RECORD OF SOCIETY OF ACTUARIES
1989 VOL. 15 NO. 3B

CAPITAL MANAGEMENT -- THE BIG PICTURE

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Recorder: GLEN M. GAMMILL

- The panelists will discuss capital management of insurance companies from three perspectives: product development, investment, and financial reporting. Where appropriate, reinsurance will be incorporated in the discussions. Each section involved has contributed panelists and ideas.

MR. GLEN M. GAMMILL: Before introducing the panelists, I'd like to spend just a few moments setting the stage for this session. The panel will assume that it's appropriate to employ some type of a structured process to manage an insurance enterprise's capital resources. We are going to refer to this process as the capital management process. This process permits management to exercise an appropriate level of due diligence over the management of the enterprise's capital resources. Process objectives would be to assist the enterprise to consistently achieve profitable results and to permit it to maximize value for the company's owners. The main idea is that there is a method or approach linking the various functions within a company (investment, financial and pricing) to achieve desired financial results. I personally view the capital management process as largely a communications issue and not simply as a financial issue. There is no one professional who has all the answers to managing the capital of the enterprise. Rather, an enterprise must bring many skills to the table to implement such a process.

Dave Hall is Vice President and Actuary of the Hartford Life Companies. Dave is the Director of both portfolio management and asset liability management in the Investment Division of the Hartford. He is a member of the Investment Section of the Society of Actuaries and currently serves as the Editor of its newsletter, *Risks and Rewards*. On this panel, Dave will represent the Investment Section.

Shane Chalke is President of Chalke Incorporated. Shane has concentrated in the areas of corporate modeling, marginal value and analysis, and the overall process of corporate decision making and analysis. He is a member of the Product Development Section and has served as the Chairman of that Section. Shane will represent the Product Development Section in this discussion.

Dick Robertson is Executive Vice President and Chief Financial Officer of Lincoln National Corporation. At Lincoln National, his responsibilities include financial reporting, investor relations, internal audit, tax compliance and strategic planning. A Past President of the Society, Dick is representing the Financial Reporting Section on the panel.

Substituting for Alan Sibigtroth will be Norm Hill, a former partner of mine at KPMG Peat Marwick, and currently serving as President of National Actuarial Consultants Inc. of New York, specializing in acquisitions, new products and administration. Norm will represent the Reinsurance Section.

Of critical importance to the capital management process is managing the mixture of capital resources, or the financial structure of the enterprise, to achieve an acceptable cost of capital (or investment hurdle rate) for the enterprise. Dave Hall will now discuss this issue and other issues from an investment manager's perspective.

MR. DAVID A. HALL: My remarks focus on several investment aspects of the capital management process. I will direct my comments to three specific areas of relevance: 1) a basic overview

of capital sources and some of their attendant cost considerations, 2) some thoughts on how and why we might wish to distinguish between cash versus cash capital needs, and 3) how the investment management of statutory risk surplus can positively contribute to a company's growth potential.

A key ingredient in developing an efficient capital management plan is understanding the variety of sources of capital along with each source's attendant characteristics, costs and implications for the company's own capital structure. Some of the more generic sources of capital emanate from the capital markets in which the investment manager interacts daily. This interaction provides him or her with a broad sense of the realities of current market, as well as a deeper appreciation of the nuances which differentiate alternative structures. Capital can also be internally generated, and these avenues must be evaluated in the specific context of each company's situation. Reinsurance also offers a capital source unique to the insurance industry. Finally, some forms of securitization may also offer additional capital enhancing potential.

In the capital marketplace at large, the primary sources of capital are debt and equity. Common stock is undoubtedly the purest form of capital. Within this medium one or more investors typically provide an infusion of cash or other assets. While a flow of dividends may be expected sooner or later, the investor is typically focusing on the expectation of capital growth and the ultimate ability to realize capital gains. Although return requirements are the least structured, thereby giving the enterprise maximum flexibility in deploying this capital, common stock is also often the most expensive source as well. Investors should and do expect superior long-term returns on their investment, attendant with the risk of this investment.

Preferred stock offers a somewhat more structured capital source which more resembles debt than equity. Although the investor typically expects a stipulated recurring dividend, much like an interest payment on debt, he still assumes greater risk than debt holders as his stake in the enterprise is subordinate to all but that of common shareholders.

Debt offers a third avenue of capital formation. As in the case of preferred stock, its cost is a function of many factors, including the level of credit seniority and/or subordination, structural or contractual terms, and its overall relationship in the enterprise's capital structure. Debt can be an effective source of leverage, allowing the enterprise to borrow capital at a fixed cost, thus leveraging the growth potential of the equity holders. I know most homeowners, particularly those in the Northeast and California, can identify with the benefits of financial leverage. Leverage has its practical limits, however, and companies which hope to consistently access debt markets must manage their debt structure carefully so as not to jeopardize their credit rating or at least their acceptability as a participant in the credit markets.

Capital may also be generated internally. If the enterprise is mature enough, it may be producing statutory gains which can be plowed back into the operations, at least to the extent that dividends and interest payments do not consume these gains. Perhaps this is the cheapest source of capital, but it is also typically the most limited in supply.

Existing capital in the enterprise can be freed by divesting businesses which may be producing suboptimum returns, or which do not fit the company's strategic objectives, or perhaps for which the market is willing to accept a return level which is below the company's internal return threshold. Although this sort of evaluation can be difficult, unpopular and politically charged, it is nonetheless essential if all capital is to be continuously managed efficiently. In fact, a sound capital management plan should contemplate and enunciate not only a market entrance strategy but also exit strategies before the plan is initially accepted.

