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MEASUREMENT OF FINANCIAL RESULTS

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1. Surplus, net income, cash flow and growth goals and results for total company, each line of business, and subsidiaries
2. Treatment of investment income, Federal income tax, expenses and generally Accepted Accounting Principles (GAAP)
3. Accountability and constraints on pricing and growth
4. Type of company: size, stock, mutual, diversified
5. Operational and strategic planning, projecting, and monitoring
6. Organization for effective use of financial measurements

MR. DONALD D. CODY: As our discussion proceeds, it will become apparent that the objectives of strategic financial planning probably differ less by type of company than by the inherent characteristics of each company such as these: (1) cash flow normally developed by internal operations and retained earnings rather than from outside capital or borrowing, (2) investment risk and related product value risk predominating rather than insurance risk, (3) whether or not to have your own marketing force versus brokers, (4) the extent of diversification, (5) and mutual versus stock. I note, however, that net income and surplus needs are not especially different between mutual and stock companies. But rather a stock company is interpreted to its owners through investment analysts, while the owners of a mutual company are represented through its field force with interesting conflicts of interest.

Discussion Note--

QUANTIFICATION IN PLANNING - ESPECIALLY SURPLUS GOALS

The intent of this discussion note is to give a comprehensive listing of important areas for quantification in corporate financial planning in life insurance companies. This note will be amplified with specific experiences and data in the companion discussion notes and panel discussion.

Organization, Attitudes, and Tools

The structure of corporate planning ideally should be a combination of bottom-up and top-down planning which necessarily and ultimately is a prime responsibility of the chief executive officer. Line management must be vitally involved in corporate planning, usually aided by a few full or part-time staff specialists as coordinators, stimulators, and innovators, especially in long range planning. Corporate accounting staff is involved importantly in short range financial planning which is largely budget-connected and sales-

oriented; additionally, actuaries, investment people, and other line and staff people are, of course, involved. In long range strategic planning, corporate actuarial approaches become far more important. Long range planning probably should be organized separately from short range planning, although some of the same line and staff people would be involved in both.

Short range operational budget-connected planning is almost always done even in the absence of formal long range planning. In companies doing long range strategic planning, short range planning becomes the operational and monitoring edge. If true long range planning is being done, it is always characterized by the following activities and tools in many of which quantification is a hallmark:

- An organization permitting effective overall corporate considerations without undue intrusion of immediate needs.
- Documentation of company philosophy, objectives and goals.
- Projection and monitoring of financial goals (surplus, net income, cash flow, Federal income tax) and goals for growth (assets, sales, service, cost).
- Realistic corporate models and other tools along with "what if" capabilities under a variety of environmental scenarios.
- Establishment of strategies and the study of strategic alternatives, including contingency (or adjustment) planning.
- Effective management information systems.
- Communication linkages and coordination of decision making among lines and functions.
- Decisions on products, pricing, and growth within and among lines consistent with corporate goals.
- Pervasive consistency between insurance and investment operations.
- Inclusion of the formation and management of subsidiaries in the same planning structure.
- Establishment of yearly goals and budgetary plans consistent with long range objectives and projections and the monitoring of the results.

Within a variety of organizational structures with such characteristics and tools, it is possible to quantify historical trends, current results, and projected results, to determine future needs objectively, and to take intermediate actions aimed at the needs.

Inhibitions To Long Range Planning

Long range planning involves abstractions and uncertainties of quantification far more complex and difficult than short range planning and is almost always impeded by such factors as the following:

- Deep involvement of line and staff officers in short range operational problems since corporate rewards and punishments relate almost entirely to success or failure in such operational problems.
- Marketing arms, which traditionally have been our main engines of progress and represent such large capital investment, are concerned largely with short range planning.
- Great uncertainty as to the range of future economic, social, and regulatory environments.
- Lack of objectivity as to the effect of Federal income tax within and among lines.
- Difficulty of financial planning for the ordinary line, which tends to run largely on momentum and may be the balancing line.
- Lack of understanding and utilization of direct costing techniques.
- Actuarial conflict of interest between corporate financial objectives and competitive pressures.
- Imperfect coordination between investment operations and insurance operations.

Major Objectives of Corporate Financial Planning

The major objective of corporate financial planning is the conservation of an ongoing capacity to offer insurance and financial services with assurance of safety at a reasonable probability level in variable economic environments and at the same time to retain the vitality to grow in a very competitive market.

This objective can best be quantified by establishing a proper surplus goal formula which would enable the corporate surplus goal in future years to be based upon projections of the corporate activity in a range of possible economic environments. Once surplus is so formulated it becomes possible to plan investment policy and product, pricing, line and system changes and growth so that net income and other changes in surplus will meet the formulated surplus goals.

Quantification of Surplus Goals

Formulation of surplus goals in a practicable form for application in the current year and in future years is difficult. Some companies are formulating such goals by stochastic considerations of investment, insurance and other corporate factors, with appropriate reflections of high risk situations. However, I want to outline a largely deterministic approach which has promise:

Surplus Components: The approach partitions surplus into two different parts: (a) solidity surplus and (b) corporate vitality surplus. The corporate vitality component is regarded as desirable for purposes of undertaking (1) expansion of marketing systems, service systems, sales, and new products and lines and (2) management of assets to provide improved diversification, cash flow from maturities, and liquidity. Its size varies

depending on the status of developments undertaken. The corporate vitality component would appear to be characteristic of company management style and desire and, while real, cannot be easily quantified. It is additive to the solidity surplus.

The larger component - solidity surplus - does appear to be quantifiable and consists of a number of components. The concept of solidity is more conservative than the concept of solvency, for it implies the ability to continue to conduct business more or less as usual under severe economic adversity with dividend reductions only to the extent that quality competitors make such reductions.

Solidity surplus consists of investment risk components and insurance risk components, some overlapping. A number of components are additive because they will surely arise at the same time (like investment losses and disability losses in depressions), while others are supportive and might be combined on a root-mean-square basis (such as investment losses and mortality losses).

Investment Risk: This component addresses two risks, the first being an asset credit risk relating to defaults in securities with account taken of recoverable values. Included here is the effect of changes in market values of common stocks. The second risk is the surplus loss caused by the forced liquidation of securities when market values are below book value. This is sensitive to policy loans, pension withdrawals, and the extent of investment commitments in times of serious economic conditions. The process involves analysis of securities, mortgages, and real estate in great detail as to quality and projections of variations in net cash flow from investment and insurance operations.

One is led to evaluate these investment risk surplus components by estimating their size at time of depression. Two types of depression are possible, the first being a depression involving deflation such as that in the 1930's. As illustrated by the experience of the Great Depression, the product-connected forced liquidation losses can probably be handled successfully. The more serious kind of depression is one involving inflation. One can develop a scenario here which would involve massive asset liquidation and which would permanently change the whole insurance business because current product design (with the constraints of the nonforfeiture and valuation statutes) might no longer be viable in competition with other investment vehicles. Here we visualize the asset credit risk not being as serious as in the deflation depression because recoveries would be better. However, the forced liquidation factor boggles the mind, and probably no satisfactory surplus goal can be set for this kind of catastrophe. One must be satisfied with having a company surplus position in such circumstances which is superior to the extent compatible with a currently viable operation.

There are a number of sizable offsets to the asset risk surplus component. One is the extent to which ordinary policyholder dividends can be reduced in a depression situation without seriously impairing company viability in sales and persistency. Another is the extent to which investment income credits under the investment year method to immediate participation guarantee group annuities will reflect capital losses.

It is important to develop these asset surplus goals by line. Some of the high principal guarantee, high interest credit annuities in both individual

and group pension lines can show rather startling surplus needs compared with their low net income capacity.

