

RECORD OF SOCIETY OF ACTUARIES 1989 VOL. 15 NO. 1

SURPLUS MANAGEMENT FOR HEALTH INSURERS

Moderator: DONALD M. PETERSON
Panelists: RICHARD K. KISCHUK
 DAVID A. RICCI
Recorder: JOHN F. AMES

- o General methods for determining surplus requirements
- o Unique health insurance surplus needs
- o Surplus requirements for the health lines in relationship to overall corporate surplus
- o Impact of A.M. Best and other rating agencies
- o Regulatory surplus restraints
- o Future direction

MR. DONALD M. PETERSON: The first thing I did in preparing for this meeting was to make an analysis between health and life insurance and to determine what is unique about surplus management for a health insurer. My company, Benefit Trust Life, is more than 90% health insurance from a premium standpoint. In comparing the risks involved with life insurance versus those in health insurance, there are some similarities:

- o The asset risk for the most part is similar. The left side of our balance sheet is still going to be invested in stocks, bonds, mortgages and real estate and will have the various C risks that go with it.
- o There is a unique risk for health insurance, somewhat along the line of the C-3 risk for life insurers, with respect to lapsation. My company ran into this over the past few years. We were a reinsurance participant to the extent of 5% on a billion dollar medical expense case which generated \$50 million of premium and some risk. But, our main concern was that we knew this reinsurance arrangement was going to terminate but, we were not sure exactly when so, we had to keep liquid assets, which stood behind the liabilities on that particular case.

We have a lapsation risk that is inherent just with the premium structure in group insurance. For example, if our rates are a little higher than our competitors, we suddenly see business walking away from us, and therefore, we have a liquidity risk with lapsation.

There are many distinct differences, however, between life and health insurance from a risk standpoint:

- o First, from the premium standpoint, we have various renewal provisions. We have noncancelable business in which our premium rates are locked in forever. Obviously, there is a significant risk there. The basic guaranteed renewable contract has rates, which can be adjusted, increased for the most part, but there is a need for rate increase approval. As some insurers are finding in many states, approval is not always as easy to get as you would have originally hoped when you initially developed the product.

We have a number of products with limited renewability, which the company can cancel by class or by area under certain circumstances. Other policies are renewable at the option of the insurer, or as we get into the group insurance area, we have one year or shorter term policies. So, there are a number of different risks which have to be evaluated.

- o Second, and most significantly, there is a multiple-claim possibility. For the most part, with a life insurer's policy, in spite of the fact that medical technology has advanced rapidly, you can only die once. We have a multiple-claim possibility in both disability insurance and most especially in medical expense insurance.

PANEL DISCUSSION

- o Third, there is an indefinite benefit, and I probably could go through the alphabet two or three times with the reasons as to why the benefit is indefinite.
 - In the disability area, we have no idea whether the individual who is disabled is going to be under benefit for one month, two months, or for a lifetime.
 - The whole area of medical cost inflation and the causes behind it vary.
 - There is geographical variation in our claim costs and most especially in the competitive environment. If we are going to stay competitive in certain areas, the risk is far greater than it is in other areas.
 - Utilization of medical care services is on the increase.
 - Technological advances in medicine continue. We have gone from X-rays to CAT-scans to MRIs and there are more advances coming along following that, each one exponentially more expensive than its predecessor.
 - We have some mandated medical benefits.
 - Costs are being shifted. Medicare and Medicaid payors are limiting reimbursements to hospitals and doctors for their share; the commercial insurer, therefore, in most instances, is picking-up that difference.
 - We have catastrophic claims. When you sell a \$5,000, \$10,000, or a \$100,000 life insurance policy, you are not going to suddenly find out that your ultimate payout is a thousand times greater than that. We are now finding that \$1 million maximums in major medical coverage, do not necessarily cover the entire bill as individual claims go beyond that level.
 - There is managed care (HMOs, PPOs, utilization review, precertification, and so on.) This has also changed the ball game and created a different definition of claim for us.
 - Employment and economic factors affect both disability income and medical expense insurance. In times of full employment in certain areas, you will see one slope of medical care inflation and utilization, and frequency of disability; and in other geographical areas, you will find just the opposite.
- o The idea of claim reserves in health insurance is far different than it is in life insurance. Frankly, it has been the cause of the downfall of certain health insurers. Certainly the HMOs have run into that situation in the past few years when they did not realize that there was a "tail" to the claims they were processing, and they did not realize how big that "tail" was. The same thing happens with stop-loss claims and LTD claims where we find out that the tables we were using for 5 to 15 years, are not necessarily representative of the termination rates that we are seeing today and will be seeing tomorrow.

So, there is quite a difference between life insurance and health insurance in the risk involved.

Benefit Trust Life, since 1971, has been working under a target surplus formula. Basically, our target surplus has been 5% of individual life reserves (Exhibit 8) and 1.5% of face amount life insurance excluding servicemen's group life insurance (SEGLI) and federal employees group life insurance (FEGLI) up to \$1.5 billion and .20% thereafter. The reason for that differential is that in those days we only had a billion and a half dollars of insurance in force, and when we realized it was growing rapidly, we felt it was appropriate to tail it off.

The second component of our target surplus formula is 5% of Exhibit 9B and 11 health claim reserves (this is an approximation and not directly off the convention blank), and 10% of our health "premium," which does include minimum premium and ASO premium equivalents where we are involved with an aggregate or specific stop-loss at the back end.

Chart 1 is a history of Benefit Trust Life over the past 15 years and, using our Corporate Plan, projected out to 1993. The last column summarizes the relationship of our surplus divided by our

Year	Assets	Life Prem.	Total Health "Prem."	Total "Prem."	Basic Surp.	MSVR, Etc.	Total "Surp."	Target Surp.	"Surp." Assets	"Surp." Total "Prem."	"Surp." Health "Prem."	"Surp." Target Surp.
1973	86	10	65	75	10	4	14	12	16%	19%	22%	112%
1976	117	12	85	97	12	5	17	17	14	17	20	98
1979	160	17	112	129	18	6	24	22	15	19	22	108
1982	185	21	163	184	23	5	27	28	15	15	17	97
1985	304	26	262	288	33	11	44	41	15	15	17	107
1986	338	28	283	311	40	16	56	43	17	18	20	129
1987	330	26	256	282	42	14	56	42	17	20	22	134
1988	378	27	307	334	49	15	64	52	17	19	21	127
1989	387	28	386	414	54	20	74	59	19	18	19	126
1993	519	34	626	660	102	22	124	86	24	19	20	144

CHART I

SURPLUS MANAGEMENT FOR HEALTH INSURERS

PANEL DISCUSSION

target surplus formula. Before we look at the last column, let me give you a little bit of a history. You can see the first column after the year is assets, which shows relatively smooth and satisfactory growth over the years, not unlike many companies.

