

# RECORD OF SOCIETY OF ACTUARIES 1983 VOL. 9 NO. 2

## PROFIT STANDARDS AND ANALYSIS OF EARNINGS FOR INSURANCE COMPANIES

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1. What profitability measuring rods are used? How do they vary by line of business?
2. How are reported earnings for each profit center (statutory, GAAP or other basis) analyzed? How often is the analysis made?
  - By Source? For example, is actual mortality or are actual expenses compared with that expected on the rate provision basis, or the basis budgeted for the year, or on some other basis?
  - By block of business (e.g., calendar year of issue or other)? What are the problems and solutions relating to the allocation of Federal Income Taxes and investment income in this analysis?
  - By comparison with other companies (on what basis)?
3. What techniques are used to determine the amount of statutory surplus needed to support a line of business or a product? How is the relationship between risk and profitability quantified?

MR. JOHN B. YANKO: This panel will discuss profit standards and analysis of earnings for life insurance companies. Specifically, we shall address profit standards; profit center earnings analysis by source; by block of business; by peer group comparison, as well as consider surplus requirements. It has become popular, but essential, to have a corporate strategic task force or plan. It is difficult to complete this assignment and have a one, three, or five year plan without addressing these issues. Companies are planning and becoming futuristic, therefore these measures, techniques and results are required. Companies have purchased blocks of business or other companies and have entered new lines of business and withdrawn from line of business. These actions require profit standards, earnings analysis, and continual monitoring.

Our panelists will share their experience and expertise from three different viewpoints -- an investment firm, a stock company, and a consulting firm.

Fred will make some introductory remarks on profit standards and analysis of earnings for insurance companies.

MR. FREDERICK S. TOWNSEND, JR.: Profit standards for life insurance companies, and the analysis of earnings of life insurance companies, by historical measures, is a young state of art when compared to other industries.

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In an extremely brief summation of history, life insurance companies operated on only a statutory reporting basis thirty years ago, and such reporting focused upon changes in the company's surplus, rather than earnings. Annual reports to shareholders provided little or no information beyond that provided in statutory statements. Finally the statutory income statement and the by-line analysis of earnings drew more attention to the annual statutory earnings of life insurance companies, and certain members of the investment community began to calculate adjusted earnings. Adjusted earnings represented the statutory earnings of the company, adjusted for growth in insurance in force. Presumably this growth factor represented the cost of acquiring new business, or the present value of future profits on such new business, as statutory earnings were depressed by the expensing of new business costs. Obviously, in the case of a General Motors or U. S. Steel, a sharp increase in sales would increase earnings. However, a sharp increase in sales for a life insurance company would only depress statutory earnings.

Coming out of such an unsophisticated environment and perhaps lack of public shareholder pressure, many operating managements merely focused upon growth in annual statutory earnings. Some companies executives scoffed at the idea of adjusted earnings. Some companies did not even prepare quarterly earnings statements as the Chief Executive Officers accepted the words of their actuaries that reserves could only be computed on an annual basis, and could not be computed on a quarterly basis.

From a product pricing point of view, the actuarial profession tended to view the life insurance risk as a mortality risk, not as an investment risk, a lapse risk or an expense risk. Profit standards focused upon statutory profit per thousand face amount of insurance in force.

Meanwhile, our casualty brethren operated on the basis of combined ratios, which is the sum of a loss ratio plus an expense ratio. The excess of 100% over the combined ratio represented a profit margin for property-casualty companies. This is presumably a percentage of premium income, although it was never clear whether such profit margin applied to premiums written or premiums earned. The loss ratio was always computed as a percentage of premiums earned while the expense ratio was expressed as a percentage of premiums written. Thus, in a manner, this was an adjusted earnings ratio to represent the company's equity in the unearned premium reserve, or simply another way of adjusting for the growth in new business.

Thus, until the early 1960's life insurance product pricing and profit measurement focused upon either statutory profits per thousand dollars of insurance in force, or percentages of premium income, until the return on investment concept, which had long been so prevalent in the manufacturing business, was espoused as a basis for product pricing for nonparticipating life insurance.

Today, many companies now allocate investment income to a historical surplus account, with only investment income from operations allocated to separate lines of business. Expansion of new business activity is often related to the prospective return on investment, or return on equity, which is expected from the ordinary life, annuity, or group lines of business, respectively.

My fellow panelists will expand upon what is done in practice, and what should be done in theory, in establishing profit standards and in analyzing the earnings of life insurance companies in our modern day environment. Then, to provide a totally different perspective on the analysis of life insurance companies, I will return to the podium to discuss how an outside observer, namely an individual who is not operating either inside a company or inside the industry, attempts to analyze the earnings of a life insurance company without the benefit of internal information. I will refer to these as Townsend's Efficiency Indicators.

MR. LAWRENCE P. MOEWS: The purpose of this talk is to summarize the methods of expressing profit objectives and of analyzing earnings by line of business from a stock company's viewpoint with particular interest on the Allstate Life Group of Companies.

The basic financial objective of the Allstate Life Group of Companies is to grow in premium income at a certain rate after inflation each year while maintaining an adequate return on equity in line with the risks our shareholders are assuming. Within Allstate Life, we have two primary lines of business, Personal and Group, with a series of profit centers within these major lines.

