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ACTUARIAL CONSIDERATIONS FOR MUTUAL COMPANIES

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THOMAS P. BOWLES, ROBIN C. LECKIE*

This forum will present a further discussion of Robin Leckie's paper, "Some Actuarial Considerations for Mutual Companies." This paper was presented and discussed at the New Orleans meeting of the Society of Actuaries in April, 1979.

MR. ROBIN C. LECKIE: The paper generated quite a bit of discussion and interest among the members. There were sixteen formal written discussions covering a wide range of viewpoints. In addition, many other members were quite willing to discuss their companies' surplus management programs and methods of managing company performance.

The following remarks highlight the issues raised in the various discussions and the issues of interest to those concerned with maintaining appropriate surplus levels while being competitive and reasonable in dividend distributions. The governance and management of a mutual life insurance company is an "in subject" at the moment. Senator Metzenbaum's subcommittee is actively examining the governance characteristics of mutual companies and proposing changes to improve representation and communication from and to policyholders. Similar proposals are being examined in Canada.

In July of this year, LOMA published its Financial Planning and Control Report Number 44 titled, "Surplus and Financial Soundness: A Corporate Planning Case Study." The project leader for that study was Frank Irish. The report presents, in very readable form, some of the considerations and trade-offs in managing surplus and operations in a mutual life company. The following is a quote from the concluding paragraph of the report. The President of a fictitious mutual company is speaking.

"I'll be candid about my original attitudes. I came close to thinking that surplus was a side issue; something we left to the actuary while we go on with the main business of running the company. But this is no longer so! No insurance company management should take this viewpoint any longer. It must treat surplus and financial soundness as central to its planning and decision-making system."

Many have read the recent report of the Society's Dividend Philosophy Committee. That committee is introducing very effectively the principles which must govern the methods of allocating divisible surplus. However, their report includes very little on how to determine the amount to be divided. In fact, the current wording in the opinion on this subject is as follows.

"The determination of the total amount of dividends to be distributed is a decision to be made by company management with the assistance of the actuary in light of many factors, paramount among which are

the continuing solvency of the company and its ability to fulfill all contractual guarantees. Important considerations include the size and nature of reserves and surplus, the level of risks undertaken by the company, safety margins in premiums and trends in operating results."

The paper attempted to set a framework, admittedly only one of several possible ones, which might guide an actuary in determining how much of the total income should be returned as current policyholder dividends and how much should be retained to maintain surplus. Of course, low net cost to policyholders is a function of good operational performance. The total dividend payout will recognize the performance. The purpose of those dividends is to reduce the policyholder's cost to the level experienced by the company. However, there is also the influence of the competitive marketplace and what is required to maintain a particular cost position. An actuary may find his company's surplus needs and its increments sufficiently fluffy to support over time a dividend payout that is not justified fully by current operational performance or growth rates. The paper offered a more explicit approach to surplus maintenance than many actually use in practice. This approach leads to a more precise determination of divisible surplus, which in turn can lead to more understandable bottom line management.

Much of the paper was devoted to developing the concept of a target surplus as a tool for surplus maintenance. Some of the discussants had difficulty grasping the distinction between target surplus and current surplus and therefore accepting the conclusions that derive from the target surplus concept. In fact, "target surplus" is a theoretical concept that is useful in formulating a general surplus maintenance program and in establishing a means of moving from the current surplus level to a desired surplus level in conjunction with a given growth pattern. It provides the charge needed to support or move toward the target surplus. However, most companies are more likely to consider their current surplus level as significant in determining current surplus increments. Alternatively, they may set a short-term surplus objective (e.g., one that is desired in five or ten years). For practical reasons, this may be the better approach. In effect, it means the surplus charge to maintain a desired level of surplus will vary within a range rather than remain fixed over a long period of time. However, any company preferring to work within the short-term should examine its long-term objectives to make sure that short-term goals are not at odds with long-term direction or with individual policyholder equity.

The paper develops a theory of surplus management based on a permanent charge to participating policyholders for maintenance of a required surplus. At the same time, only a casual reference is made to the revolving surplus concept used by some mutual companies. This omission should not be taken as either a dismissal of the revolving surplus approach or an implied inferiority of the approach. There is a need to examine the characteristics of and distinctions between the revolving surplus and permanent charge approaches. Although they have very definite practical differences, conceptually the two approaches seem very similar, and the policyholder's net return under either method can, with minor variations, be virtually identical.

Companies operating under a revolving surplus concept have surplus levels and growth rates similar to those of companies with a permanent charge. One should consider the following hypothetical situation. There are two companies with identical surplus ratios at the beginning and end of a period; they have identical growth rates and operational performance during the period. By mathematical deduction these companies must have identical net returns to policyholders. Yet if one company operates under a revolving surplus concept, then by definition, there is no charge for surplus. The other company operating under a permanent charge concept would, by definition, be contributing something to surplus. What then is the distinction? Is there a much larger holdback through the loss in the use of money? Is the difference the uncalculated value to current policyholders of having a large surplus fund on hand to support and protect current policyholders? The two approaches are in fact virtually identical so far as any surplus holdback is concerned.

Some companies have adopted what they call an "entrepreneurial return for surplus." Products or divisions requiring surplus for growth, development or other purposes must pay a return on surplus corresponding to the risk or opportunity cost. A special situation arises where the surplus return required is identically equal to the company's liability growth rate. In this case, by using the formula in the paper, there is a zero charge for the maintenance of surplus. However, a simple mathematical demonstration would show that the portfolio rate of interest for liabilities would be lower than the rate on assets by an amount exactly equal to the surplus charge that would have been required had the surplus been earning interest at the portfolio rate. Thus the two approaches are equivalent. However, the entrepreneurial approach does have a great deal of merit as it is easily explained to management and it does not require an identifiable charge to policyholders to maintain surplus.

Several discussants questioned the right of mutual companies to grow if that meant a holdback from participating policyholders. Some questioned the need for mutual companies to hold surplus at all or at least at the level now enjoyed by most mutual companies. On the subject of growth, the paper put forward the premise that for an individual company, growth equal to that experienced by the industry could be justified. Some discussants felt this premise required supporting arguments. Admittedly, the premise is rather weak; however, it is questionable how any other starting point could be set. Whether it is right or wrong, if there are no guiding principles and no specific reliable information, one could do worse than follow what others are doing. The same could be said for setting surplus levels or surplus targets. In this case, each company must look at the individual risk characteristics of its assets and its book of business, and it must do the studies it deems necessary under the circumstances. However, if all characteristics are very similar to those of other companies, then it is not unreasonable to use as a starting point the general surplus levels of other companies. Fortunately, the Actuarial Education and Research Fund is actively proceeding on research tasks directed at finding the answers to the need for and level of surplus requirements. These research assignments were requested by the Society's Committee on Valuation and Related Problems.