The next three columns are life premium, total health premium, and total premium. You can see that we are not much of a life writer. We have \$28 million of life premium right now, and while that is roughly three times where we were in 1973, we have grown far more than three-fold in our health premium from \$65 million up to \$386 million projected for this year. Our total premium is in the \$400 million range. Our basic surplus, (true surplus in the convention blank), has grown rapidly and smoothly and to our expectations quite satisfactorily.

The next column is Mandatory Security Valuation Reserves. (Etc. refers to a couple of million dollars in reserves, which even for tax purposes are recognized as true surplus items and thus are included in our "total surplus.") The next column is our total surplus during the past 15 years and projected for 1993. And, last, is the target surplus resulting from the formula mentioned.

The last four columns just show some relationships. The first relationship being adjusted surplus to assets. Here we are talking about 16% back in 1973. This is redundant in New York state for a mutual insurer (we are not licensed in New York for life insurance and are not subject to that), but we felt that it was actually necessary that the company have that portion of its assets in surplus. We have held it pretty smooth, although over the last couple of years it has moved up to 17%, and now as we see the direction in which we are heading, it looks like it is going to 19% this year and perhaps as high as 24% in 1993. Obviously, this raises questions.

The next two columns compare our adjusted surplus to total premium and health premium. The total premium column is relatively smooth over that period. We started with 19% and are heading towards 18% this year, and even in 1993, it looks as though we are staying in about that 19% area. As is obvious from the last column, where for 10 or 12 years we were a little above or below 100%, it looked like our target surplus formula was working reasonably well. As we grew in 1986, 1987, 1988, our ratio increased to 120-130%, and the projection indicated that we will be 140% in 1993, which means that we must be an unbelievably A+++ type company and very safe. I am not saying that this is not the case, but it certainly makes us go back and look at what we are doing and ask, "Are we kidding ourselves, are we measuring target surplus inappropriately?" Probably so. We are now looking at some of these risks in trying to come up with perhaps a more realistic approach as to what our target surplus should be.

I would like to discuss briefly a pet item. Once a year, most of us journey out to New Jersey to visit with A. M. Best, and chat with the people there about A and B and A+ ratings and things of that nature. Benefit Trust Life has been an A-rated company for a number of years. My strong feeling is that a health insurer is grossly discriminated against by the marvelous rating agency out in New Jersey. I think that I have some evidence in that direction right here, and I would like to share it with you.

The A. M. Best people did change its rating formula about two years ago. We found out about six months after they had changed it. It had no impact apparently on Benefit Trust Life. When we visited with Bob King and the people out there, they did run us through their formula and what it would take for our company to get from A to A+.

Best works with something called a gross leverage ratio, and I use the word approximate because I don't have the authority of Best to publish this, but this is an approximation to the gross leverage ratio formula that Best uses (Chart 2). To be an A+ company, your leverage ratio has to be roughly less than 5; to be an A company, it should be in the realm of 5-9; and to be a B company or worse, your approximate gross leverage ratio will be somewhat greater than 9. The people at Best gave us about three pages of hieroglyphics that represented the formula, and we did try to get an approximation and an abbreviation to it on one line.

The gross leverage ratio consists of the following elements:

- o Life Exposure (LE) -- Defined in terms of face amount plus reserves.
 1. Four to sixteen percent of life face amount, depending upon whether it is universal life, term insurance and so on.
 2. The reserves and claim liabilities, which are taken at a face value.

SURPLUS MANAGEMENT FOR HEALTH INSURERS

CHART 2

$$GLR = \left[\frac{LE (LE) + AE (AE - 5CS) + HE (HE + 7CS)}{TE \times CS} \right] \times SF$$

LE = Life Exposure → ½ (4-16% Life Face + Reserves /Claim Liabilities)

AE = Annuity Exposure → Contract Reserves & Liabilities

HE = Health Exposure → Premium + Reserves /Claim Liabilities

TE = Total Exposure → LE + AE + HE

CS = Capital, Surplus, MSVR, Def/UP Res; LESS Losses*, 20% Stks, Notes

SF = Size Factor → From 0.30 (large) to 2.25 (small)

* For Health, Greater of Page 5 or Schedule H

LIFE ONLY

$$\left\langle \frac{LE}{CS} \right\rangle \times SF$$

ANNUITY ONLY

$$\left\langle \frac{AE}{CS} - 5 \right\rangle \times SF$$

HEALTH ONLY

$$\left\langle \frac{HE}{CS} + 7 \right\rangle \times SF$$

PANEL DISCUSSION

Best uses the mean of these two. In the consolidation of its formula, Life Exposure is squared.

- o Annuity Exposure (AE) -- Defined simply as the reserves and liabilities, there is no face amount or premium consideration at all. Best multiplies Annuity Exposure times that exposure again, minus five times capital and surplus.
- o Health Exposure (HE) -- Defined as premium plus reserves and liabilities. The Health Exposure item is again a square in the front end and in the back end, you are adding in seven times capital and surplus.
- o Other Exposure -- I've excluded a fourth element, "Other," because I don't know what there is besides life, annuity and health insurance.
- o Total Exposure (TE) -- The denominator then is the sum of the three multiplied by capital and surplus.
- o Size Factor (SF) -- Outside of the brackets to the right, we have a size factor which runs from 0.3 for the largest companies up to roughly 2.25 for the smaller companies. Benefit Trust Life, as I understand it, is about 0.6 so I don't think it would be unrealistic to say for a medium-size to larger insurer, your probably working with an SF, a size factor, in the area of 0.5.

We will then just talk briefly about the denominator, which is capital and surplus (CS). It is defined as the capital account, surplus, the mandatory security valuation reserves, deficiency reserves and unearned premium reserves; less three items: surplus notes, 20% of stock investments, and losses. For health insurance, Best subtracts from capital and surplus, last year's annual statement Page 5 health gain and loss or the Schedule H health loss if greater. Bear in mind, Schedule H ignores investment income, so for the most part, there is going to be an underwriting loss popping-up in schedule H, and significantly reducing your capital and surplus account and doing you a great disservice.

Let's take a look at a "life-only" company. If there is no annuity exposure and no health insurance exposure, the whole formula breaks down to nothing more than life exposure over capital and surplus, multiplied by a size factor. You can realistically and quite easily say that it is not that difficult for even a medium-sized company to get a ratio that is going to be in the 3, 4, or 5 area, and to keep it at that relatively low level.

