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A new study of life insurance company expenses

by Andrew S. Cherkas and Arnold A. Dicke

Of the major elements in the pricing of insurance products, expenses are perhaps the most accessible to management seeking improvement in their ability to compete. The hopes held by early devotees of junk bonds or other "modern" strategies for investment earnings advantages have proved elusive. The strategies that proved sound are rapidly adopted by competitors, while those with unforeseen risks charge an appropriate premium. Design gimmicks to improve lapse or mortality experience also have proved disappointing in practice. Companies, more and more, have fallen back on the painful but effective expedient of expense control as the best means to improve or maintain competitiveness. This article describes some new attempts at comparing the expenses of companies as a whole and offers some preliminary interpretation of results.

Despite all the effort toward expense analysis and reduction in recent years, a truly focused attack on the problem has been forestalled by lack of a reliable measure of relative expense levels. Simple annual statement ratios have long been of limited value. A denominator made up of unadjusted premium numbers is so dependent on product mix that it carries no meaning as a base for expenses. Functional studies, such as those carried out by LOMA, are vital for the management of certain operating areas but are too dependent

Continued on page 3 column 3

Alternative minimum tax – The right amount of work

by Ronald M. Wolf

The Alternative Minimum Tax (AMT) has been an issue for the insurance industry since 1987. Significant changes to the AMT are occurring in 1990. Among them is that in determining the new Adjusted Current Earnings (ACE) adjustment, acquisition expenses of life insurance companies are to be capitalized and amortized in accordance with the treatment usually required under GAAP.

AMT will produce additional work for most life companies in 1990. Whether or not additional tax is incurred, the required AMT calculations must be performed. A number of financial actuaries and CFOs are pondering ways to address AMT. They must determine how much and what kind of effort should be expended. A simplified structure for beginning may include the following steps.

- Do a "quick and dirty" rough estimate – Determine whether the new AMT will mean extra taxes for the company.
- Think longer term – If AMT does not affect the company now, it may in the future.
- Gather data/establish approach – Begin now to gather necessary data and establish an approach.

Rough estimate

Not all life companies will incur additional tax in 1990 due to the next AMT; some are more likely than others to be affected. Such affected companies include fast-growing companies (due to acquisition cost or DAC adjustment), small companies (due to the add-back of 75% of the small-company deduction in ACE) and loss carry forward companies (due to the 90% limitation in AMT). A simple formula that may be applied quickly to calculate AMT is as follows:

Continued on page 2 column 2

In this issue:

A new study of life insurance company expenses
Andrew S. Cherkas and Arnold A. Dicke — 1

Alternative minimum tax – The right amount of work
Ronald M. Wolf — 1

Are 1,800 life companies too many?
Edward S. Silins — 5

Pension plans of government contractors
Ronald L. Solomon, Eric H. Shipley, James E. Norris and Patrick E. Ring — 6

Editorial: Now it's the actuary's turn
R. Stephen Radcliffe — 7

Book review: Analysis of inflation
E. J. Moorhead — 9

San Francisco meeting — 9

The complete actuary: Managing the product development process
David S. Lee — 10

The 1991 Census in context of the Canadian statistical system
Edward T. Pryor — 11

Primary writers and reinsurance: Sharing challenges of the 1990s
Thomas M. West — 12

Factuaries — 13

Minority recruiting scholarship recipients
Linda M. Kahn — 14

Letters to Editor — 14

Actucrossword, Actucrostic — 15, 16

	1990	1991	1992
DAC Deferral	$1,000	$1,000	$1,000
DAC Amortization	(800)	(1,500)	(900)
Net	$ 200	$ (500)	$ 100
ACE Factor	×.75	×.75	×.75
ACE Adjustment	$ 150	$(150)	$ 75

AMT cont'd

rable cost by issue year and product line will be necessary. Excess commissions probably will be easier to obtain than other acquisition costs. The amount of deferred costs should be reasonably supported under GAAP rules and practices.

Volume statistics, such as production by issue year and amounts inforce, also will be required. These will be necessary to determine unit costs deferred and/or aggregate unamortized amounts.