Policyholder rights and the corporate structure of mutual companies led to considerable debate. The paper attempted to set out a general framework within which reasonable conclusions could be reached. The paper was not

constrained by conventional wisdom or existing laws and regulations; instead, the framework was based on first principles in a form to provoke discussion and further development. In this endeavor, the paper was successful.

For the most part, actuaries and others appear to be in general agreement with the paper's conclusions about the rights of policyholders; i.e., policyholders have limited access to existing surplus funds. However, on one or two subjects, there was violent opposition. Several discussants objected to the concept of any residual surplus (i.e., surplus remaining at the windup of a mutual company) going to the state or to insolvency funds. Some extrapolated backward and implied this would lead to far greater control by the state in the management and investments of insurance companies than there exists. Currently, the paper's theoretical position on the windup of a mutual company is rather provocative; in practice, however, it is rather academic. The paper's position may be unsatisfactory, but there does not seem to be a more satisfactory proposal being put forward. In particular, the contention that policyholders should not benefit from or be hurt by unusual situations that they may choose to create, such as a decision to wind up an active operation, is valid.

Two discussants, Messrs. Bowles and Gill, have objected to the paper's position on demutualization. The stated position was that current policyholders should not be entitled to any special distribution as a result of a demutualization program other than to reimburse them for any loss of future participation rights. Unfortunately, this position runs into direct conflict with a number of state laws on demutualization. However, the paper was intended to present an overall framework structured to meet the reasonable rights and expectations of participating policyholders in a mutual company. A company, its management, and its policyholders must be guided by the laws of the land and use those laws in proceeding with the action they may choose to take. However, in determining what should be in the law or how laws might be amended in the future, it is necessary to examine the principles involved in conjunction with current situational factors. It is quite possible, for instance, that those laws now in place were written to meet specific situations and were not necessarily founded on a general framework of well-considered policyholder rights and interests in a mutual company.

Finally, there was some discussion on company mergers. One discussant, who was the author of a previous actuarial paper on this subject, stated that there are compelling reasons for mutual companies to merge but that the task is virtually unaccomplishable. Both of these points are valid, but there is a need to permit consideration of merger where synergism or other factors would indicate the merger to be in the best interests of both sets of policyholders. At the present time, however, it is doubtful that a merger could be achieved; this is partly because of political factors and opposition to concentration of power but more because current policyholders might be able to receive a better short-term benefit through demutualization than through merger. To the extent this results from a distribution of existing surplus, a distribution that would not take place if the company continued or were merged, then the result is unfortunate and indicates an element of instability in the mutual company process.

MR. PAUL E. SARNOFF: At Prudential, the processes of accumulating and distributing surplus funds are guided by three major principles. These are safety, solvency, and equity. Safety means that the company must accumulate enough assets to be reasonably sure of meeting the obligations guaranteed by its policies and contracts, no matter how adverse future experience might be. Solvency means that the company is maintaining enough assets in the statement to be reasonably sure these assets will exceed the statement liabilities, even in the face of temporary fluctuations in asset values, new business rates, mortality experience, etc. Equity means that the insurance is provided to the customers at a cost which is as close to the actual cost to the company as is practical.

The special function of an insurance company is to protect its customers from financial risk. The main reason the company can assume these risks is the law of large numbers. The company covers many people, and therefore, it can estimate the general level of claims, even though it cannot tell when a particular person will die. However, the company cannot forget that it is dealing with future events which are necessarily uncertain. There is always the possibility of war, inflation or epidemic, and each of these would affect the company. If the business is to be successful and long lived, it must take into account the possibility, even the likelihood, of future adverse experience.

Mutual life insurance companies have two basic resources to tide them over periods of adverse experience. The first and most important is the margins for this purpose that are built into the premium rates. These rates are set at levels that are more than adequate to pay for the coverage if actual experience turns out as expected. Then, if experience turns out to be worse, it can still be accommodated. Another reason why mutual life insurance companies include these margins in premium rates is to help make sure that each class of policies will receive its insurance with a minimum of subsidy from other classes. It is not enough that a mutual company's premiums in the aggregate should cover variations in experience. Each individual class should be self-supporting to the greatest practical degree.

The second basic resource is the company's surplus funds which are available for unforeseen contingencies. Since the surplus consists of assets less liabilities, it would be worthwhile to consider the manner in which a company accumulates assets and the nature of its major liability, the policy reserves.

The main reason the company accumulates assets is that premiums are payable many years in advance of the time that benefits become payable. It must set aside and invest a portion of each year's premiums so that when the time comes to pay the benefits, there will be enough funds to enable the company to meet its obligations. Graph 1 shows what assets Prudential expects to hold for each year with respect to a \$10 thousand whole life policy which it issues today to a man age 35. The assets start out negative because the expenses associated with selling the policy and putting it on the books are greater than the first year's premiums. By the second year, the assets are positive. Thereafter, they grow to equal the maturity value of this \$10 thousand policy.

Instead of thinking about a single \$10 thousand policy, one might consider an over-simplified model of the individual life insurance business and follow the aggregate assets of $1\frac{1}{2}$ million such \$10 thousand whole life policies. This amounts to \$15 billion of insurance. Graph 2 shows the accumulated assets for these policies over their lifetime. This graph also starts out negative, and then the assets grow. It differs, however, from the other graph in that after about 30 years the assets peak and then turn down, ultimately returning to about zero. Graph 1 shows how much assets the company expects to have for each \$10 thousand of insurance which still stays in force. Graph 2 involves the entire group of policies and takes into account that relatively few policies stay in force for a full 65 years. As policies drop out of the group for one reason or another, the surrender values and death benefits paid will diminish the assets of the group.