Securitization of certain insurance receivables, such as a portion of renewal premiums, or agents' balances, or policy loans, may offer additional sources of capital. This is clearly one of the hot topics in the industry today and is beyond the scope of my remarks. To the extent that securitization offers a viable capital resource, the investment manager can offer valuable insight into the structuring of the transaction, and it may be similar to other types of securitizations which have become quite commonplace in today's financial marketplace, including auto loan and credit card receivables.

Finally, reinsurance offers a unique source of capital to insurers. This topic will be specifically dealt with by one of our other panelists.

No decision on the most attractive capital source can be made until the form of the required capital is evaluated. In particular, it is important to recognize whether capital is needed in the form of cash or otherwise. For example, in some insurance ventures, net cash flow can be negative at inception as acquisition costs exceed initial premiums. In this case cash capital is effectively invested in capitalized acquisition costs. Cash may also be required for variable products. When a company places 100% of annuity deposits in one or more separate accounts as designated by policyholders, its selling cost must be funded with some alternative source of cash. Alternatively, in some instances, cash is not required. Consider a book of structured settlement business which generates significant positive cash flows in the early years. In this instance, capital is usually required to provide for statutory reserves in excess of those funded by the net insurance cash flow. Thus, the capital may be effective as long as it is represented in any admitted asset form. For example, the company may allocate certain underwater bonds with a statement value that exceeds its fair market value for a noncash purpose. As such, the enterprise may differentiate its profitability requirements based on the nature of the capital which can be used.

In the process of evaluating his company's internal capital requirements, the investment manager should also be comparing these requirements against other investment opportunities in the external market. Such a comparison may help company management assess the reasonability, viability and marketability of the company's capital management plan. However, to the extent that the company's capital needs are not for cash, internal and external capital deployment need not be mutually exclusive. For example, by investing the company's statutory risk surplus (or benchmark surplus) in external ventures, the company can gain additional growth leverage by effectively investing this same capital in two ventures simultaneously.

Once the capital management plan is established and implemented, the investment manager's contribution potential has just begun. First, he must actively manage asset-liability coordination to produce the targeted risk control posture while optimizing investment returns. This process is no meager feat in itself and requires a great deal of planning and creativity. As a by-product of this asset-liability management, the enterprise's surplus integrity is controlled. However, even though surplus may be defined as "the difference between assets and liabilities," active surplus management means much more than active asset-liability management.

Surplus investment management provides a very significant avenue for the investment manager to make a positive contribution toward capital growth. Too often, we actuaries tend to regard statutory surplus as a necessary evil. We must have it to preserve our solvency or solidity and to provide comfort to our policyholders and the rating agencies that we are a continuously viable operation. We cannot survive without enough surplus, and so we must price our products with sufficient margins to justify this sequestering of surplus. Unfortunately, we often fail to actively use that surplus to generate additional capital growth. This can be achieved by aggressively investing in media with superior growth potential including common stocks, joint venture opportunities, international stocks and bonds, or equity real estate. The cost of pursuing such a strategy includes surplus volatility, unpredictability of earnings, and perhaps some temporary sacrifice in bookable net income. The potential capital for gains, however, cannot be overlooked if the enterprise is to be efficiently working on all cylinders. In effect, this same capital can be used both defensively and offensively -- defensively in the form of risk capacity and offensively in the form of an aggressive, diversified, and actively managed investment portfolio.

The investment of the assets which support liabilities is often done by segmenting portfolios within the general account. For each major operating line, specific assets are allocated, presumably chosen to be appropriate for the underlying liabilities. In these companies, there are two common approaches toward the allocation of surplus investments. One alternative has each investment segment containing its own related statutory surplus, in effect establishing each segment as its own mini-company, providing each operating line with some measure of control over its own surplus investment strategy. The other alternative is to have all surplus invested in a common corporate segment or portfolio, with lines of business allocated results on some form of prorated formula. While the idea of a line of business controlling its own distinct surplus investment philosophy clearly has appeal to line managers, I submit that surplus can be more optimally managed for the company when combined as a whole. To the extent that disparate product lines exhibit uncorrelated or even negatively correlated risk profiles, surplus liquidity needs can be reduced as the risk profile for the whole is less than the sum of its constituent parts. Consequently, more surplus may be channeled towards less liquid but more growth-oriented

investments. Also, a controlled diversified investment portfolio of risk surplus is probably more efficiently managed, monitored and understood if it exists as a single cohesive entity. Investment performance can be allocated back to the operating lines based on actual aggregate portfolio returns or, alternatively, by using assumed or perhaps artificial returns. In the latter instance, the investment function might even be credited with the difference between the actual and assumed investment portfolio performance, thus establishing the investment function as a separate profit center where excess returns are recognized and rewarded, independent of operating line results.

Having cited my reasons for preferring the corporate surplus approach, I will offer some flip-side rationale for pursuing the separate or distributive surplus approach. Under this approach, the line of business is granted both responsibility for and control of its statutory surplus, shouldering full accountability for the total economic viability of its business. Too often, the term "corporate account" becomes a euphemism for a balancing item or the recipient of any negative and/or unwanted effects which cannot be unequivocally blamed on any specific operating line. By fully distributing all surplus to the line, each line has a greater likelihood of managing its results not only on a statutory or GAAP basis but also on a true economic or market value basis which presumably is what shareholders would prefer management to focus on.

Admittedly, my remarks have been quite brief and have just skimmed the surface of some issues which undoubtedly offer great depth. In a session devoted to the "big picture," neither the time nor the billing permit me to try to dot each "i" or cross every "t." I hope I succeeded in raising your consciousness to some of the positive contributions which the investment professional can add to your company's capital management process.

MR. GAMMILL: A major recurring investment opportunity for the enterprise is often the internal demand to invest in new or existing insurance lines or products. Shane Chalke will discuss the capital management process from a pricing manager's perspective.

MR. SHANE A. CHALKE: As mentioned, I am going to approach the capital management process from a product development point of view.

