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REPORT OF THE DES MOINES ACTUARIES CLUB

by Julie C. Stenlund*

Joint speakers at the February, 1970, meeting of the Actuaries Club of Des Moines were Harold G. Allen, President of The Bankers Life Company, and Geoffrey Smith, President of American Mutual Life Insurance Company. Their topic: "The Actuary as President."

Mr. Allen began by speaking of the actuary as actuary rather than as president. He stressed that an actuary is a key man in an insurance company and that an actuary who enjoys being an actuary shouldn't entertain ideas of being the president. The position of actuary is by no means one of diminution; top management must often come to the actuary for the answers, and the actuary can serve a very useful purpose as a far-reaching adviser.

Often the actuary, with his specialized technical knowledge, enjoys a great advantage over others who may aspire to the presidency of an insurance company. No matter how great the actuary's technical qualifications, though, he must have a feel for personnel matters and be able to work well with people. Mr. Smith remarked that in his opinion the first requirement for an ideal president was the ability to pick talented people to serve beneath him. Often a president must make decisions based not upon his own personal knowledge of a situation, but upon whatever knowledge the people beneath him have presented to him. Mr. Allen added that there was a great deal of frustration in being forced to make a decision before things were wrapped up.

Miss Stenlund is a Student of the Society.

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CAMPUS CONTACT ACTIVITIES

by Samuel P. Adams

Under the wing of the Society's Public Relations Committee, the Subcommittee for Relations with Colleges and Universities is charged with the responsibility for promoting interest in the Society and the actuarial profession among students, faculty and placement officials of colleges and universities in the U. S. and Canada.

The subcommittee, first known as the Subcommittee for the Actuarial Aptitude Test, was originally established in mid-1962 when the test was first published. Its most important role was, and still is, to arrange to have the test personally presented to the appropriate staff members of as many colleges and universities as possible and to urge usage of the test.

This is accomplished by assigning a subcommittee member to each of about a dozen geographical regions of the U. S. and Canada. Each member works with the local actuarial clubs in his territory. Through the efforts of individual club members, presentations of the test are made. The name of each school contacted and of the staff member who agrees to administer the test are reported back for inclusion in a list of such names that the subcommittee maintains.

About two years ago the subcommittee's activities began to broaden and, shortly thereafter, its present more descriptive name was adopted. To promote interest in the profession, subcommittee members encourage actuarial clubs to invite mathematics faculty members to their meetings and arrange on-campus talks by actuaries to groups of interested students. Subcommittee members write personal letters to col-

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COMMENT ON AIFA REPORT ON EARNINGS ADJUSTMENT

by Thomas P. Bowles, Jr.

The Association of Insurance and Financial Analysts released, in December 1969, its "Final Report from the Committee on Life Insurance Earnings Adjustment." In the Foreword the Committee states:

"The problem of adjusting life insurance company earnings is highly complex. This stems from myriad reasons, some of which are:

"(1) Unavailability of precise data.
"(2) Frequent lack of comparability in the data available.

"(3) Lack of agreement within the industry and among accountants as to what adjustments are needed to improve reporting to shareholders as well as to conform with generally accepted accounting principles (GAAP).

"These and other adverse factors have precluded the Committee from devising a simple approach for adjusting life company earnings. In addition, the Committee has also come to realize that the needs of the security analyst in the area of adjusting statutory results may well exceed the requirements of the accountant."

Two Adjustments

The Committee has sought to adhere to a basic principle inherent in generally accepted accounting principles in that expenses should be matched "with income over the anticipated life of an earnings asset." To achieve this, the Committee recommends adjustments for two major items for individual ordinary life and individual annuity business: acquisition expenses and reserves.

The adjustment for acquisition expenses is made by capitalizing and

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amortizing (a) the total first year commissions and (b) certain expense items usually associated with new business; e.g., medical examination fees and cost of inspection reports. These items are taken from Exhibits 1 and 5 of the Convention Blank.

The method of amortization is "relatively straightforward." It was determined by the Committee that there is a correlation between Moorhead's lapse rates and the sum-of-the-digits method of depreciation. Because the latter is familiar to and readily understood by most financial analysts, it was chosen as the most desirable method for amortizing the first year ordinary life, industrial, and individual annuity costs. The selection of the period of amortization is to be determined for each company according to its average lapse experience over the last five years, with lapse rates being computed by the use of the A. M. Best Company lapse formula.