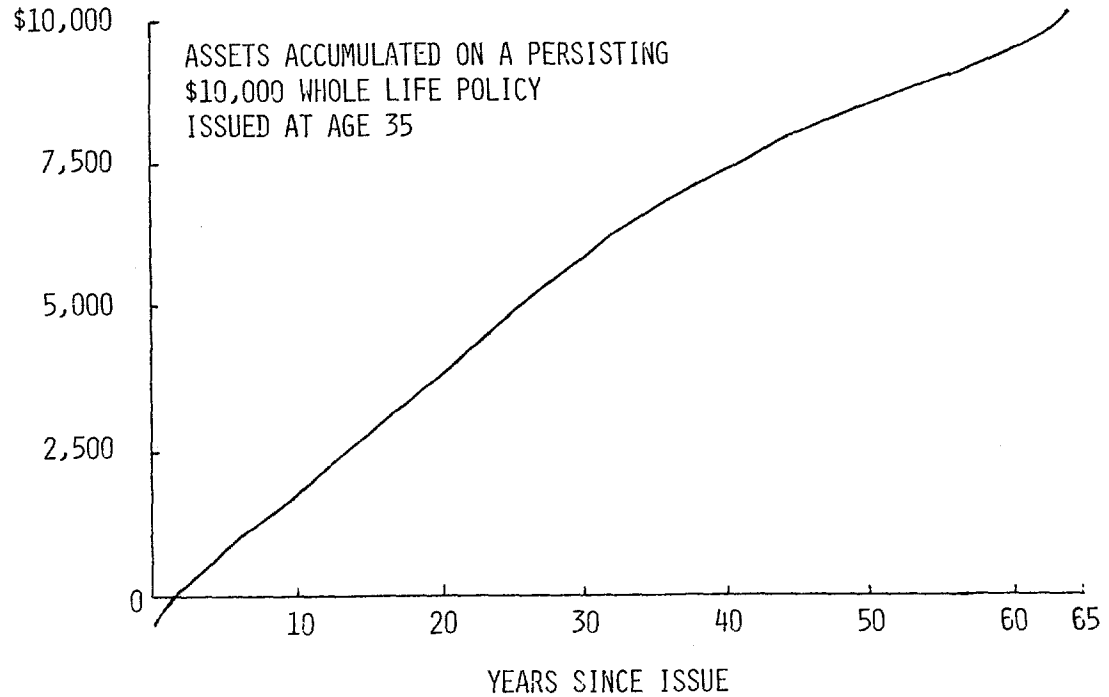
This group of policies can be called a generation of policies. At any given time, the company has many generations of policies in force. Some of these generations are on the left-hand part of the graph where the assets are low or negative. Some are on the right-hand part where assets are smaller because there are very few policies left. Some are in the middle durations where assets are quite high.

Graph 3 shows the minimum reserve required by the states for a \$10 thousand life insurance policy issued at age 35. At most durations, the minimum reserve line lies comfortably below the assets the company expects to accumulate. Graph 4 shows the minimum reserves for the simplified model of one year's issues. The minimum reserve line is generally comfortably below the assets the company would hold on a policy remaining in force at any given time.

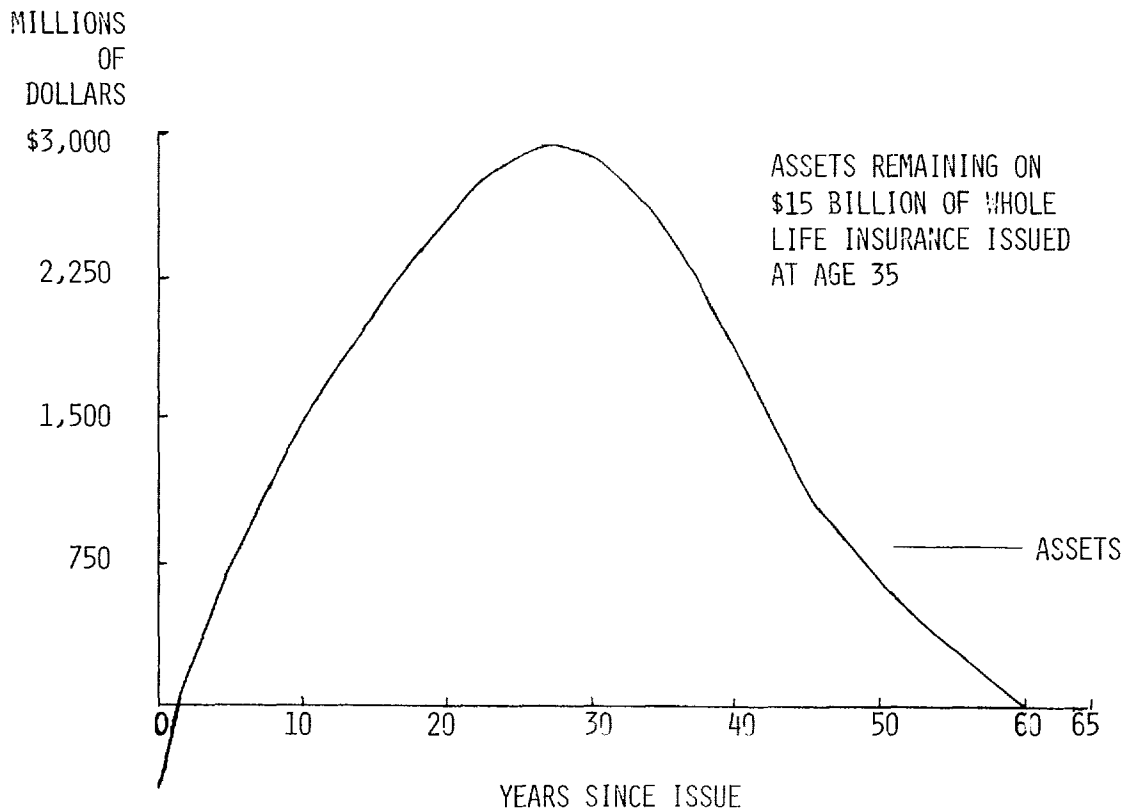
Graphs 3 and 4 represent minimum reserve standards. However, Prudential and many other companies carry policy reserve liabilities that are in excess of the minimums required by law. The main reason for doing so is to help guarantee an additional margin of safety to policyholders against future adverse experience. Graph 5 compares the reserve Prudential actually is holding with the assets the company accumulates and with the minimum reserves required by law for a \$10 thousand life insurance policy. The company expects its assets to cover the reserve liability after about the seventh year and to provide some excess funds after that. Graph 6 shows this comparison for the simplified model of one year's issue. One can see how the progress of the reserves actually held compares with the assets expected to accumulate on these policies and with the minimum reserves required by law. One can see the progress of the surplus built up by a generation of policies. This is the area between the asset line and the line representing Prudential reserves. The surplus starts out negative at first, gradually increases to zero around the seventh year, grows to a modest size and finally tapers off to zero as the last policy goes off the books.

Graph 7 shows the surplus held for the model of one year's issues. The total company surplus at any given time is essentially the sum of surpluses at that time for all such generations of policies issued over the years. Under the revolving surplus approach, the objective of the dividend actuary is to mold the shape of this curve in such a way that when the surpluses of all the different generations of policies are added together, the aggregate relationship between the assets and liabilities in the statement is reasonable. An important consideration in doing this is the rate of growth of sales for the

