unreasonable deferral of dividends with no demonstrable offsetting advantage to the policyholders.

MR. GARY CORBETT: Today I shall be limiting my comments to nonparticipating individual life insurance. I shall be speaking from the perspective of a stock company, whose problems are quite different from those of the mutual company that Paul has described. Also, from the perspective of a stock company whose perspective on statutory results has changed somewhat during the past year.

At our company we had never concerned ourselves much with statutory results. We had always made product and marketing decisions on the basis of long-term profitability, virtually ignoring the impact of statutory requirements. We were able to do this because, even though we were a relatively new company, we had been very substantially capitalized upon our founding in 1957. In our first 16 years of operation, ending in 1973, we had actually increased our statutory surplus.

However, in 1974 we received a bit of a shock when our statutory surplus fell \$5 million to the \$10 million level even though our GAAP surplus rose \$4 million in the same year. Two million of the \$9 million spread was caused by the fall in market value of our common stock portfolio. On GAAP statements, capital gains and losses are not recognized until they are realized. On statutory statements, common stock is valued at market. However, its effect on surplus is normally cushioned by the use of the MSVR. Last year, unfortunately, the cushion had been largely deflated and, thus, our surplus felt a considerable bump. Four million of the spread was accounted for by the increases in deferred acquisition costs and deferred income tax, which are reflected only on the GAAP statements. The remaining \$3 million was the greater increase in statutory as compared to GAAP benefit reserves.

You can see that I now speak from the perspective of a medium-size life company whose business decisions, particularly as to what plans of insurance and annuities we can offer, are impacted by statutory reserving concerns.

#### Outline of Remarks

Today I shall concentrate on two aspects of the reserves and surplus subject. They are the appropriate level of statutory reserves for individual nonparticipating business and how these amounts should be classified on the balance sheet. Referring to the printed program, I'll be covering Questions numbered 1 and 4 with, perhaps, a few comments on Question 2.

My approach will be first to critique present statutory reserve standards, then to present some of my thoughts as to how statutory reserves might be calculated, including some numerical examples, and to conclude with the balance sheet classification question.

I should preface my remarks with the disclaimer that these views, not only do not necessarily represent the view of my company, but that they also do not necessarily represent my views by the time these remarks are read. Up until a short time ago I believed that retrospective, not prospective, were the only methods suitable for the calculation of minimum nonforfeiture values. However, primarily as a result of studying the Report on Actuarial Principles and Practical Problems with Regard to Nonforfeiture Requirements, prepared by the Society's Special Committee on Valuation and Nonforfeiture Laws, I'm now a supporter of the traditional prospective method, provided some needed revisions are made. It is, therefore, possible that I shall become, in future years, a supporter of the traditional net premium reserve method. But, at the present time, I am not, for reasons that I hope will become clear as I speak.

#### Critique of Present Reserve Standards

My basic criticism of the present reserving system is that it ignores both the reality of the world in which we're operating and also some very significant features of the policies being valued. Statutory reserve interest maximums, although moves have been made to increase them in the past few years, are still

far lower than today's rates and even considerably lower than the levels to which most economists and investment officers believe interest rates might fall in the next twenty years. It is only in the mortality area that the statutory requirements bear some reasonable relationship to the real world.

The significant features of the policies themselves that are ignored by the present statutory system are the probability of lapse and the level of the gross premium (except for deficiency reserve purposes).

The current situation with single premium deferred annuities is, perhaps, the most extreme example of the over-conservatism of present statutory reserving standards. I'll illustrate by referring to an actual policy we sold in late 1974 and early 1975 - until the surplus strain became too onerous.

Our policy was a 5-year single premium deferred annuity, which guaranteed 8% for 5 years, at which time it was renewable for future 5-year periods at an interest rate to be then determined for the ensuing 5 years. In some states, such as California, you could value at 6% - the same as for immediate annuities, but in Washington, the maximum was 4%. What was the real world environment? We guaranteed 8%, invested all the money at approximately 10% in U. S. government guaranteed bonds of about 5-7 years maturity, and yet had to reserve on the basis of assumed earnings of only 4% over the 5-year period. The statutory reserve was 121% of the gross premium we received and, thus, our surplus strain was \$1 million for every \$5 million we wrote.

I looked at the reserve that we would have set up if we assumed we had invested the single premium at only 8%, rather than at the 10% we did invest at, and were to invest all the 8% coupons at the statutory maximum of 4%, thus, assuming an immediate fall in market yields to the 4% level. Surely, such assumptions are in line with the conservative intent of the valuation statutes. Under such assumptions, the surplus strain would have been only 2% and we could have sold \$50 million for the same \$1 million strain.

I also tested a contract guaranteeing 6% for 20 years. The statutory surplus strain on a 4% valuation would be 77% of premium. If we could assume the original investment was made at 8% and all coupons reinvested at 4%, the strain would be reduced from 77% to 15%.

#### Statutory Reserves - Basic Concepts

The purpose of statutory reserve standards should be to ensure, to the maximum extent practical, that a company will be able to meet its obligations as they arise. Whether a company can meet its obligations depends on its current assets, both their quantity and quality, and its future income and outgo. The past is of no importance, except as it might provide some indication of probable future experience and, except as past investment decisions have affected the composition of the current portfolio. For this reason, prospective, as opposed to retrospective, methods are the only ones that should be used to determine statutory reserves. Further, any prospective method used should take into account all significant factors and variables - specifically, the actual gross premium of the policy and the probability of lapse or surrender.

Since the purpose of the statutory reserves is to ensure the payment of future obligations, it is essential that the future be viewed conservatively. Estimates of outgo should err on the high side, and estimates of income on the low side. However, and I believe this to be a very critical point, the present is

here and now. No projections are necessary to determine the composition of the current investment portfolio. On any given bond a certain coupon rate is virtually guaranteed for a determinable period. (Of course, I recognize the need to take call provisions into account.) New money, including the reinvestment of interest earned on the current portfolio, should be assumed to be invested at lower rates than available today, probably grading down to present statutory rates. The effect of combining the new money earnings, even on a very conservative basis, with the current portfolio yield will be to end up with projected total rates considerably higher than the statutory maximum.

An implication of this approach is that valuation bases are not permanently set at issue. The future soon becomes the present and, if you believe in the prospective philosophy for reserves, you should change the reserve assumptions as the present situation and future outlook change.

#### Substituting Demonstrations for Impressions

In order "to substitute facts for appearances and demonstrations for impressions," I attempted to quantify these basic concepts, admittedly, really for illustrative purposes rather than for the development of a specific proposal. I wanted to get some handle on the surplus strains experienced by newer stock companies in expanding their business and also on the reserves such companies should hold.

I tested 3 plans - ordinary life, 5-year renewable and convertible term, and 20-year reducing term at ages 25, 40 and 55. Since the results are applicable to only one company, and since it is an approach and not a fully-developed method I want to discuss, I shall illustrate by reference only to one plan-age, ordinary life age 40, making only general comments about the other plans and ages.