#### I. PERSONAL

- A. Allstate Agent
  - 1. Life
  - 2. Health
  - 3. Annuities
- B. Surety Life (part-time agents)
- C. Lincoln Benefit Life (personal producing general agencies)

#### II. GROUP LIFE AND HEALTH

- A. Allstate Life
  - 1. Conventional Brokerage (100+ lives)
  - 2. Allstate Agent (2-100 lives)
  - 3. Corporate In-House Accounts
  - 4. Direct Response
- B. Northbrook Life General Agencies (2-200 lives)

In order to achieve our over-all return on equity objective, we utilize the following pricing profit objectives by line of business or product line:

#### I. PERSONAL LIFE AND FIXED ANNUITIES

We look at several methods such as the present value of before tax future profits as a certain percentage of

- a) the present value of future premium income (this could be expressed as the average annual pre-tax profit as a percentage of average annual premium income).
- b) submitted annualized premium and
- c) equivalent level amount of insurance.

## II. PERSONAL HEALTH (Medical & Disability)

We aim for a certain pre-tax underwriting gain plus investment income in line with minimum loss ratio requirements. Our pre-tax underwriting gain is defined as premium income less benefits and average annual expenses incurred.

This is a slightly different form but essentially the same method as Personal Life and Annuities. The slight difference is needed to introduce the loss ratio concept.

## III. VARIABLE ANNUITIES

We utilize the same method as Personal Life and Fixed Annuities except that we also review the return on required equity where required equity is defined as a certain percentage of GAAP reserves.

## IV. GROUP LIFE, MEDICAL, DISABILITY & DENTAL

Pre-tax profit is expressed as a percentage of premium income depending upon the coverage, the margin charged, and the size of the group case. The anticipated profit as a percentage of premium decreases as the claim volatility of group cases becomes more stable.

## V. DIRECT RESPONSE

We analyze the pre-tax return on investment where investment is defined as direct and indirect solicitation expenses and any other front-end expenses.

Each segment of our solicitation/ mailing list is analyzed so that we achieve at least a certain minimal return on each marginal dollar invested in the program. This return must be in line with the risk assumed and what these monies would be invested in if we did not delve into direct response ventures.

One of the difficulties of large corporations is being sure we allocate the proper use of capital by line of business to obtain the highest overall corporate rate on return. This is difficult to do when there are many lines of business/profit centers. Each profit center manager is responsible for achieving our corporate return on equity, revenue growth as well as specific dollar profit goals in our strategic, annual planning, and actual statement of income results. The means by which each profit center achieves this return on equity goal via pricing profit objectives does vary considerably. This is very common within any large stock company since each actuary or line manager

usually has his or her own ways of expressing profit objectives. Even though we have an overall return on equity objective, it is impractical to allocate equity to each product within a profit center. Thus, you have a wide range of ways of expressing profit objectives.

We develop an annual and a 5-year strategic plan for each of the above-mentioned profit centers each year. The annual plan, developed in the fall, is analyzed to see how it varies with the 5-year strategic plan developed in the summer of that year. As actual results emerge, they are compared to the annual plan. Each item on the statement of income is analyzed by profit center in detail each month:

- Premium Income
- Investment Income
- Life/Health/Annuity Benefits
- Reserve Increases
- Expenses
- Federal Taxes

Actual mortality, morbidity, and expense experience is compared to our pricing parameters on the average of once per year for all lines of business. However, our medical and dental experience is monitored quite closely each month so that we can react swiftly to emerging experience.

We do not analyze our statement of income for each calendar year of issue, although we do get a general indication of the source of a considerable portion of our profits from our strategic planning process when we project Personal Life and Annuity earnings by ratebook series. However, we are looking into more sophisticated methods to get a better handle on profits by product and calendar year of issue.

One of the difficulties in analyzing profits by line of business is how to allocate capital by line along with its resulting share of investment income.

We did some rather extensive research in developing the amount of capital required by line of business. We reviewed various statutory annual statements of stock companies to see what the average ratio of capital was to their premium income base. There was no consistency even if we grouped the companies by their major source of business (e.g., group, direct response, etc.). We ended up using a simplified and rather arbitrary approach in allocating capital by line of business. The following method is subjective but felt to reflect the amount needed to fund front end costs and annual claim and expense fluctuation (after reinsurance recoveries). (Casualty companies often call the formula to develop funds needed for claim fluctuation as the solvency ratio approach):

Line of Business	Required Capital as a % of	
	Premium Income	GAAP Reserves
PERSONAL - Life	-	20%
Health	25%	-
Annuities - Fixed	-	20%
- Variable	-	1%
GROUP - Life	10%	-
Medical	15%	-
LTD	20%	-
Dental	15%	-
Direct Response	30%	-

Any excess capital over the developed required capital was allocated pro-rata by line.

Federal taxes are allocated by line of business according to what each line contributed to taxes with respect to the particular corporate phase we are in.

Since the inception of the Allstate Life group of Companies, we have been on a portfolio method of allocating investment income by line of business. We are in the process of implementing the Investment Year concept although we do reflect current interest assumptions in our pricing.

As competition becomes more intense in the insurance and other financial services, it is important that we have a proper perspective of our source of earnings. This can pinpoint areas for productivity gains to enhance the profitability of current business and perhaps direct our efforts to some of the more promising distribution methods. The management of our capital base to be sure we are investing in those current and new ventures which will have the greatest overall return to our shareholders with an acceptable degree of risk is an enormous challenge.

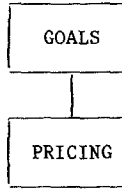
MR. MATT E. SIMON: Fred and Larry have already given you some good ideas about performance measures. I would like to go through a process for determining performance measures. You should not use a particular measure just because that's what Allstate uses. They use their measures for their own good reasons. You should use your measure for your reasons.

In preparing for this presentation I reviewed the transactions of the Society of Actuaries to see what has been published concerning our topic. My search was not an extensive research project but it did not take me long to find some excellent discussion notes.