Historically, capital management has not been a significant part of the product development process. What I'll outline is how I think product development can be brought more into the mainstream of corporate objectives. I'll start from the top down by identifying a working definition of what business means. My working definition is "business is the deployment of resources for gain." Since resources are limited, or in other words, since resources have a cost, then business becomes deploying resources such that the return on those resources exceeds their cost. This is a simple but workable definition for our purposes. In this light, our overall corporate goal is generally to generate profit from the return on capital resources minus the cost of those resources. When I say "profit," I don't mean profit in an accounting sense but in an economic sense. With that working definition, I would like to move to product development which is "Capital Management -- The Little Picture."

At the product development level, many actuaries use proxies for the corporate goal of economic profit. Many of these proxies are, in fact, expressed in a return on resource form. We often see product development actuaries using internal rate of return, return on investment and return on equity. How do these proxies function as part of the capital management process? Although I believe they can work well, usually they do not. The reason that these proxies generally do not work well is twofold. First is the fact that there exists a profit goal itself, and the second reason relates to how that profit goal is used.

Let's start with the profit goal. A profit goal makes sense only if that goal represents a statement of opportunity cost. For example, if as product development manager you are faced with a profit goal of a 20% average weighted return on equity (or a 15% ROI), that profit goal only makes sense if the corporation has an identifiable alternative use, or an alternative place to deploy resources that can, in fact, yield such a profit. If there is no identifiable alternative use, then a profit goal ceases to have economic meaning. The second problem with profit goals relates to their use. Many times in the product development process the profit goal is based on what is known as a "cost plus" algorithm. Applying a profit goal with a cost plus algorithm is a recipe for disaster. Product pricing on a cost plus basis ignores a very fundamental law, the law of demand. In other words, you will sell more or less in inverse proportion to price. So, if we apply a profit goal on a cost

plus basis while analyzing only one unit of business, we can put together a plan which only theoretically will result in the profit goal.

Now, I would like to talk briefly about a product pricing process which, I feel, can be correlated with corporate goals. As such, this process can be identified as one step in an overall capital management process. The first step in the process will involve the elimination of the profit goal. In my mind -- and this may seem a little controversial -- I don't believe that profit goals make very much sense. For example, suppose my profit goal is 20% return on equity. If I can figure out a way to get more than a 20% return, should I invent some new expenses or fatten up the budget to get down to the 20%? I don't think so. If the product falls short of the 20%, then should I make the decision, at the product development level, to completely abandon the project? I think not. There are often many reasons to proceed with projects which may not specifically meet some strict economic measure. Many of these reasons are intangible, such as field force morale, displacement of other products, strategic positioning within the industry, or part of a broader marketing campaign. My conviction is that the abandonment decision is better suited to higher levels of management. As such, the profit goal really has no place in the product development process. Instead what I put forth as the proper methodology is to develop a product that will make as much money as possible. Maximize return on resource deployment. How do we do that? First, we should look at product development as a process of creating a business plan.

In order to better meet the needs of business plan analysis, I think product development is better served when it is done on a project basis rather than a unit basis. Now, unit based analysis certainly has its place, but I think the primary focus of product development should be as a decision support platform and should be done on a business plan basis. This means analyzing the entire prospective book of business. If we think the product will last for three or four years, we should look at three or four years of issues and construct a model which projects the entire book of business and looks at results on a business plan basis. I have often referred to a process called "Macro Pricing" which relies on this business plan approach as one of its foundations. Whatever method you use in arriving at a pricing decision, a business plan or model office approach has certain advantages. First, you can appropriately characterize capital needs with the business plan model approach. The deployment of capital in a project takes many forms. Some of the deployment occurs on a unit basis. If you wanted to write a $500,000 policy and you get a blood profile that costs $38.50, that is a deployment of a piece of capital that occurs on a unit basis, but there's also deployment of capital that occurs on a project basis. For example, actuaries don't cost a dollar per policy. We develop products. We spend resources on a project basis. By analyzing projects on a project basis, we can much better characterize and analyze the deployment of capital resources.

Second, the only way to truly integrate the law of demand into the product development process is on a project or a business plan basis. Accordingly, as you analyze different price levels, you certainly can take into account the expected differing levels of production. Further, as we construct our business plan in the product development process, we want to make sure that we take into account only marginal capital needs rather than some characterization of overhead, or other form of nonmarginal expense. This concept generates controversy every time I bring it up. Why wouldn't we include nonmarginal expense in putting together our business plan? Because in order for us to function as an appropriate decision platform for management, we want to provide management with a return on deployed resources or return on capital that is strictly marginal. By including overhead type expenses in my quote to management, I have invalidated the process. Why? Because when I quote profitability to management, I want to give management the necessary information and the opportunity to turn the project down. If I include some kind of overhead expense and I quote to management a 14% return on equity, why would the management people turn that project down? They might turn it down because they feel that they have opportunity cost, that they have some other identifiable use of capital that might yield 18%. If I quote a return on resources, some of which are not marginal, and the management people turn down the project because they can deploy these resources elsewhere, I have a Catch-22 because many of the resources included in my analysis cannot be deployed elsewhere because they are not marginal. This principle applies to each and every type of expense included in my business plan. All should be on a marginal basis, otherwise I've invalidated the decision process.

Therefore we want to do product development on a business plan basis, and we want to try to optimize profitability. We also want to present certain things to management to begin its decision process. The first thing presented to management is a business plan which would take the form of

marginal income statements or balance sheets for each particular project in the years to come. The second thing to report to management is the anticipated resource deployment. What resources are required to proceed with this project? The third thing I want to report to management is the anticipated return on deployed resources, perhaps quoted as an average return on equity. These are the things to report to management to begin the decision-making process.