First, I ran asset shares on our GAAP assumptions. They are: 110% of '65-'70 Select and Ultimate, 115% of experience withdrawals, interest at 7% initial grading down to 5% over 20 years, and current unit expense factors inflated by the excess of the interest assumption over 3%. Combined with our actual gross premium of \$21, these assumptions produce a percent-of-premium profit of 4%.

I then compared these asset shares to 4% CRVM reserves, somewhat modified from tabular reserves in order to make them consistent with the assumptions used for the other reserves and asset shares (mid-year payment of death claims and 100% surrender at the end of 50 years). The reserves start out \$25 per thousand greater than the asset share and are still \$12 greater at the end of 10 years. The asset share does exceed the CRVM reserve after 15 years. I also ran a more optimistic asset share, using 7% level interest, non-delta-ized mortality and withdrawal rates, and non-inflated expenses. The strain was still \$25 initially, but decreased to 0 by the end of the 11th year. Strains of this magnitude do prevent some stock companies from expanding their new business operations. If a company were to write \$100 million on this plan-age every year for 10 years, experiencing our average termination rates, the surplus strain would be \$15-\$20 million. There would be a negligible GAAP surplus strain on the same business.

Of course, if 4% CRVM reserves must be set up to ensure that the company can meet its future obligations, the surplus strain obviously is necessary and justified. But is this level of reserves necessary? To help answer this question I calculated gross premium reserves on a number of different bases, aiming at what I called "Full Protection" reserves. By "Full Protection," I

meant reserves that would enable a company to meet its obligations even if future experience turned very bad, but which also recognized the reality of today - the current investment portfolio - and the reality of the policy - its gross premium and probability of lapse.

After testing a number of different combinations, I settled on the following set of assumptions: 58 CSO mortality, 130% of experience withdrawals, and annual expenses inflated by 5% per year. For interest I assumed a current portfolio rate of 7% with new money invested at 7%, grading down to the statutory rate of 4% over 5 years. The interest rate assumed in a given policy year thus depends on when the valuation is done. For example, the interest rate assumed for a valuation performed at the end of the first policy year would start at 7% and grade down to 4% at the end of the 6th policy year. For the valuation done on policies issued 5 years ago, the 6th duration assumption would be 7%, grading down to 4.7% at the end of 25 policy years. In all cases I assumed a sudden drop to 4% 21 years after the valuation date in order to provide for bond maturities.

I had originally attempted to refine the interest assumption even further by assuming a higher portfolio rate for recent issues than for issues of some years back. However, from early test results, I determined that this additional complexity was not warranted. We did grade down the interest assumption more slowly on mature policies in recognition of the relatively greater invested assets on such policies.

Somewhat in the nature of a digression, I want to point out that the reserve interest assumptions should comprehend all elements of investment income, specifically capital gains and losses. Such gains and losses should be accounted for by a method that recognizes the true economic nature of the investment transaction. For example, selling a low coupon bond in a high-yield market and replacing it with a higher coupon bond with the same maturity date and risk characteristics, should result in neither a capital loss nor a diminution of investment income. Instead, the "loss" upon sale should be spread to maturity so that the net investment income from the higher coupon bond is identical to what would have been reported if the lower coupon bond had been held to maturity. The proper treatment of gains and losses on the sale of equities is not so obvious. For any of you who are interested in this whole subject, I refer you to Dan Case's paper titled "A Uniform Approach to Accounting for Bond and Common Stock Investments" in Volume XXIV of the Transactions.

Returning now to the mainstream, to our ordinary life, age 40, example; I'd like to give you a few figures so you can see the relationship of the CRVM, the so-called Full Protection, and the GAAP reserves compared to the asset share. At the end of the second year, the CRVM reserve is \$17 per thousand, the Full Protection reserve is \$9, the GAAP reserve is -\$12, and the asset share is also -\$12. At duration 5, the 3 reserves are \$66 for CRVM, \$46 for Full Protection, and \$31 for GAAP, compared to an asset share of about \$37. The Full Protection reserves are higher than the GAAP reserves for the first 10 years, but less than CRVM at all durations. The asset share comes up to the Full Protection reserve by the 7th year, with the result that the strain of writing \$100 million annually for 10 years would be reduced to only \$6 to \$8 million, instead of the \$15 to \$20 million if 4% CRVM reserves were used in place of the Full Protection reserves.

I fully realize that these figures are based on one company's premiums and experience and on one plan-age. Results do vary for other plan-ages. For ex-

ample, at age 55 on ordinary life, the Full Protection reserves were slightly higher than the CRVM reserves in the early years and, on the term plans, the Full Protection basis generates some small reserves where the statutory method does not.

However, I have done enough testing to satisfy myself that statutory reserve standards are overly conservative for permanent plans and can cause inordinate and needless surplus strains for those companies, primarily newer ones, whose new business writings are relatively large compared to their inforce.

I would hope to see the approach I have described applied to models representing different types of companies. One tool that could be very useful here is SOFASIM, the Society of Actuaries Simulation Model, built by Dr. Harry Markowitz under the direction of the Joint Committee on the Theory of Risk. In particular, the investment section of the model is quite sophisticated, providing for varying coupon rates and maturity patterns, for both callable and non-callable bonds, and might thus handle quite readily my approach to interest assumptions.

The NAIC's Subcommittee on Valuation and Nonforfeiture Legislation has established a Valuation Technical Advisory Committee which will be exploring many alternatives, including Gross Premium valuations, to the present valuation methods. I'm sure that this committee will be looking into approaches such as I've suggested.

#### Use of Contingency Reserves or Restricted Surplus

I'll now leave this subject and move to the question of whether the total provision that a company must hold should be held in one piece and labelled "policy reserves" or split between "basic policy reserves" and "contingency reserves." I believe it would be better to split the reserve into two pieces, with one piece classified as a liability and the other - the contingency reserve portion - as a part of surplus.

My reasons for preferring the split are:

First, I believe the balance sheet would then better represent reality. We would hold, as a liability, only the amount we estimate we would need to mature policies. The contingency reserve portion would represent earned surplus that is retained within the company and restricted, so that it will be available to supplement the basic reserves. The need for supplementing could arise from experience simply deteriorating or from wide fluctuations in experience, which would require dipping into the contingency reserves in order to weather the storm and then rebuilding them. This restricted surplus represents the amount of their money the stockholders pledge to ensure the credibility of the company's promises to its policyholders.

My second reason for splitting is that it would allow for flexibility in the calculation of the "contingency" portion. A reserve for contingencies - and that is really what any reserve over and above the "best estimate" reserve is - can take into account more of the factors that should affect the size of the total reserve than if it were simply the sum of parts of individual policy reserves. For instance, company size, the quality and breadth of the investment portfolio, and the mix of business can be considered.

The third reason for separating the reserve components is somewhat problematical. Placing some of the reserve in surplus, where increases and decreases do not affect profit and loss, might open the way for an eventual coming together

of the GAAP and statutory statements. However, since this would require compromises by the accountants and the federal regulators, as well as by the state regulators, I don't expect this to happen soon, at least in this country.