Insurance Risk: It seems that group long term disability and individual non-cancellable disability lines should be assigned surplus goal formulations for similar depression situations where high unemployment is involved.

Surplus for mortality fluctuations can be determined by analyzing the distribution of death claims by amount and applying available formulations of collective risk ruin theory. Ordinary and group death claims, accidental death claims, and annuity mortality losses are among these categories. It is likely that in most companies surplus to protect against fluctuations of mortality will be of much lower order of magnitude than the asset risk and will not affect the level of required formulated surplus to any great extent.

There are certain other drains on surplus such as the effect in many companies of the advent of national health insurance to which value should be given. Group medical care claims, despite currently variable gains and losses, appear to have relatively small long range surplus requirements.

Matters For Decision

By such an approach, one can derive a range of surplus formulas. The choice of a particular surplus goal will not be unique, but, nevertheless, the exercise of establishing one will highlight a number of areas where corporate decision is necessary:

- Individual and group annuities with principal guarantees and interest rates related to new money rates may prove to have high surplus requirements incompatible with low profit margins. Such products may be reducing the company's capacity to offer its more important products.
- The surplus requirements for group long term disability and for individual noncancellable disability lines may also suggest an abnormal apportionment of surplus.
- The need for a common stock policy related to surplus and an investment policy related to insurance operations should be emphasized.
- The net level premium valuation basis may prove to be a weakness because its conservatism reduces statutory surplus.
- Reserves on insurance and annuities more conservative than permitted by recently passed statutes may be undesirable despite Federal income tax advantages.
- The company may decide that it needs to have a firmer financial policy for its ordinary line.
- The company's ordinary dividend scale may need to be studied to tie investment income credits and expense charges for various years of issue more closely to detailed financial statement dynamics.
- The company may not be retaining enough earnings to support the level of future surplus indicated by its current momentum.

What Surplus?

Since a prime purpose of long range planning is capacity to undertake risk, such planning concerns itself with statutory surplus including unassigned surplus funds, special surplus funds, mandatory securities valuation reserve, voluntary claim and investment fluctuation funds, capital, contributed surplus and retained earnings. Depending upon the degree of conservatism used in formulating the solidity component of surplus, one can be led seriously to consider the use of commissioners reserve valuation method (CRVM) ordinary reserves and the more liberal actuarial bases available for valuation reserves despite the smaller Federal income tax credits. GAAP for stock companies and adjusted internal management approaches for mutual companies, which provide for reasonable capitalization and amortization of acquisition expenses, are valuable planning tools on a going concern basis as measures of profitable growth. However, statutory surplus is the ultimate measure of capacity.

Net Cash Flow

Projection of net cash flow from investment rollover and from insurance operations, together with possible variations, must be projected in the short range for investment commitment purposes and for assurance of liquidity. However, projections of cash flow under a variety of economic scenarios, including possible contingency environments, must also be a part of long range planning. Reference has already been made to this in connection with surplus needed to anticipate forced sale of securities under certain recession and depression conditions. Our own projection model makes provision for these.

Net cash flow provided by the use of source and application of funds financials within lines and overall is an important corporate measure entirely independent of GAAP or statutory processes and reserve bases. It provides the ultimate truth as to slowdown of a going concern.

Expense Analysis and Allocations

We are paying considerable attention to the realistic projection of expense. We have recognized that, except for certain linear expenses like commissions and taxes, expenses are not transaction related in marked degree. Most expenses are slowly variable or essentially fixed within each line, are corporate related, or are of a development type. Any corporate expense submodel design not reflecting such treatment of expenses has serious shortcomings. We are conducting a thorough study of expenses on what the accountants call a direct-cost approach. Direct costing has considerable significance in design of dividend scales and pricing within lines and in determination of net income by line available for corporate overhead and, hence, for corporate profit.

Marketing, Manpower, Systems and Growth

This short note has dwelt primarily on surplus formulation and implications as an important aspect of strategic financial planning. It should be emphasized, however, that efficient marketing of high quality products, productive manpower in field and home office, modernization of markets, products, lines, and systems, and healthy corporate growth and change are likewise necessary ingredients of strategic planning requiring quantified analysis, projections, and goals.

MR. HARRY D. GARBER: Equitable does not have a monolithic planning function at the corporate level. Planning is carried out mainly in the line organizations. Many possible forms can be used for measurement of financial results. As the discussion notes indicate, the best forms really depend on what a company is trying to measure and what the main purposes are in conducting these measurements. I am talking mainly from a mutual company viewpoint.

The principal problem of mutual companies today is inadequate surplus and earnings levels. Therefore, the measurement devices that one ought to employ are those which will help improve earnings and will help thereby improve surplus levels. I will show later on, with some numbers, that companies are becoming increasingly leveraged. This is a term you seldom hear used about insurance companies, but, if you think about it, basically companies are borrowing money from policyholders. Unless the "borrowed" funds are in separate accounts, they involve either a guaranteed return or a return which is competitive with the marketplace. There are certain risks associated with the investment of those funds (i.e., the risks of default or impairment on the asset side of the balance sheet) which can be very significant. The higher the proportion of assets with risk gets to surplus levels, the more leveraged a company becomes and the more it is exposed to financial impairment. This could be a very significant problem with the high and increasingly leveraged position of mutual companies. It is important to develop a financial reporting structure that will help management improve earnings.

First, recognize that unlike most any other kind of business, the only source of equity capital for a mutual life insurance company is retained earnings (operating and capital). There is no place else to obtain capital. So a company has to develop an adequate provision for retained earnings from the business it conducts. Second, the fundamental obligation of the management of a mutual company is to assure the continuing ability to meet contractual obligations whenever they fall due. If a company cannot do that, it does not make much difference what the net costs to customers are. Third, and this will undoubtedly be a controversial statement, I believe that growth is necessary for financial soundness. I do not mean unrestrained growth or wild growth, but it is almost impossible to manage a company that is standing still or, worse yet, declining. You may often hear statements that policyholders would be better off if a company did not write new business, but such statements are just foolishness. Keeping costs at reasonable levels, maintaining investment return levels, etc., in a level or declining state would be a very difficult task indeed.

There is precious little in actuarial literature regarding the surplus and earnings levels that are required, but the financial soundness of our institutions are really based on both these quantities. At the Equitable, we have been trying to carry out some risk analysis studies. I will give you some particular results, but I think you should recognize that they are geared to our level of business and the kinds of business we do and are not necessarily applicable to other companies. However, the general magnitude of numbers is probably one that, give or take a percent or two in either direction, will be applicable to many mutual companies. Basically, we are looking at two situations. Don has used the term "solidity" and "solvency" surplus, to which I will give these labels, "crisis" and "solvency." It is not only the question whether the company will become insolvent that is important, but whether it will be able to continue doing business in accordance with its general development plans and expectations, or whether it will fall into a crisis situation requiring a drastic cutback in the amount of business written, policyholder dividends, staff, etc. All of these are actions which could impair a company's competitive position to

such an extent that it never really would be the viable institution that it had been before. Crises will usually precede insolvency and a company's goal should be to have almost as small a chance of crisis as insolvency itself. In risk studies the probabilities of insolvency are usually quite small. In carrying them out, however, you have to remember that, if your surplus gets down to a small enough level, your board of directors will begin to require "crisis" actions to assure that insolvency does not occur. Those actions are going to be so onerous in many cases that you might as well be insolvent. Accordingly, looking at both crisis and insolvency is important.