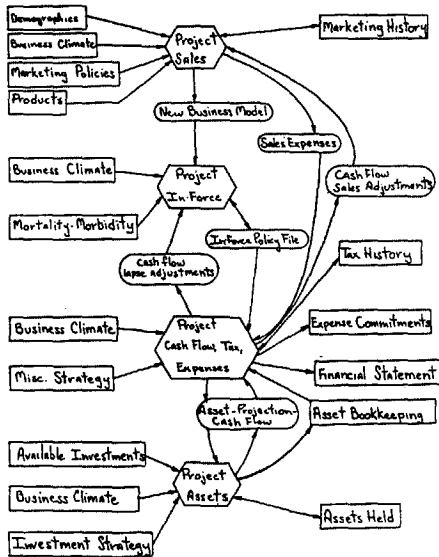
I asked myself why do we want to collect and report some of this information. The basic objective is to provide information useful for making economic decisions; information directed at decision makers. In my mind the management information discussed here and other forms of information are collected to measure performance and to provide a basis for managing and directing performance. Financial statements should not be limited to the financial data in them but may be amplified in either the narrative form or statistical form with other sources of information. They should clearly be accurate, understandable and meaningful. The overriding objectives of financial statements

is to emphasize the output of useful information rather than the accounting process itself. Quality of information, not quantity, is the key. Statements should replace impressions with facts. However, to dwell on financial statements and performance measures would be like putting the cart before the horse.

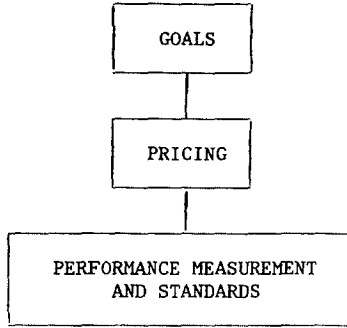
Information requirements start with a clear understanding of the corporate mission, the objectives and strategies that support that mission.



These must be quantified and reflected in the pricing process. As you design and price a product you must be aware of the market needs, competitive products and prices, your organization's expense structure and cost of distribution. All these and other factors reflecting mortality and morbidity risks and investment risks go into the intricate process of product design which is really a subset of your company marketing strategies. This pricing process brings together in a single model a variety of factors. It becomes a complex and quantified linkage of corporate goals to performance measures and standards.



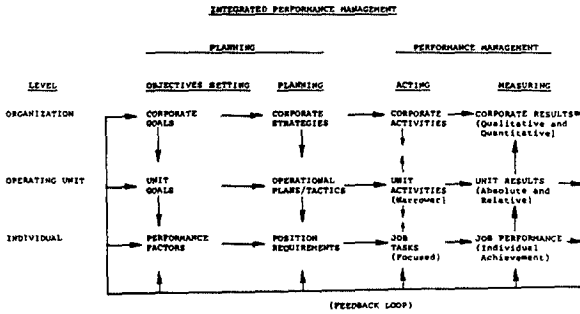
PANEL DISCUSSION



The pricing process identified the measures and standards. For example, here are some of the measures you will quickly recognize:

- Marketing Cost
- Issues and underwriting
- Persistency
- Mortality/Morbidity
- Maintenance
- Investment Return

A variety of profitability measuring rods are used like return on investment, profit as a percent of premium, and years to recover surplus. Standards often differ depending on the line of business. The key is to link these standards to the goals and objectives, the long and short term strategies of the company. Let us look at performance measurement in more detail.

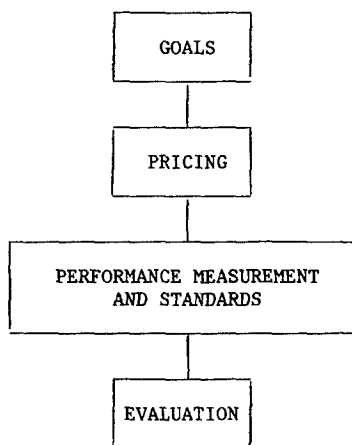


Note: The other key dimension not shown is information, both external and internal, which serves to tie things together.

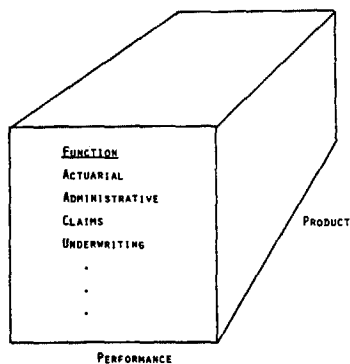


Pricing is a model which quantitatively links these factors together. Information, external and internal, serves to tie things together.

So far we have considered what to measure and what level of performance is expected. Evaluation is measuring actual results and comparing them to the performance standards.

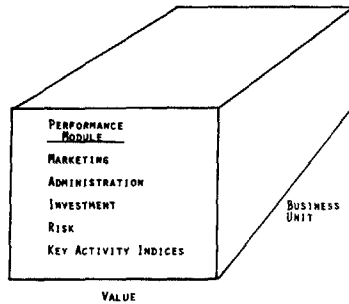


In the past there has been a great deal of emphasis on measuring performance by function and by product.



The trend now is to establish business units and within each business unit define specific performance modules.

## PANEL DISCUSSION

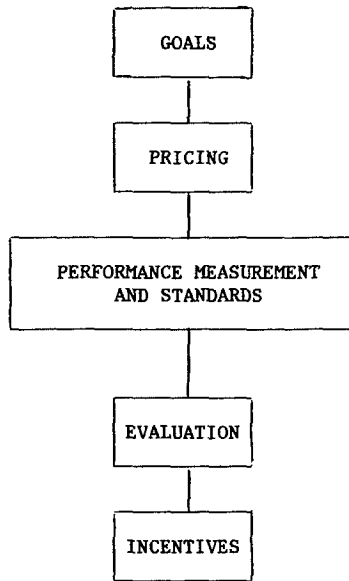


The performance modules reflect the performance measures and standards previously described. They represent controllable items, factors which those who are responsible can influence and which effect the performance of the business unit. Generally these performance modules can be segmented into these controllable categories: Marketing, administration, investment and risk including persistency and mortality/morbidity.