What are some of the arguments against splitting the reserve? One you often hear is that any system that would increase reported earnings and earned surplus, regardless of any restrictions on the surplus, would increase the pressure from stockholders for higher dividends. My answer to this argument is: First, that the contingency reserves would be required by law, so identified, and, thus, simply not be available for distribution; and, second, that an investor in a life insurance company should be educated as to the basic long-range nature of the business and the necessity, legal and otherwise, of retaining sufficient surplus to ensure the fulfilling of policyholder obligations, most of which stretch many years into the future.

The second concern expressed about splitting the reserves is that the contingency reserve portion might not be deductible for federal income tax purposes. This is certainly true under present law. The answer to this concern must be that the tax law was written with reference to the valuation statutes now existing. If the statutes were changed significantly, the Life Insurance Company Tax Act would also have to be changed. I would think the key would be that the reserves would have to be required by law, and that there would be prescribed methods for calculating them. Perhaps the Tax Law would restrict these contingency reserves to some maximum percentage of the basic reserves.

MR. ROBERT A. MILLER, III: For purposes of discussing what adverse deviations should be covered by statutory reserves, I'm going to consider the reserves shown in Exhibits 8, 9, and 11 of the Life Blank and I'm going to limit my comments to reserves for group life and health insurance and group pensions. I believe that the margins for adverse deviations contained in a statutory reserve should take into account your best estimate of the conditions that will prevail over the time period to which the reserve relates, and of the range of fluctuation in the various elements of net cost that can reasonably be anticipated under those conditions.

With that said, I'll start with some easy ones.

My definition includes the unearned premium reserves for group term life and health insurance shown in Exhibits 8 and 9, respectively. These reserves relate to very short time periods and can be calculated with a high degree of precision. Under the circumstances they should contain very little, if any, margin for adverse deviation.

Reserves for incurred but not recorded claims under group life and health insurance are only a little tougher. The accuracy of the estimates used in developing these reserves can be measured within a relatively few months after they have been made. This makes it reasonably easy to estimate how much margin should be added to the reserve to have a specified degree of confidence that the actual cost of the delayed claims will not exhaust the reserve.

Some group life insurance is written on a permanent basis. The coverage is usually written on either a level premium plan or on a basis involving cumulative single premium purchases of paid-up insurance supplemented by term insurance. In either case, it seems appropriate that the reserving basis should be consistent with that used for individual whole life insurance; that is, the mortality, interest, and expense risks are provided for by suitably conservative mortality and interest assumptions.

Long-Term Disability is one of the most risky coverages in the group health insurance portfolio. Both the deferred contingent benefit reserve and the outstanding claim reserve are very sensitive to unemployment levels. Also, because of the usual long waiting period from the date of disability to the date when payments begin, it takes longer to determine the accuracy of the reserves as of any given date. All of this says nothing about how much group policyholders and the covered employees can influence the frequency of claims, even in the absence of any obvious general economic problems.

The LTD reserves for open claims also involve substantial risk. The reserve for a given continuing claim increases very rapidly in the first few years of disability, and the increase has to be funded to a large extent by reserves released by termination of other claims. If these terminations don't occur, the reserve increase must come out of surplus. There is relatively little current experience from which to develop termination rates and the limited experience that is available may not be very useful because the termination rate in the first few years of disability is significantly affected by general economic conditions. This implies that LTD reserves for deferred contingent benefits, unreported claims, and open claims in the first few years of disability should either include substantial margins or be supported by significant amounts of surplus to guard against possible inadequacy in the reserves.

In later years of disability the recovery factor is effectively eliminated from the total termination rate and the risk that the reserves will be inadequate is reduced to about the same level as that connected with reserves for retired lives in the group pension business.

The risks involved in the group pension business are greatly affected by variations in the nature and duration of the guarantees given to the policyholder. Originally, insured pension plans were written on a deferred annuity basis. There were substantial risks involved because of the likelihood of significant adverse deviations in mortality, interest, and expense over the very long time periods involved in the guarantees given to contractholders.

It is plain that the only way adequately to protect the solvency of the insurer (and, hence, its ability to make good on its guarantees) was to use quite conservative assumptions in rate making and reserving. Under these circumstances, it's just as plain that the only way adequately to protect the purchaser against an excessive ultimate cost was to provide for experience rating of all plans large enough to develop suitably credible results.

However, even with experience rating, the great majority of group pension customers have felt that deferred annuity reserving was too conservative. The next response of insurers was to develop Deposit Administration plans. The scope and duration of guarantees applicable to active lives are greatly reduced under DA and the risks for retired lives are significantly reduced because annuity purchases are made at retirement using rates that are supposedly reflective of current or, at least, recent experience. It would seem that the normal risks associated with active lives under DA plans can be adequately handled by using suitably conservative interest rates and annuity purchase rate guarantees.

At the time of retirement, a new assessment of risk is needed. It would seem that mortality fluctuations can be suitably provided for in statutory reserves even after taking into account the fact that the medical profession is working hard to improve mortality. The interest risk is reduced because annuity reserves decline with age and the time it takes for a complete rollover of an investment portfolio is not too much different from the life expectancy of

those who are currently retiring at age 65. So it seems as though the interest risk can properly be provided for in statutory reserves.

As every pensioner in today's world knows, inflation is a real problem in the span of his retired life. However, the level of interest rates is at least loosely connected with inflationary trends. Furthermore, the size of retired life reserves is such that investment income is a much larger factor than operating expense in determining ultimate cost. Finally, the pension business would seem to be a fertile field for reducing and controlling cost through application of EDP. So it seems as though the expense risk, too, can properly be provided for in statutory reserves for the pension business.

To repeat, I believe that the margins for adverse deviations contained in a statutory reserve should take into account your best estimate of the conditions that will prevail over the time period to which the reserve relates and of the range of fluctuation in the various elements of net cost that can reasonably be anticipated under those conditions.

Now let me turn to the question of whether contingency reserves should be set up to provide for wide fluctuations in asset values and adverse effects of inflation.

I think of the MSVR as a contingency reserve for coping with some unusually large strain arising out of investment risk. The need for this general type of investment contingency reserve has been clearly demonstrated by recent experience. The sharp drop in the stock market and significant write-downs of bond values left a number of very large life insurance companies with little, if any, MSVR at the end of 1974.

The financial instability evidenced by the problems of the likes of New York City and W. T. Grant indicate the need to keep investment risks down to an acceptable level and to start rebuilding financial strength. This is specially important for group pensions because of the huge amounts of invested funds generated by this business.

But this is only part of the question. Bonds and mortgages in good standing are carried at book values rather than market values on the statutory balance sheet. This treatment is based on the assumption that cash flow will always be sufficient to obviate the need for liquidating invested assets at depressed values. In today's world of high rates of interest and withdrawals, the validity of this assumption is being called into serious question.

There is no real problem in this area for group term life and health insurance, since these coverages develop relatively modest total assets and do not provide withdrawal values. It is true that there is a risk of negative cash flow in times such as now, when health insurance claim costs are rising rapidly. But, if these coverages stood by themselves, this would be predominantly an insurance risk rather than an investment risk, because assets for these lines could be almost entirely invested in short-term paper.