We have developed a Monte Carlo simulation technique to do this, using a basic function representing the variation in Equitable earnings over a 20 year period ending in 1975. We then extended the tail of this a bit to recognize what we call a "Penn Central loss" every 20 years (a 1% loss in asset values) and a great depression loss every 100 years (a loss of about 5% in asset values). We treated the common stock element of the general account investment portfolio as a separate entity, so the proportion can be varied up or down and we can see what the effect on risk is. To our best judgment, the investment risk is the basic risk. One does not know today whether the Penn Central loss is temporary or permanent, but it has affected our books for a long time - so we might as well assume it to be permanent. Our best judgment is that if we measure the investment risk and provide for it, we will have enough surplus accumulated to take account of other risks. Variations in mortality and other risks just do not really cause enough variation in earnings to make much difference. I think Don has a valid point in his statement that in time of bad economic conditions when a company's investment risk is likely to increase, the company is also likely to have bad disability experience. Unless it has a lot of disability business, this phenomenon really will not have too much effect.

Getting back to our risk simulation model, we calculated a full array of probabilities of insolvency and crises for different initial surplus levels and different earnings levels. This is not a linear function, of course. A company with an infinite amount of surplus is not much better than if it had a ratio of surplus to reserves of 20%. On the other hand as the ratio of surplus to reserves goes down the scale, the risks go up very fast. We have concluded that it is appropriate to measure surplus needs as a ratio to general account reserves, i.e., essentially a ratio to the risk bearing assets behind the general account reserves. Assuming that one is satisfied with having a probability of crisis of no more than 10% in a 20-year period, a level which is discomfoting but probably acceptable, and a probability of insolvency of about 1/10% in that same 20-year period, we determined that roughly 6% is the ratio of surplus to general account reserves which is required.

Let us look at where companies now stand in this respect and what the trends are. For the 9 largest mutual companies, the average ratio was 8% in 1955, 6.85% in 1970, and 5.25% in 1976. Even more interesting are the growth rates. The growth rate in the liability base for the 15-year period ending in 1970 was about 4.4% per year while for the 6-year period ending in 1976 it was 5.6%. The growth rate in surplus, which can be considered as an average annual return on surplus, was 3.4% from 1950 to 1970 and was fairly close to the growth rate in reserves. Thus, the surplus position was being maintained reasonably well during that period. From 1970 to 1976, the surplus growth rate was slightly less than 1%, which is $\frac{1}{4}\%$ below the rate at

which the reserve liabilities grew. Only one company out of the 9 had comparable growth rates of surplus and liabilities.

The outlook we at the Equitable see as we look ahead is an even faster growth rate in the liabilities than we have had in the past. It is fairly clear that continuation of these recent trends would leave many mutual companies in surplus positions that are increasingly risky. This is why I feel that the emphasis for mutual companies has got to be on earnings growth capital position. We have got to begin to talk about profit as not being a dirty word and think, as Don has said, that we are really not much different than the stock companies. It is just as important for us to maintain our financial position.

Now I will talk briefly about the structure of financial reporting. The main purpose of financial report structuring should be to enhance understanding and to educate officers and employees on financial results and trends. Structure your reports so that people focus their attention on the bottom line and focus it very hard. About 80% of the value of the effort is going to be understanding and attention, and about 20% is for financial discipline. The form of the particular structure is not too important as long as it focuses people's attention on overall financial results. I would suggest that you arrange financial reporting in a way that each major organizational unit has a bottom line and has bottom line goals. This takes some actuarial ingenuity because you clearly cannot copy the gain and loss exhibit in every part of your organization. You might begin by assembling the pieces in ways that many of us could intellectually attack as arbitrary. But this is not the point. The point is that, even though arbitrary, it is more truthful and will give a better recognition of what the needs of the corporation are than not to do it. You can live with some arbitrary mechanisms, providing you recognize their limitations. You do not have to reorganize your companies in order to give bottom line emphasis. Rather, you should design your financial reporting to fit your organizational structure. Do not include in the results of a unit those items for which the unit has no responsibility. For example, there is no point in measuring an agency manager on investment return or mortality results. You will want to measure him on items he can affect - income and outgo. The problem with budgeting systems is that they deal only with outgo and do not deal with income. You must give people some measure of income to assure proper financial decisions.

We found that we must separate out all the developmental activities. In our case, a mutual company with a number of activities other than the life insurance business, these activities are carried out through subsidiaries that are all downstream from the mutual company. In these circumstances, the mutual company financial results must reflect all of these activities. If the internal financial structure of the company is based directly on the published results, it is hard to set goals and monitor results. In our structure, therefore, we have separated out the results of developmental activities, such as our property and casualty company. Once this is done, we establish separate earnings goals for our mature businesses and our developmental activities, the latter being the net losses from these activities.

Some people's idea of budgeting for developmental activities is to budget capital allocations. But it is not capital allocations that really cause earnings problems. An asset in a downstream property and casualty company

can earn as much as within the parent itself. The problem is really what overall impact is that developmental activity going to have on corporate earnings. In order to assure an adequate bottom line result, consideration must be given to the bottom line impact of decisions as to the speed with which companies move into new fields, the kinds of business, etc.; capital allocations are an important but subsidiary matter.

Make sure that every service organization has a bottom line. Do not let any service organization sit around and tell you how valuable its services are and how they need to expand their budget significantly because everybody needs their services. Make them charge for their services. You will then find out whether everybody needs their services or not. It has a very salutary effect and also permits people within large mutual life insurance companies to run a business, an experience which very few of us have.

In your major organizational units, you need a financial capability. You cannot ask your agency department to start running a business if no one in it has any financial capability. They will not really know where to start, even though most agency managers and general agents are probably better businessmen than any of us. To have a financial capability in your major organization units means that you will have to move some actuaries or other capable financial people out of corporate operations and into the line operations where they belong. The required financial capability is not solely an actuary's capability but, in many respects, goes well beyond an actuary's training and experience.

Finally, planning is important to achieve a balanced growth, and this balance is very important. A company must balance some activities that produce good earnings but do not add much to assets with other activities that produce relatively low earnings but add a lot to assets. A proper mix will really permit the company to achieve a good financial position, even though each line does not contribute proportionately.

MR. CODY: Harry Garber and I have uncovered a number of similar findings in our respective companies. Future economic environments are likely to be very different from the past. We are offering other products than we used to offer. In an inflationary climate, very different things are likely to happen than have happened in the past. In order to build a proper surplus against this kind of future, you must make some tough decisions as to the rate at which you grow in the various lines, prices which you can set for various products, and the choice of products that you can offer.

For example, pass-through products which transfer the investment risk to the policyholders do not have the same problems as guaranteed value products; you can offer a larger amount of pass-through group annuities than guaranteed annuities with the same surplus capacity. The individual deferred annuity may be one of the most dangerous kinds of product because funds can be withdrawn suddenly at any time when securities have to be liquidated at their lowest values.

In making your business plan, you consider a variety of products, and you must make choices among them. Some of these products have high surplus needs in low probability situations but have low profit margins. Other products have high profit margins and can build up the surplus needed for the former products. In a mutual company, this raises interesting questions as to equity within and among products and lines of business.

As Harry Garber has noted, you cannot plan for a corporation which is standing still. A corporation has to expand intelligently. Harry, would you please discuss further your concepts of equity and mutuality in connection with the sources of earnings needed to build surplus overall?

MR. GARBER: This is not necessarily the philosophy of my employer; it may be one that many of you will not find congenial. I am taking the position that the pricing structure - including the premium, dividend, and cash value structure - is really a marketplace function. It is set by the marketplace and is not based on theoretical considerations.

