

PROCEEDINGS

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UNDERWRITING PROFIT FROM INVESTMENTS

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Investment income has long been recognized in making rates for life insurance and perpetual fire insurance. Investment income is also recognized in dividend formulas for group accident and health insurance but, with rare exceptions, no formal recognition of underwriting income from investments has been made in fire and casualty insurance.

Investment income in relation to automobile insurance rates has received widespread attention in the past few years. Recently, a few state insurance commissioners have ruled that investment income should be recognized in ratemaking for automobile insurance, but with no uniformity in method or degree. Some ratemakers have written and spoken recently against recognizing investment income in any degree when making rates for fire and casualty insurance.

In the belief that this is not a question of all or nothing but rather a question of degree, my purpose is to suggest some guidelines on how to measure the portion of investment income that is earned on funds held in trust for policyholders. The suggested guidelines are applied to a number of representative insurers and the results are tabulated in total and for each kind of insurance. My hope is that these suggestions and data will contribute to a better understanding of the problems and possible answers regarding how much underwriting profit is realized from investments.

First, we should put this problem in perspective by discussing the difficulty of matching invested assets and uninvested assets, on the one hand, with the funds (liabilities) held in trust for policyholders, and on the other hand, with the funds (capital and surplus) held in trust for stockholders.

A glance at the liabilities in an insurer's balance sheet discloses some liabilities that appear to be held in trust for the policyholders, such as

unearned premiums and unpaid losses, while others seem clearly to belong to the stockholders, such as capital and surplus. Some liabilities, such as unpaid taxes, are questionable—do they belong to the policyholders or to the stockholders? To further complicate the problem, many analysts of insurance companies, such as Best's and the CPA's, claim that the statutory annual statement does not give a true valuation of an insurer's liabilities and net worth. They talk about "equity in the unearned premium reserve," "deficiencies" or "redundancies" in the unpaid loss reserves, and "non-admitted assets." Some talk about hidden tax liabilities on unrealized capital gains and on the equity in the unearned premiums. So it is not as easy as it may seem at first glance to divide the liabilities, capital, and surplus neatly into two categories: policyholders' funds and stockholders' funds. It is a little like counting eggs in an omelet.

On the asset side of the balance sheet, some assets are invested and earn income, such as stocks and bonds. Others are not invested, such as cash and balances due from agents. Real estate appears to be an invested asset but, when it consists primarily of the offices occupied by the insurer, the income is sometimes not representative of what would be earned from an arm's-length transaction.

In summary, we have a dual problem: first, to determine the amount of the policyholders' funds and the stockholders' funds; and secondly, to match the invested and uninvested assets with the two funds.

To provide a framework for accomplishing our objective I would suggest that we estimate the amount of investment income that would be earned by the insurer if it ceased its insurance business, becoming solely an investment trust, and allocate that amount of investment income to the stockholders' funds and the remainder to the policyholders' funds.

If an insurer became solely an investment trust, virtually all its assets would be invested. Its balances due from agents would disappear entirely and its need for large cash balances to facilitate the heavy flow of premium, loss, and expense transactions would be greatly diminished. Consequently, to be equitable in matching invested assets against stockholders' and policyholders' funds, we should match invested assets first against stockholders' funds and then only the remainder against policyholders' funds.

Also, if an insurer became solely an investment trust, its surplus would increase due to liquidation of the equity in the unearned premium reserve and liquidation of the other non-admitted assets. The non-admitted assets, such as furniture, equipment, and automobiles, and balances due from

unauthorized reinsurers, would no longer be needed for the business of the corporation and would be liquidated. The equity in the unearned premium reserve is actually a form of non-admitted asset. Acquisition expenses and premium taxes are incurred when premiums are put on the books. A corporation subject to generally accepted accounting practices would carry such prepaid expenses as an asset. But insurers, for sound conservative reasons, are not permitted by statute to carry an asset for such prepaid expenses. As a result the insurer's surplus is reduced by the amount of such prepaid expenses. If the insurer let the business run off, the prepaid expenses would flow back into surplus as the unearned premiums become earned. Consequently, in measuring the stockholders' funds, credit should be given for the equity in the unearned premium reserve as well as for other non-admitted assets.