In the group pension business, the great bulk of withdrawals are subject to a market value adjustment. This is a device to adjust the book value of the funds withdrawn by the policyholder to current market value on the basis of the relationship between the current interest rate and the investment year rate applicable to the funds being withdrawn, and an assumed maturity date for the assets backing the funds.

This kind of adjustment provides pretty good insulation for the group pension business against wide fluctuations in investment values, and minimizes the need for contingency reserves to provide for losses from withdrawals.

Recently, a demand has developed for a type of group pension contract that guarantees interest rates for extended periods of, say, five to ten years, and further guarantees to return the invested principal at the end of the period. The contract is attractive to the purchaser because the interest rates are high relative to traditional standards. Unless they are very carefully designed, these contracts involve considerable risk of large losses arising out of fluctuation in asset values. This means that this type of business requires substantial surplus, much beyond that normally associated with the group pension business.

With regard to inflation, it has worked to increase average amounts of group life insurance, but because premiums are directly related to volume, there has been no disproportionate increase in risk. It's different for group health insurance, where premium rate adequacy has been seriously impaired by inflation. It is true that group health premium rates include provision for projected inflation. However, in the real world inflation comes first and the rate adjustments come later. This reduces cash flow and could result in some liquidation of assets if the business stood by itself. Even so, analysis of the experience of the seven largest group writers over the last ten years, when there have been at least two periods of rapid inflation, indicates they have had no serious cash flow problems in the area of group health insurance.

The long-term guarantees associated with group pensions make this business more susceptible to damage from inflation. However, the connection between inflation and interest rates and the size relationship between investment income and operating expense in the group pension business seem to indicate no special need for an inflation contingency reserve in this field.

The question asks about contingency reserves for asset fluctuation and inflation, but says nothing about the need for insurance contingency reserves. This is a matter of special importance for the group life and health insurance business.

New York requires group writers entered in that state to accumulate a group life insurance contingency reserve at the rate of 2% of each year's premium, until a total equal to 50% of the most recent year's premium is reached. Given today's rate of growth in premiums nobody is ever going to make it, but perhaps the practical result is about right. Some companies have started to apply the term "epidemic reserve" to this contingency reserve. Perhaps this is because they see epidemic or some other general health hazard, such as air pollution, as the most likely cause of catastrophic life insurance losses. Each carrier must use its own judgment in deciding how large a group insurance contingency reserve it really needs. It should also decide whether it needs any reinsurance in this area. The casualty/property business has proved over and over again that reinsurance is an effective tool for diversifying and spreading the catastrophe risk.

It is interesting to note that the risk involved in fluctuation of assets, or in rapid inflation, can't be effectively reinsured, and the same may be true of the risk arising out of an epidemic or other general health hazard.

Now for the question about minimum and maximum surplus.

As I said in answering the question on contingency reserves, every line of

business needs some safeguard against deterioration in the quality and/or market value of its assets. This safeguard is the base to which surplus to provide for all other risks must be added.

With regard to the insurance risk, it's possible for a company to analyze its own group life results to measure the risk of adverse deviation in any one year, and then project the risk over a period of several consecutive years to determine how much surplus is needed to give any desired level of confidence that the line won't go broke in the absence of a catastrophic loss. If you do this, you'll find your answer depends upon several things such as,

1. the size of the company,
2. the desired level of confidence,
3. the level of expected statutory earnings, and
4. the mix of investments.

When we did this in a very crude way for our group life business, we found that a surplus equal to about 5% of a year's net premium would give us a very high degree of assurance that our group term life business wouldn't go broke in the absence of a catastrophe.

The same thing can be done for group health insurance. We did this for our own business and that of each of six other very large carriers and that of all seven carriers together. This operation has a lot of shortcomings but, nevertheless, the results may be of some interest. They indicate that a surplus equal to very roughly 10% of a year's premiums would have been sufficient over the last ten years to have made the hypothetical composite company 99.44% sure that its group health business would not go broke in the absence of a catastrophe. The results for the individual companies were all over the lot and showed no discernible trend by size, but then the company with the smallest volume had a group health premium income of more than \$350 million in 1974. Perhaps, at that level, increasing size does not produce significantly improved stability. The variation also appeared to be independent of whether the company was organized on a stock or mutual basis.

For group pensions, the very largest part of the total risk arises out of the investment risk, regardless of the nature of the contract. On the other hand, the mortality, expense, and withdrawal risks and, to some extent, the interest risk are affected by the nature of the contract. In the answer to the first question, I have given some ideas as to how these risks might be assessed for various types of contracts.

In any event, it's plain that, while there are some general guideposts as to how to determine surplus needs for each line of business, a very substantial part of the final answer depends upon the judgment of the company's management.

Finally, there is the question of how to combine all the elements of surplus. Theoretically, total surplus needs should be less than the sum of the needs for the major lines. Personally, I prefer to do no more than add them together. It's simple, conservative, and reasonable in my judgment.

I'll cover the question of maximum surplus in discussing the balance between reserves, special contingency reserves, and unassigned surplus.

Let's forget for the moment that one function of surplus is to supply funds for growth. Instead, let's concentrate on the function of surplus as the source of funds to enable the company to cope with financial strains of unexpected severity or duration. The maximum amount of surplus a company needs for this purpose depends upon the degree of confidence its management has that the combined financial strength provided by the margins in statutory reserves and the contingency reserves and that maximum surplus will enable the company to weather all but the type of general disaster that would swamp a major share of comparable companies. After this point is reached, further additions to surplus add unreasonably to the cost of insurance and, in the case of stock companies, unnecessarily reduce the rate of return on investment.

To summarize, the margins in statutory reserves should reflect the expected range of fluctuations in the various elements of net cost over the time periods to which the reserves relate. These margins should not be excessive, because, if they are, they will limit the company's flexibility in responding to financial strains in other areas of its business. The margins should be supplemented by contingency reserves to cope with particular risks that can create abrupt large financial strains. Finally, the margins and contingency reserves should be overlaid with enough surplus to produce the solid financial structure that can give the buyer trustworthy guarantees and reasonable rates, and the investor a fair rate of return on a sound investment.

MR. JOHN C. ANGLE: On a November evening 95 years ago, a thrice-wounded veteran of the Civil War made his way to the lectern of Boston's Lowell Hall. As he climbed the steps he saw President Eliot of Harvard flanked by the faculty of Harvard Law School. Undaunted by the calibre of minds in his audience, this young lawyer took confidence from the 15 years he had invested in his manuscript which was soon to appear as a new book entitled The Common Law. Drawing a deep breath, Oliver Wendell Holmes opened his first Lowell lecture:

"The law embodies the story of a nation's development through many centuries and it cannot be dealt with as if it contained only the axioms and corollaries of a book of mathematics... The life of the law has not been logic: it has been experience. The felt necessities of the time, the prevalent moral and political theories, intuition of public policy, avowed or unconscious, even the prejudices which judges share with their fellowmen, have had a good deal more to do than the syllogism in determining the rules by which men should be governed."\*

It seems to me that Justice Holmes, were he still alive and on this panel, would say: "You want to change the life insurance reserve standards of fifty states?" "Because law is not mathematics, pray tell me what new felt necessities, what new events, urge such change?" My answer to Justice Holmes would be that I cannot make a case for changing minimum reserve standards. However, I would urge that the states and certifying actuaries understand that robust financial health requires more than being able to draw another breath. We must look for financial solidity and urge more substantial contingency reserves and surplus. The events requiring us to raise our targets for capital structures include today's pressures for short-term performance, the reappearance of investment risk, and the rising importance of non-life insurance to life insurers.