The job of management consists of meeting these marketplace pricings and still getting an adequate profit margin. A company cannot achieve good bottom line financial results (i.e., earnings after dividends and after all surplus charges) at the expense of its policyholders. A good management achieves both of these objectives simultaneously. Achieving marketplace pricings will basically give you equity. Any attempt on the part of ingenious actuaries to provide super equity by analyzing costs in a more detailed fashion which is not recognized by the marketplace is an unnecessary and uneconomic activity.

There is nothing wrong with different bottom line results for different products, either within a line of business or across lines. The profit potential of a product is not necessarily related to its risk in the marketplace. We should not try to make it so just because this is the way we believe the world should be. Price to the market. You will get the financial results that the market will permit you to get. Balance your product mix to give you the growth of your bottom line necessary for a strong financial position.

MR. JAY C. RIPPS: Mr. Cody and Mr. Garber indicated that the investment risk is the big risk. Particularly at Equitable, a large amount of pension business was sold in the last couple of years with significant investment risk. Mr. Cody indicated in his discussion note that business with high guarantees has a high surplus requirement. I wonder if he could give us some feel for what the surplus requirement is and if Mr. Garber could comment from the standpoint of the Equitable.

MR. CODY: The risk on business with high guarantees has to do with the corporation as a whole in various economic scenarios. If you have money from other products, your risk is small. Or if you can attract money into the group annuity line by use of attractive new money rates, this inflow can provide for cash demands in the ordinary line; the interchange of cash flow between lines would ameliorate the surplus strain which would otherwise develop from forced sales of public bonds but would, of course, cause future investment margin problems in the ordinary line.

Another type of problem can arise from the use of new money concepts to determine interest credited on ordinary deferred annuities, especially those with high interest guarantees into the future. If for any reason the generated new money rate earned and credited in the deferred annuity classification becomes unattractive relative to investments otherwise available, heavy withdrawals from the deferred annuity line can result. In addition, if the new money rate is moving higher, the situation can become worse. Finally, if your individual deferred annuity line is large, the need to sell public bonds may arise, and you may have a very unstable situation.

In my discussion note, I emphasized that, in the face of the kind of inflationary situation which can develop in the future, we actuaries had better consider possible cash flows within and among lines in the total corporation. If you consider a spectrum of such inflationary scenarios, you are going to reconsider many of your designs in the ordinary and group lines.

MR. GARBER: In the pension area, we have priced to produce a profit. At times the marketplace does not permit the kind of profit level we are looking for, and at these times we stay out of the marketplace. We look for a differential of appropriate magnitude between the rate we are offering and the rate we expect we can earn on investments, including a provision for asset loss. But, clearly, that return will seldom be fully commensurate with the increase in risk to the company of doing the business.

We do not in our surplus studies try to split our company up, for that will clearly produce excessive requirements. Remember that it is companies which become insolvent, not lines of business. It is companies which get into crisis situations, not lines of business. The problem is not to keep every line of business whole but to keep the company whole. You cannot sell too much business where the profit margin is not consistent with the added risk unless you have compensating business somewhere else. A balance is required.

MR. JOHN K. ROBERTS: I have a policyholder equity question for Harry Garber. Harry, you said that the market place pricing produced equity. Recognizing that the market place may produce profit not necessarily related to the risk, how do you justify equity as to a line of business that may be generating the loss within your company?

MR. GARBER: We do not like lines of business that generate losses although we have some of them. A lot depends on the way in which you measure loss. If you use a full costing approach, then you may actually have some lines on your books that are apparently losing money but are actually covering some overhead costs. You have to look at such a line to see whether it is losing money on a marginal basis. But as a general rule, you should not be running lines that lose money. If the customers are not willing to pay an amount that will permit you to make money, you should not be doing that business.

We have to be careful about using only regulatory method of expense allocation in our financial analyses. This is not necessarily the way corporate management should look at expense allocation. In truth, most expenses of a life insurance company do not vary directly with business volume. As a related example, United Airlines told me that they really could not get anywhere on financial management until they got away from regulatory accounting for internal financial reports. The way they had to allocate their costs to various activities from a regulatory point of view was not useful in managing their business. Sometimes we run into allocation questions where we are required to allocate our costs in a certain way under regulatory procedures. That may not be the best way of looking at how the costs came about and how they should be charged. In fact, you may have a line that is profitable and is contributing to corporate earnings even though it would not appear to be doing so on a full allocation approach.

MR. CODY: From a practical standpoint you can price only to the market. If the resultant growth in a particular line uses up your surplus capacity to solicit business in other lines, the only solution is to withdraw from the

problem line. Although Harry Garber and I have used different techniques, we have each developed pretty much the same rational structure for considering these matters.

MR. GARBER: Take the individual line, for example. In a company with an asset base as large as Equitable, we can write large amounts of term insurance with virtually no increase in overall risk and no need for additional surplus. One can say we do not need any profit from it. Looked at another way, however, it may be that we should consider writing even more term insurance at available profit margins as a way of balancing better our true corporate risk with the profitability that we need to have. If we begin to look at things in this manner, we can get away from some of the ideology and mythology that still encumber us. We ought to be looking at things in terms of results for all of our policyholders and not worry so much about some of the detailed equity questions which we ourselves often raise.

MR. MICHAEL C. ALTSCHULER: I would like Harry's views on pricing as a market place function. A good pricer starts with costing. He has got to know all he can about his present costs and what is likely to happen to them in the future. Then he can pick a price that seems appropriate in the market place. A company has to earn the right to price that way to achieve competitive cost, administrative expenses, and investment performance. The company is just going down the drain if it continues to market with a price it cannot support.

MR. GARBER: Those of us who grew up as actuaries in the individual line have had our vision of the way to run the business very badly obscured. We tended to quantify all elements of cost down to the policy level, to the point that we often forgot we had a whole business with people working who were going to be working almost regardless of sales level, etc. When the quantification gets down to that level, we are at the point where we are making decisions on expense rates rather than on people employed and on a whole set of other rates, such as persistency, rather than on premium income. We begin to lose track of really what is involved.

If, because of this detailed quantification, you price above the market, you are going to have a hard time selling your product and paying your direct expenses. The question then is whether you can with good management price at market, pay market level dividends in the case of a mutual company, and still make money. Of course, you have to look at your rates and see what you think the effect will be. But the expense rates are not firm numbers, they are guides. What actually happens is going to depend on how much you sell, how much income you can bring in, and on a whole series of other dynamic factors, rather than the static factors that we tend to work with. It is easy to develop a myopia on the individual side as to what is really happening. This is not so true in the group business where the dynamism is there right from the beginning. The question really is what the company can manage and do effectively. If you really look at a product and find you cannot make money at the market price, then you ought not to be selling the product. This is a decision you have to make. But you clearly cannot go through some actuarial calculations, come up with a much higher price, and then decide you can do business with the higher price.

MR. WILLIAM A. BLACK: Mr. Cody, would you please explain the difference between your concepts of solidity surplus and corporate vitality surplus contained in your discussion note and how you plan to use these concepts.

MR. CODY: The solidity surplus goal is a kind of ruin surplus goal which you feel may be completely depleted under the worst economic scenarios but which you feel you can contemplate and still remain currently viable in the market. Solidity surplus can be quantified even though the quantification is quite soft. Corporate vitality surplus is the additional surplus needed for working capital in investment and insurance operations. Its size is subjective although the need for it is real. It is actually a cutting edge of our working capital. If we held modified reserves instead of net level premium reserves, the difference between the net level and the modified reserves would be added to corporate vitality surplus.