Other performance modules should include indices of key activities. These would probably be more of a strategic nature and would reflect progress toward a longer term, more qualitative objective. Examples might include the development of a new data processing system or the hiring and training of new agents possibly in a new territory, number of salesmen, and manpower persistency.

As the chart suggests, many business units might be established and the key is to recognize that the performance modules for each business unit might not necessarily be the same.

Value is indicated as an element in performance measurement. More attention is being given to increasing the long term value of the enterprise in the goal setting process. Management is recognizing that to achieve this long term objective, short term sacrifices are often necessary. Thus the unit profit or short term value measurement may not be to make a profit or a contribution to general overhead. Thus, it is important in the planning process to link the short term - operational performance modules through the pricing/modelling process to the mission of the company. This sets the basis for determining the annual budget, the expected against which the actual will be compared.



Incentives will assist in communicating and reinforcing the performance desired from the individual either through personal accomplishment of desired tasks or through accomplishments of units for which the individual is responsible. The process is to clearly communicate desired performance and the rewards if performance is achieved. You must be sure there is clear communication of the standards and the evaluation process.

With this process we have identified, measured and rewarded the performance the individual can control.

I would like to relate this process to a specific business unit. As an example, let us take a look at a direct response operation. The company might establish these objectives for a specific product.

- Return on investment of 20%
- Premium of \$500,000 or more

Strategic indices might include:

- Market research to define target markets
- Market research to define buyer/non-buyer characteristics
- Policyholder administration communication devices

In the product development process let us assume you have accomplished at least a rough definition of the target markets and competitive benefits and premium. There are different types of information you will consider. These seven items are basic.

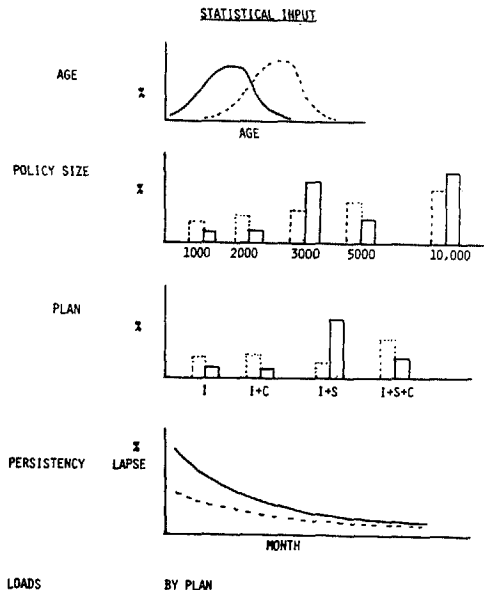
Where Do Financial Projections Start?

BASIC INPUT

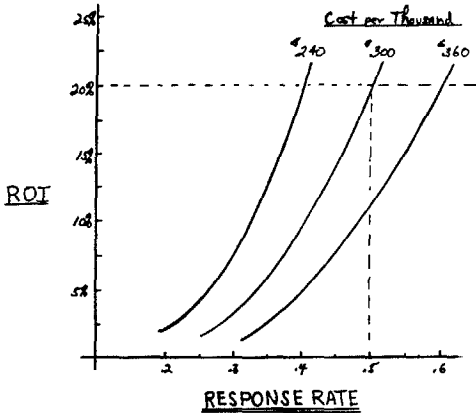
1. Premium
2. Mortality
3. Reserves
4. Dividends
5. Investment Rate
6. Inflation Factor
7. Expenses

- A.) Issue
- B.) Underwriting
- C.) Maintenance
- D.) Collection/Persistency
- E.) Benefits

You will also want to consider distribution of variables like age, policy size, and plan because a single mailing or a single investment in advertising materials will produce some quantity of applications representing these distributions. You will also consider different persistency scenarios and the possibility of adding additional coverages to the new policyholders.



The unanswered question is what it will cost to market the policy? Let us take a look at the chart below as a potential answer. Note that the objective has been set at 20% return on investment.

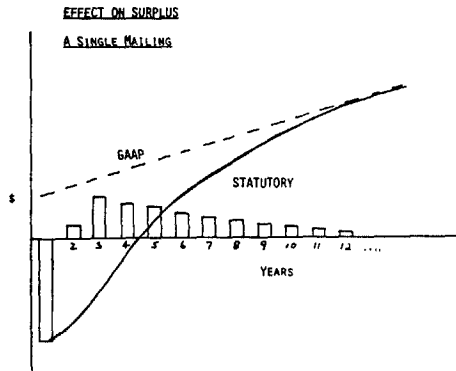


The planning process should also recognize the financial impact on a macro basis. This implies that the statutory profits discounted at 20% will equal \$0. A series of lines can be developed by relating the cost in the mail in dollars per thousand to a response rate. For example, take the statutory profits of the product using a 20% discount rate and do not include the marketing costs. The result is the allowable amount say \$60 in this example. The \$60 divided into \$300 per thousand would indicate a 0.5% response or 5 responses per thousand are required. By examining a series of curves like this and relating them to the response rates the actuary and the marketer can begin to focus on the right combination of variables.