At this point, management will decide whether to proceed with the project or not. Certainly, I should make a recommendation as product development actuary, but I don't think that I can make the overall decision to proceed completely by myself. Deciding whether to proceed requires that several issues be considered. First is a comparison of alternatives. If capital is not to be deployed through this project, where should it be deployed? What are the alternatives and what are the anticipated returns on the alternatives? At the product level, this comparison is not often done. How many of you in developing a new universal life plan, for instance, have also explored anticipated profitability simultaneously with six or seven other kinds of projects? Second, it must be recognized that a decision occurs on many different levels. Product development is part of a larger decision process, with many levels from the very base level (How much do we charge on this new universal life?) to the very top level (Is our company viable or not?). Most companies don't have intermediate decision levels. I think this trait is partly due to the fact that a lot of the actuarial literature in the past has done a disservice by assuming that determining a price at the base level can somehow insure the health of a company. Alternative investments are very often not compared at the intermediate levels. What levels am I talking about? I think optimization should be done at the product level, at the product-type level, and at the product-line level. We have potentially a dozen or more levels where optimization or comparisons between alternatives ought to take place.

In summary, I would like to leave you with three points. First, profit goals are not particularly useful by themselves. To input capital deployment requirements, translate them into profit goals, and then to meet such goals on a cost plus basis is not a sound procedure in today's competitive environment. Second, the pricing process is really one of optimization and part of our responsibilities as product development actuaries is to report to management what the optimal gains from a particular venture are anticipated to be and to provide a platform for making the decision, "Do we proceed with this project?" Third, product development is really just part of a larger decision process with many, many levels. Product development is the fundamental level.

MR. GAMMILL: The capital management process is a prospectively oriented process. As such, it requires a capacity to prepare credible financial projections over time. Those projections should reflect the economics of the business as well as the financial impact on the organization. At this time, I am pleased to introduce Dick Robertson who will represent the Financial Reporting Section.

MR. RICHARD S. ROBERTSON: I'm going to cover much of the same material as Shane Chalke just covered, but I'm going to do so from a different perspective. Product development is a user of capital. Shane's perspective, at least for the purpose of this presentation, has been that of the user. I'm going to speak from the perspective of a supplier of capital. I think you will find that perspective somewhat different. And I think I'm going to come to a conclusion that is different than what Shane just presented. I've been involved with the capital management process at Lincoln National for more than 15 years and during that period of time I've come to be associated with two or three capital management techniques that are quite widespread, and I think have worked reasonably well in a variety of settings.

One of those techniques involves the use of specific formulas to determine capital requirements or to allocate capital. I certainly didn't invent that concept nor have I by any means been the primary advocate or user of it. But perhaps the contribution that I have made is to bring the concept into the public arena, to present ideas (or formulas) that we in fact have used, and to provide a forum for discussing the strengths and weaknesses of both the process and the formula itself. We indeed have been using a formula to allocate our capital within Lincoln National for many years, and it has been a very useful process.

Perhaps the most significant contribution that allocation has made is not in its ability to define the capital needs of Lincoln National, but rather to allocate those needs to the various users of capital and, having done so, to hold the users accountable for how they use that capital. It is from a corporate perspective that we have, in essence, defined how much capital you need to run

individual life insurance business, or how much capital is needed to run a group insurance business. Admittedly, capital allocation is somewhat arbitrary and subject to a constant reevaluation to determine whether in fact it's appropriate. At least, within an order of magnitude we believe that we are measuring the appropriate measure of capital, and we certainly have the right trend. To double the size of the business you certainly are going to double the amount of capital you need to support it.

Having defined for internal purposes the amount of capital that a business unit needs, we can now begin to measure how effectively the business unit uses that capital. We can measure the kind of return that the business unit achieves, and we can look at a business plan and determine the kind of expectations that the business unit has and, therefore, the kind of expectations that we should have as to how effectively that unit is using capital. We have developed a return on equity measure based on our capital allocation as the denominator and using a measure related to GAAP income as the numerator, and we're convinced that it quite reasonably measures the effectiveness of a business unit in managing capital. The higher return the business unit achieves, the more productive it is using capital. The lower return, the more capital it takes to support a given level of profitability. We have found return on equity to be a very useful tool in measuring the profitability of a business unit. Perhaps it's greatest usefulness is in the strategic planning process.

As we look historically at the kinds of returns a particular business has achieved, we can look at the business plan that the unit has presented, which tells us what it expects to be able to achieve in the future, and we can compare those returns to the type of returns that other businesses have achieved. We can make decisions about where we can most economically deploy our capital. A business unit that seems to be able to produce a high return would be a business unit that we would expect to grow. We would want to deploy more capital into such a unit, thereby effectively increasing returns corporate wide. If a business unit has not been able to achieve a satisfactory return or is not willing to commit to doing so in the future, we would question whether it is appropriate for us to deploy any more capital to that unit. We may want to develop strategies for withdrawing capital, and, in fact, in some cases have done so. Another concept that we have developed and promoted is the development of corporate standards. Many years ago, we publicly said that, as a corporation, we should achieve 15% return on our shareholders' money and that, if we could not achieve that return, we ought to return the capital to the shareholders and let them find better uses for it. That return has become the dividing line between a business that is successful and worthy of further investment, and a business that is unsuccessful and one that we should in some way shrink. Not surprisingly, we always see business plans that present returns that at least reach our corporate standard, if not beyond.

Shane has presented some criticism of this idea of a profit standard, and there are some serious problems with it. One problem involves the in flexibility of the standard itself. If 15% is good, 20% must be better. Why not really become an outstanding company and go for 25%? The basic problem here is that there is a trade-off between profitability and growth. Maybe we could organize Lincoln National to produce a 20% return on equity, but we could do so only by becoming a much smaller Lincoln National, by shedding all those units that are incapable of producing that kind of return. By forsaking opportunities that only present 17% return and limiting ourselves to only those that clear a higher hurdle rate, I think it can be easily demonstrated that we are not creating values for our shareholders by following that process. They may have a very profitable company, but it will be a very small one.