As to the dynamics of planning, the solidity surplus and vitality surplus are formulated in terms of a sizeable number of factors having to do with asset mix, product mix, etc. The formula is to be applied to projected characteristics of the company in any future year. The business plan of the company as to products, pricing, growth, etc., must be determined so that net income from the various lines will enable the building of current surplus to the surplus goal in future years.

MR. BLACK: I am with a Canadian stock company, and starting next year we are going to be able to amortize 150% of the net valuation premium on a statutory basis. Thus, there will not be much surplus hidden in the valuation basis. We really have to look at what there is and, if we assume anything else, we are kidding ourselves.

MR. CODY: There seem to be two ways of approaching the determination of surplus goals. In our case, I was looking for a formula, and I chose a deterministic approach involving multiple depression scenarios. At the Equitable, a stochastic approach was used, and Harry Garber has indicated probability levels for crisis and insolvency relating to various surplus levels. Whichever approach is used, the planning process develops a rational structure in which all management people can consider their options and the interrelationships of their actions on the corporate financial results.

MR. GARBER: We had an interesting example of a decision made by consideration of relative impact on surplus. This had to do with consideration of levels of retention in the ordinary business. The cost of increasing retention may seem pretty significant in a vacuum, but when put into perspective with effects on overall surplus it became clear that the retention level could be increased considerably without sizeable effect on overall surplus needs. Thus we were able to save on reinsurance costs with practically no relative impact on our surplus.

MR. CODY: In my company using collective risk theory, we also discovered that mortality fluctuation is the least of our surplus concerns.

MR. RICHARD S. ROBERTSON: Discussion Note --

WHAT ARE WE TRYING TO MEASURE?

Which should we pay greatest attention to: GAAP or statutory results? Or, should we be looking at something else? Having different standards for measuring financial results is confusing. What do we do if activities which we know are in the long-term company interest have an adverse effect on both statutory and GAAP results? Should we not have one measure which everyone can follow which tells what is really happening in the company?

Before considering questions such as these, it is necessary to consider the more basic question, what are we trying to accomplish? What is the purpose of measurement of financial results? Once that question is answered, it is possible to evaluate possible financial reporting systems by the extent to which they accomplish the objectives.

What Are The Objectives?

First of all, it is essential that the financial reporting system meet the legal and regulatory requirements. It is necessary that the information be developed to produce the convention annual statement. The Internal Revenue Service will require information in a somewhat different form to complete the tax statement and to support that statement on audit. State and local tax authorities may have further reporting requirements. A stock company will need to report to its shareholders, which usually will involve reserves and other items calculated according to Generally Accepted Accounting Principles (GAAP).

Beyond these legal requirements, financial information will be needed to aid company management in managing the company. Information describing financial results may be used in several ways:

1. Management will use past cost information to aid in selecting future cost assumptions for pricing purposes.
2. Financial information developed by the budget system will be used to help control operating expenses.
3. More generally, financial results measured for each operating unit will help establish goals for each unit and will help management evaluate the performance of those units.
4. Financial results may be projected to forecast future performance, possibly under alternative assumptions. Such forecasts can help establish corporate goals and may identify problems or opportunities.
5. A company may have bonuses or other incentive compensation programs based on performance of the company or of operating units as measured by specified financial standards.

Should the Same System of Management Be Used for Each of the Above Purposes?

Many people believe that one series of financial reports should be established as basic and used for all purposes. Others believe that different measures of financial results are appropriate for different purposes. There are good arguments on both sides. Regardless, stock life insurance companies will need to maintain at least three financial standards: statutory, GAAP, and tax; so the question becomes whether there is need for further standards.

Having more than one standard of treatment can be very confusing. When a particular report is prepared, there may be confusion over which basis is being used, and erroneous conclusions can result by comparing amounts computed on different bases. Also, there may be confusion over which standard is to be used in particular circumstances, particularly among those not deeply involved in financial measurement. Consider, for example, the

measurement of capital gains and losses. Most companies will keep careful track of taxable gains and losses incurred in order to plan tax strategy. A company will also want to monitor the capital gain or loss reported to stockholders and included in net income. These two measures differ in several significant respects. It is important to not make tax planning decisions based on the capital gain amounts developed for shareholder reporting. It is equally important that the investment people use the tax basis and not the stockholder basis in determining which assets to sell to meet the tax planning objectives.

In spite of this confusion, companies usually find that neither GAAP nor statutory do an adequate job for all purposes. It then becomes necessary to do whatever is possible to minimize the problems and confusion caused by multiple reporting standards. The following are some of the steps which management might take to limit this confusion:

1. Limit the circumstances where modified financial standards are used to those where they are clearly necessary. Use GAAP or statutory as the primary measure of financial results unless it is clearly inappropriate for a given situation.
2. All reports should clearly identify the financial standard on which the amounts are determined.
3. Each system of financial measurements should be reconciled to the others. Such a reconciliation is often of further benefit in identifying trends, or even errors in the system.
4. Continually educate all management people of the differences between the alternative systems and where each is appropriate.

For Which Units Should We Measure Results?

Statutory reporting leads us to allocate operating results by product. It further leads us to allocate all elements of the income statement and possibly the balance sheets as well. While this analysis does produce useful information, some of the allocations can be highly arbitrary and even misleading. A product line, for example, may be producing continual operating losses. However, if that product is making a great enough contribution to overhead expenses, the company may still be better off for having that product than if it did not have it. Also, some product lines cannot be evaluated on their own. The significance of a group health insurance operating result cannot be completely understood without also considering the group life insurance results.

Most companies make a separate allocation of the income statement by operating unit. In some cases, this might parallel the analysis by product. For example, the group department's results might adequately be measured by the results of the group life and health products. More frequently, an operating unit would be a part of a product line or parts of several product lines.

For how small a unit should financial results be measured? There appears to be a strong relationship between the degree of financial information developed for an operating unit and the performance of that unit. Statements of a unit's financial results help define the objectives for the unit and provide

a system for determining the extent to which the unit is meeting its objectives. This suggests that the financial reporting system should reach down to the smallest operating unit for which the financial results would have meaning.

This is not to say that a complete income statement is appropriate for each operating unit. For most administrative units, simply a statement of expenses would adequately describe the impact of that unit on the company's financial statements. Probably, that statement should be supplemented by some type of transaction counts and other supplemental information such as number of employees. Indeed, many budget systems are designed primarily to produce this type of information for administrative units. Some companies attempt to generate a revenue for administrative units through a system of inter-department charges. Such charges are necessarily very arbitrary, and I doubt whether the information produced is of much additional use. A possible exception might be to identify the provision built into current product pricing for the functions performed by the administrative unit. If this is done, the positive or negative result would tell whether the company's profit margins were being increased or decreased as a result of the unit's operations.

For many operating units, the financial results are most meaningful if some measure of revenue is included. This would appear to be particularly true for a unit whose responsibilities are in the sales area. Here, a major problem is determining what revenues should be reported. Some companies report total revenues for a sales unit and then make specific charges for reserves, claims, and home office expenses. These charges may be highly arbitrary and, therefore, confusing and misleading. They also may suggest that the sales unit has responsibility for many items which they cannot control, such as mortality costs. This procedure may also result in apportioning all of the expected profit on a product to the sales function. A somewhat more satisfactory procedure for a sales unit, but also with limitations, is to consider as revenue that portion of the gross revenue which is expected to cover the selling costs at that unit's level.

Major operating units can be expected to have complete income statements. The group department might be an example of such a unit. The appropriate allocation procedures for such a financial statement can still be a problem.