Some would contend that credit should also be given to the stockholders' funds for redundancies (or deficiencies) in loss reserves and for the excess of statutory reserves over the insurer's case basis reserves. In those rare instances where there is conclusive evidence that the insurer's case basis reserves are adequate, credit should be given for the excess of statutory reserves over the case basis reserves. But any evidence of additional redundancies or deficiencies in the loss reserves should be presumed to be inconclusive in the face of the insurer's affirmation that its annual statement is a "full and true" statement.

Another question that must be resolved is what to include in investment income. I advocate that realized capital gains and losses should be included and that unrealized capital gains and losses be excluded.

Realized capital gains and losses on bonds are usually quite deliberate and should be used as an addition or offset to interest income. For example, an insurer may make a practice of buying low yield bonds at a discount. By doing so it deliberately transfers some investment income out of interest income and into capital gains which will be realized at maturity or sale. Capital losses on bonds are often realized when, as happened in 1966, insurers try to take advantage of a decline in bond prices by selling short term bonds at a small loss and buying long term bonds at a large discount. Such a transaction will increase investment income, including realized capital gains, in the future, by far more than the immediate realized capital losses. The inclusion of realized capital gains and losses is therefore necessary to obtain the full story of investment return on bonds.

Similarly with stock, an insurer may make a practice of buying low

yield stocks which retain a large part of their corporate earnings. The retained earnings cause such stocks to grow in value. So the return on such investments is partly dividend income and partly capital gains. When such gains are realized they should therefore be included in investment income. Such realized gains and losses are often carefully timed to offset each other or to offset underwriting gains or losses in order to minimize or stabilize income taxes. Accordingly, the realized capital gains and losses are not usually subject to unreasonable fluctuations as unrealized capital gains and losses are.

Investment return on stock in wholly owned subsidiary insurers is often not representative of the earnings of the subsidiary. Accordingly, a truer picture is obtained by using the consolidated data for an insurer and its subsidiaries. Running-mates should also be consolidated if they pool expenses of premiums.

With this background in mind, the amount of the realized investment income attributable to policyholders' funds would equal the total realized investment income times a fraction. The denominator of the fraction would be the total invested assets. The numerator of the fraction would be the total invested assets less the adjusted capital and surplus. The adjusted capital and surplus would be the capital and surplus (including special surplus funds) plus the equity in the unearned premium reserve, the non-admitted assets, unauthorized reinsurance, any voluntary reserves carried "above the line," and any reserves for dividends declared to stockholders. The equity in the unearned premium reserve would be the acquisition expenses and premium taxes incurred on the unearned premiums, which generally can be computed by multiplying the unearned premiums by the ratio of net acquisition expense and taxes to net written premiums, which can be obtained from the insurance expense exhibit. Invested assets equal the sum of items 1-5, 7, and 14 on page 2 of the annual statement for fire and casualty insurers.

For purposes of dividing investment income between stockholders and policyholders, I believe no deduction should be made from capital and surplus for potential federal taxes on unrealized capital gains or on the equity in the unearned premium reserve. Potential tax liabilities are not held in trust for the policyholders, and furthermore, if the insurer became solely an investment trust, it would retain the use of the unrealized capital gains.

There are possibly other minor adjustments or refinements that could be suggested but I believe the method proposed above is realistic in broad

terms and gives due consideration to the significant factors. Minor refinements calculated out to the n th decimal place are pointless in the face of the large approximations and estimates involved in the reserves for unpaid losses.

A mutual insurer does not have stockholders. All of the funds are held in trust for the policyholders. But we may distinguish between funds held in trust to meet current underwriting obligations to policyholders and funds retained from previous earnings and held in trust for policyholders in their role as owners. Such a distinction of the two roles of policyholders in a mutual insurer permits the same method suggested above for stock insurers to be used for all insurers in determining the portion of investment income attributable to current underwriting operations.