On the other hand, let's look at a company that is only a health insurer. Here we are going to assume zeros for LE for AE. Now, we come down to health insurance exposure, which is a combination of all your premium plus all your reserves and claim liabilities divided by your surplus account plus seven. It's difficult, especially if you have the size factor of one, to get your gross leverage ratio to less than five when Best has thrown in a constant of 7. Even at a discount factor of 0.6 for size as we have, we are staring at 4.2 as a constant without any consideration whatsoever of risk or surplus. I think the people at Best could do well to hire an actuary to explain the impact of constants in formulas of this nature.

In the reduction of the capital and surplus account, the use of losses in Schedule H is totally unrealistic. Any insurance carrier involved in disability income is obviously discounting its claim reserves and depending upon investment income to make up for that discount. A large health writer, with meaningful claim reserves earning interest, is unfairly discriminated against by using that Schedule H underwriting loss as reduction to surplus.

MR. DAVID A. RICCI: I would like to give you the evolution of our surplus measurement system at Time Insurance and how we've implemented it. It is a status report of where we are right now.

There are numerous arguments for developing a target surplus and a return measurement for our various strategic business units (SBUs): I will discuss some of the main motivating factors behind our system. These factors include:

1. Capital Measurement: We needed target surplus to be able to better assess the true management of the corporate entity. We are a member of a fairly fast growing international

SURPLUS MANAGEMENT FOR HEALTH INSURERS

organization and have quite a few units within the U.S. controlled by a holding company. We in turn also have a number of subsidiaries. We have our own corporate structure developed into a number of operating units. Because of the intricate nature of the organization, we wanted to be able to develop a measurement, which would accurately depict our management structure and justify our very significant place within the organization.

2. **Cost of Doing Business:** Our Dutch parent and our U.S. holding company have the notion that we ought to be able to run our company as a business enterprise and not just manage the risk; therefore, we wanted to come up with a reasonable measure of doing business. We have a limited number of ways in which to get our capital; either within our structure, through our U.S. parent, through our international parent, or by raising some debt in one of those three areas. It is a scarce resource, which has to be parcelled out on a fairly reasonable basis, and therefore, the return that we show on our surplus measurements should justify the application for which we intend to use the surplus. We should be able to realistically compare that with any other corporate unit within our system; or for that matter, any external alternative. Since we have subs that have their own surplus, we also have a pyramid-like capital structure, and we should be able to justify that type of structure by paying some kind of rent on the ability to use that pyramid.
3. **Prioritization:** Our surplus system was also developed to create a means of prioritizing the application of surplus within the company. If the ROE ranges can be justified, then the various types of developmental projects that are being put in place for utilizing capital and other types of resources can be prioritized over the given period to allow for the more reasonable allocation of that capital. By doing this we can more or less do away with some of the "squeaky wheels" concept of managing.
4. **A+ Rating:** Don has already alluded to some of the problems involved with rating organizations. We now have an A+ rating, which we value highly. By highlighting equity usage within the entire system and having everyone aware of the fact that they have a certain target surplus and a certain return that they are supposed to manage, it emphasizes the value placed upon the maintenance of such a rating.

Don has basically gone into the formulas, so I won't comment much on that except to say that part of our whole derivation of returns and the formula itself, revolves around our estimate of what the leverage (Chart 3) is going to be, not only currently, but also projected out over the corporate planning framework.

CHART 3

Calculations of Insurance Exposure to Adjusted Capital & Surplus

	1987	1988	1989	1990
Insurance Exposure				
Adjusted Capital & Surplus				
Insurance Exposure/Adjusted Adjusted Capital & Surplus				
Size Factor				
A&M Best Ratio				
Net Leverage (Adjustment by Line of Business [LOB])				

5. **Grade Performance:** One of the most important reasons for developing our system was that we wanted to use target surplus in order to be able to assess the performance of our various strategic business units and subs. We take return on our target surplus as an ultimate indicator for developing incentive measurements. We go by a standard system in which there is an adequate value, then competent, commendable and distinguished values (Chart 4).

PANEL DISCUSSION

CHART 4

ROE as Performance Monitor

		Corporate ROE
	Adequate	9
Incentive Threshold—↑	Competent	11
	Commendable	13
	Distinguished	16

Below competent, there is no base pay out in terms of incentives, so you have to hit that threshold going into the competent area. This is just one part of many used to develop a true measurement of performance. This particular process signifies exactly what kind of importance we put to it.

6. Universal Profitability Measure: One final reason for our system is its use as a universal profitability measure. Not only do we use ROE in terms of planning and performance, but we make sure (since the ROE is a large part of performance and it is supposed to be a universal measurement) that it ties in well with all the other profitability measurements we perform -- the most important of which would be our rating and new product returns in primarily the health area and also within our life SBU as well.

We manage this by producing a product ROE, which in turn leaves margin to produce and a SBU ROE, which when combined with the other SBUs, will produce enough margin to at least be greater than our corporate ROE. If you have a return on equity of 12% corporate, the SBU might be 15% and the product ROE might be somewhere the order of 25%.

We have recently converted most of our health profitability measurements from a traditional percentage of premium to an ROE. We haven't replaced the percentage of premium measurements. We have merely added the ROE equivalent so that everyone knows what the ball game is, and they can relate it to the other performance measurements. However, the ultimate system will be solely based upon ROE.

In addition to coming up with those reasons for having the system, we also knew that we would have to be limited to some degree in the way in which we develop surplus formula and a return. These are our constraints:

- o Whatever measurement we establish has to sufficiently reproduce the amount of surplus that we are supposed to have. You can see from Don's initial analysis that this is not an easy thing to do consistently. You start fairly sufficiently, and then you may develop degrees of too much sufficiency or insufficiency as you go along in the corporate cycle. We envision quite a bit of fine-tuning in order to produce a realistic formula, that will accurately measure our surplus over time.
- o The measurement to be relatively understandable so that it can be communicated to all the various entities in the organization, including those that are responsible for bottom-line results in the SBUs, including claims, underwriting and any other significant work unit. These units have to be aware of the kind of performance that we are looking for, so the measurement has to be relatively understandable and simple.
- o The measurement has to be reasonable. The kind of surplus that we develop and the return we demand from each SBU has to be equitable in relation to the others involved.
- o The measurement has to be motivating, which means it should tie in fairly well with the plans and aspirations of the SBU.
- o It has to be congruent with pricing and other financial aspects.
- o It must allow for some variance by profit center. Since we are a significant life insurer as well, we are faced with recognizing a different return for our life business.