Some Ideas On Allocation

Any financial system will face problems of allocation. It will be necessary to allocate those operating expenses which are not directly chargeable to a particular product or operating unit. Allocation of income taxes can be a particular problem. The basis for allocating investment income is not always clear. Some companies also would wish to make an allocated charge for the cost of capital. This section suggests a few ideas which might be appropriate in certain situations. No one approach will be appropriate in all circumstances.

1. It is not always necessary to allocate each item of income and expense. If, for example, overhead expenses are not allocated to an operating unit, the result might be thought of as the operating contribution for profit and overhead. If this is done, it is important that the result not be confused with profit.

2. Many companies find it convenient to include a corporate product line in their internal analysis of operating results by product. The corporate line may include such items as investment income or surplus, certain classes of overhead expenses, balancing items in other allocations, and perhaps certain categories of development expenses.
3. When a company finds that the basis for calculating certain formula items changes from year to year, it may help comparability if one formula is used consistently with the balance being taken up in some kind of general account such as the corporate account. This might be helpful, for example, if a company's Federal income taxes vary between Phase I and Phase II or if a state tax is sometimes based on premiums and sometimes on some other basis.
4. When a financial standard is changed or the basis of allocation is changed, it is frequently helpful to restate results from previous periods in order to develop meaningful trend information. Such restatement may also be appropriate when an error is discovered in past results. This restatement may be appropriate even if not carried through to the information report to the public.

A Few Conclusions

Statements of financial results may have several objectives, sometimes conflicting. In order to meet these objectives, it will generally be necessary to have several different approaches to financial measurement. Care must be taken when using the results of different systems, and the potential for confusion and misapplication is always present.

It is usually worthwhile to prepare statements of financial results for operating units down to the very lowest level. Such statements might not be in the same form at all levels and would not necessarily represent complete income statements. Management should feel free to use creative procedures for allocating income and costs, but should make sure that the allocation methods are accepted as reasonable and limitations are understood.

MR. CODY: Dick, I think it would be very helpful to us if you would elaborate on your financial control system.

MR. ROBERTSON: The most important job of the financial reporting system is to provide the kind of information which management needs to do its job. We have discovered in our organization that different approaches seem to work best in different kinds of operations and, in fact, in different parts of our organization. We have a life insurance company, a property-casualty company, and a title insurance company. In the life insurance company other than in the sales area, there are very few operating units that have revenue flows. But practically all administrative units are concerned with cost. Therefore, the life financial reporting system has a very heavy emphasis on expense and, in particular, on direct expense. It is not until we bring together the results of the operating units at the product line level that we can bring in premium revenue, investment revenue, allocated expenses, and income taxes to produce an actual profit and loss statement. The operating statement for each unit is just basically an expense or a loss statement. Also at the product line level, it makes sense to bring in most of the GAAP adjustments so as to produce our net income on a statutory and GAAP basis.

At the other extreme, consider the way our title company measures their financial results. The title operation consists of a large number of relatively small units whose job is both writing and researching title policies. Most operating units have both revenue and expense. However, there is a tremendous expense burden required of the home office for various staff costs and legal costs, and there is no good way to allocate those costs back to the field units. The financial reporting system produces what is called the "operating contribution" of each office. This operating contribution represents the full revenue from sale of the title policy less those expenses that are incurred in that office. Various standards are developed for what this contribution should be, maybe as high as 60-80% depending on the type of operation. It is not until the whole company's statement is consolidated that all the home office expenses, claims, etc. are brought together to produce net income.

The property-casualty operations and the sales part of the life operation have elements that are between these extremes. In the property-casualty area, it is very important to measure the claim experience down to the lower operating levels. We produce a kind of operating contribution after unit expenses at the local level and after claim costs through the use of loss and loss expense ratios.

In the marketing part of the life insurance operations, the reporting system is a little different. It is like that of the title operation, except we do not consider it appropriate to credit each agency office with the entire premium income that it produces. Also we do not want to hold the agencies responsible for the mortality experience or many of the other experience factors. We produce artificial revenue, based primarily on the sales expenses that are built into the product pricing. We also make certain adjustments for persistency. We thus create an artificial revenue and thus produce a "net income" for the agency, but a very special type of net income.

MR. CODY: Dick, in your discussion note you emphasized that, in establishing the value of a product or the value of a line of business, the net income before the charge for corporate overhead is the important index. Use of net income after allocation of corporate overhead might indicate incorrectly that a product or a line is producing losses. Would you provide us with more insight into your use of direct costing procedures?

MR. ROBERTSON: I have argued both ways as to whether you should be looking at income before or after overhead. The answer is that you have to look at it both ways. For some purposes, a product line can be making a valuable contribution to the company even if it is not producing any profit at all or even a small loss. For example, we have made no money to date in our variable annuity operations. We have produced a great deal of income for the field and we have covered a lot of overhead expense which, if it had not been for the variable annuity lines, would have had to have been charged to the ordinary line, the group line, or one of the other product lines. Our objective is not to make this a break-even line, but we are convinced that in the future it will produce a profit. This is an example of how a product line can be marginal and still be valuable to the company.

The concept of having a corporate line is a very valuable one and is one of the suggestions I made in the discussion note. For example, consider the interest on capital and surplus. If a company follows a typical fund accounting procedure, one or two product lines will have been the lines which have been most profitable in

the past, probably ordinary. Therefore, that line will have allocated to it most of the surplus of the company and will have very large earnings simply because it is being allocated the investment income which the surplus is earning. On the other hand, for the reason that Bob Shapiro suggests, it is very hard for the line to produce any kind of reasonable growth in income. In fact, the line will find that every time the company pays a dividend to stockholders, it is the one that gets penalized because it has lost the assets that are earning interest. From the point of view of managing and valuing the line, it is often more reasonable to take away capital and surplus, put it in a separate account, and simply look at the line with interest credited on some measure of the reserves, either GAAP or statutory.

Once a company has a corporate line set up, it may be convenient to use for other purposes. For example, there may be some one-time charges of non-operating items which are always a nuisance when they are allocated to a given product line. With the corporate line, you will not have to explain why the income is so low in a year because of unusual expenses, and then the following year explain that the increase in income is due to what happened the previous year. Often it is very convenient to get these observations out of the management reports and into a separate area. Some companies just ignore them. The problem then is that management reports do not balance to the overall company earnings, and the reports can lose credibility.

MR. CODY: Dick, my personal experience has been with the use of John Fraser's marginal Federal income tax rates in a Phase 1 mutual life insurance company. As you know, I have a strong preference for applying the marginal rates in determining the profitability of each product or each line. Would you explain the manner in which you handle Federal income taxes in judging the profitability of a product or a line?

MR. ROBERTSON: We do take them out when measuring the results of our product lines, but there are all sorts of problems. If you want to measure the contribution to the company as a whole, it is certainly appropriate to take Federal income tax out before evaluating that contribution.

Here are some of the problems that can arise. We use basically a marginal tax rate approach. We apply the marginal tax rates to each product line's operations and base the charge to the line on those marginal rates. One problem that immediately comes out is the handling of tax-exempt investment income. If product lines like pensions and to some extent even the ordinary line were really being measured as separate operations, they would have no interest in tax-exempt investments. If we strictly follow the marginal income tax approach, they would get allocated their portion of tax-exempt interest as well as their tax on it. We have been able to remove this in essence by adjusting to a fully taxable basis the tax-exempt income, and this changes the marginal tax rates. Then, we basically allocate both the adjusted investment income and the higher tax that results to the product line. The amount we increase investment income is the balancing item to produce the right amount of overall net charge between the investment income and the taxes. This is actually a bit of a simplification because, instead of changing the investment line, we make all the changes in the tax line in our allocation.