\*Catherine Drinker Bowen, Yankee from Olympus (Boston: Little Brown Company, 1945) p. 275.

### Solidity Standards

Students of insurance regulation remain divided between those who believe suitable solidity standards can be deduced by use of mathematical risk theory and those who believe judgments of insurer endurance must rely on the patient accumulation of experience, in knowledge-by-acquaintance. Spencer L. Kimball, a champion of regulatory emphasis on "solidity," rather than on mere "solvency," recently spoke before the Insurance Section of the American Bar Association. Kimball advanced a proposition, echoed in the Ruebhausen Committee's 1968 Report on Holding Companies to the New York Superintendent, and in Thomas J. Kelly's remarks in Record 1:2 on the goals of the NAIC Technical Subcommittee on Valuation and Nonforfeiture Value Regulation.

"In the long run," Kimball said, "the same capacity to make very complex calculations with a computer that enables us to go to the moon will surely enable us to determine how much surplus an insurer needs."

Kimball, to be sure, recognizes that we currently cannot quantify all risks faced by even a single line of insurance and that regulation must very much incorporate judgment and rules of thumb. Kimball also understands that risk theory cannot today deal with changing or dynamic patterns.

In fact, as legal advisor to the 1971 recodification of the Wisconsin Insurance Law, Kimball encouraged new authority permitting the Insurance Commissioner to mandate minimum surplus levels. An explanation of these discretionary powers noted:

"It would be useful to develop a formula to permit determination of the proper amount of the surplus by a simple computation. Unfortunately, there is little basic research to rely on, nor many constructive suggestions from the industry except in very general terms... There is no option except to repose fairly extensive discretion in the commissioner to decide each case individually... This is, of course, the present de facto, if not de jure, situation in insurance regulation."

Let me turn to the Report of the New York Superintendent's Special Committee on Insurance Holding Companies (the Ruebhausen Committee). Insurers, said the report, must retain enough surplus for financial shock absorption to assure future solvency. This amount was called "required surplus." Any excess, designated "surplus surplus," should be available, said the Committee, for holding company purposes without restrictions derived from insurance considerations.

How did one determine "required surplus"? Not by crude rules of thumb, but ultimately by constructing computer programs to apply the Scandinavian or European mathematical risk theory. "Here," retorted Irving Rosenthal in an article printed by The Actuary, "I part company with the authors of the Report." "The question is whether risk theory adequately expresses the nature of the contingent forces which may attack the solvency of an insurance organization; unfavorable political change, war, collapse of financial markets, social change, bad management." "The kind of unfavorable claim fluctuation which we can think of as a pure chance deviation from a norm is probably the least important of all the potential menaces to solvency."

I shall leave this controversy of science pitted against experience by noting that our British colleagues display a keen insight of the complexity of the matter in an actuarial guide recently issued at St. Andrew Square and at

Staple Inn Hall. Under date of 23 May, 1975, the Faculty and Institute recommend that appointed actuaries responsible to the Department of Trade bear in mind that long-term financial soundness is affected by a number of considerations. These include: premium rate levels, guarantees, existing investments, continuing investment policy, marketing plans, current and future expenses, and the amount of surplus. The British guide mentions the importance of external factors, outside the control of the insurer, and emphasizes that, in assessing long-term financial soundness, "matters of judgment are involved and no absolute rules are possible."

Let me now turn to performance, investment risk, and non-life risks.

### Performance

The holding company mania of the late 1960's was only one sign of the pressures on insurers to improve returns to stockholders, while liberalizing benefits and reducing prices. Some of these pressures were generated by security analysts and include: GAAP accounting, the SEC's jurisdiction over financial reports, and the stock market's usual obsession with quarter-to-quarter earnings comparisons.

The pressure for performance, compounded by inflation-generated rises in expenses, stimulated an emphasis on sales results, processions into real estate and other high-risk investments, the rise of group insurance, some fraud, and the drive for all-line charters.

Some among the academic community, especially those Robert Nisbet calls moralizing statisticians, have delighted in goading the lumbering insurers. Some are agitators for price disclosure and others spread the word that life insurers are larded with excessive layers of reserves. It is instructive that the Ernst and Ernst Guide to GAAP Accounting for Life Insurers opens with a quotation from Professor Robert Raymond's unpublished doctoral dissertation of 1964. Raymond, who generalized from the conditions of the late 1950's, had written "ultraconservatism is built into the life insurance balance sheet."

Let me make it clear that there is nothing wrong with an awareness of the need for performance. Insurance companies exist only because they deliver economic value to their customers. However, since the economic values provided by life insurers are delivered in the future, emphasis on current performance can be overdone. The long-run considerations dictate the emphasis on solvency and stability seen from the eras of Richard Price and Elizur Wright to the present day.

### Investment Risk

The financial troubles of New York City, the bankruptcy of the Penn Central and W. T. Grant, the defaults in real estate, and the 1974 failure of the 20th largest bank in the United States are among the more dramatic signs of the re-appearance of investment risk. The reincarnation took place after a jubilant era during which capital gains seemed perpetual and a steady demand for real estate redeemed all errors of lending officers. Sidney Homer, for one, believes credit markets are still overextended around the world and that more consequences of the great inflation are yet to be exposed. We can respond to the new realities in two ways: by retreating into a shell of investment conservatism, or by accepting reasonable risk when justified by the return of investment.

To accept and provide for investment risk requires some sort of investment reserves or mentally-earmarked part of surplus. This in turn takes us to the actual dimensions of risk we can expect from various investments.

A classic reference is a 1951 study by W. Braddock Hickman of 1925-1945 default losses on corporate bonds outstanding in 1900 or issued in the following 45 years. Hickman stated the unredeemed defaults as annual rates of loss. A loss rate of .10 percent, which Hickman found typical of prime quality bonds from 1925 to 1945, means that default losses annually averaged .10 percent of the principal of outstanding bonds. For Baa-rated bonds, Hickman found loss ratios of .60 percent. For the low-quality corporate bonds, the figure was 3.90 percent. Recent papers by Vanderhoof, and by Allison and Winklevoss, employ the term "risk premium" to describe the increment of investment yield needed to provide for default losses.

The significance of the Hickman study was not lost on the regulators of life insurance. A formal provision for accumulating investment risk premiums was soon authorized in a new liability item called the Mandatory Securities Valuation Reserve. However, the MSVR was given two missions. It was to serve as a repository for bond risk premiums, and to stabilize surplus by absorbing unrealized appreciation on common stocks. Because of the massive run-up in common stock values under way when the MSVR was born, the operation of the common stock component long overshadowed the less spectacular experimental accumulation of bond risk premiums.