Actuarial assumptions should be based on appropriateness at the time of issue; therefore, historical pricing or experience assumptions will be needed. Information as to major changes in experience may be necessary for recoverability and loss recognition, but it is not clear that write-offs of unrecoverable DAC will be permitted in the tax return.

The overall calculation or approach will be one of two major methods – model or seriatim. A seriatim factor-based approach using one's normal valuation system (or a parallel one) is a possibility. A dynamic worksheet or schedule approach, using aggregate dollar amounts by issue year, will involve less work and is more flexible for testing alternatives, as previously suggested. The latter approach requires a model office projection facility, which also should be useful for a number of other financial and corporate purposes.

Reserve issue

The Tax Reform Act of 1986 did not cover the issue of DAC "double counting" in both unamortized DAC and reserve expense allowance. The commentary included in the technical corrections to OBRA contains a paragraph addressing this issue, but its exact direction is unclear. Several possibilities exist.

1) Eliminate tax reserves and substitute GAAP natural reserves for them, perhaps recalculated using tax basis interest rates and zero lapse.

2) Maintain existing tax reserves but make some adjustment to DAC to compensate for the double counting.

3) Do nothing – Use DAC and ignore the double counting.

The first option involves considerable work and probably is not consistent with the bill's original intent. The third option could be detrimental to the company. The second option may prevail by default. The mechanics of obtaining the adjustment also may be facilitated by a model office projection.

Summary

The AMT affects different companies in different ways. However, all companies must comply in a reasonable manner by completing the return. Underpayment of the AMT in the quarterly tax estimates will incur the same penalties as underpayment of the regular tax.

The right amount of work to address AMT should be dictated not only by a rough estimate of immediate AMT tax but also by a longer view of potential future company operations and resulting effects on AMT. The approach by a company now in establishing its AMT tax position will be with the company for some time to come.

An optimal approach requires awareness of the various issues, questions, alternatives and effects of these on the company. Options should be explored via a flexible earnings projection system. Although some companies may make a very rough estimate for filing the first quarterly 1990 tax payment, a supportable job ultimately must be done.

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Company expenses cont'd

on definitions of functions and allocation procedures to provide any indication of the relative position of companies taken as a whole.

The best generally available study of relative expense position is the index-based approach developed by Arthur Pedoe in Canada and brought to the United States by Ardian Gill. This approach applies a formula developed in the 1970s to certain annual statement values (which we call "expense drivers") to provide an index that "works like the CPI." As Gill explains ("Expense Levels of Life Companies [Onward and Downward]," *Best's Insurance Management Reports,* May 15, 1989), "The formula works by 'allowing' a company certain expenses" and developing a ratio of actual to expected. While this approach was reasonably successful in a time of stable product mix, it produced results in the mid-1980s that strained credibility. The formula for allowable expenses had been fixed in the previous decade, and phenomena such as dump-in premium and replacements, not to mention large pension and group lines, caused large swings and a loss of comparability between companies. As a result, current studies of comparative expenses have to allow for these corrupting factors.

For these reasons, we decided to put together a completely new study of life insurance expenses, taking the same global "expense drive" approach as used by Pedoe and Gill, but adjusted to reflect properly the changes that affected the industry in the 1980s.

First, we took a new look at information available from public sources. We applied a combination of regression techniques and pricing factors to undertake a study of comparative expense performance on ordinary life business from published data. Our sample was the top 100 writers of ordinary life business in 1988. Expenses comprised general insurance expenses, direct commissions and taxes, licenses and fees (but not federal income tax).

We overcame inconsistent reporting of dump-ins – many companies include them as first-year premium – by estimating first-year fully commissioned premiums for each company and then treating dump-ins as single premiums. To achieve this we used our 10-year data base of

Continued on page 4 column 1

Company expenses cont'd

annual statements to examine new premium to commission relationships for each company prior to the advent of the dump-in reporting problem.

Another departure from earlier studies was our decision to base the entire study on "fleet" data, i.e., on the consolidated data of all life insurance companies in a controlled group. This overcomes, to a large extent, differing practices of expense allocation among companies in a fleet.