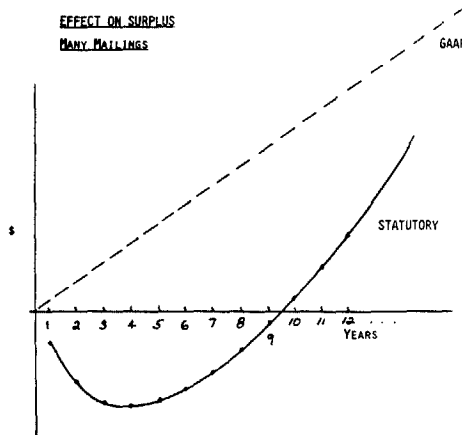
Once the product is designed, the previous graph sets the performance standards. The marketer has the flexibility of designing his creative direct mail pieces or linking together broadcast with direct mail or involving telemarketing all geared to an acquisition cost.

Responses to various programs for the same product are never the same. A combination of approaches may be employed establishing minimum acceptable performances.

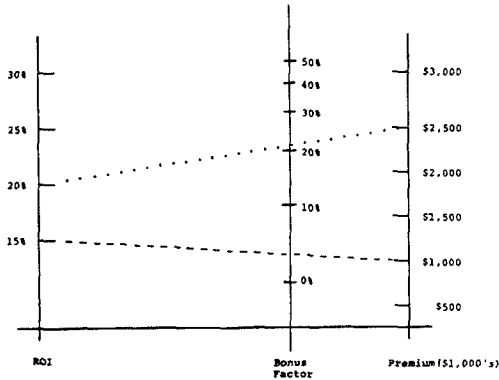
Direct response involves large capital investments as millions of pieces are mailed at a single point in time. For example, the chart below shows the financial impact of a single mailing considered on an annual basis. The performance module must recognize a decrease in earnings created by the new business. The focus cannot be on the statutory or GAAP bottom line because the real performance measure is the acquisition cost, which is only the first step in the long process of the duration of this product.



The following chart shows the long term impact of a continuous mailing program of a constant size. It demonstrates the long term value of the program. GAAP and statutory show different numbers. The key is to identify in the performance modules the essential factors to monitor the progress



Incentives can be directly related to the performance. This chart shows the return on investment objectives and the sales objectives. Recall that we wanted a 20% return on investment and a minimum premium of \$500,000. I have placed the bonus factor as a percentage of salary near the sales chart to put more emphasis on premium.



Note I have the minimums established so that at 15% ROI and \$500 per thousand no bonus is paid. As production is increased a higher bonus is paid. Similarly, as the bonus factor line is moved to the ROI side more emphasis is placed on the ROI.

The key is the linkage between the incentive, the payoff for performance through performance measurement and pricing to the corporate objectives. Maintenance of this clear focus will produce the long term values sought by the company.

MR. TOWNSEND: As evidenced by the previous speakers, management of a company has a tremendous volume of internal data upon which to form profit standards and analyze the earnings of their respective companies. The outside analyst is left with very little data to look at. The depth of data is determined by the generosity of individual company managements in their published reports, and such data is not uniform from company to company.

The statutory convention statement provides aggregate profits and pre-tax profits on a by-line basis. Return on statutory equity is available for the company as a whole, but not on a by-line basis.

With respect to GAAP earnings, publicly-held stock life companies typically report aggregate GAAP earnings, and some companies may provide segmented GAAP earnings in their Annual Report or 10-K. Very few companies provide Page 5 of the convention statement on a GAAP basis. Return on equity is available only for the company as a whole, as in the case with statutory accounting.

If there is one equalizer between all industries, perhaps it is return on equity. After all, what do we do with our personal investments? We may have been eager to invest in money market funds when they were yielding 14% interest, but more hesitant to leave our investment in a money market fund today if it is yielding only 8%. Perhaps we are considering investing at 10% in an 18

month Certificate of Deposit, or at 6% in a short-term, 2-year, tax-free municipal bond. Do we continue as a salaried employee of the ABC Life Insurance Company, or do we open a hot dog stand on the corner of Main and Elm Streets? These business decisions, whether in our personal or corporate lives, are driven by potential return on equity, plus other considerations with respect to risk, etc.

Through 1981, mature ordinary life companies have been achieving returns on shareholder equity on a GAAP basis, in the range of 10% to 13%, with some companies dropping below the 10% level. Companies with a major share of the group business supplement their ordinary life earnings with a tremendous base of group earnings, and are achieving returns on equity in the high teens. Those companies with returns on equity exceeding 20% have established a high level of premium growth in the ordinary life line of business, generally due to the implementation of a successful marketing strategy by a young life company. Thus, on a historical basis, varying levels of return on equity may be merely representative of a company's distribution of business, and its current level of sales success.

If the outside analyst discounts return on equity as a measure of profitability, then he is left with only the company's aggregate earnings to examine. What useful analysis can be made of such a simple measure as aggregate company earnings?

We have to look at both the level of aggregate earnings, and the potential growth of such earnings. One can look at historical growth rates for a given company and superimpose the current industry environment to project future potential growth. However, these may be viewed as silent numbers which fail to grasp the dynamics of earnings growth potential, and fail to analyze whether a company is achieving a high, low or average level of profitability.

Let's look at Townsend's Efficiency Indicators. What are Efficiency Indicators for a life insurance company and what portent do they hold for a company's earnings growth?

In an industry where profit margins do not fluctuate wildly, earnings growth will typically show good correlation with revenue growth. Under GAAP accounting rules for the life insurance industry, profit margins on a block of business are anticipated to be constant if the company's actuarial assumptions are precisely met. Ignoring the accident and health line of business for the moment, it would appear that a company's earnings growth potential in ordinary life insurance should parallel the company's revenue growth potential.