Another problem is that our tax position is not always the same each year. In some years we are taxed on investment income, while in other years we are taxed on investment income plus half the excess of operating gain over

investment income. Were we to use the strict marginal approach, we would find that the allocation of taxes by line would have major discontinuities from one year to the next. To avoid this, we use one basis of allocating taxes from year to year. If in a given year we are not in that tax phase, we take the difference and allocate it to the corporate line. We have considered using an approach halfway between the two, in which case there would always be an adjustment.

Unless we are in the tax position based on investment income plus 50% of the excess operating gain, our GAAP and statutory tax charges are different. What may appear to be good tax planning from a GAAP point of view may not be good tax planning from a real dollar point of view. We have to continually watch and make sure we are not fooling ourselves.

MR. CODY: In long range planning one must always recognize the way things are and the way they are going to be. Unfortunately, because of the technicalities of the corporate Federal income tax, a dollar received in the ordinary line or the group annuity line does not have the same after-tax value in every company. I recognize the difficulty of this fact of life in pricing to the market. The important thing is to recognize the problem and the implications of whatever method of Federal income tax handling is chosen.

MR. ROBERTSON: This reminds me of a particular conversation where the manager of a product line is complaining about the tax charges being levied on his line. The tax manager would reply that the income of the line causes the taxes to increase. That is why the line is being levied an additional tax. The product line manager would answer that if his line were a separate company or were the only line considered, there would be no tax generated by his operation, i.e., it is the other lines that are generating the tax, so why do you not charge them the tax? After this goes on for a while the top management must step in and make a decision. In our case we tell the line manager that while he may not generate additional tax if he were a separate company, he is not a separate company. He is generating tax, and he is going to be charged for it.

MR. CODY: You sound like a financial officer; you could not have said it better.

MR. ROBERTSON: It may imply a decision that there are certain product lines you cannot be in.

MR. ROBERT D. SHAPIRO: Discussion Note - -

VALUE ADDED AS AN APPROACH TO MEASURE MANAGEMENT PERFORMANCE

My comments will be directed at the specific subject of management of financial performance from the perspective of the life insurance company manager. The measurement of results is really one part of the cycle of managing financial performance; this cycle includes planning, forecasting, operating, and measurement/evaluation of results.

The key to successful management lies in planning, and the key to successful planning in turn lies in clearly identifying corporate objectives. Once these corporate objectives are delineated and quantified, performance standards can be established and reasonable pricing goals set.

Pricing Standards vs. Company Performance Standards

Proper planning requires that the company's overall financial objectives be established before the company's pricing philosophy is determined. Prices should reflect the corporate goals and pricing standards should be set with the company's performance measures clearly in mind.

More than one life insurance company manager has been frustrated attempting to relate an actuary's "\$1 per \$1,000 per year" profit standard to an overall corporate objective of "15% return on equity":

How do we accomplish this coordination that is so critical to the proper management of our companies?

The first task is to elucidate our company objectives and translate these objectives into precise financial goals. We need to have the capability of transforming operating plans into financial projections, so that we can evaluate the expected financial consequences of each alternative in light of the corporate financial goals.

Ultimately a plan will be adopted, encompassing a marketing sub-plan and a pricing structure that is expected to achieve the corporate objectives. The profitability of the products underlying this plan will then be tested against traditional profit standards such as:

- average profit (per \$1,000 or as a per cent of premium)
- size of initial statutory surplus drain and the number of years it takes to recover this investment
- yield on invested statutory surplus.

Ideally the product profitability meets these tests reasonably well, and the relative profitability from product-to-product and from age-to-age is acceptable. We normally want to minimize the possibility of a minor shift in the projected future business mix impairing anticipated future profits. If these criteria are met we will have a pricing structure that reflects the corporate financial objectives. Future new products can be easily added to the portfolio. Future performance can be monitored and modifications made if needed.

This discussion is directed toward an individual life line of business, although the basic approach is valid for any insurance line. All of the lines need to be considered together in evaluating performance, since ultimately the critical performance measure will be how the total company fared relative to its total company financial goal.

The Nature of our Business

"Wisdom is the ability to see the long run consequences of current actions, the willingness to sacrifice shorter gains for larger long run benefits, and the ability to control what is controllable and not to fret over what is not."¹ In a life insurance company, where a policy written today will create

¹A Concept of Corporate Planning by Russell L. Ackoff, p.1.

expected cash flow many years into the future, it is critical that management be provided with information enabling it to observe the long run impact of each sale and to evaluate what the possible short term/long term trade-offs might be.

Today's financial results in most life companies reflect, to a large extent, the performance of management of the past. Particularly in the life insurance business, today's management performance means doing the job in providing for tomorrow's profit flow. How do we develop performance standards for management that are consistent with our overall corporate goals and that properly mirror the long term nature of our business?

A proper starting point would seem to be recognition that a life insurance company is unique. It has a claim on earnings that will emerge in the future from its existing block of business. It also anticipates writing additional business, and this future business will also generate future earnings expectations. Over time, a life insurance company can be pictured as engaging in a continuous process of acquiring assets (i.e., insurance policies) and converting them slowly into profits. The "value" of each life insurance policy written can be looked at as the present value of future profits into which that asset (the life policy) will be converted over a number of years.

A Value-Based Performance Measurement System

This characteristic of the life insurance business has led many to conclude that the value of these assets, the life insurance policies on the books at any point in time, should be developed and utilized as a foundation for a performance measurement system. Only in recent years has such a value-based system been feasible, primarily because of the rapid development of computers and software which can handle considerable amount of information required to produce the numbers.

A value-based performance measurement system (hereafter referred to as a "value-added" system) must project year-by-year profit flows, accurately establish the timing of these flows, discount these flows to appropriately reflect the time value of money, and translate this information into meaningful numbers as of the desired valuation date or dates.

There is no one way to develop uniform value-added earnings for all companies. Each company needs to decide what information it will include, what discount rates it will employ, and so on. However, if the system is consistent and based on reasonable models and assumptions, management will have a sound procedure for evaluating progress, one that can integrate all of the company's pricing and marketing variables and one that will normally provide a wealth of valuable information as a natural by-product.

Determination of Value-Added

The value-added to a company during a year can be represented by the change during the year in the company's:

1. realized values (capital and surplus)
2. unrealized produced values (existing business)

3. unrealized unproduced values (future business from current production capacity).

A value-added performance measurement system might be characterized as a dynamic closed-end cycle. Future production capacity eventually creates unrealized produced values in the form of business written, which is in turn realized in the form of profit or surplus contributions. One of management's primary responsibilities is to "realize" the values represented by the unrealized numbers. The track established by the value-added management system provides a means of measuring this performance aspect.

Many of the companies that have utilized a value-added approach in their performance measurement activity have restricted the components of value to the realized values (capital and surplus) and the unrealized produced values (existing business). We refer to the sum of these two components as the status value.

In an organization with an ongoing viable capacity for future marketing, the status value can be utilized and will generally produce meaningful year-to-year measures. On the other hand, the status value generally is an inadequate basis for an organization that does not have such an ongoing marketing capacity.

In each situation where there is not a going-concern marketing capacity, it is critical that the company develop such capacity in order to permit investment of its surplus at higher earnings rates. If it does not develop this capacity, one could question whether or not its capital and surplus is really worth "face value." Full face value for capital and surplus can be achieved only where opportunities exist for investment in sound insurance ventures.

For example, assume we have two companies with identical capital and surplus and with the same block of existing business. Further assume that one has no existing agents and the other has 100 existing agents each capable of producing \$1 million annually of profitable business. The value of the latter company certainly should be higher than the value of the former.