The results of this study were very encouraging. The derived expense factors corresponded well with those commonly used in product pricing.

The results of this study and other research encouraged us to attempt a "private" study, in which we approached a number of large and medium-sized mutual companies. The importance of other lines of business (especially Group A&H and Group Pension) required that the private study include all lines of business, including investment expenses. We collected data that overcame material distortions caused by business mix within product lines and inconsistent reporting, and we used a similar combination of regression techniques and pricing factors. Again we arrived at plausible expense factors. We utilized a total of 28 expense drivers.

The study covered a five-year period, and we developed a separate formula for each year, ensuring that formula expenses equated to total expenses for each period. Recognizing that relative competitive position is the most important measure, we showed a company's results as a trend of competitiveness over time, rather than as a measure of absolute expense performance.

The ordinary life results of the "private study" compared well with estimates made in our study from public data. However, there were a few companies whose more expansive private data yielded different results.

What were our overall conclusions, and where did they differ materially from Gill's?

1. Our studies produced profiles of several companies much at variance with Gill's. Of the 52 companies common to both surveys from published data, 22 differed in rank by more than 10 positions, and eight by more than 20 positions.

2. An analysis of the composition of expense formulas reveals that around two-thirds of ordinary life expenses (including commission) are connected with acquisition of new business. It follows that sales effectiveness is a major determinant of overall comparative expense performance. Both studies support this finding.

3. Perhaps the most interesting result is to compare the results against size. Gill found a weak correlation between size and expense performance. However, our analysis of the data – as shown in the accompanying graph – offers some thought-provoking results. We plotted the median, first quartile and third quartile results for each group of 25 companies ranked by size (e.g., the first quartile line represents the six best actual-to-formula ratio for each size category). While there appeared to be economies of scale between the second 25 companies and the top 25 companies, the opposite appears true for the bottom 75 companies.

One possible explanation is that some of the smaller companies in our sample play in niche markets and/or benefit from a high degree of focus, whereas some of the middle-ranking companies are trying to offer the breadth of services of the largest companies but without the necessary critical mass.

4. The graph demonstrates a very large spread of expense performance – large enough to place many companies of all sizes at a tremendous competitive disadvantage. We have tried to determine whether these differences between companies can be further explained by ownership (stock versus mutual) or distribution system. Our research is still at an early stage, but preliminary findings suggest that a combination of size, ownership, and distribution account for a small proportion of the differences between companies – probably lower than 20%. It should be remembered that certain markets require higher service costs and that the prices charged may occasionally compensate. While this factor may explain some of the variance, the inescapable conclusion is that management effectiveness is largely responsible for the variance in overall expense performance.

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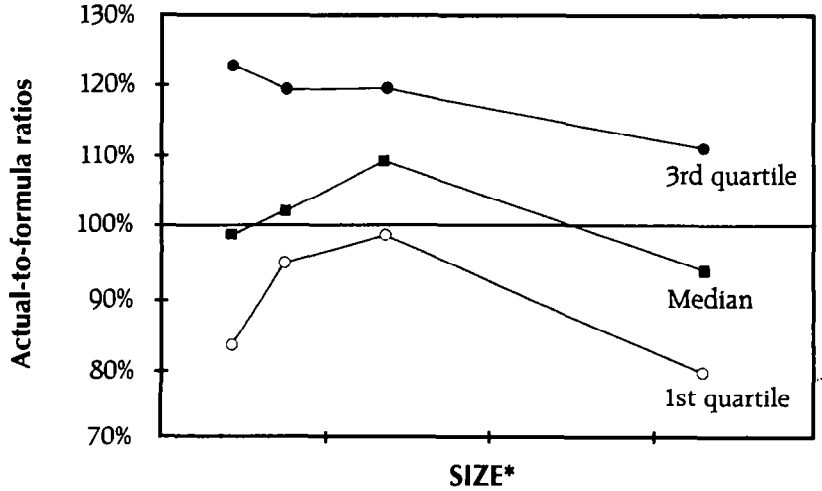
Economies of scale are not uniform...
...and there is much variation in expense performance



**Note: Plot points represent mid-points of 4 size groups each of 25 companies*