Efficiency Indicator number one is a company's ratio of first year premiums to renewal premiums. The table below shows that a number of aggressive stock life insurance companies have achieved production levels where first year premiums range from 30% to 60% of renewal premiums or higher. A number of less innovative companies report first year premium income less than 15% of renewal premiums.



PREMIUM INCOME  
NEW-TO-RENEWAL PREMIUM RATIOS

National Benefit Life Ins. Co.	54.25%
Federal Kemper Life Assurance Co.	54.14%
American Income Life Ins. Co.	53.64%
American Amicable Life Ins. Co.	53.43%
Security-Connecticut Life Ins. Co.	48.44%
First Colony Life Ins. Co.	47.34%
North American Reassurance Co.	46.56%
American Life Ins. Co. of Delaware	46.32%
North American Co. for Life & Health	44.96%
United Investors Life Ins. Co.	38.78%
Security Life of Denver Ins. Co.	37.17%
Washington National Ins. Co.	34.23%
Allstate Life Ins. Co.	35.89%
Transport Life Ins. Co.	34.31%
Kentucky Central Life Ins. Co.	33.61%
Farmers New World Life Ins. Co.	33.18%
Home Beneficial Life Ins. Co.	32.42%
Philadelphia Life Ins. Co.	32.01%
Old Line Life Ins. Co. of America	31.71%
Great Southern Life Ins. Co.	31.39%

All other things being equal, the company with a higher ratio of new-to-renewal premiums will show a higher rate of total premium growth in future years. Perhaps the most vital sign of a life insurance company and its earnings growth potential is the level of current sales activity relative to the existing volume of insurance in force, measured by premium income.

The table below shows comparable new-to-renewal ratios for the major mutual life insurance companies. In this case, the policyholder dividend function tends to understate the ratio of new-to-renewal premiums, and the more aggressive marketing companies generally have a ratio in the range of 16% to 20%. If policyholder dividends were considered a reduction in premium income, the mutual company ratios might be more comparable to the stock company ratios.

PREMIUM INCOME  
NEW-TO-RENEWAL PREMIUM RATIOS

American Family Life Ins. Co.	27.25%
General American Life Ins. Co.	23.11%
Woodmen of the World Life Ins. Soc.	20.24%
State Farm Life Ins.Co.	19.93%
Knights of Columbus	19.46%
Western & Southern Life Ins. Co.	19.88%
Pacific Mutual Life Ins. Co.	18.90%
Southern Farm Bureau Life Ins. Co.	18.48%
Bankers Life Co. of Iowa	17.67%
Security Benefit Life Ins. Co.	17.66%
USAA Life Ins. Co.	16.94%
Phoenix Mutual Life Ins. Co.	16.59%
Massachusetts Mutual Life Ins. Co.	16.41%
Minnesota Mutual Life Ins. Co.	16.23%
Guardian Life Ins. Co.	16.16%

Aside from revenue growth, earnings growth can be achieved by enhancing one's profit margin. Profit margins may fluctuate from year-to-year depending upon mortality results and morbidity results, but lapses, investment income and expenses have more of a consistent trend impact upon earnings growth.

In a period of increased policy terminations, such as experienced in the last three years, any deterioration in expected lapse levels results in increased amortization charges of previously deferred acquisition costs.

Note that it is the change in expected lapse experience, rather than the level of lapses, which results in a decrease in profit margin. If Company A and Company B offered comparable products with anticipated termination ratios of Linton A and Linton B lapse rates, respectively, the anticipated GAAP profit margin might be very similar for both companies. However, aggregate earnings growth for Company A would be stronger because of the higher premium growth resulting from the lower termination ratio. Thus, if lapse assumptions are precisely met, it is the growth rate in premium income from a company's market that affects earnings growth potential, rather than the profit margin produced by the assumed lapse rate experience.

Profit margins for ordinary life insurance also trend upward or downward with rises or falls in new money investment rates available to the life insurance industry. Again, this should result in a long term trend of rise or fall in a company's profit margin.

A key element is a company's net cashflow position, in which one must weigh the level of funds generated by sales against policy loan and termination activity in a company's renewal book of business. Perhaps this is another reason why Efficiency Indicator number one (the ratio of new-to-renewal premiums) is so important. Companies with a 50% ratio of new-to-renewal business are achieving aggregate portfolio returns exceeding 12%, while companies with a 15% new-to-renewal ratio are achieving portfolio returns of

only 8% as their inflow of new money is consumed by current policyholder benefits and little or no investment of new funds is made at current high money rates.

This brings us to the more controllable area of operating expenses, and their effect upon earnings growth potential. Typically, operating expenses do not fluctuate wildly from year-to-year. Companies are either consistently high, consistently low, consistently average, or show a consistent improvement or a consistent deterioration in their trend of operating expenses. This produces a somewhat predictable outlook for potential changes in profit margins for ordinary life companies, and presents several methods of examining a company's earnings capabilities.

Having touched upon the importance of premium growth, Townsend's Efficiency Indicator number two is a company's marginal expense ratio. That is, the increase in operating expenses divided by the increase in premiums in force over a specified period of time.

While premium growth is an indicator of earnings growth potential, the marginal expense ratio is an indicator of improvement or deterioration in a company's profit margin.

For example, the table below shows that the ten largest stock companies, on each of three different distribution systems, had marginal expense ratios ranging from 32% to 35% of growth in premium income from 1977 to 1981. The fastest growing companies in the industry, from a sales point of view, enjoyed marginal expense ratios which were one-third to one-half the marginal expense ratios of our distribution system composites.