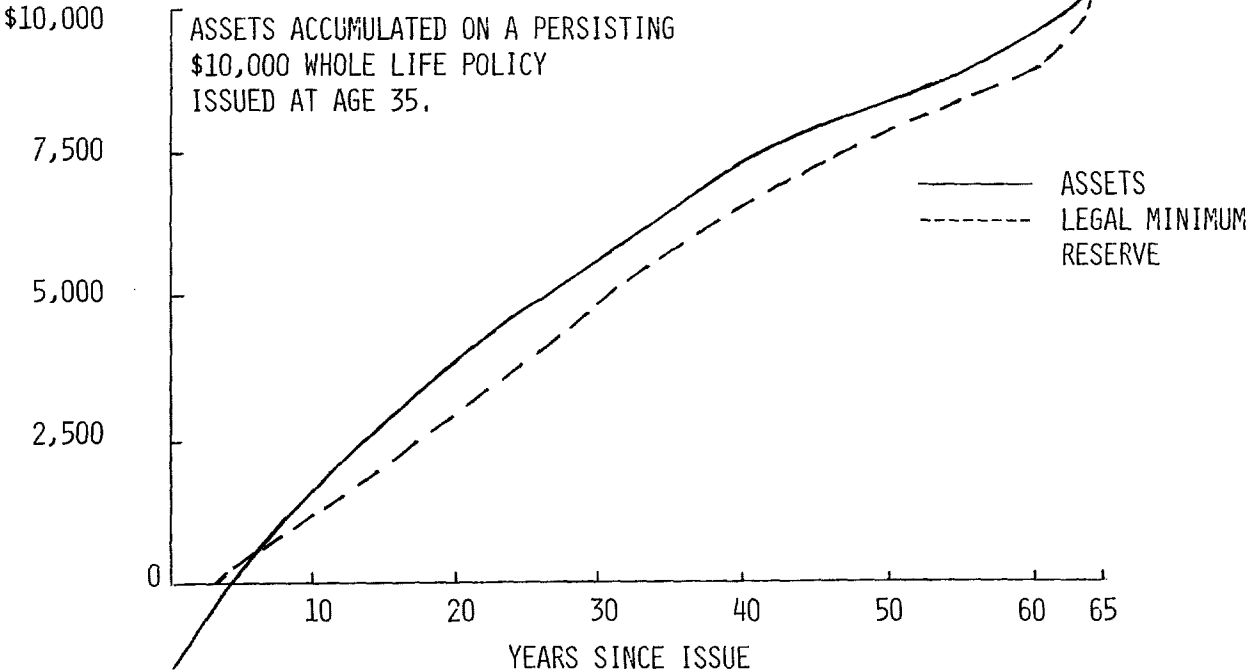
GRAPH 1



GRAPH 2

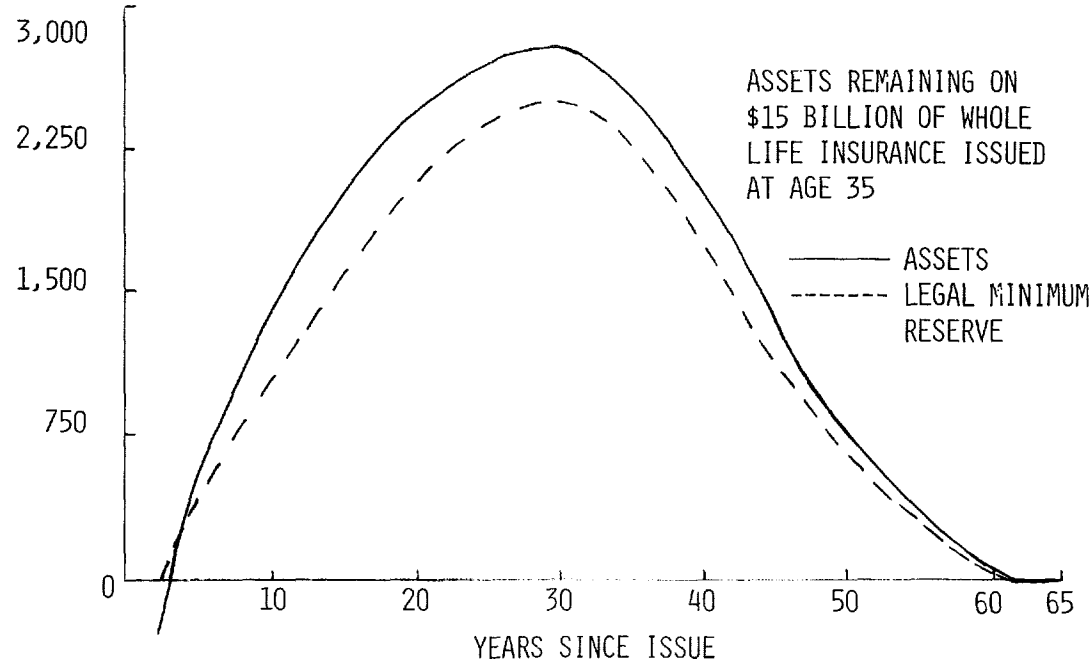


GRAPH 3

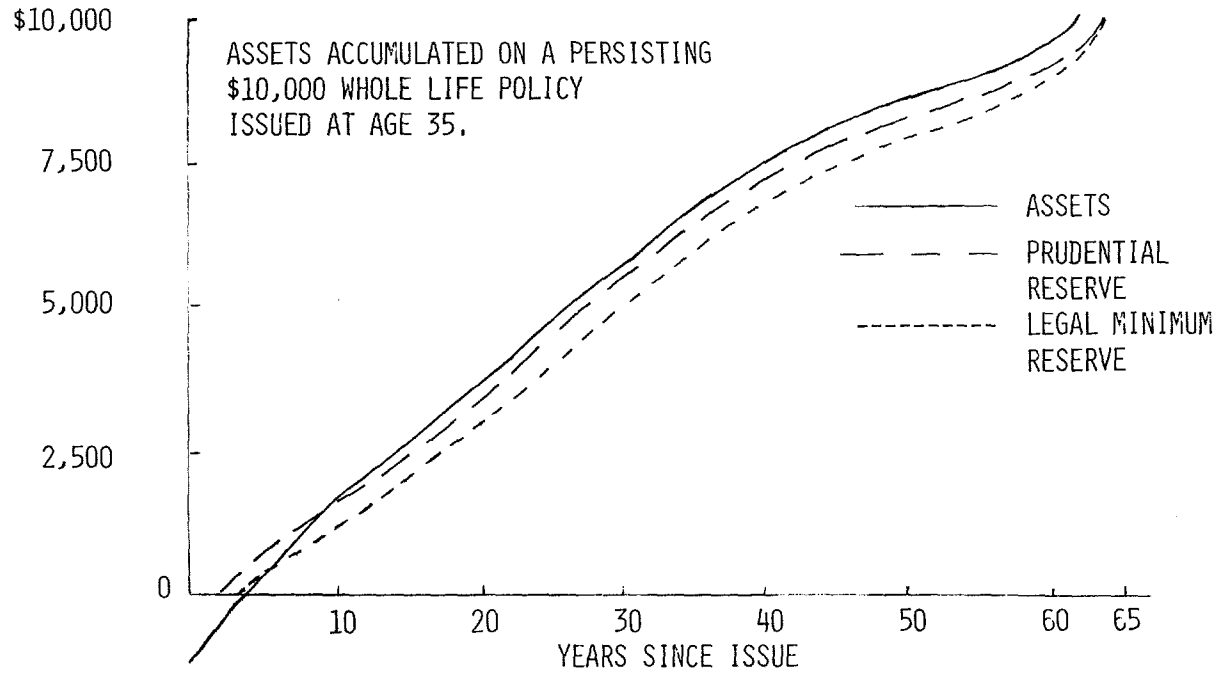


GRAPH 4

MILLIONS
OF
DOLLARS



GRAPH 5



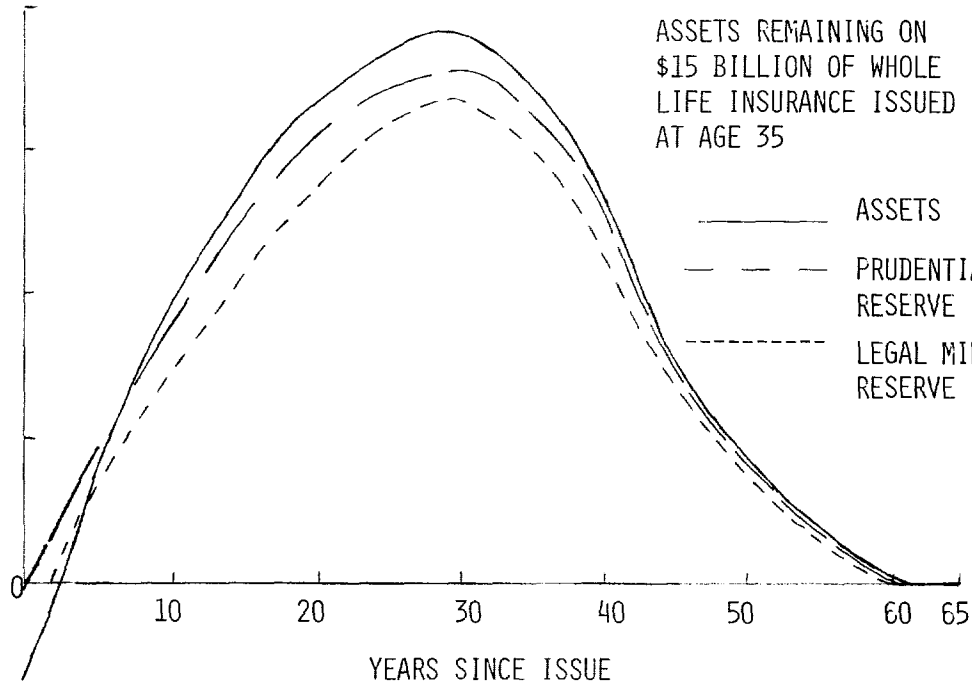
GRAPH 6

MILLIONS
OF
DOLLARS
\$3,000

2,250

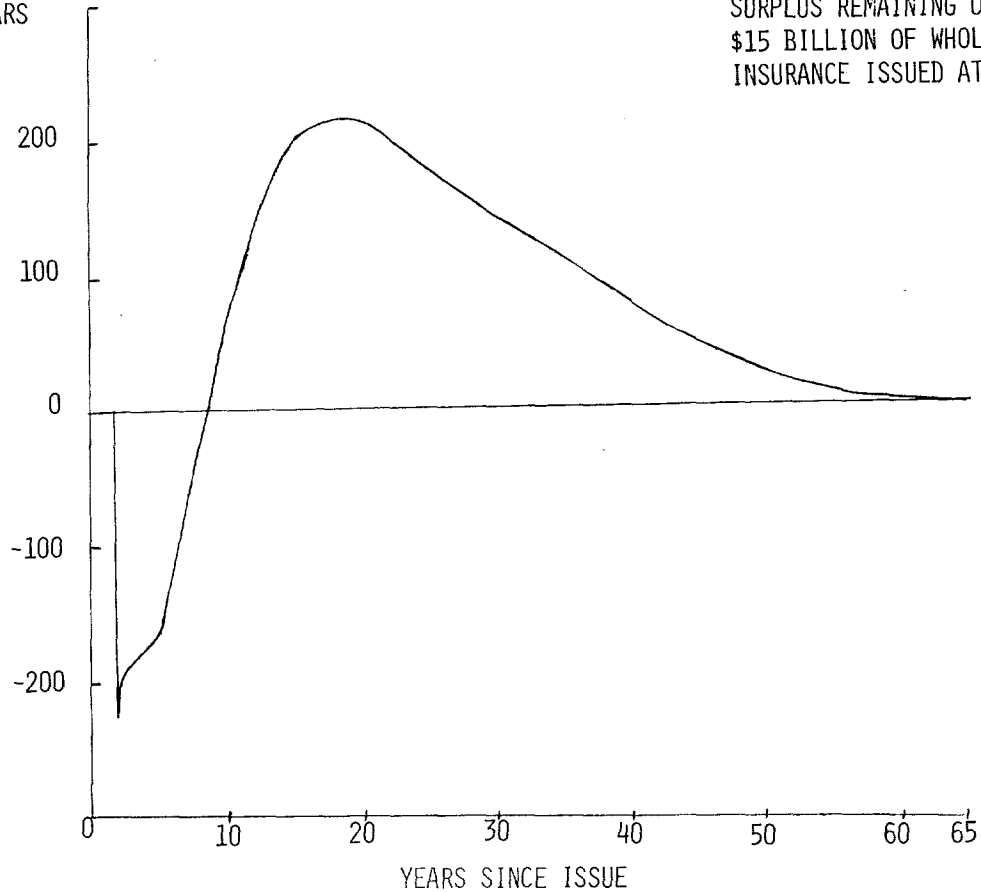
1,500

750



GRAPH 7

MILLIONS
OF
DOLLARS



SURPLUS REMAINING ON
\$15 BILLION OF WHOLE LIFE
INSURANCE ISSUED AT AGE 35

company. The more rapidly a company grows the higher this curve must rise above the zero line in order for the company's aggregate surplus to remain at a reasonable level. The reason for this is that the faster a company grows, the more relative weight is placed upon those generations of policies where the surplus is below the line. On the other hand, if the company's sales performance is relatively flat, the shape of this surplus curve can be made relatively more flat.

However, regardless of the rate of sales growth experienced, the job of the dividend actuary under the revolving surplus approach is to design a shape for this curve such that when the surpluses for all the current generations of policies are added together, the aggregate statement result is acceptable, and the graph for each generation ultimately drops to the zero line.

This approach enables the dividend actuary to observe the three guiding principles: safety, solvency and equity. In doing this, he need not be concerned about the concepts of contribution to surplus or the rate of surplus growth. The basic experience factor which must be kept under continuous observation is the relationship between sales and in-force business. If a company changes the rate of sales growth either upward or downward, the actuary must make corresponding changes in the shape of the surplus graph. Since these changes can be accomplished without affecting the theoretical end-point of the graph, he need not be concerned about having an adverse impact on policyholder equity. This is the distinguishing feature of the revolving surplus approach.