Regardless of the basic approach used, the value-added analysis is often structured to isolate the value adjustment caused by assumption changes since the last measurement point, such changes broken down into controllable and non-controllable categories.

Advantages of a Value-Added Performance Measurement System

The value-added approach to evaluating life company performance has a number of advantages over other progress measures such as statutory and GAAP earnings. While statutory earnings are of interest to the state insurance department regulator and GAAP earnings are of interest to the security regulator, neither set of figures functions well as a management performance measure.

Specific features of a value-added system that make it attractive for evaluating life company performance from a management perspective include the following:

1. A value-added approach can reflect corporate and pricing standards, resulting in an integrated system of planning, pricing, and performance measurement.

2. A value-added approach can be designed to provide standards for evaluating individual managers, using standards that are integrated with overall company performance standards.
3. A value-added approach provides figures that immediately reflect the future impact of "performance" such as:
 - (a) increased sales
 - (b) increased agent productivity
 - (c) improved policy persistency
 - (d) improved agent retention
 - (e) increased investment earnings
 - (f) lower mortality
 - (g) lower home office expenses
 - (h) lower field expenses.
4. A value-added approach is projection-based and hence can provide a large amount of relevant management information including:
 - (a) Year-by-year projections of earnings (statutory and/or GAAP, before and after tax, etc.) that can function as an "expected" base against which to measure actual results. These projections also provide an appropriate means of balancing short term and longer term goals.
 - (b) Information on the intrinsic value of the company, the components of this intrinsic value, and how this value is expected to change in the future.
 - (c) Answers to "what if" types of questions through the testing of alternative future scenarios.
 - (d) Information on the financial impact of current surplus levels, and a facility through which surplus investment alternatives can be evaluated.
 - (e) Breakdowns of value-added components by line of business, category of business (e.g., existing business vs. future business), and function (e.g., sales, administration, investment, or risk-taking).

MR. JOHN H. BUCHANAN: My company has just finished the planning process. One of our stated goals was to have a given percentage increase in the value of the company, which we defined as capital, surplus and mandatory securities valuation reserve (MSVR), plus the present value of future profits. We finally developed the program to calculate the present value of future profits, and the result was about twice the aggregate size of capital and surplus. We have directors who are lawyers, bankers, and businessmen who are used to seeing a return on capital and surplus. When you try to build a 10% increase into the value-added before taxes, you get some very large numbers. Mr. Shapiro, in your consulting work, have you tried to make some allowance for Federal income taxes as part of the value-added?

MR. SHAPIRO: Yes, we have developed value-added numbers reflecting Federal income taxes. However, I think the necessary computational accuracy depends on what you are going to use the values for. Obviously if you are going to value the company for purposes of merger or for estimating the intrinsic value of the stock, then you have to carefully look at taxes. If you are using the values as a part of a performance measure, you also have to look at taxes, but you would often not need to be so precise from year to year.

MR. GARBER: If a large part of the capital taken into account in the calculation is for business not even sold, then it is difficult to set the rate of return desired. A company naturally would have a lower goal for unsold business than it would have for existing surplus or for future earnings from business already sold.

MR. SHAPIRO: Generally we start with the status value, which is (a) capital and surplus plus (b) the value of the existing business measured at the point of valuation. An additional piece that we often consider is the value of the future production capacity. In a company that has a viable marketing capacity, status value probably provides a reasonable basis for a performance measure. But in a company that needs to develop production capacity, you really have to have that third element. One way of resolving this question of appraising future business capacity is to value the additional earnings potential created by having the capacity to invest surplus at a higher earnings rate. For example, if surplus is earning 4% and the portfolio is priced to yield 12%, the future capacity could be appraised by discounting the additional earnings expected when surplus is invested in this business in the future (i.e., $12\% - 4\% = 8\%$ additional earnings in this example). Another approach is that if we seek a 10% return and we have \$100 million of surplus earning 4%, then our \$100 million of surplus is discounted to \$40 million. Until we have opportunity to invest the surplus at 10%, we would not value it at 10%. I do not like this approach because it puts everything in a very negative context. I would rather start with the actual surplus values and attempt to develop our measures from that standpoint. Since surplus is generally invested in low risk bonds and mortgages, it seems inappropriate to reduce its value by discounting future investment returns at a higher rate than the investment earnings rate.

MR. CODY: Our discussion suggests to me that the coming organization of life insurance companies other than single line companies will involve a corporate actuary with interest in the corporate business plan and corporate financial balance and several chief actuaries for the various lines with pricing and product responsibilities in keeping with the strategic corporate financial plan. The great actuarial responsibilities in the future are likely to be at the corporate level.

MR. ROBERTSON: That is basically the kind of organization we have. Maybe it is because we traditionally have had a lot of actuaries, and they have tended to find places in line management. A big advantage is that it gets the expert knowledge for product development and for financial planning in the operating units where it is the most responsive to changing conditions. The problem is then one of coordinating the activities of the various units. From both a product standpoint and a control standpoint, the corporate actuarial function you described has to take on a new and more important role to insure that the product actuaries are using consistent assumptions, to provide the detailed framework for communicating among the departments, and to get the information from the departments to the management as a whole. The role of staff

then becomes one of communicator rather than one of decision maker. This applies either to the pricing area or the financial reporting area.

MR. FRANK J. ALPERT: You have stressed that planning should proceed on a corporate level and that the items used for measuring financial results as they emerge should be consistent with each other. How can you achieve consistency throughout your projection when you have lines of business with very different projection methods and periods?

MR. CODY: In our case, the projections are made within the lines. At the corporate level, the problem is to put the pieces together sensibly. Actually, our corporate projections are based on several economic scenarios and look ahead only 7 years.

MR. ALPERT: Let me be more specific. The individual insurance lines of New York Life project for 20 years. In group insurance, we really believe that looking beyond the year after next has no value whatsoever. How can you match a 2-year projection with a 20-year projection.

MR. ROBERTSON: I am reminded of the comment that someone made when they said they used to do five year plans and gave it up when they discovered they were spending more time explaining why the results were different from the plan than they actually did in developing the plan in the first place. I think the problem is something we all do. We develop operating plans for each department, add them up, and come up with the plan of the company as a whole. The real value in producing a plan is what it does for the department itself. This is why each type of operation is going to find a different type of planning procedure more appropriate to it. For the group type operation or the casualty type operation, it may be useful to project the revenue; particularly for casualty insurance, the revenue tells you something about the surplus needs.

You are just playing games when you try to project what the operating results are going to be any more than perhaps a year in the future. For the company as a whole, if a particular operation is not too large a part of the company, it may not hurt to make some kind of a five year projection, artificial as it might be.

MR. GARBER: From the corporate overview, it is important to have plans for both group and individual lines for the entire planning period. Group, however, is a cyclical business like property-casualty, and it is really unimportant for the basics of planning whether your next year or two is going to be part of an up-cycle period or part of a down-cycle. For most purposes, the use of an average result in planning is probably perfectly satisfactory. It is not necessary then to try and guess ahead as to which part of the cycle you are going to be on in 1979.

MR. CODY: As a matter of interest, within my own company marketing people were the original planners, and we have a very good computerized agency operations model. The next computerized model for long range planning was developed for investment operations. Now that we are doing overall corporate planning, these models are part of the total corporate model. Many companies start with a computerized actuarial model for the individual business. In our case this actuarial model is largely still uncomputerized, although it is on the drawing board. In retrospect it is possible that the effort needed to

build and test a computerized actuarial model would have inhibited our planning to date. A fortunate happenstance is that in deferring the computerization of our actuarial model we have developed a much more objective and flexible expense projection model.