The adjustments required for reserves arise from varying methods and assumptions used for interest and mortality. The Committee states that it "has not been able to find a suitable basis for recomputing life reserves to reflect more realistic mortality assumptions; accordingly, it suggests that the AIFA and other interested parties pursue the topic further." With regard to the method problem, "due to the lack of the necessary information and technique to adjust reserves to a common denominator, the Committee, therefore, has no recommendation to make concerning a reserve method adjustment at this time."

The Committee does, however, make an adjustment for interest. The Committee states:

"The increase in reserves that is charged against income is treated as an expense in accounting terms. Therefore, a clear mismatching of income and expense results when the income (premiums) is calculated on a basis substantially different from the expense. A company that calculates its premiums on a basis that assumes interest will be earned at a rate of 4%, but calculates its reserves on the basis of interest at 3%, will be understating its reported earnings by an amount equal to that part of the actual increase in life in-

surance reserves that would not be needed if it were assumed that reserves will accumulate at 4% interest instead of 3%."

The Committee further states: "If the actual interest rate assumed when the premiums were calculated for each policy presently in force were known, it would be possible to calculate the proper reserve increase to be charged against earnings. Lacking this information, it is necessary to estimate the difference between the statutory increase in reserves and the increase that would be required if assumptions used in calculating the premiums were employed. The Committee believes that this estimation can be made by using a 10 year moving average of each company's average yield on invested assets."

The acquisition expense adjustment on industrial business will be handled together with, and in the same manner as, that proposed for individual ordinary business. The reserve interest adjustment for industrial business is computed in the same manner as that for ordinary.

Group Life, Group Annuities

The Committee recommends that no adjustments be made for group life and group annuities with the exception of group permanent. The Committee states:

"This business carries decidedly heavier first year costs than the regular group (term) business; it represents long term individual contracts which require meaningful life reserves, and it creates an understatement in reported earnings. Several of the major life companies have offered group permanent plans for many years, and a growing number of companies have instituted such plans in recent years.

"It is the Committee's view that an adjustment should be made for group permanent life insurance. Unfortunately, at present none of the companies offering group permanent insurance provides first year commissions and reserve figures on this business separate from the regular group business. Unless such figures are made available, it will not be possible to make an adjustment for group permanent business on the same basis as discussed for individual lines."

Accident and Health

An acquisition expense adjustment is made in a similar manner for noncan-

cellable and guaranteed renewable accident and health insurance, except that only those first year commissions in excess of renewal commissions are to be amortized. To be eligible for an adjustment the lapse ratio (based on premiums) must be less than 19%, the first year commission rate must be at least 1.5 times the renewal commission rate, and this line of business must form a substantial part of a company's operations. An interest adjustment is also made for noncancellable and guaranteed renewable accident and health insurance reserves.

The Committee makes an adjustment in both individual and group accident and health insurance for prepaid acquisition expenses relating to the increase in unearned premium reserves. It points out that this type of adjustment has become widely accepted in fire and casualty insurance accounting.

Participating

Statutory earnings on participating business without charter limitations will be recognized as reported, after deducting dividends to policyholders. Similarly, adjustments to participating earnings not restricted by charter limitations will be calculated in the same manner as for nonparticipating earnings.

All adjustments made are to be taxed at one-half the corporate rate.

To recognize the distortions which might result in the case of a company with a large common stock portfolio with a relatively low income return, the Committee recommends that "large common stockholdings be excluded from the calculation, in the same manner as subsidiary companies, when the company's yield on assets is less than 80% of the average yield on assets of the 75 largest stock life companies."

The Problem

Among actuaries there is no agreement as to what adjustments should be made or how to make a particular adjustment. There does appear, however, to be a consensus that reported statutory earnings do not necessarily reflect true underlying earnings and that price/earnings ratios based on such statutory earnings cannot be compared to the P/E ratios of companies in other industries. The purpose for which adjusted earn-

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A NEW DERIVATION OF THE TABULAR INTEREST FORMULAE

by Richard G. Driskell

In this article, we will derive two troublesome formulae in the Gain and Loss Exhibit of the Statement using techniques developed in Measurement of Mortality. The formulae in question are those for Tabular Interest.

In each case, we will add two different representations of the denominator ("exposure"); one is net units = potential units less cancelled units while the other is net units = possible units less impossible units. For practice, here's how to show $i = 2I / (A + B - I)$. First we disperse entrants (N) and withdrawals (W) to the end points. Then:

- 1) Potential less cancelled is:
 $(A + N/2)$ less $(W/2)$
- 2) Possible less impossible is:
 $(B + W/2)$ less $(I + N/2)$
- 3) Hence, twice the denominator is:
 $A + B - I$; twice the numerator is
 $2I$ and the ratio is as given above.