MERGER POTENTIAL

MR. THOMAS P. BOWLES, JR.: Recently, a member of the board of directors of a medium size mutual company was expressing his concern about the future of 90 percent of the mutual companies, i.e., the "non-giants." He indicated companies should convert to stock companies and pursue merger opportunities. Obviously, actuaries are not the only ones considering merger opportunities for mutual companies.

One of the discussants of Mr. Leckie's paper stated that there were compelling reasons for mutual companies to merge but that the task was virtually "unaccomplishable." The reason for this is a simple one. The sensitive problems, i.e., the people problems, are not solved. Even though the economics might argue persuasively for merger, there is no vigorous external force available to direct that the merger be accomplished.

Several years ago the chief executive officers of five mutual companies conducted an off the record "merger" discussion in Washington. The morning was spent extolling the virtues of merger: decreased net costs to policyholders, increased efficiency, greater strength, a stronger appeal to prospective sales personnel, product and geographical diversification, etc. They were somewhat surprised when advised that although merger was desirable, it was not probable since there appeared to be no intent to find a solution to the people problems. For example, who would be the chief executive? How would the board membership be structured? What would be the location of the home office? If those five mutual companies were converted to stock companies, external forces most probably would emerge to force the merger decision without undue weight being assigned to the people problems.

In order to obtain perspective, one may refer to the statistical profiles of mutual insurance companies in the United States and Canada that are displayed

in Tables 1 through 4. These tables include data on 134 companies, and these companies account for almost 100 percent of the assets of all mutual companies operating at the end of 1978. The tables provide the distributions of these companies by amounts of admitted assets, surplus funds, net operating gains and premiums. A review of these tables suggests that there are merger opportunities for mutual companies. Eighty percent of the mutual companies have only 6 percent of the assets, 11 percent of the surplus funds, 11 percent of the net gain, and 9 percent of the premium income.

For comparison purposes, Table 5 relates such data to those of stock companies. The 1,120 stock companies included in the tabulation account for about 100 percent of the assets of all stock companies in the United States and Canada at the end of 1978. Eighty percent of these stock companies have 9 percent of the assets, 20 percent of the surplus, 15 percent of the net gain and 13 percent of the premium income. These tables indicate that the great majority of stock and mutual companies in United States and Canada are indeed very small companies. Many of these small insurance companies will be unable to achieve the level of economy required to survive in a fiercely competitive and inflationary environment. For example, a tooling-up cost of a million dollars or more will be required for the emerging new generation of products, and many small companies cannot afford this. If these companies are to survive, they will have to merge.

POLICYHOLDER EQUITY RIGHTS

As a response to the consumerist and regulatory pressures, it is probable that someday mutual companies may be permitted to pay dividends to the policyholders of a dividend class only from surplus funds emerging from that class. Such a requirement would preclude the payment of a dividend from surplus funds emerging from other classes. This might significantly affect dividend practice at some companies with respect to new policyholders, thereby changing the dividend scales used in the selling process.

To illustrate the point, one might consider a dividend class consisting of policies issued at age 40 on the whole life plan in a calendar year. Table 6 displays the emerging dividends for three situations. The traditional scale represents a typical dividend scale. The hypothetical scale is one which assumes that the present value of profit after tax is zero and that the dividends are paid from earnings emerging on a statutory basis. (Computing dividends on the basis of emerging GAAP earnings would result in an increase at the early durations.) The third scale is that of a medium size mutual company which has approximately the same gross annual premium.

If the principles of equity are introduced into the hypothetical dividend scale, there would be no extraction from a policyholder of a contribution to surplus to which he would forfeit all equity rights. Therefore, it is assumed that in any year the accumulated fund in excess of a stated amount (such as 5 percent of the statutory reserve subject to certain maximums) would be returned as a dividend. No charge against a policyholder for a permanent contribution to surplus funds would be made. This is, indeed, giving full recognition to the "cooperative" philosophy which is basic to the mutual company's operations. Under such a process, the equity rights of a mutual company policyholder would be recognized fully. The expected profit to the company at issue from his "membership" in a dividend class is zero.

Table 1

Statistical Display of Mutual Companies

Arrayed in Order of Size of Certain Financial Data as of December 31, 1978

Admitted Assets Grouping (millions)	Accumulated For Group Admitted Assets		% of Accumulated Amounts for Companies through Group to Total				
	# Cos.	(millions)	# Cos.	Admitted Assets	Surplus Funds	Net Operating Gain	Total * Premiums
\$ 0- 14	28	\$ 177	20.9%	.1%	.3%	.1%	.2%
15- 49	55	1,025	41.0	.4	1.5	.9	.9
50- 99	66	1,872	49.3	.8	2.3	1.6	1.9
100- 199	83	4,361	61.9	1.8	4.5	3.7	3.8
200- 499	98	9,385	73.1	3.9	8.2	7.5	6.8
500- 999	107	14,975	79.9	6.2	11.1	11.1	8.9
1000-4999	124	51,895	92.5	21.6	30.6	32.2	28.0
5000&Over	134	240,794	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>
Total Amount (millions, except #)			134	\$240,794	\$10,847	\$1,473	\$33,847

*Excluding separate accounts & deposit funds.

Table 2

Statistical Display of Mutual Companies

Arrayed in Order of Size of Certain Financial Data as of December 31, 1978

Surplus Funds Grouping (millions)	Accumulated For Group Surplus Funds		% of Accumulated Amounts for Companies Through Group to Total				
	# Cos.	(millions)	# Cos.	Surplus Funds	Admitted Assets	Net Operating Gain	Total Premiums *
\$ 0- 1	29	\$ 24	21.6%	.2%	.1%	.2%	.2%
2- 4	50	90	37.3	.8	.4	.8	.9
5- 9	68	220	50.7	2.0	1.0	1.8	2.2
10- 24	90	567	67.2	5.2	2.9	4.6	4.7
25- 49	106	1,150	79.1	10.6	6.1	10.7	8.2
50- 99	114	1,725	85.1	15.9	10.4	17.3	13.9
100- 299	126	3,786	94.0	34.9	28.6	35.5	31.8
300&Over	134	10,847	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>
Total Amount (millions, except #)			134	\$10,847	\$240,794	\$1,473	\$33,847

*Excluding separate accounts & deposit funds.

Table 3

Statistical Display of Mutual Companies

Arrayed in Order of Size of Certain Financial Data as of December 31, 1878

Net Operating Gain Grouping (millions)	Accumulated For Group Net Operating Gain		<u>% of Accumulated Amounts for Companies through Group to Total</u>				
	<u># Cos.</u>	<u>(Millions)</u>	<u># Cos.</u>	<u>Operating Gain</u>	<u>Admitted Assets</u>	<u>Surplus Funds</u>	<u>Total * Premiums</u>
Negative	15	\$ (4)	11.2%	(.3)%	11.6%	8.4%	9.8%
\$ 0-.1	37	(2)	27.6	(.1)	11.8	8.9	10.2
.2-.9	68	16	50.7	1.1	12.6	10.6	11.5
1-4	96	79	71.6	5.4	15.1	14.5	14.9
5-9	109	166	81.3	11.3	18.7	20.1	19.3
10-24	122	365	91.0	24.8	30.8	33.4	32.1
25 & Over	134	1,473	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>
Total Amounts (millions, except #)			134	\$1,473	\$240,794	\$10,847	\$33,847

*Excluding separate accounts & deposit funds.