For bonds judged amortizable by the NAIC staff, the annual formula additions to the MSVR bond reserve were first set at .05 percent. In 20 years these additions would accumulate to 1 percent of the statement value of bonds. After appearance of the Fraine study in 1962, the annual formula addition (in addition to capital gains) was raised to .1 percent and the accumulation limit to 2 percent. To recognize variations in the risk premium among various grades of amortizable bonds, insurers were later permitted to make voluntary formula additions. This made possible annual contributions totaling as much as .3 percent of the statement value of bonds though the maximum accumulation remained at 2 percent.

In the spring of 1975, the NAIC decided to double the formula and voluntary additions for any insurer with an MSVR bond component standing at less than 50 percent of maximum. This now creates a special category of insurers required to assume bond risk premiums to be .2 percent annually and voluntarily able to assume them as high as the .6 percent that Hickman found characteristic of Baa bonds from 1925 to 1945.

Statistics assembled by Dr. Kenneth Wright of the ALIA indicate most insurers have experienced a sharp drop in the Bond and Preferred Stock Component of their MSVR. This component fell from 58 percent of maximum at the end of 1969 to 21 percent of maximum at the end of 1974. (Meanwhile the common stock component plummeted from 66 percent of maximum to 3 percent of maximum.) Depleting the bond and preferred stock reserve were, at least, \$130 million of Penn Central security losses in 1970, the 1974 markdown of Pan American Airlines securities, and frequent losses resulting from the sale of securities in good standing.

I recently talked to Dr. James J. O'Leary, an economist who was one of the early proponents of the MSVR. O'Leary said, "In setting up the MSVR we assumed companies would always enjoy a positive cash flow and that the sole reason for the existence of the MSVR would be to absorb default losses. In practice,

companies have not always enjoyed positive cash flow so that some losses have been taken on forced sales. Portfolio managers have also initiated a number of sales of unmatured bonds in good standing. These losses chargeable to portfolio management have resulted in substantial deductions from the MSVR. In spite of these unforeseen developments, events have confirmed the wisdom of establishing the MSVR."

There are, then, several defects in the MSVR. One is that the maximum of 2 percent seems much too low for securities with implicit risk premiums of as much as .6 percent per year. Harold Fraine voiced this criticism in 1962 and it seems equally valid today. A second, suggested to me by Dr. George T. Conklin, Jr., is that there needs to be two MSVR's: one held solely for defaults and a second that could be used for losses on managed sales. Possibly, the second one could be funded by crediting capital gains on bond sales plus a small formula addition representing the probability of forced sales in time of adverse cash flow.

A third is that the MSVR umbrella covers neither mortgages nor real estate. Yet today, experts point to the troubled real estate investment trusts, tick off lists of life insurance companies taking write-downs on real estate investments, and forecast more trouble ahead for commercial real estate ventures.

Our tax laws are blind to the handling of default losses: GAAP accounting standards and federal income tax laws provide no earmarking of bond risk premiums. GAAP accounting does so, because the MSVR would be considered as belonging to shareholders upon dissolution of a stock company. Under tax law, bond risk premiums collected by life insurance companies as part of the rate of interest are taxed at the insurer's marginal federal income tax rate. One collecting investment risk premiums must increase them to cover the federal income tax. But that isn't the end of the problem: if a defaulted security is deemed worthless, federal tax rules do not permit the default loss to be deducted from taxable investment earnings or from other operating income. For tax purposes, the default loss is a long-term capital loss, deductible only as an offset against capital gains. Unrecovered capital losses can be carried forward only five tax years. But how often will capital gains be available in time of widespread financial distress?

Regulators may be reluctant to raise the MSVR maximum in an era that emphasizes performance. The accounting profession is on record as opposed to contingency reserves. Failing authorization to hold larger MSVR's, insurers will need sufficient surpluses to absorb investment losses and to cover other contingencies.

#### Non-Life Risks

Insurance in the United States, with a few exceptions, developed on a mono-line basis. In the years following the Chicago fire and San Francisco earthquake, it became law that fire insurance could not be written by carriers offering other forms of property and liability insurance. This principle applied to life insurers who have often been severely limited in writing such non-life coverages as disability insurance and where legislative surplus standards have implicitly assumed life insurers to be mono-line companies.

Section 207 of the New York Insurance Law is such an example. This section limits the surplus of a mutual life insurance company to 10 percent of its life insurance reserves. The implicit assumption of Section 207 is that a life insurance company faces primarily investment risks. In recent years, however, the facts have changed. Mutual life insurance companies have become

active insurers of long-term disability benefits through individual and group health contracts. Individual and group medical expense benefit premiums account for half or more of the premium income of some mutual life insurers, a risk classification ignored by the surplus criteria of Section 207. The largest companies have thrust themselves into property and casualty insurance through subsidiaries and there is agitation for all-lines charters. Ordinary life premiums have declined in the face of increasing competition over the "going-in cost." There is greater resort to term insurance. Reserves seem weaker: a number of mutual companies now post preliminary term reserves against recent issues. Finally, we have seen significant increases in investment risk which are not adequately provided for by the MSVR.

These developments argue for reformation of Section 207. Two proposals deserve consideration. First, that the present surplus limit of ten percent of an insurer's life reserves be enlarged by a component to reflect underwriting risks under group life, group health, and individual health insurance. If this component is consistent with the Trowbridge findings, it will be one-third to one-half of the premiums for these coverages. Secondly, an added surplus allowance should be available to insurers posting preliminary term policy reserves, since weaker reserves should entail greater surpluses to achieve the same degree of solidity.

I should add a brief word about individual health insurance. Here it is possible to demonstrate that the CDT Table understates reserves for disability insurance. For medical care insurance, the actuaries' reserve assumption of level premiums to age 65, has been ground to pieces by ratcheting rises in medical care costs. We lack, I believe, adequate valuation theory to deal with the cyclical changes in frequency and severity of risk inherent in this form of non-life insurance.

### Conclusions

Somewhat paradoxically, a striving for superior performance requires more substantial provision for contingencies. As to investments, the case can be argued from the Hickman Study that insurers should accumulate the risk premium element of investment income. It would seem desirable to recognize the variation by likelihood of default by investment and to extend the MSVR principle to mortgages and real estate. Ultimately, these investment risk premiums should be sheltered from tax and available to cover the inevitable losses whose arrival is so uncertainly timed.

Non-life insurance deserves more attention by life actuaries. To illustrate the dimensions of risk, in the five years since state guarantee funds were set up for property and liability insurance there have been 25 property and liability insurer insolvencies resulting in \$49 million of assessments against the industry. Closer to home, life insurers face significant contingencies under long-term disability contracts and frequent short-term losses under medical expense reimbursement contracts. These developments argue for new standards for judging life insurer surplus, including amendment of New York's Section 207.