On the other hand, we could demonstrate that, if we would adopt a lower return, perhaps 12%, we could grow much more rapidly, and we may have a smaller unit profit, but, perhaps our aggregate profitability would be much higher. Naturally those that advocate this point of view generally are people who have a marketing perspective and a desire to expand a particular operation that they are successful with. Of course, the answer obviously is somewhere in between. If you get too low, you may have growth with no profit; it you get too high, you get profit with no growth. That's the classic pricing model. But why is 15% the optimum and how do we determine that?

If 15% is an appropriate standard, should that standard vary for different operations? The people who run a stable consistent growth will say that they are a relatively low risk business. They can produce their 12% return year after year, whereas, for example, those group people may make 30% one year and lose 20% the next. Shouldn't they have a higher profit standard than we? Shouldn't we be able to use 12% as our standard and require them to have 18%? We have looked at this issue

from several different perspectives, and I'm absolutely convinced it can easily be solved through capital requirements, through the surplus formula, rather than in trying to vary the return by business. There are both theoretical and practical problems with trying to vary the return by business for risk purposes. A more serious concern involves trying to understand the theoretical underpinnings of the 15%. We spent a lot of time in analyzing that 15% and in coming to that as our objective. We did have a great deal of evidence supporting the 15% return and, in fact, when we redid it a few years later, that evidence still supported 15%. But in reality the way we got there is that 10% was too low and 20% was too high and we wanted a round number. It may be that the correct answer is 13.5% or it may be the correct answer is 16.2%, but 15% is a number that is at least within a few percentage points of the right answer and one that is easily communicated and understood. But, we said 15% in the early 1980s, and you may recall that those were the times when interest rates were up in the teens, short-term rates were even higher, and inflation was very high. Now people are saying that if 15% was appropriate in 1982, and if we're looking at an economic horizon that has much lower interest rates and much lower inflation, isn't a lower number appropriate today? They're probably right. But lacking the theoretical underpinnings of our model, it's very difficult to say we ought to be using 13% or some other number. The issue is basic, and we have concluded that we need to reexamine the basic model and come up with a different approach for evaluating what kind of a target return we need. We then need to communicate that return to our business units.

In reality, the primary determinant ought to be the cost of capital. As I listened to Shane talk, I almost got the impression that he'd use capital as a fixed amount and the rate of return becomes a clearing rate. In other words, you set the return at the rate that you allow to use all the capital you have and then that's the rate that you use to allocate capital. I don't think that such an approach even works well in a mutual company, and it certainly is not appropriate for a stock company. We can very quickly shrink our capital base either through dividends or stock repurchases if we deem it appropriate. And, if we could convince investors that we can produce a high level of return, we could probably raise almost unlimited amounts of capital, provided we can maintain high enough credibility in the financial markets. In fact, the issue we need to look at is, "What do we have to pay in the capital markets to raise capital?" If, in fact, we can invest capital in operating units at a rate that is higher than what we have to pay to raise capital, we are creating value for our shareholders and adding value to the company. We need to address the problem "What is our cost of capital?" It turns out to be a bit of a stickier problem than you might imagine.

The cost of debt capital is fairly easily measured -- that is, we know what it would cost us to raise the money, after tax, and we can therefore come up with a rate. You can get into issues such as whether we should be using our average rate or marginal rate, to what extent should we be projecting that rate, and to what extent should we rely on historical patterns? All of those are implementational aspects.

Much more difficult is evaluating the cost of equity capital. That is something that we as actuaries have not spent a lot of time on. In fact, a lot has been done in the business schools and elsewhere in trying to measure such cost with some very good equity pricing models. We looked at several of these pricing models and the problem is -- they all give different answers. To date, we have not been able to reconcile, to our satisfaction, why they give different answers and more importantly, which ones really are most relevant and appropriate for a company like ours. Having measured the cost of equity and having a satisfactory measure of the cost of debt, we need to evaluate the appropriate degree of leverage. In fact, I think at least conceptually, if we do have an adequate measure of equity costs, and if we understand how those costs will vary according to the type of leverage we employ, we can develop a nice internal model that will help us to quantitatively address concepts of how much leverage is appropriate. All together, we have come up with some fairly good ideas as to what the cost of capital is than simply saying 15%. Now we can go to our operating units and say, "Your job is to maximize the total dollar amount of value by producing a return on investment in excess of what it costs us to supply you with capital. If you can produce a high rate of growth, in absolute dollar amounts, then you are being successful, and we want to fully fund everything that you say you can do. If you can't, then we should be looking for other ways to employ our money." This introduces a target return that varies by business unit. Incidentally, just to cite some quantities, our cost of capital seems to be somewhere in the 10-12% range. We are probably now at the higher end of that rate and moving down as the investor markets and capital markets get more attractive. The 15% probably is not too bad a number. That is, if our cost of capital is 12%, probably 13% is too low and surely 20% or 18% is

probably too high. Profits at 18% would be twice what they are at 15%. There is a 3-point margin between 15% and 12%, and a 6-point margin between 18% and 12%. We are probably going to lose more than 50% of our business to the 18% target. So at least to an order of magnitude, 15% is probably all right, and in fact, it has worked pretty well over time.

MR. GAMMILL: Reinsurance continues to play an important role in the capital management of an insurance enterprise.

MR. NORMAN E. HILL: First, let's review the various types of contracts that can be described as transfer mechanisms:

- Reinsurance, divided further into:
  - -- Risk transfer in nature.
  - -- Nonrisk transfer, or surplus relief, in nature.
- Surplus notes, despite their frequent lack of flexibility and availability in many areas.
- Securitization, the newest form, involving instructions outside the insurance industry.
- Stock issuance, available to stock insurers.
- Loans, despite their lack of surplus enhancement.