	<u>MARGINAL EXPENSE RATIOS</u>			
	1977-81 1st Year Premiums	<u>Change In Expenses Per</u>		<u>Change In</u>
		<u>Premiums</u>	<u>In Force</u>	<u>SM In Force</u>
Ten Largest B.O. Companies	+34.7%	34.8%	\$1.70	\$60.63
Ten Largest G.A. Companies	+41.8%	32.8%	\$1.12	\$ 2.30
Ten Largest H.S. Companies	+33.7%	33.6%	\$4.73	\$38.56

Give me a company which is outstanding with respect to Efficiency Indicators number one and number two, and I will show you a company which is going through "the sweet part of the earnings curve." By my definition, the sweet part of the earnings curve is when earnings are growing at an exponential rate. There is no substitute for a strong sales department and an efficient administrative system.

The table below shows marginal expense ratios for five different distribution systems in the mutual life insurance industry. From 1977 to 1981, the branch office and combination branch office/general agency systems showed marginal expense ratios ranging from 12% to 15% of the growth in premium income. The message seems to be that the branch office companies may be in for tough sledding in maintaining a competitive balance in the life insurance industry, and some branch office companies have responded within the past year by consolidating or eliminating marginal offices. Some companies are in the process of converting from a branch office distribution system to one which is based more directly upon variable expenses.

	1977-81 1st Year Premiums	MARGINAL EXPENSE RATIOS		
		Change In Expenses Per		Change In
		Premiums	SM In Force	Policies In Force
Five Largest B.O. & N.Y. Cos.	+14.7%	29.1%	\$2.85	HIGH
Five Largest G.A. & N.Y. Cos.	+41.2%	14.5%	\$1.87	HIGH
Five Largest B.O.-G.A. N.Y. Cos.	+22.3%	29.9%	\$4.38	HIGH
Four Largest Fraternal Cos.	+40.4%	14.3%	\$1.68	\$42.35
Four Largest Prop-Cas. Cos.	+41.3%	12.8%	\$1.07	\$44.67

Efficiency Indicator number three is the ratio of first year general expenses to first year premiums. While individual companies may have access to their own numbers to determine acquisition expense ratios, the outside analyst must rely upon such crude methods as assuming, for example, that first year unit expense ratios are ten times renewal unit expense ratios. Using this bold assumption, the following table shows that the ten largest stock companies operating on a general agency distribution system had a first year acquisition expense ratio of 67% of new premiums in 1981, while the ten largest branch office companies experienced an acquisition expense ratio of 101% of first year premiums. A group of 15 aggressive marketing companies experienced acquisition expense ratios ranging from 21% to 46% of first year premiums, while a group of 15 older companies experienced acquisition expense ratios ranging from 120% to 201% of first year premiums. Obviously, the aggressive marketing companies have a built-in expense ratio advantage, and can afford to pay a more competitive commission rate while still maintaining a lower aggregate expense ratio and a higher prospective profit margin, in spite of charging a more competitive premium.

ORDINARY LIFE GENERAL EXPENSE TRENDS

1% to 1 RENEWAL RATIO  
PER \$1 PREMIUM

Executive Life Ins. Co.	21%
American Income Life Ins. Co.	22%
E. F. Hutton Life Ins. Co.	24%
Transport Life Ins. Co.	24%
Security-Connecticut Life Ins. Co.	27%
Federal Kemper Life Assurance Co.	29%
Old Line Life Ins. Co. of America	33%
Farmers New World Life Ins. Co.	37%
United Investors Life Ins. Co.	39%
American Amicable Life Ins. Co.	40%
Horace Mann Life Insurance Co.	41%
Jackson National Life Ins. Co.	41%
First Colony Life Ins. Co.	42%
National Fidelity Life Ins. Co.	45%
Globe Life and Accident Ins. Co.	46%
Ten Largest G.A. Companies	67%
Ten Largest H.S. Companies	100%
Ten Largest B.O. Companies	101%
Lincoln National Life Ins. Co.	120%
Republic National Life Ins. Co.	120%
Aetna Life Ins. Co.	121%
Life Ins. Co. of Virginia	125%
Southwestern Life Ins. Co.	131%
Puritan Life Ins. Co.	138%
Monumental Life Ins. Co.	140%
Travelers Insurance Co.	142%
Colonial Life Ins. Co. of New Jersey	150%
Bankers Life & Casualty Co.	151%
Continental Assurance Co.	154%
United of Omaha Life Ins. Co.	171%
Monarch Life Ins. Co.	196%
Paul Revere Life Ins. Co.	200%
INA Life Ins. Co.	201%

Efficiency Indicator number three suggests that new business will flow to those companies which can achieve a low acquisition expense ratio. In fact, this is what has been happening in the life insurance industry in the last five years. Companies with super-efficient acquisition expense ratios have been undercutting competition on price, offering very competitive commission schedules, and achieved rapid earnings growth in spite of offering consumer-driven products.

The following table shows comparable acquisition expense ratios from 1977 to 1981 for five different distribution systems within the mutual life insurance company industry.

ORDINARY LIFE GENERAL EXPENSE TRENDS  
10 TO 1 RENEWAL RATIO  
PER \$1 PREMIUM

	<u>First Year Expense</u>				
	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>
Five Largest B.O. & N.Y. Cos.	109%	108%	110%	113%	114%
Five Largest G.A. & N.Y. Cos.	57%	56%	58%	58%	59%
Five Largest B.O.-G.A. N.Y. Cos.	100%	99%	98%	103%	108%
Four Largest Fraternal Cos.	76%	67%	70%	74%	73%
Four Largest Prop-Cas. Cos.	42%	41%	41%	44%	47%

Most striking is the difference between the branch office and general agency distribution systems, where in 1981 the general agency composite shows an acquisition expense ratio of 59% of first year premiums compared to 114% for the branch office composite.