SURPLUS MANAGEMENT FOR HEALTH INSURERS

This formula or set of formulas is quite a bit similar to the ones Don has shown you (Chart 5). As a matter of fact, the dollar and a half is exactly the same. We have a measurement of premium which basically recognizes the morbidity and other risks that Don mentioned. We have a percentage of the claim reserves, which is a measurement somewhat of the claim fluctuation, and we have a varying percentage of premium (by line of business).

CHART 5

TARGET SURPLUS DEFINED

INDIVIDUAL MEDICAL	25% PREMIUM + 5% EXH. 9 RESERVE
GROUP HEALTH/ LIFE	\$1.50 PER 1,000 20% PREMIUM + 5% EXH. 9 RESERVE
INDIVIDUAL LIFE/ ANNUITY/ DISABILITY INCOME (DI)	\$1.50 PER 1,000 5% RESERVES 30% INDIVIDUAL DI PREMIUM 5% EXH. 9 RESERVE

I am including a copy of a page from "Varying ROE by Profit Center," *Financial Reporter*, December 1988 by Joseph H. Tan, (Chart 6) on the rationale of using a different yield requirement for a different set of products, and in this particular example, he has two products with the same investment, excluding required surplus which is \$100.00. Because of their peculiar natures, A is a much less risky product than B, but A obviously has a lower rate of return in this example. The risk index and the required surplus are shown, and the yield on surplus is 5%. The composite yield for A is 9.8% or [(5% of \$5 plus 10% of \$100)÷105]; and the yield on B, is 14.1%. What Tan basically says is, because of the nature of the risk involved and the underlining capital required (which is a very big assumption), there is some reasonable justification for having that 4-5 point spread between products A and B.

We have a similar type of differential between our life products for which we require a 12% rate of return and the health line for which we require 15% return on equity.

CHART 6

ITEM	PRODUCT A	PRODUCT B
Investment Excluding Required Surplus (IERS)	\$100	\$100
Average Return on IERS	10%	15%
Risk Index of IERS*	2	3
Required Surplus	\$5	\$10
Yield on Surplus	5%	5%
Composite Yield on Total Investment	9.8%	14.1%

* This represents a relative measure of risk for product. We assign a risk index of 1 for required surplus.

Chart 7 shows basically our corporate planner's way of tracking our equity usage. We decided to go with an equity usage system rather than a percentage return because we felt it was more in keeping with the total accounting requirements. You can see the number, that was required and the absolute variance, which seems to be less abstract than a comparison of rates.

PANEL DISCUSSION

CHART 7

TIME INSURANCE COMPANY
EQUITY USAGE FEE CALCULATIONS
BY LINE DISTRIBUTION

Deferred Policy Acquisition Cost (DPAC)
Ending Balance
YTD Avg. Balance
Deferred Federal Income Tax on
DPAC and PGAAP

YTD Avg. Total Acq. Costs	\$26,533	\$28,621	\$30,649	\$32,388
---------------------------	----------	----------	----------	----------

Surplus Charge:				
15% Required Surplus (3.75 Per Quarter)	YTD			
	Qtr.			
15% of Acquired Costs	YTD			
	Qtr.			

Less:
Investment Income on Required Surplus
(5.5%/Yr. or 1.375%/Qtr.)

Total Period Surplus Charge	\$2,540	\$2,804	\$3,043	\$3,224	\$11,611
-----------------------------	---------	---------	---------	---------	----------

There are quarterly accounting periods in our 1989 plan. We have a percentage of premium surplus required of 25 for our medical line, and also 5% of Exhibit 9 reserves. The average is computed and then the required surplus is listed on the bottom. Then, to approximately convert this to a GAAP basis, which is our major measurement, we have to add in the deferred premium acquisition cost and deduct the amount of the deferred federal income tax as an adjustment (Chart 8). The surplus charge is measured by taking 15% of the required surplus for this particular line less the investment income on the required surplus (which we measured at 5.5% in our particular calculation for 1989) to get the total surplus charge.

CHART 8

TIME INSURANCE COMPANY
EQUITY USAGE FEE CALCULATIONS
BY LINE DISTRIBUTION

	1988		1989		
	4th Qtr.	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Individual Medical					
Annualized Earned Premium					
% of Surplus Required		25.00%	25.00%	25.00%	25.00%
YTD Avg. Surplus Required					
Reserves:					
Chg. in Ex. 9 Res. (Excl. Unearned Premium Reserve)					
Ending in Ex. 9 Bal.					
YTD Avg. Ex. 9 Bal.					
% of Surplus Required		5.00%	5.00%	5.00%	5.00%
Average Surplus Required					
YTD Average Total Required Surplus	\$65,040	\$67,308	\$69,326	\$71,089	

We feel comfortable with the system as developed. We attempted to put into practical reality some of the more theoretical concepts. Although the jury is still out as to whether it is going to be effective or not, I believe we have received a commitment from the SBU managers and the rest of the organization to be willing to be graded on this kind of surplus system.

SURPLUS MANAGEMENT FOR HEALTH INSURERS

There will always be adjustments that will make the formula more complicated so that was another reason for us to retain the simplicity at this point.

MR. RICHARD K. KISCHUK: Compared with most products written by the life insurance industry today, the range of appropriate surplus levels is unusually wide for health insurance. The desirable surplus level varies depending upon the quality of management, the products offered, the regulatory environment, and many other factors. For some companies, no amount of surplus will be enough. Other companies can operate safely with relatively low levels of surplus.

I'll briefly describe the approach that most companies are using today, and why it is inadequate. Then, I'll outline a new approach that overcomes these difficulties, including a couple of case histories. Finally, I'll touch on a few issues related to reserving, since this is so critical to surplus management for health insurance.

TRADITIONAL SURPLUS FORMULAS

Informal surveys indicate that most companies do not use a target surplus formula in allocating surplus by line of business. Of those that do, most base their formulas on:

1. Published formulas of other companies,
2. Whatever surplus is needed to maintain a given rating,
3. Working backwards from product pricing and internal rate of return objectives, or
4. All of the above.

To put this into perspective we need to look at how the target surplus approach has developed over the years. Prior to the 1970s, companies generally established surplus benchmarks as a percentage of assets or liabilities. These formulas were essentially a variation of the debt-to-equity ratios used by industrial companies. The appropriate percentage was often based on a comparison with companies of similar size and product mix. For example, people in management might decide that their company should maintain a surplus level at the 50th percentile compared with a peer group of companies.