Two prominent insurance department actuaries and Society members, who are also members of the NAIC's Actuarial Task Force, requested that Alan Sibigtroth submit a paper on regulatory guidelines for capital transfer. An ad-hoc group, including Al, has been set up with representation from insurance carriers, reinsurers, and commercial banks. A preliminary draft of the paper was presented before the NAIC Actuarial Task Force. My comments draw in large part from Al's paper, which will be added to the NAIC Record.

The insurance industry is facing both a shortage of capital and an underdeployment of capital. The capital shortage will intensify as the baby-boom generation turns from a net debtor to net savings component of society. Projections show a large growth in net worth as this group moves from a mean age in the 30s to the 40s and 50s. Because of greater affluence and completion of many large expenditures for durable goods, baby boomers represent an obvious insurance market. Based on the current insurance product and commission mix, the growth in capital required to support this market is great. It is most doubtful that this capital growth will be sustained by retained earnings, or cumulative statutory income.

With regard to statutory earnings, it is doubtful that the statutory income accruing from older blocks of business will match the statutory investment required to cover the need of new product sales. Generally, retained earnings are the only source of capital for a mutual company. This situation will leave a company, whether stock or mutual, in either a net deficit or excess capital position. If a company is unable to transfer capital, it will be faced with underdeploying capital within its own business or lack the capital to exploit attractive markets. As such, a mechanism to transfer capital within the insurance industry and to and from other industries is needed.

Without adequate, flexible capital transfer mechanisms, the industry can expect to see profits depressed because:

- Low returns on equity will discourage capital from flowing into firms.
- Markets will be undeserved as firms are unable to support their product distribution.
- Competition can be expected from foreign sources with greater resources and earnings.
- Competition from sister financial concerns such as strong sales organizations, broker dealers, or mutual funds can be expected to attack fringe markets not requiring insurance licensing.

A capital transfer mechanism should increase aggregate returns on equity. For example, assume that Company A can only deploy two-thirds of its capital and the other third is not required for its business. If the return on equity is 20% on deployed capital and 6% on excess capital, the blending return on equity is 15.3%. If a second company, B, is earning 25% on fully deployed capital and both companies are of the same size, the combined return on equity will be 20.2%.

If capital transfer was possible, the first company could leverage its capital by loaning it to the second company with perhaps a 30% return on its net leveraged, i.e., lower surplus. Suppose company B (now the larger company) deploys the additional capital at a return of 20%. Then, the

blended return for both companies would be nearly 26%, a substantial increase. In illustrative numerical terms, the pattern would be:

	Before Capital Transfer		After Capital Transfer	
	Earnings	C&S	Earnings	C&S
A	4,600	30,000	6,000	20,000
B	7,500	30,000	9,500	40,000
Aggregate	12,100	60,000	15,500	60,000
Increase in aggregate earnings	3,400			

This simple example illustrates that if excess capital cannot "find a home," the insurance industry generally will probably have lower aggregate returns. Expressed in more positive terms, if capital is put to optimum uses, aggregate rates of return will also be optimized. If inherently more efficient companies have adequate capitalization, earnings for the industry will increase.

Now, some care is needed to assure that any capital transferred is really excess, and not needed now or in the near future for current operations, and that capital can be considered "good capital," i.e., put to good use, for the company receiving the infusion (Company B in our case).

Historically, insurance departments have linked capital transfer mechanisms, which took the form of a reinsurance transaction, to a proportional transfer of risk of the associated insurance product. Then, a transaction using a coinsurance form would necessarily transfer the associated investment and mortality risk. The New York Department held this view in Regulation 102 and the NAIC's model bill was quite similar.

More recently, in August 1988, the California Department issued a Surplus Relief Reinsurance Bulletin that one representative says also applies by implication to bank securitizations. The concern is where companies take reserve credits where there is little or no indemnification of policy benefits by the reinsurer. Further, the California Bulletin applies extraterritorially to all companies licensed in the state, unless they are subject in other jurisdictions to substantially similar regulations. Outstanding treaties that do not conform to the provisions must be eliminated by year-end 1992. Among the provisions of the Bulletin are:

1. The modified coinsurance interest rate should not exceed the maximum allowable valuation rate. For long-term contracts such as life insurance plans or structured settlements, this will imply a long period of capital relief amortization. For such plans, it may be beyond the ability of suppliers to provide.

2. The reinsurer must share substantially in the risks absorbed by the ceding company.

3. The ceding insurer cannot be deprived of surplus upon a stated event or at the option of the reinsurer.

4. Renewal expenses should reflect actual company charges, including a provision for administrative costs not provided for in policy loadings. This eliminates "ad-hoc" surplus relief transferred through a modification of contract charges, or rapid amortization of prior relief.

5. The transaction must be properly administered and executed prior to the closing date.

Capital transfer, or our consciousness of it, is a new technology. Reinsurance is simply one form of the means by which transfer is affected. Investment banks and commercial banks are attempting to offer a similar service. As a new technology, it can be argued that the transfer of risk required for some reinsurance treaties should not be coupled with all capital transfers. In other words, separate guidelines should apply for risk transfer reinsurance and other capital transfer mechanisms. Regulatory policy for capital transfers should emphasize the "good capital" standard.

In the past, good capital was not provided in some reinsurance contracts. In some cases, the reinsurer, under certain stated conditions, was able to withdraw capital. Therefore, in practice, these did not retain a solvency risk. Regulation 102 and the NAIC Model Bill attempt to eliminate such situations. For a treaty to provide good capital, the reinsurer should not be able to recover its capital under stated conditions such as the financial impairment of the ceding carrier.

The California Bulletin requires long-term, gradual surplus amortization for long-term contracts. Most banks and many reinsurance transactions require repayment in eight years or less. Good business judgment requires that the institution receiving capital must balance its growing budget for new business with amortization of past capital infusions.