Even when first year commissions are included, as shown in the table below, the aggregate acquisition expense ratio (including commissions) was 111% of new premiums in 1981 for the general agency composite compared to 163% of first year premiums for the branch office composite.

ORDINARY LIFE GENERAL EXPENSE TRENDS  
10 TO 1 RENEWAL RATIO  
PER \$1 PREMIUM

	<u>First Year Expense</u>				
	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>
Five Largest B.O. & N.Y. Cos.	156%	155%	158%	160%	163%
Five Largest G.A. & N.Y. Cos.	111%	109%	110%	111%	111%
Five Largest B.O.-G.A. N.Y. Cos.	143%	140%	141%	147%	153%
Four Largest Fraternal Cos.	162%	152%	157%	171%	159%
Four Largest Prop-Cas. Cos.	102%	102%	106%	107%	106%

An interesting exercise, which I recently performed for a major life insurance company in examining their expense levels relative to a peer group of companies, was to determine pre-tax profit margins for ordinary life insurance for the new business and renewal accounts, respectively, net of investment income earned on capital and surplus. As might be expected, companies with a higher investment income element (due to the mix of business) tended to have higher renewal profit margins.

However, perhaps the most important part of the exercise was discovering that companies with the highest acquisition expense ratios tended to have the highest renewal profit margins. In retrospect, this is a natural condition created by actuarial pricing formulas which strive to produce a specific return on equity. If all companies are trying to achieve the same returns on equity, those companies which spend more money to write new business will have

to price their products to achieve higher profits in renewal years to achieve the desired rate of return on investment in new business.

The corollary is that the most efficient companies (companies with the lowest acquisition expense ratios) will have the lowest renewal profit margins.

Companies which can produce new business at low acquisition costs can achieve desired profit objectives with low renewal profit margins.

Companies with low renewal profit margins can price their products on a very competitive basis. As water seeks its own level, new business flows to those companies which can price their products competitively. Companies with low renewal profit margins which are based on low acquisition costs, will attract new business in large volume and generate large aggregate profits (even at low renewal margins).

From a marketing perspective, it is desirable to operate on low renewal profit margins which are made possible by low acquisition expense ratios. Those companies which can compete in the life insurance industry on this basis will increase their respective market shares and generate superior growth.

Analysis of earnings will vary from one line of business to another line of business. The preceding strategies which I have mentioned for analyzing the earnings of ordinary life insurance may have little relevance to other lines of business.

For example, consider the individual annuity line of business. There simply is no uniformity in the mix of business being sold today between the major writers. Some companies operate exclusively through stockbrokers, and others exclusively through life insurance agents. Some companies write almost exclusively single premium deferred annuities, while other companies write mostly annual premium taxsheltered annuities.

The distinguishing competitive factors in the annuity business are the interest rates credited to policyholders, and the load charges assessed against policyholders. Assuming two companies are equal in these respects, the distinguishing factor is the ability to write business on a low expense ratio.

Experience has proven that it is difficult to compare companies of different size in the annuity business. Perhaps the most helpful illustration is in slide number ten, which compares aggregate expense ratios for eight different companies writing a substantial volume of individual annuities. Expense ratios are plotted against premium income, so that the observer can see the effect of increasing premium size upon the lowering of the expense ratio. Even at the same premium volume levels, some companies have been able to obtain a significant expense ratio advantage over competition, and their earnings growth pattern in recent years suggest that the expense advantage is being realized in earnings growth.

The decade of the 1980's is proving to be a period of substantial change for the life insurance industry. A low-risk industry has suddenly become one of higher risks. Except for the most heavily capitalized companies, most companies are subject to the exposure of one or more of five major risks.

First, there is the insurance risk, which may be thought of as the ratio of insurance in force to statutory surplus. Every year we see a number of term insurance specialists seeking to raise additional capital to maintain or to achieve a high financial rating from a major insurance rating organization.

Second, the investment risk now looms larger in the future of many life insurance companies, particularly those smaller companies writing a substantial volume of single premium deferred annuity business. Some companies have policyholder liabilities which exceed thirty times statutory surplus.

A write-down of 3% of such a company's assets would eliminate statutory surplus and the ability of the company to continue to write new business.

Third, there is the new business risk. Some companies have experienced such large increases in new business that they are producing statutory losses rather than statutory gains in their income accounts. Of course, those companies which have enjoyed unusual sales success have usually had little trouble in raising additional capital from investors who would like to share in such sales success. Here the risk may be quantified as the ratio of new premium writings to statutory surplus.

Fourth, many companies are now experiencing the termination risk. Some companies have either spent large sums of money to acquire new business, or have been liberal in deferring acquisition costs under GAAP accounting. Some companies have unamortized acquisition costs on the balance sheet which range from 100% to 150% of shareholders' equity. In a period of rising termination rates, amortization charges have increased significantly and have created sharp decreases in earnings (or losses in some cases) for many companies. Of course, this development relates to GAAP surplus rather than to statutory surplus, which generally benefits from reserve releases upon increased termination levels.

Fifth, we have the financing risk. This has occurred in a few instances where a company declines to raise additional capital by selling common stock, and instead places a debt issue to raise additional surplus for a life insurance company. The mechanics of the Life Insurance Company Income Tax Act are such that one cannot service interest payments and repay principal on a debt issue out of a life insurance company without incurring adverse tax consequences. There is usually a parent company which incurs the debt, places contributed surplus in a subsidiary life company, and attempts to service the debt by withdrawing money from the subsidiary life company. Of course, this is considered a stockholder dividend and may fail to meet the approval of state insurance departments on the one hand, while incurring federal income taxes (a phase three tax) on the other hand.