In the 1970s companies realized that a different approach was needed. Sales were shifting to term life insurance, annuities and group insurance. Target surplus formulas began to use a more dynamic approach. Somewhat arbitrary factors were applied to specific asset categories, and to various measures of business in force. Target surplus amounts would then adjust automatically to changes in investment strategies and product mix. This is still the most popular approach, used in all of the published formulas.

For health insurance, this means that surplus is generally set using crude factors applied to premiums. Surplus formulas may vary somewhat based on the type of coverage, such as individual versus group. However, because these factors are driven by published formulas, rating agencies and product pricing, they don't vary much from one company to another.

In our work, we have found that at least 80% of the risk in health insurance is determined by factors that are unique to each company. Most surplus formulas ignore these factors almost entirely. For companies with special expertise in health insurance, conventional formulas tend to overstate surplus needs. At the same time, these formulas understate the surplus needs of many other insurers.

To determine the appropriate surplus level for health insurance, each company must have a good fix on its specific risk profile and maintain surplus levels accordingly. However, for the most part, this is not happening.

Given the inadequacies of the present approach, there is a tendency for rating agencies to take a very conservative stance toward health insurance. As a result, surplus levels are often set far above the appropriate level for the best-managed insurers. On the other hand, there is never enough surplus for troubled companies to stay afloat.

And so we see a vicious cycle. Companies become insolvent. Other companies report unexpectedly large health underwriting losses. This causes rating agencies to become more conservative toward health insurance in general. Well-managed health insurers are subjected to even higher surplus requirements in order to retain their ratings. This further restricts their ability to write business.

PANEL DISCUSSION

As a result, more health insurance is written by troubled companies, increasing their leverage and leading to still more insolvencies. And so the cycle goes.

The root cause of the problem is that traditional approaches do not distinguish adequately between well managed and poorly managed health insurers. To break this cycle, many companies are moving to a new technology -- surplus formulas based on "risk-drivers."

USING RISK-DRIVERS

Under traditional approaches, target surplus levels for health insurance are based on a fixed percentage of premium. Typically, the percentage is based on a comparison with the formulas of other companies. Sometimes the factor is adjusted based on the company's historical performance, compared with other health insurers. However, these adjustments tend to be relatively minor.

Under the risk-driver approach, target surplus is determined based on an analysis of the company's target market, product mix, distribution systems, regulatory environment, technical skills, management expertise, competitive advantages, reserving methods, pricing approach, management information systems, underwriting discipline, claims management and administrative systems. Using this method, one can predict whether a company will experience underwriting cycles that are more severe than the industry in general. Even more important, it is possible to pinpoint the reasons.

Using the risk-driver approach, we have found that the most common problem for health insurers is inadequate integration among pricing underwriting, claims management, reserving and experience analysis. Using risk-drivers, we can pinpoint the specific problem areas and quantify the appropriate surplus level both before and after management action is taken. By taking corrective action, companies can improve their competitive position and increase profitability.

To illustrate, I'll briefly describe two case histories. In the first case, management was very concerned about the magnitude of its losses from health insurance. Management reports didn't provide much insight into the underlying cause of the losses. Most competitors were panicking -- withdrawing from segments of the business, cutting staff, and raising rates across the board. The company's executives wanted to avoid doing this, but needed better information in order to develop a business plan. They believed that, with the right strategies, they would not only be able to improve profitability, but also benefit from their competitors' actions.

We modelled the company's approach to managing its health insurance business. We found that, during the downturn of a normal health underwriting cycle, the company would expect aggregate losses equal to 12% of premium income. Under a catastrophic scenario, the company could expect losses of twice this amount, or 25% of premium income. By comparing expected underwriting profits to the required capital, we found that the company would not be able to earn its hurdle rate of 12% without fundamental changes in the way the business was managed.

Our model pinpointed the specific sources of risk and the management actions needed to minimize them. Once these improvements are fully implemented, the company will be able to reduce its surplus requirement from 25% of premiums to 10% of premiums. And return on equity will be substantially above the company's 12% hurdle rate. Moreover, the company will be able to adjust its required capital downward, on a quarterly basis, as improvements are actually implemented.

In another case, we analyzed the potential acquisition of a health insurer. Financial results appeared to be excellent, and there were no obvious problems. However, when we modelled this company's approach to managing its health insurance business, we reached a surprising conclusion: No amount of surplus would be sufficient to withstand losses given the company's management practices. The potential acquirer didn't have the skills needed to make the necessary changes. As a result, we recommended against the acquisition, in spite of the favorable results. The company continued operating in much the same way, and within a year it became insolvent.

Perhaps the most exciting aspect of this approach is that, for the first time, management can see a direct connection between its actions and return on investment, over the long run. This creates a very powerful management tool, especially when it is linked to incentive compensation.

SURPLUS MANAGEMENT FOR HEALTH INSURERS

The main difficulty in applying this method is that it requires a combination of skills. The model itself must be actuarially based. However, most of the input for the model comes from extensive interviews with company personnel. In the past, it was only possible to reflect this input as "qualitative adjustments" to the surplus formula. As a result, traditional approaches miss more than 80% of the factors that influence return on investment and capital requirements.

RESERVING

Reserving is such an important issue that it deserves special mention. In spite of efforts by regulators and the actuarial profession, there is a wide range of reserving practices in health insurance, especially in group insurance. Some companies adopt very conservative reserving practices, while other companies are holding inadequate reserves.

In surplus management, we are comparing the actual surplus level to a target surplus level. It seems fairly clear that, in order to avoid comparing apples and oranges, a company's reserving practices should be reflected in the formula that is used to determine target surplus.

And yet this is not happening for the most part. Essentially the same surplus factors are applied across the industry, regardless of reserving practices. Predictably, this creates pressure for companies to hold less conservative reserves. There is a disincentive to maintain reserve margins. This pressure is magnified for companies that are managed using a return on investment standard.

In the extreme, there can be an incentive to hold inadequate reserves. For some growth-minded companies, management believes that nothing bad can happen as long as premiums stay ahead of claims. Based on traditional surplus standards and return on equity measurements, results often look excellent until the music stops.

This is one of the single most important reasons why companies should not automatically adopt published surplus formulas for health insurance. Reserving practices are an extremely important risk factor. In order to compare one company's surplus formula to another, each should include a footnote describing the reserving practices that are built into the factors for health insurance.

In conclusion, use of "risk-drivers" represents a major breakthrough in the development of target surplus formulas. Over the next several years, I believe that companies, regulators and rating agencies will be updating surplus formulas to incorporate this new concept. Today, surplus formulas tend to be very similar from one company to another. As a result of the risk-driver approach, surplus formulas will become more dissimilar and will be specifically tailored to the risk characteristics of each company. Moreover, these formulas will become an important risk management tool, used by corporate executives to manage the company's overall risk exposure, and to determine incentive compensation.