Table 4

Statistical Display of Mutual Companies

Arrayed in Order of Size of Certain Financial Data as of December 31, 1978

Total Premium Grouping (millions)	Accumulated For Group		% of Accumulated Amounts for Companies through Group To Total					
	<u># Cos.</u>	<u>Total Premiums (millions)</u>	<u># Cos.</u>	<u>Total* Premiums</u>	<u>Admitted Assets</u>	<u>Surplus Funds</u>	<u>Net Operating Gain</u>	
\$ 0- 1	24	\$ 28	17.9%	.1%	.1%	.6%	.1%	
2- 4	39	79	29.1	.2	.4	1.0	.4	
5- 9	49	149	36.6	.4	.5	1.3	.7	
10- 24	66	436	49.3	1.3	1.3	2.6	1.9	
25- 49	87	1,218	64.9	3.6	2.7	5.4	4.5	
50- 99	102	2,292	76.1	6.8	5.4	9.2	8.4	
100-499	120	6,677	89.6	19.7	16.2	23.5	25.5	
500-999	126	10,763	94.0	31.8	28.6	34.9	35.5	
1,000&Over	134	33,847	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	
Total Amounts (millions, except #)			134	\$33,847	\$240,794	\$10,847	\$1,473	

*Excluding separate accounts & deposit funds.

TABLE 5

Admitted Asset Group (millions)	Group Totals			
	Mutual		Stock	
	# Cos.	Admitted Assets (millions)	# Cos.	Admitted Assets (millions)
\$ 0-14	28	\$ 177	583	\$ 3,124
15-49	27	848	242	6,892
50-99	11	847	105	7,414
100-199	17	2,489	76	10,921
200-499	15	5,024	59	18,926
500-999	9	5,590	31	22,720
1,000-4,999	17	36,920	20	36,415
5,000-Over	10	188,899	4	44,180
Totals	134	\$ 240,794	1,120	\$150,592

% of Accumulated Amount for Group to Totals												
# Cos.		Admitted Assets				Capital & Surplus Funds				Total *		
Mutual	Stock	Mutual	Stock	Mutual	Stock	Mutual	Stock	Mutual	Stock	Mutual	Stock	
21%	52%	-	%	2%	-	%	6%	-	3%	-	%	4%
41	74	-		7	1	15	1	10	1	11		
49	83	1		12	2	22	2	17	2	19		
62	90	2		19	5	31	4	25	4	28		
73	95	4		31	8	48	8	42	7	42		
80	98	6		47	11	65	11	59	9	57		
93	99	22		71	31	89	32	83	28	78		
100	100	100		100	100	100	100	100	100	100		
Totals												
(billions)		\$240.8		\$150.6	\$10.8	\$16.1	\$1.5	\$2.8	\$33.8	\$35.7		

*Excluding separate accounts and deposit funds.

TABLE 6

Whole Life Age 40 - Male

Dividends Per \$1,000 Based on Average of \$25,000 Per Policy

Annual Premium Per \$1,000: \$22.33

<u>Policy Year</u>	<u>Dividend per \$1,000</u>		<u>Mutual*</u>
	<u>Traditional</u>	<u>Hypothetical</u>	
1	\$ 0	\$ 0	\$.48
2	.60	0	.88
3	1.08	0	1.28
4	1.57	0	1.70
5	2.07	3.25	2.13
6	2.59	5.16	2.55
7	3.11	5.57	3.00
8	3.64	6.02	3.45
9	4.18	6.54	3.93
10	4.73	7.06	4.38
15	7.59	10.75	6.80
20	10.58	13.82	9.30
25	13.60	17.64	11.80

* Premium = \$22.46

TABLE 7

<u>Item</u>	<u>Present Value at After Tax Investment Return</u>	
	<u>Traditional</u>	<u>Hypothetical</u>
Premiums	100%	100%
Investment Income	<u>59</u>	<u>59</u>
Total	159%	159%
Death	42%	42%
Health	0	0
Surrender	23	23
Maturity	0	0
Conv/Misc	0	0
Dividends	22	30
Pure Endowment	0	0
Reserve Increase	<u>29</u>	<u>29</u>
Total	116%	124%
First Year Commission	8%	8%
Renewal Commissions	6	6
Acquisition Expense	4	4
Maintenance Expense	3	3
Premium Tax	<u>2</u>	<u>2</u>
Total	24%	24%
Gross Book Profit	19%	11%
Reinsurance Cost	0	0
Net Book Profit	19	11
FIT Phase 1	11	11
FIT Phase 2	0	0
After Tax Profit	8%	0%

This is illustrated by Table 7 which shows the present value of income and expense items as a percent of the present value of premiums for policies issued with the traditional and hypothetical scales shown in Table 6. The present values in Table 7 are computed at the net after tax investment return (assuming a Phase 1 tax.) The situation involving the traditional dividend scale shows a "profit" equal to 8 percent of the premiums. The situation involving the hypothetical dividend scale shows no profit; the 8 percent profit from the situation involving the traditional dividend scale is added to the present value of dividends to obtain the dividend return under the hypothetical scale situation.

For policies remaining in force, the surplus (accumulated fund less reserve) and the ratio of the surplus to the reserve are shown in Table 8.

TABLE 8

End of Year	Surplus Per \$1,000			
	<u>Traditional</u>		<u>Hypothetical</u>	
	<u>Surplus</u>	<u>Percent</u>	<u>Surplus</u>	<u>Percent</u>
5	\$.21	0.3%	\$ 3.33	5.0%
10	8.92	5.7	7.83	5.0
15	19.83	7.8	12.65	5.0
20	29.98	8.5	17.68	5.0
25	41.41	9.1	22.72	5.0

Tables 6, 7, and 8 are illustrative only. The level of excess funds at any point in time and the curve of dividends are incidental to the basic premise that if at issue the present value of benefits and expenses (included Federal Income Tax) is equal to the present value of revenues, equity has been achieved.

As mutual companies continue to present themselves as a cooperative mutual effort, they may be forced to reappraise their "profit, surplus, and dividend" strategies.

MR. ARDIAN C. GILL: By their nature, mutual companies are not oriented toward profit. To provide some simple evidence on this point, one may consider the twenty-four largest companies in the United States that write individual disability income policies. Listed according to the gain from operations in the 1978 convention statement, nine out of the first twelve companies are stock companies, and ten of the final twelve companies are mutual companies. One can argue about preliminary term, net level reserves and so forth, but the lesson is that it takes a tough set of standards and a bottom line orientation to be successful in a line like disability income. Mutual companies often enter such lines in support of the field force, to recruit new agents or for some other nonfinancial

reason, and they often get a nonfinancial result. In some areas, like group pensions, they have done extremely well despite an occasional tax disadvantage relative to stock companies. Part of the reason for this is the fact that mutual companies are oriented to returning the profits to the policyholders, in this case, the pension fund trustees. This results in a competitive advantage and respectable profits prior to dividends.