I wind down with the April comments of C.F.B. Richardson, Chief Actuary for the State of Tennessee. Richardson said in Record 1:2:

"In closing, I make a strong plea for a practical, realistic approach to these matters and a strong effort to reach solutions... These problems demand broad, practical solutions rather than theoretical and idealistic approaches. In any

event, one cannot legislate wise management."

MR. CHARLES F. B. RICHARDSON: Question 1 suggests that adverse deviations might be covered by statutory reserves. However, statutory reserves cannot be used for this purpose. The fundamental fact is that, when you are in trouble, you need, not statutory reserves, but surplus in one form or another.

It is not clear whether question 2 contemplates a special contingency reserve in addition to the MSVR to provide for what are described as wide fluctuations in investment values. It does not seem to make any sense to have more than one investment reserve. Perhaps the formulas for building up the MSVR and the rules for using it need to be restudied. The adverse effects of inflation will impact, not only asset values, but the level of administrative expense, and this latter item must be covered by suitable margins in the premiums.

The concept of a minimum surplus is a new one and there are only two states which prescribe a maximum surplus, a limitation which has never made sense to me because, among other things, it can be circumvented so easily by the adoption of unduly severe bases for statutory reserves.

I would like to pose a number of the basic questions that should be answered before we embark upon the long-range research that is needed to determine the size and nature of the contingency reserves, in addition to statutory policy reserves, that might be required. These questions are stated on the assumption that the basis for valuing policy liabilities will be realistic, but not over-conservative, with moderate safety margins, and that separate liabilities of defined amounts should be considered for the purpose of meeting (a) losses or fluctuations in the value of assets (referred to as investment contingency reserves) and (b) various other types of losses and fluctuations in experience arising from insurance operations (referred to as insurance contingency reserve). It is also necessary to bear in mind that any reserves such as the MSVR, which is placed above the line, would very likely be treated in practice as surplus, as is done under GAAP. It is most doubtful that any court would place a company in the hands of a receiver if the MSVR or other contingency reserve existing above the line would make the difference between the capital stock being impaired or not or, in the case of a mutual company, if it exceeded the negative surplus, assuming that the statement of financial condition was the sole consideration involved.

1. If the amount of a contingency reserve is to be a defined quantity then, like the MSVR, should it be treated as a liability and held above the line, whatever its purpose may be?
2. If all or part of one of these required contingency reserves had been used for the purpose for which it was created, what would be the procedure for restoring it to the amount required by the formula?
3. If a company's "free" surplus is exhausted, but contingency reserves required above the line still exist, it would presumably not be possible (except in a few states) for the insurance department to step in and appoint a custodian. In other words, would not the contingency reserves above the line have to be exhausted as well as "free" surplus, before regulatory action could be taken?
4. In what specific terms would the amount of these contingency reserves be expressed? Presumably, the investment contingency reserve would be expressed as a percentage of the assets, probably varying by the type of as-

set, as in the MSVR. In the case of the portion of the insurance contingency reserve providing for adverse mortality or mortality fluctuations, these would presumably be expressed in terms of the amount at risk, i.e., sum assured less reserves. This would be true for ordinary life and group life and accidental death benefits. In the case of the portion of the reserve having to do with experience fluctuations, losses or rate inadequacies in health insurance, what quantities would be used in determining the necessary contingency reserves? Actuarial reserves themselves would hardly be suitable. But could such quantities as premium income, claims paid, or claim reserves be used in the formula?

5. Is it agreed that surplus in a stock company does not include capital? In other words, would regulatory authorities take action if surplus had become zero and capital was becoming impaired, even if a substantial amount of capital existed?
6. Questions 1, 2, and 3 assume that any contingency reserves of defined minimum amounts are placed above the line. Should they, rather, be below the line (even though separately labelled) and be treated as part of surplus? In fact, would it be better to establish formulas for the various risks that would determine a sound basis for determining the minimum total surplus required, without separating surplus into several components?
7. If minimum contingency reserves below the line or total surplus of defined amount are required and there is no additional "free" surplus, should any action be required by the regulatory authorities if required surplus or one of the contingency reserves falls below the required minimum, after having been used to meet the losses which it was designed to cover in the first place? It would be difficult to regard such a company as insolvent. The basic questions are: (1) at what point should there be intervention by the insurance department in the operation of the company, and (2) what specific type of intervention?

There is much to be said for the very broad authority given to the Commissioner in Texas under the "early warning" statute. This permits sensible preventive action, rather than putting the regulatory authorities in the position of having to lock the barn door after the horse was stolen.

Completely apart from these questions regarding contingency reserves for established companies, a separate and fundamental question is, what should be the minimum capital and surplus requirements for establishing a new company? It is very evident that this question urgently needs attention in most states because the minimum capital requirements in so many cases are dangerously inadequate.

The excellent discussions given by the members of this panel have covered very well the many complicated matters that must be considered in deciding what changes should be made in the minimum statutory reserve bases and the MSVR, and whether specified contingency reserves or minimum surplus requirements should also be required in the test for solvency. It cannot be overemphasized that these matters are of extreme urgency and, I believe, that the continuation of the present reserve and cash value standards, involving interest rates of  $3\frac{1}{2}\%$  or  $4\%$ , is unsound and even dangerous in the light of the economic conditions which now prevail and seem likely to continue. The result is that the insuring public is paying a higher cost for life insurance than they should.

Mr. Corbett's remarks included some references implying the possibility of a

gross premium approach to valuation and, while I am opposed to that approach, I am aware that it is under consideration in Canada. It is important to remember that the regulatory situation there is entirely different from that in the U. S. and that the Canadian Insurance Department has a large and highly capable actuarial and technical staff. This leads me to urge that serious consideration be given to the formation of a centralized staff for the NAIC comprising highly-qualified lawyers, actuaries, and accountants to provide the level of competent technical advice which is so badly needed and which no one state can possibly attract or afford. This does not mean the loss of the sovereign right of the states to make decisions. It simply provides a badly-needed consulting organization. Unless some such staff organization is created, I believe that it is only a matter of time before we have Federal supervision of the life insurance business.

MR. ARDIAN C. GILL: I'd like to try to put a piece of connective tissue between something Gary Corbett said and that which a number of other speakers said on the MSVR. If I understood Gary correctly, he would determine the reserve interest rate by starting with something related to the new money rate, and then concentrate the regulatory effort on the reinvestment problem and create some composite rate, that begins with the new money rate but recognizes a rather conservative rate for reinvestment of future cash flow. That, I think, would be adequate without any further adjustment for asset depreciation.

I think the risk of asset depreciation should be a function of the MSVR and here I would take half issue with Ed Lew. Ed said the MSVR disappeared just when you needed it and I think only half of it really disappeared. There are two components, the stock and the preferred and bond component. The stock component is a fluctuation reserve and it's supposed to disappear, or at least it's supposed to diminish, so the problem there was probably one of the size of the reserve rather than its function. The other component is an asset value reserve and it did disappear, but not through exercise of its intended purpose, which I believe to be writedowns due to reclassification or forced disposition of assets. It disappeared because of trading in bonds, and I don't really believe that the MSVR should function for managed losses due to those trades. The MSVR can be an effective mechanism if more attention is paid to the rate of contribution to it and to its ultimate size, and if the abuses of its use were corrected. These steps, together with some reconstruction of the calculation of the reserve interest rate along the lines Gary mentioned, would, I think, solve the problem of valuation interest rates.