A technique allowed under New York Regulation 126 may provide an alternative to specifying surplus amortization periods. Gross premium valuations can test whether future premiums are adequate to cover future cash payouts. This analysis could be extended to include capital repayments. If a carrier could demonstrate ability to cover capital payments under adverse interest and economic conditions, then it has no need to set up any additional liability.

In summary, Al Sibigtroth recommends the following regulatory strategy regarding capital transfer:

1. Eliminate the coupling of proportional risk sharing with regard to properly defined and disclosed surplus-related transactions.

2. Set standards for passage of good capital, where cash is available to meet the operating needs of the ceding company on demand.

3. Use the gross premium valuation technique to define the level of reserves and the duration of capital payback.

4. Relax the requirement that the duration of the capital transfer transaction coincides with the recovery of statutory investment from the product being considered, and allow the repayment of surplus to be made from other lines of business. In other words, rely on more than just allocated profits from identified products.

5. Add to the NAIC Blue blank columns under pages 2 to 4 the captions "Before Financial Reinsurance," "Financial Reinsurance," and "As reported."

By adopting such standards, companies with prudent management will be able to deploy capital for better returns for their policyholders and investors, and hopefully, induce other investors to infuse capital into the industry.

The stakes in this issue are high, namely, the long-term survival and prosperity of the insurance industry. The purpose of regulation is to watch for companies with dangerously low returns on equity. If the industry's attempts at capital transfer are unduly restricted by regulation, many more companies will suffer dangerously low returns on equity. This in turn will lead to more regulatory actions, and will constitute a dangerous, negative spiral and self-fulfilling prophecy.

MR. GAMMILL: Although this ends our panelists formal remarks, I think that we're going to be hearing a lot more about the capital management process in the future. As we begin to understand the process better, I think we will find a lot more similarities among each of the panelist's remarks today rather than dissimilarities. One of the primary impediments to one professional describing such a complex process to another professional is the lack of a common dictionary. This panel discussion emphasizes that we have a communications issue that needs to be resolved over the next several years in this regard. I believe our apparent differences stem largely from that communications issue. The more we understand the capital management process, the more we can understand each other's perspective.

MR. FRANK J. LONGO: I think the comment you made just now, Glen about communication and understanding the different phrases and words we're using is very appropriate, and my evidence of this is in a question to Mr. Robertson. Dick, at the beginning of your remarks, I believe you said that you intended to disagree with some of Shane Chalke's remarks, and it seemed to me that at the end you were really agreeing with him. Shane, I'd like to know if you feel the same way.

For example, Dick came around at the end and said that there might be circumstances where different return objectives might be appropriate based partly on the price sensitivity of different lines of business, and I think that that's quite analogous to Shane's comments regarding looking at the pricing of businesses on a project basis as opposed to a unit cost basis. Would you comment on that please?

MR. ROBERTSON: Well, Shane just made the same observation to me. One thing that I did try to describe is a financial model that, at least conceptually, determines when different profit objectives are appropriate for different units and how to construct what those objectives are. I say "conceptually" because this involves an assumption driven process, and a lot of conceptual thinking and practical applications may not fit clearly in all cases. I suspect that, when you come from the product development side, you may be coming with some of the same general conclusions, possibly from a different perspective.

MR. CHALKE: In answer to your second question Frank, I think that Dick and I agree probably more than we disagree, however, there is one aspect where we differ. Dick made the comment that there's a trade-off between profit and growth, and my belief is that trade-offs only exist through particular accounting mechanisms and not on an economic basis. It really is a case of the accounting tail wagging the economic dog to try to fight such a trade-off. I feel that the goal of many firms is to continue to grow until the return on capital meets the cost of capital on a marginal basis. A firm that desires growth should choose projects in inverse proportion to their expected return on capital. For example, you exhaust all your 18% projects, and then you get to your 17% projects and then your 15% projects and so forth. I do recognize that capital is a scarce resource and that, if you have an accounting trade-off between short-term profit and growth, I think that issue can be solved through acquiring capital in a different form. For example, if you have a problem deploying capital, individual products may be securitized to procure capital in a form which erases the accounting bias that's necessarily injected into the economic result.

MR. GAMMILL: The capital management process is a subject where the more you know, the less you know. And, again I refer back to management and the communication issue. A management team can only manage so many business opportunities at one time. Management has to make decisions, such as do you want to invest at 20% in an investment producing an additional value of $1 million, or do you want to opt for an investment that returns only 18% but generates additional value of $100 million? It's hard to say that the enterprise is always going to prioritize investments in terms of such investments' ability to exceed the enterprise's cost of capital. The issue may really be, "How much profitable growth do you want?"

MR. OWEN A. REED: I have two questions, one for David Hall and one for Dick Robertson. For David Hall, I wasn't quite clear what was meant by managing on a market value basis. Were you talking about the surplus as an investment portfolio, or were you talking about the whole ball of wax?

MR. HALL: The comments that I was making were really dealing with the value added that an investment manager can bring to the process by striving to achieve enhanced returns, or enhanced growth, on surplus as an investment on the balance sheet, as distinct from an investment in a line of business.

MR. REED: The question for Dick Robertson is on the rates of return on equity. My own company did segmentation for internal purposes on January 1, 1986. We now have three full years of financial statements on this basis for internal purposes. We have been fine-tuning the internal reserves that we use for this purpose and also the minimum surplus levels -- the risk surplus levels. We are now contemplating the rates of return on equity, and some of those returns don't seem to make much sense. I guess Dick's had 15 years of experience at looking at such returns, and I guess he has become more comfortable with them. But, even if you double the capital in some instances, these rates of return can still bounce around quite a bit. Management is asking us if such returns make sense, and should it manage on the basis of these returns, and we're still wondering. You mentioned the group life and health portfolio as fluctuating from positive to negative, which is a good example. Would you care to comment?