MR. ROBERT J. DYMOWSKI: I would like to comment briefly on the presentation that Rick Kischuk made. I was very interested in his description of the process of determining surplus requirements of a health insurer based on what he characterized as risk drivers. These include a consideration of all of the risk characteristics of the organization, its analytical capabilities, and its management ability.

I agree completely with this approach. We have had an opportunity to use it within our firm in connection with the evaluation of surplus requirements for a number of our Blue Cross/Blue Shield clients over the last 15 years. The different operating environments, mix of business, and other characteristics of these organizations have produced surplus requirements ranging from a low of about 8% to a high of about 34% of annualized claims and expenses. One of the most important factors affecting the requirements of these organizations has been their exposure to problems in implementing rate increases due to regulatory delay or cutbacks. This problem is, of course, also being experienced by carriers that write individual medical products.

I also agree with the comments Rick made concerning the importance of recognizing the presence of the underwriting cycle on a company's requirements. We have also begun reflecting this factor in our evaluations and have observed that it increases requirements considerably.

MR. PETERSON: Rick, how would you compare the risk in group health insurance with that in individual health insurance? Which would you consider to be more risky at this point given the

PANEL DISCUSSION

constraints that surround individual, including the competitive and market situations, as opposed to what we are now seeing in group?

MR. KISCHUK: The implicit assumption here is that they are both being equally managed. I don't think there is any easy answer to that. For one thing, we see a lot of different kinds of individual insurance and a lot of different kinds of group insurance. You really have to look at the dynamics of each one and model each one. In general, within the group area, one big plus, which not everybody takes advantage of in management systems and has the ability to capitalize on, is the ability to change the underwriting and rates on a pretty rapid basis. With a lot of individual coverage, you don't have the ability to do that and even worse, you have to get regulatory approval to do it. That sometimes translates into astronomically bigger surplus requirements compared to group, everything else being equal.

MR. PETERSON: I attended a seminar on Capital Requirements for Mutual Insurers. The closing speaker was a well-known gentleman with one of the consulting firms. He used the phraseology that both group and individual health insurance were growth industries at this point. He maintained this was not the case for ordinary life and financial services. Inflation seems to be affecting health insurance or health care delivery somewhat differently. He was encouraging companies to take a serious look at entering both the individual and the group health insurance markets. On the other hand, most consultants, as they meet with company management, are encouraging companies to seek a specific niche and very often encouraging them to leave either the group or the individual health insurance market. My company has taken just the opposite approach; we have long been in health insurance, and we seem to be getting into it more deeply each week. We have assumed some blocks of business in both group and individual from carriers that have left the market.

Dave, I know Time Insurance is in this same growth mode. From Time's viewpoint is there a growth factor that you feel you can't handle? Is there a concern that you would have where you would pull the strings on some growth opportunities by saying that there is just not enough surplus around to handle that?

MR. RICCI: Our target surplus system and usage fees really don't take into account the vagaries of the underwriting cycle. We have put in some conservatism to offset the seasonality. In Rick's presentation he mentioned the fact that he does analyze a cycle and its influences on surplus requirements. One of the reasons we have gone to this kind of measurement is to exercise more control on growth opportunities, but it's a very difficult process. You have to analyze it from a number of different ends. You have to maintain a good reserving system and be sure that you recognize the potential risk involved.

MR. KISCHUK: I've observed in looking at these kinds of things that the problem rarely is growth outrunning surplus. The problem from a risk standpoint tends to be growth outrunning the human resources, the systems and the management skills that are there. In some cases those were never there in the first place. But in a lot of cases, resources were there to manage existing business adequately, but as growth picked up past a certain point, the people and systems couldn't keep up. That's the thrust of the kind of system I talked about, trying to translate that risk into surplus requirements. If you look at a rapid growth situation like that, what you should expect to see is the surplus requirement going up as the growth rate goes up, reflecting the risk inherent in that growth rate versus the ability to increase the human resource and management systems to keep up with that growth.

MR. RICCI: Let me just add that we consider ourselves to have a great deal of expertise in the individual medical area, and we are still encountering tremendous growth problems. I can't imagine the magnitude for new entrants into the field or companies that don't have a large health stake but are considering aggressive health marketing.

MR. PETERSON: I'm aware of some situations going on right now where certain health carriers as well as managed care entities are 6, 8, 10, 12 weeks in arrears in processing normal business items, whether it be new business or claims, that I think an efficient company gets handled in 2 or 3 weeks. That's probably becoming more prevalent now than in the past.

MR. DAVID SANDERS: The first two presentations spelled out required surplus in rather specific fashion. They were very quantitative. My question is for Rick. In your discussion you

SURPLUS MANAGEMENT FOR HEALTH INSURERS

talked about the approach of the future, looking at the risk drivers. You looked at a lot of factors, quality of management, quality of information systems and so on, which struck me as being relevant and important but also somewhat subjective and qualitative. I was wondering if you had a way of quantifying any of this to get to the number, whether it is hard or soft, which is required surplus as a percentage of something?

MR. KISCHUK: Yes, without trying to talk about a lot of formulas, basically we model the management approach that the company is taking and using that, we can then look at a number of scenarios in terms of underwriting cycles and predict, given a normal underwriting cycle or catastrophic scenario, where that company will be. That in turn translates into a surplus formula. It's not the kind of thing where you can take a list and weighing factors and numbers and so on, go through a formula and come up with a number. It's a dynamic modeling approach.

MR. RICCI: When you're looking at formulas that Don and I are producing, an extremely thorough analysis is gone through in developing those quantitative values, which did take into consideration some of the intangibles that Rick has mentioned in his presentation. This is more or less the end stage. The real dynamics are the ongoing modifications of these formulas for various management directives, constraints, whatever occurs in the cycle business.

MR. LEONARD KOLOMS: Could the panel discuss the level of surplus in relation to the part of the underwriting cycle we are in? On the surface it would appear that the amount of surplus is dependent upon the magnitude of losses or gains by year and the point in the cycle you are in. Assuming that at the beginning of a three-year downward cycle, you have the correct amount of surplus, then the loss you take in the first three years has to be replaced each year. You should be able to wait until the cycle reverses itself with surplus being replenished during the upward cycle. Could the panel discuss exactly how much surplus we need in different parts of the cycle?