MR. JOHN O. MONTGOMERY: These are my present views and it is hoped that they will stimulate further thought on the relationship between statutory reserves, contingency funds, and minimum surplus requirements, taking into account, for stock companies, the capital structure.

The purpose of contingency funds is to account for possible deviation from expected experience, either random, cyclical, by trend, or by catastrophic means. The risk structure of the company with respect to experience with investments, mortality, morbidity, expense, and withdrawal, and the means by which such risks are shared or transferred by reinsurance programs will determine the nature of the contingency funds. Also to be considered are the statutory reserves. Are they at minimum levels or have they been set at levels higher than minimum? The capital structure of the company, for stock companies, and the existence of special funds such as the Mandatory Securities Valuation Reserve would also affect the level of contingency reserves. All contingency funds should be carried below the line as an earmarked part of surplus and should,

when combined in total, constitute a basis for determining minimum surplus which should be held by the company. Any additional surplus could be designated as "unassigned."

The problem is how to define "minimum required surplus" for statutory regulation, or for regulation through statutory authority. "Statutory regulation" would define "minimum required surplus" by statute while "regulation by statutory authority" would give the regulatory official the authority to define "minimum required surplus" by regulation. The latter form would give greater flexibility to changing circumstances.

In developing a value to be held as the minimum required surplus, there are several approaches. One is to develop each segment of the contingency reserve separately, and then combine all such segments, deducting therefrom, the sum of the excess of statutory reserves held over the minimum statutory reserves, any contingency reserves held of a special nature (such as the MSVR) and the amount of capital. Another approach is through a form of gross premium valuation which takes into account reasonably expected experience as to investments, mortality, morbidity, expense, and withdrawal, and the probability of deviation and possible magnitude of deviation of expected experience, as well as how such risks are transferred by reinsurance. Both methods must consider the elements of cash flow and the degree to which the nature of the assets held meets the demand for liquid cash required in the operation of the business.

The MSVR is really a contingency fund, an earmarked part of surplus, and, as such should either be included as part of the contingency reserve or, if shown separately, carried below the line. All other contingency or catastrophic reserves should receive similar treatment.

A word should be said hereabout capital, minimum surplus, and the various regulatory steps which might be considered for a company with a deteriorating financial position approaching statutory insolvency. In considering a state of actual statutory insolvency, the statutory reserves should be considered as those required by minimum statutory reserve requirements, and all contingency reserves, and catastrophe reserves, including the MSVR, should be considered as a part of surplus and placed below the line. Whenever all of these special parts of surplus and all of the capital funds are exhausted, the company would be statutorily insolvent. Whenever the special funds are exhausted and the capital funds are partially exhausted, the company would be in an impaired capital position. Whenever the amounts actually available for the special contingency reserves are not sufficient to meet the minimum surplus requirements as defined by statute, the company would be considered in an impaired surplus position.

For the position of statutory insolvency, the company should be placed in conservatorship. In the event of an impaired capital position, strong action by the regulatory authority is indicated with the management either operating the company under close supervision of the regulatory authority or with the management being replaced by a conservatorship. Some states presently require by statute that a company in an "impaired capital position" be placed in the hands of a conservator. Companies in an impaired surplus position should be placed at least on a status of "hazardous control," wherein the regulatory authority would exert some supervision over the operations of the company.

In statutorily defining "minimum surplus," care must be taken that such a definition does not result in companies being placed under a state of "hazard-

ous control" every time there is a major decline in the stability of the investment market. In other words, the minimum statutory surplus should be defined as something less than the value indicated for the contingency reserves under reasonable operating conditions. Certainly, such minimum surplus requirements should not include the entire amount of contingency reserve components derived for the purpose of asset value fluctuation, and it is possible some other portions of the contingency reserve may require similar consideration. Considerable work needs to be done in this area before some form of statutory definition of "minimum required surplus" can be accomplished.

With respect to withdrawals from the contingency reserves because of asset deterioration, or for adverse developments for other reasons, such withdrawals for a particular year should be determined in total for all causes and deducted from the total contingency reserve even though the deductions and the contingency reserve itself may have been developed in segments. One possible approach would be to express the deduction for a particular year as a percentage of the total contingency reserve determined for that year, with this percentage being reduced evenly over a period of years. The actual total contingency reserve would then consist of the total contingency reserve less percentage deductions for each year in the previous period of years during which withdrawals from the contingency reserves were required. Should a company have sufficient unassigned surplus it should be permitted to use this to obviate the reduction in the contingency reserve. The period over which the withdrawal is to be returned to the contingency fund may vary with the circumstances, but some maximum limit to such period should be fixed by statute.

In conclusion, I am not certain that we even want to approach contingency reserves from the view of empirical formulas related to assets, insurance income, premium income, and so on. Perhaps what is needed is some form of realistic valuation, with margins introduced for possible fluctuations in risk, and considering modifications in fluctuations introduced by the reinsurance program of the company in question. From this valuation the contingency reserve would be derived by deducting the statutory reserve, the capital funds, and any other contingency or catastrophe reserves including the MSVR. The "minimum surplus" requirement should be something less than such a contingency reserve, since some of the margin for fluctuation contained in the contingency reserve should be available for that purpose without placing the company in an "impaired surplus" position.

MR. RICHARD S. ROBERTSON: I find some of the comments made by panel members, relating to contingency reserves, to be rather disturbing. Mr. Richardson's comments bring these concerns of mine into focus. I see the following as a major problem. Suppose a life insurance company establishes several contingency reserves to protect against several individual hazards. Suppose the company's unassigned surplus becomes impaired because of losses for a hazard against which no contingency reserve is held, or through an exhaustion of one of the contingency reserves. Is such a company to be considered insolvent? If the answer is no, then what is the purpose of the various contingency reserves? If the answer is yes, then would not this result in much more substantial contingency margins than would be required if the reserves were combined into the overall surplus of the company, and is this in the interest of the policyholders? Basically, I agree with what I understand Mr. Sarnoff's position to be, that the overall surplus of the company should be available to meet all adverse contingencies, and the attempt to divide that surplus into specific contingency reserves is not particularly helpful and can be misleading.

I do agree that there is need for much greater recognition of standards to determine appropriate minimum surplus levels for companies, and there is further a need to establish procedures for companies which fall below such minimum levels, which would allow them to rebuild the surplus without requiring a receivership situation.

MR. LOUIS GARFIN: It sounds like we might be coming to the conclusion that some aggregate provision for contingencies should be made mandatory. Previously, most contingency reserves were voluntary and, thus, under the control of the individual companies. If we make these contingency provisions required liabilities by law or regulation they will, in effect, become "statutory." I hope we will guard against falling into this trap. The point is that required reserves would not be available for the primary function of contingency reserves, which is to absorb fluctuations in experience.