MR. HALL: Probably the example you cite has been the most difficult for the reason you cite. The rate of return on group health has either been astronomically high or totally unacceptable. In terms of creating value for the corporation, it's not critical whether 15% value is achieved

consistently, year by year. What's important is that 10 years out or so, we create enough value to support the investment that we made in that business. Now, I don't want to take a callous attitude on timing -- there have been more ulcers, or worse, caused by fluctuations in earnings, particularly in the group area -- but in terms of the capital management process, it's the long term, the average return you get over time, that becomes most critical. It's very difficult to manage on a year-to-year basis based on rate of return. If the business is having a good year and earning 40%, do we say make it better and earn 45%? In reality, what we say is, "Alright, you're going to earn $50 million in your plan; if you earn $60 million, we'll consider it a good year, and if you only make $40 million, we'll say it really needs to get better to make up for all those bad years." This approach focuses on the earnings versus cost of capital because it moves off of ratios that have little meaning in the short term and into dollar terms that are more understandable and lend themselves better to averaging over time. Rate of return management works better when you have a relatively stable business such as the individual life insurance business.

MR. PAUL H. LEFEVRE: This question is addressed to Shane and Dick. In the general subject of capital allocation and capital management, do you always use models? I have found one of the major stumbling blocks is not the models, or the goal, but the communication between the product developer and management relative to the assumptions used in the model and the way the results can vary greatly due to the sensitivity of the results to the assumptions used. From Dick's perspective, from the standpoint of financial accountability, do you in essence hold people accountable for the assumptions? I have a little bit of difficulty in trying to deal with Shane's element of comparing various alternatives, relative to their expected results when you only end up choosing one route and it's difficult to measure the results. This gets much more complicated when you get into the interrelationship between assumptions. For example, consider the interrelationship between interest rates and lapse rates and other external factors. How do you know your model is correct? If you use one set of assumptions versus another set, you have a very different result.

MR. GAMMILL: In connection with models and assumptions, often there's a statement made, particularly by consultants, when dealing with projections. The statement goes something like this: "These financial projections are based on assumptions. Actual emerging experience will differ from these assumptions, and such deviations may result in actual financial results being materially different from those projected." From my perspective, the idea of consistency and of having a systematic capacity process to prepare financial projections becomes paramount, particularly to senior management. Senior management doesn't want to be receiving financial projections which are of varying quality and consistency.

MR. CHALKE: I have a quick comment. I think Paul's quite right in identifying that there is no way to track the results on a project if you chose not to do so. As far as accountability, I think that, even as actuaries move more toward creating business plans as part of the product development process, there may not be a strict mechanism for accountability, but, at least, there may be the possibility for review. I think that's a step in the right direction. In many companies, there is no communication whatsoever between the product development process and global profitability analysis. Many assume that actuaries, through the product development process, know what to do and how to produce a price which will meet corporate goals. I think the accountability issue is a very sticky one, but the first step is to start producing results that at least can be reviewed in the context of what actually occurred.

MR. HALL: Paul's comments, I think, bring to mind a couple of observations on the use of models that I think are quite relevant. The first one is that it is very important not to make the mistake of confusing the model with reality. You often get so involved in the model, that you begin to think that it is the real world, and if the real world doesn't fit the model, you start blaming the world. It happens. It happens far too often. You have got to remember that the model is an attempt to describe reality. Another observation is that, in terms of using a model as a communication device, it is absolutely critical that you simplify the model to the greatest extent possible. We develop pretty sophisticated models to do various things and that sophistication is very useful, but when we get all through, we almost invariably try to identify what is not critical to the process, what is not relevant, and we try to reduce the model to as few critical variables as possible and use that model to go public with. We continue to keep the sophisticated model on the shelf and keep testing the simple model to make sure that we are not getting off track. You can't use a 16 variable model to try to describe where you are going to allocate surplus. You use a one or two variable model and keep testing it. A third observation is to be highly suspicious of any

model that appears to be assumption driven. Such models really aren't worth a whole lot. If you come to a particular conclusion only because you make an assumption and if an equally plausible assumption would point to the opposite conclusion, you really don't have the basis for making a conclusion. You need to step back and try to approach the problem from a different perspective. Now one of the things that I always ask when someone brings me a model is, "What happens if you tinker with this, or this, or this?" If it looks like tinkering changes the result, I usually send them back to the drawing boards.

MR. HALL: Paul, you touched on an issue that I tried to touch on as well. That issue is that when evaluating alternative uses of capital, you have to look at more than one project at a time. A project that you may dismiss as untenable from a risk standpoint when viewed in isolation may be negatively correlated to some other product that you're currently selling, or that you also might discard if you looked at it as an independent product. When you can put the two together, the products which both exhibit a high degree of volatility independently, may exhibit low volatility. It is the reason why diversified portfolios and optimum returns generally include things like common stocks which, when looked at independently, are highly volatile, but when looked at in the context of a diversified portfolio can provide overall returns that are more stable and higher than ventures which are, in and of themselves, stable. I heard Dick say that he was going to disagree with Shane. I kept waiting for him to do it, but I don't think he did. But the model that Dick used to get to his conclusion was quite a bit different then the model that Shane used. This is a very complex subject, and we tend to explain our results in terms of a process that we each use individually. If we use different processes to get there, that's the way we communicate. The approach Dick was communicating, I think, ultimately became an end result that Shane would have difficulty in disagreeing with. In effect, what we're talking about is a subject that, at least at this point, is so complex that we haven't been able to model it to everyone's satisfaction. It's like modeling the U.S. economy and trying to project where interest rates are going. As actuaries, we like to think we can figure out how things work, come up with a formula, and let everything ripple through that formula to come up with the answer. But clearly, in the case of a capital management process, the answers are not that simple.