MR. KISCHUK: That's a good point, and it really highlights the importance of factoring in reserving approaches. A lot of companies reflect the very thing that you're talking about in reserving approaches. Many companies will build reserve margins during certain parts of the cycle and reduce them in other parts of the cycle. Probably more companies would do that than do it now if it weren't for some of the constraints that the Best formula puts on them. In fact the method that Don talked about where Best makes you subtract out a year's underwriting losses and so on, actually influences the kind of reserving approach that a company is going to use. So, it gets to be a pretty complicated situation. But a company that maintains constant margins through an underwriting cycle should have one type of surplus formula versus another company that varies its reserve margins over the course of an underwriting cycle and tries to level out the underwriting profits and losses.

MR. PETERSON: There is some debate about just what the purpose of surplus is. Are you supposed to allow it to be eaten into during bad times, or is it always supposed to be increasing? I think most of the senior managements take the position that it must increase, it must never decrease and if by chance you fall into a down component in the cycle, surplus is still supposed to increase. Unfortunately, when a company does suffer a loss, generally there is a management review, some elements of management are replaced, there is a 10% reduction in force, you close down three or four markets, and you say that the goal has to be to increase surplus. Sometimes there is a lack of realization that we are in a game where periodically there have to be some losers, and at the time that the cycle is going down, most likely many companies' surplus accounts are also going down. On the other hand, in the up part of the cycle, when less surplus is necessary, that's when the surplus is increasing. It's a "Catch 22."

MR. RICCI: This is assuming of course that you can establish a reserve that would accurately reflect fluctuations in the morbidity cycle or underwriting cycle. We don't have that kind of reserve, so we are constantly either explaining why our return on equity is so much larger than what we have targeted or is so much less than expected. Of course, you explain it by nature of the marketplace and the competition. Without that kind of adjustment factor, it makes the whole process a lot more difficult to explain and motivate. We may outperform the industry but still sustain an underwriting loss. You can make a strong case for incentive compensation, but it won't work on a corporate level.

MR. EARL L. HOFFMAN: We have quite a varied block of group health business ranging from traditional fully insured business, to minimum premium, stop-loss and ASO. Our target surplus

PANEL DISCUSSION

formula is actually pretty detailed; it varies by product. It starts out at about something less than 2% for the ASO business and goes up to something over 40% for the stop-loss business. We developed this formula by looking at our experience over a five-year period, which includes parts of both the up and down cycles. We looked at the variability in the gain and loss over that five-year period, compared it to our current profit margins and decided on the appropriate target surplus levels by product. It will go up and down as the product mix changes. I'd like to ask the panelists to what extent the target surplus of your companies or client companies vary as the mix of business, among these products changes?

MR. PETERSON: Unfortunately, we don't have that kind of sophistication yet. We had a formula that we were going to put in for year-end 1988, which is much more along those lines than we currently have. Its implementation was suspended, and we've got more deliberations going on because I am of the opinion that not only do we need variations by product line as you're advocating, but I'm very sympathetic to the things that Rick was saying that there are many very subjective items that enter into it and how can management evaluate those subjective items. In many instances, we see a situation where someone has a plan to be in the top quartile of companies. I think that is a very common objective, growth rates in the top quartile. That means 75% of the companies that have those objectives fail. Most of us in our corporate plans say we are going to deliver superior service and quality products. That is always in the eye of the beholder. If we do some market research and go out and find out how we are really evaluated by our agents and by our customers and by our competitors, we sometimes come up with a different view. So, I think my company is probably a long way from being at the point that it realistically should be if we are to embark on a very aggressive growth strategy. If you're not going to embark on an aggressive growth strategy, then you are probably safer. You can get back to the less sophisticated and the more simplistic. If you are going to try to be a big player, then you better know what you are getting yourself involved in.

MR. RICCI: What you are talking about is a very sensible approach. You have to recognize the product characteristics in the surplus formula or the reserving approach if you are going to be able to accurately estimate the kind of returns you can expect and hold manager's feet to the fire on those returns one year after the next as the cycle changes. We decided to put in a system that would serve as a guide to management, but we won't let it stand alone. We are hoping that either we can bring that sophistication into the system or we can do something ancillary to it that will allow it to be adjusted so we can adequately account for it. Corporate and divisional agreement is the critical issue.

MR. KISCHUK: It's a pretty tough line to walk. We see companies on both ends. Typically, if you look at the corporate level, you have a very simplistic formula for all of the profit centers in a large company. Then quite often within the profit centers you'll see more detailed formulas, which the centers are always trying to reconcile to the formula at the corporate level. The corporate people are usually not interested in seeing the detailed formula. They like things to be simple. On the other hand, the profit center people need something that is more sophisticated in order to price. But still a lot of group writers are using pretty simplistic formulas; they try to adjust that formula over time if the product mix changes. There are pitfalls in both approaches. The aggregate type of approach may not react quickly enough to changes in product mix. On the other hand, with the formula broken down by product mix, there can be a tendency to assume that the formula will adjust automatically as product mix changes, to be lulled to sleep, and to not make changes in some of the components of the formula when they need to be made. It's a tough way to go either way, and as Don says, there are no right or wrong answers. You have to look at the particular company situation you're in.

MR. JOHN K. AHRENS: I'm glad there is all this interest in required surplus. I was involved in it heavily about five years ago as a profit-center head. I was concerned about the way the corporate actuaries were treating the group insurance lines. It seemed that formulas were too simplistic. On the other hand, I found group actuaries had really nothing to base anything on.

Being director of group reinsurance at the time, I had been involved a lot with small group companies and had seen a lot of people get in trouble with the previous underwriting cycle. I felt there needed to be some kind of tool. Rick's concepts of the real risk drivers being management is the most important thing. If you want to see some concrete examples of all these concepts, I wrote a discussion note back in the 1984 *Transactions* to a required surplus paper. I tried to present a pretty elaborate table by product line showing the kind of required surplus and potential target

SURPLUS MANAGEMENT FOR HEALTH INSURERS

returns a group writer might expect. One might go back and look at that to see some numbers that tie in to everything being said here. I discussed these concepts by premium size. In other words, if someone is writing over one hundred million dollars in the small group line of business, let's say 2 to 25 lives, they should be what I call "well-managed." I called them a "jumbo writer" in that particular segment. So what you should do, if you have good actuarial and underwriting techniques, might be to consider yourself using the required surplus requirements of a "jumbo writer" even though sizewise you might only be "large." That's where you get the qualitative factors involved. Don't use premium alone.

I've also been associated with the Blue Cross and Blue Shield Plan where the premium was very large but the management systems were extremely poor. I would go back to what Rick is saying, you've got to have tremendous surplus as well as the ability to react if the management systems are poor. If you want to try to look at your own company, but haven't got the time or interest for looking at the results over a long period of time, the kind of table that I've presented would give you a pretty good feel on your own particular company. I would argue that if people saw all the facts that go into something like Rick is talking about, they probably would want to move into that slowly. This will at least give you a feel for everything that you should be concerned with. Whether or not you would take it all the way up to corporate would be another situation.