In mutual companies, there is no explicit recognition of the need for a return on the investment in new business. This comes about from a different view in a mutual company of what the investment in new business is or even the concept that there is an investment of capital and surplus funds in a new policy. If a stock company makes an investment in another line of business, another company or in a new sale, it will do so with the expectation of a certain return, and this is factored into the purchase price of the product. When growth is considered, a stock company will look at growth in earnings per share rather than at premium growth or other measures, and they will structure their corporate plan to increase those earnings at rates such as 15 percent a year. If these earnings are retained, shareholder equity will grow.

If a mutual company has a parallel goal or an equity analog, it is surplus growth. The surplus levels of thirteen large mutual companies (a group that excludes the four largest mutual companies) declined from an average of about 7 percent of liabilities in 1970 to 5½ percent in 1978. In calculating these surplus to liability ratios, the Mandatory Securities Valuation Reserve (MSVR) was included as part of the surplus. The biggest decline for a single company in the group was nearly 4 percent of assets while the largest proportionate decline in the ratio of surplus to liabilities was 44 percent. Only one company showed an increase over the 1970 ratio. Where is the growth in the profit analog in a mutual company? If one sets aside companies that have put large amounts of surplus into individual or group annuity reserves, which they did for good and sufficient reasons, then common stocks will emerge as a major factor. If one adjusts out that factor (and it is questionable whether this would be appropriate), there remains a question of adequate surplus management. In short, either surplus goals have not been achieved, or they have not been established clearly as goals.

Growth could be an important factor in surplus reductions. If one uses total individual premium life income as a measure of growth, one finds that the thirteen company group had an average growth rate in the last decade on the order of 6 to 9 percent. If one adjusts this for inflation, the result is that the growth rates are on the order of 1 or 2 percent. If one goes further and adjusts for the increase in policy loans, the result is that a number of mutual companies are enjoying negative growth on the ordinary line.

Surplus is inefficient, and it could be that tax planning lies behind this decline in surplus. However, during the same era, the Federal Income Taxes in these mutual companies, expressed as a percent of investment income, changed from a median of 13 percent to over 15 percent. Some companies in the group have managed their taxes to little or no increase, but some have had increases of 3 or 4 percent in that ratio. Increases of that magnitude are fairly common and are unimpressive.

What is it in mutual companies that causes these unimpressive results? One cause is the lack of firm bottom line goals for which surplus growth goals have not been an adequate substitute. Obviously, turning them into stock

companies would give them a new orientation. However, there are other alternatives to becoming a stock company. One alternative is to present results according to Generally Accepted Accounting Principles (GAAP) much the way a stock company does. A total, detailed and generally agreed upon GAAP method is not necessary, but what is needed is a consensus measure within the company of the internal profit results. This will not improve necessarily the performance, but it will force attention to results in a very different and coherent way, and that would be healthy for the mutual company enterprise.

If a mutual company does not wish to use GAAP, then it needs some other measure of bottom line results than surplus growth. There are just too many *if*, *ands*, and *buts* in surplus to make it a meaningful figure. For example, is the MSVR to be included, and if so, both components or only Component One? Should surplus be expressed as a ratio to assets or reserves? How does one treat a high asset line like group annuities? What does one do about surplus strain on individual annuities?

What are all these questions on controls and earnings all about? It is to give management and employees a rallying point around which they can measure success or failure, and there is not a good one in a mutual company. As another alternative to becoming a stock company, each line can have goals that constitute the elements of a good bottom line stock company. For example, on the ordinary line, investment return, persistency, expenses and mortality are the critical elements of net cost. A fine net cost which is based on and reflects excellence in these factors is the true bottom line of the ordinary operation of a mutual company. This is not as good as using GAAP because the elements are not tied together as they would be in a GAAP result, but it is better than the way many companies are operating now.

Another failing of this method is that it does not recognize growth and profit. In Robin Leckie's paper, the growth rate in his methodology is a deductive item in determining distributable surplus, i.e., if the growth rate of liabilities exceeds the investment return on surplus, a charge to the policy is made. In essence, new business is financed from surplus earnings or from policy profit. The policyholders are not considered in Robin's view to own the surplus, but they must contribute to it and they also must help finance new business growth. Leaving aside questions of equity, this is a rather awkward methodology which straightforward applications of non-par pricing techniques avoid very nicely. In a stock company pricing exercise (using the Anderson Method as most companies do), an investment of surplus is made to acquire a new policy. The product is priced to yield a return such as 15 percent after tax on that investment. This rate of return represents another factor called the Internal Transfer Rate, and there is a theorem to the effect that the Liability Growth Rate cannot exceed the Internal Transfer Rate or surplus ratios will decline. As the earnings are realized at this 15 percent rate, they are returned to surplus; on a GAAP basis, earnings are returned to GAAP surplus and are matched with revenues. Therefore, it is all very neat, it is all automatic and it is all tied together. It avoids the separate growth rate charge to policy earnings which implies that the faster the growth, the poorer the dividends, and this is hard to reconcile with the contribution method. Part of the dilemma and the need for the separate growth rate deduction is caused by using a portfolio investment earnings rate in asset shares to amortize the initial surplus invested rather than a risk rate of return.

Returning to the earlier theorem, this constrains the growth rate to that investment rate and makes the extra charge necessary for a higher growth rate. The result is that the sum of $I + G$ (that is, the investment return on surplus and the growth rate in Robin's paper) really represents the transfer rate or the limit to growth. This can be done directly through the normal non-par pricing techniques.

MR. GEORGE E. GOULD: I wish to comment on the formula in the paper which demonstrates the target surplus ratio to be independent of the current level of surplus. It seems to be an instance of a phenomenon known in General Systems Theory as "equifinality". This is a characteristic of organismic processes in which the same final state of some element may be reached from different initial conditions and along different pathways, being dependent on other relevant system parameters.

For instance, as discussed in the Theory of Growth, an organism grows when building-up surpasses breaking-down, and reaches a steady state when both processes are balanced. In the biological world, the rates of building-up and breaking-down are parameters which are specific to each species; human beings reach a certain size, while dinosaurs reached a different size.

In the insurance world, management has an ability to change from one species of insurance company to another. The panelists have drawn attention to laws of the land which limit that ability. However, it should also be recognized that there are natural laws involved as well, and a reading of General Systems Theory may shed light on the subject. In particular, it may raise questions about the role that the policyholder will play in future. The communication facilities described by the Futurists, indeed already being tested, may well make it possible for them to change from a passive role to a dramatically more active involvement.