Let's move on to tabular interest for life insurance. The following assumes deaths at the end of the (calendar) year and other events at the middle of the year. RROT and RROD refer to reserve released on termination and on death respectively.

- 1) Potential less cancelled is:
 $(\text{Reserve last year} + \text{Premium}/2)$
less $(\text{RROT}/2)$
- 2) Possible less impossible is:
 $(\text{Reserve this year} + \text{RROD} + \text{RROT}/2)$ less $(I - C + \text{Premium}/2)$
- 3) Hence, twice the denominator is:
 $\text{Reserve this year} + \text{Reserve last year} + \text{RROD} + C - I$

The rest follows easily.

Now we direct our attention to required interest for life annuities. The fund equation is $\text{Reserve this year} = \text{Reserve last year} + \text{Premium} + I - \text{Pay'ts} + (T - A)$. Assuming mid-year payments we have:

- 1) Potential less cancelled is:
 $(\text{Reserve last year} + \text{Premium}/2)$
less $(\text{Pay'ts}/2)$

- 2) Possible less impossible is:
 $(\text{Reserve this year} + \text{Pay'ts}/2)$
less $(T - A + I + \text{Premium}/2)$.
- 3) Hence, twice the denominator is:
 $\text{Reserve last year} + \text{Reserve this year} - (T - A + I)$.

Of course, $(T - A)$ can now be computed by deducting I from: $(T - A + I) = (\text{Reserve this year} + \text{Pay'ts}) - (\text{Reserve last year} + \text{Premium})$.

The above discussion has yielded no new results but merely was intended to draw upon actuarial theory learned before studying life insurance accounting, viz., exposure formulas, to derive and hopefully help to remember the Annual Statement instruction formulas for Tabular Interest. As a teacher of actuarial science, I feel that the more interrelationships we can discover among the sometimes seemingly disjointed syllabus for the Society's examinations, the more unified and comprehensible we can make the study of actuarial science to the student. \square

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ings are computed might influence the method of obtaining such adjusted earnings. The purpose of the financial analysts is to make recommendations of "buy," "sell" or "hold" based on earnings performance related to the earnings of other life companies and to the earnings of companies in other industries. The analysts make subjective judgments as well as mathematical adjustments.

Many actuaries object to a number of the Committee's proposals. The major criticisms are: (1) the use of the moving average interest rate has been demonstrated to be theoretically deficient, (2) the expense items selected from the Convention Blank are arbitrary and may give misleading results among companies due to different accounting practices, (3) the use of the A. M. Best Company lapse formula for determining the number of years over which to amortize expenses is subject to question, and (4) not recognizing the reserve method in determining the amount of expenses to capitalize and amortize will distort the adjusted earnings considerably. \square

Capitalizing acquisition expenses as defined could result in distorting a company's underlying earnings if more is actually paid for the business than was assumed would be paid. Generally speaking, it would be preferable to capitalize "formula" acquisition expenses in order to relate the expense to the "allowable" provided for in the calculation of gross premiums.

The use of the A. M. Best Company lapse ratio would cause a fast growing company to amortize expenses over a much longer period than may be justified. This is the result of including the insurance issued during the preceding year in the denominator of the lapse ratio formula.

Failure to take into account differences in reserve methods among companies may give rise to a major distortion in the adjustments.

The investment community does recognize the need for a standard, reliable method for adjusting statutory earnings since the investing public (institutional investors, at least) are becoming aware of the fact that reported statutory earnings do not always reflect true underlying earnings of a life insurance company. The complex problem of adjusting life insurance "statutory earnings" has not escaped the notice of actuaries, accountants and the life insurance industry, and various groups have been seeking a "consensus" solution. There appears to be a need for even more cooperation among all interested parties, if the adjustment to reported earnings is to be generally accepted. \square

Campus Contact

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lege and university students who pass either of the Preliminary Examinations encouraging them to give serious thought to actuarial careers.

There are a great many colleges and universities in the U. S. and Canada—far more than the subcommittee will ever be able to reach effectively. Success in this work is dependent on the volunteer activities of many individual actuaries—and the more the better. Any Society member or any actuarial club interesting in helping is invited to contact Russ Smith, Subcommittee Chairman. \square