MR. PETERSON: You raised an interesting point when you mentioned reinsurance because that should have great impact and significance on required surplus. A company that has a reinsurance arrangement for any medical claims, say over \$100,000 or over \$150,000, obviously has a far smaller risk than a company that is going to retain that potential loss up to a million dollars. That generally is not included in a surplus formula or in a rating agency's evaluation. It is something that is hidden within the company's own internal records. It is probably inappropriate that it is not considered.

MR. S. MICHAEL MCLAUGHLIN: It just seems that the companies that have developed the most sophisticated target surplus formulas are often the ones that need it the least. The small companies that don't have enough actuaries to develop target surplus formulas are the guys who need the most help.

Assuming for the moment that we have developed a formula that is just the right level of sophistication for the company and the products and it's a risk situation, my questions is: What do we do when we find that our actual surplus is somehow different than what our required surplus is? If we should find, for example, that our actual surplus is higher than the sophisticated formula target surplus, should we then embark on a program to somehow reduce surplus over the next few years? And more importantly, what if we should find that our surplus is much below the target surplus? What steps should we take to remedy that situation? I would be interested to hear if anyone has seen that actual situation, not developed a formula after we already know that we have enough surplus, but go in fresh to a company, find that there is a problem, and rehabilitate this company.

MR. KISCHUK: Here again, like anything else, there are no quick, easy answers. I guess if you find you have a lot more surplus than you need (and there are fewer and fewer companies in that situation these days), you ought to, first, be happy and, then, not rush to spend it too fast because that's one of the big mistakes that we see. People see they have a lot of surplus, and then they'll try to put it to use. A lot of times they throw it at some line of business where they don't have the people or the skills or the systems to really get a good return in that area or where they can't absorb the growth. If you're below your target surplus level, it depends on how far below. Some companies see themselves below but their returns on investment are good enough on their lines of business, and if you look at the growth rates, you can see that that's more or less self-correcting. If you can see the surplus situation being self-correcting within a reasonable period of time, a lot of times the answer is not to do anything, just let the surplus position come up to where you want it. On the other hand, a lot of times it is not self-correcting, and obviously management has to do something. The question is, what to do? That is not as easy as it might seem. If you just look at the numbers you might say, it is obvious that we should get out of this profit center or we should do this or that. There are a lot of assets that don't show up on the balance sheet that a lot of companies have. They may be distribution systems, certain client relationships, certain people or technical skills or systems which they have built up.

PANEL DISCUSSION

You've got to look at the value of those things and try not to destroy them. It really turns out to be a pretty difficult strategic decision. In that situation, you have to look at how much time you have to correct it. Is the situation deteriorating? How fast is it deteriorating? Do you absolutely have to do something now, or do you have the luxury of a little bit of time to step back, put some more facts together and make a decision on what to do.

MR. PETERSON: I can comment from a mutual insurer's standpoint. I think it differs between a mutual company and a stock company. A mutual company doesn't have the sources available to replenish a depleted surplus. You've seen Union Mutual demutualize, and General American sold off their premium loadings.

The Maccabees went through an interesting transformation from mutual to stock where suddenly they went from a \$70 million surplus company to a roughly \$150 million surplus company. They decided they were going to demutualize and sought out a European bidder. The European bidder, if I recall the story correctly, paid about a \$10 million into their surplus account, which was immediately distributed to the Maccabees' policyholders. They then put in roughly \$80 million worth of surplus and enabled the company to then overnight double its usable surplus for a more aggressive growth plan. I think that was in line with the Unum approach.

When you are a mutual company recognizing that you have deficient surplus for the current block or lines of business that you are in, I think your only choice then is to analyze which lines require how much surplus and then decide which ones you are going to get out of, so your remaining surplus allows you to continue successfully in the lines for which you have enough surplus to justify.

MR. RICCI: It's a lot more difficult to move around capital in our structure, but I can certainly understand the need and problems associated with a mutual company environment. We have a certain amount of corporate constraints and international constraints that we are bound to. By the same token, we want to maintain a decent rating and our parent is aware of that.

MR. PETERSON: One thing that we have seen going on recently is conversion of hidden surplus into surplus. I think a number of companies have taken some capital gains they have had in their asset portfolio and converted them into surplus over the last couple of years. That has become so significant that nowadays the NAIC convention blank recognizes that not as a direct entry to surplus but in calculating your gain from operation.

Another aspect is in the real estate area where I am aware of certain companies that had their home office building grossly undervalued on their books and sold it on a lease back deal and stayed right where they are and suddenly surplus popped up overnight. In reality that surplus always was there, they were just trying to make it more apparent to the outside world.

MR. KISCHUK: I think that's a good comment. You often hear people talking about too much capacity in the industry. In reality if you look at the amount of surplus in the industry, in the stock and mutual components and in total, the amount of surplus in the life insurance industry really hasn't gone up that much, but the amount of business has gone up a lot. What that means is that we are seeing increasing leverage. If you factor in what Don is talking about, a lot of hidden surplus being turned into real surplus, the actual increase in leverage that has gone on has been a lot more than that. So we really are not seeing a big increase in capacity. We are seeing companies leveraging to write more business. That leveraging will have to come to a stop eventually, and when it does, the so-called "over capacity problem" will stop, and we will start to see the deterioration in markets turn around. That is a macro aspect of all this that has to be considered.

MR. PETERSON: From our discussions it has become obvious to me that any surplus formula should not be a one-dimensional, straight-line formula. Obviously, a company that has a hundred million dollars in premium, if 10% is the magic number and that company needs ten million dollars in surplus, the company with two hundred million dollars needs something less than twenty million. As the industry grows smaller in number of players, but those players themselves become larger, it is only logical that the surplus should be a multinomial rather than just X% of premium. What the exact formula should be, no one knows.

MR. KISCHUK: We see a lot of relatively small companies that specialize in a particular area. Their people, staff, systems and so on are devoted to that area and that largely offsets the size

SURPLUS MANAGEMENT FOR HEALTH INSURERS

factor. They actually can get along on a pretty low level of surplus because of their expertise in that line of business. That is particularly important in health. On the other hand, we see large companies that are making acquisitions, and they don't really have the systems in place to digest those acquisitions or the diversification that is going on. That's an offsetting factor in the other direction. A lot of times you find that the appropriate surplus levels really don't vary by size of companies as much as you would expect.