This method will tend to understate the underwriting profit from investments for two reasons. First, realized investment income omits the deferred income accruing in the form of market appreciation of common stocks. Annual increments to such deferred income fluctuate from year to year and are sometimes negative, but in the long run they are on the plus side. Secondly, the reserves for unpaid losses reflect the exposure of some time past. With a rising volume of business the reserves are smaller in relation to current premium volume than they would be with a level volume of business. If the current investment income from loss reserves is related to the current premium volume, the ratio is depressed to the extent of the growth between the date the losses were incurred and the current date. However, in most instances both these influences will be minor in the long run. Any attempt to recognize unrealized income and the effects of premium growth would involve estimates which would be subject to controversy.

The suggested guidelines have been applied to the data reported in the 1966 annual statements and insurance expense exhibits for a number of representative insurers and the results are tabulated below. The total investment income from underwriting, which could also be called the underwriting income from investments, for each company has been allocated to each kind of insurance in proportion first to unpaid losses, and then any remainder in proportion to unearned premium.

Funds for unpaid losses are more available for investment than funds for unearned premiums. Large portions of the funds for unearned premiums are tied up in balances due from agents and in prepaid acquisition expenses, neither of which are available for investment by the insurer.

Accordingly the invested assets in excess of the adjusted capital and surplus were allocated by line of insurance first in proportion to unpaid losses and unpaid loss adjustment expenses and then any remainder in proportion to unearned premiums. The underwriting income from investments was then allocated in the same proportion.

Similar results are obtained whether the computations use only year-end data or use the average of the figures at the beginning and the end of the year. Accordingly, to simplify the computations, only the year-end data was used.

The ratemaking procedures for many property and casualty lines of insurance make various provisions for expected underwriting profit. The actual underwriting profit is usually different from the expected. The actual underwriting profit from investments, shown below, should not be added to the expected underwriting profit margin in the rates as an estimate of the total underwriting profit. Rather, the actual underwriting profit from investments should be combined with the actual other underwriting profit or loss to obtain the total actual underwriting profit or loss. A complete analysis of actual underwriting profit or loss should also recognize dividends to policyholders.

TABLE 1

Underwriting Profit from Investments as a Percent of Earned Premiums *

	State Farm	Allstate	Aetna Casualty	Travelers	INA	Liberty Mutual	Detroit Auto	Michigan Mutual	Total 8 Groups
Fire, EC & Allied Lines	3.3%	2.7%	1.8%	2.0%	2.0%	2.2%		1.6%	2.2%
Homeowners	3.2	2.3	1.7	1.9	2.1	2.3		1.7	2.3
Commercial Multiple Peril	2.9	2.9	1.8	2.1	2.0	3.0		2.8	2.1
Accident & Health	1.0	1.8	1.3	-	2.6	1.3		1.1	1.9
Workmen's Compensation	5.1	3.9	3.5	5.4	4.8	3.9		4.0	4.3
Liability Other than Auto	3.4	3.6	4.4	5.8	6.2	6.8		6.9	5.6
Auto Liability	3.7	4.9	3.1	3.9	4.0	3.8	2.6	4.0	4.0
Auto physical damage	1.4	1.3	0.7	0.7	1.0	0.8	0.9	0.9	1.1
All Other	2.8	1.9	2.1	3.0	2.8	3.3		3.2	2.7
Total	2.9	3.6	2.7	3.6	3.1	3.5	2.1	4.0	3.2

* The data shown in these exhibits are the consolidated data for the groups of insurers listed below:

State Farm Mutual and State Farm Fire and Casualty
 Allstate and Allstate Fire
 Aetna Casualty & Surety and Standard Fire
 Travelers Indemnity, Travelers Insurance (Accident Department) and Charter Oak Fire
 Insurance Company of North America
 Liberty Mutual and Liberty Mutual Fire
 Detroit Automobile Inter-Insurance Exchange and Motor State
 Michigan Mutual Liability

TABLE 2

Underwriting Profit from Investments *
(000 omitted)

	State Farm	Allstate	Aetna Casualty	Travelers	INA	Liberty Mutual	Detroit Auto	Michigan Mutual
Invested Assets	1,285,441	1,246,178	1,116,064	1,195,066	1,448,093	1,027,267	107,227	96,278
Unpaid Losses and Loss Expense	473,281	505,364	519,763	598,065	449,947	525,604	52,434	75,133
Unearned Premium	363,624	462,115	338,393	400,841	435,595	164,956	47,267	21,344
Capital and Surplus + Vol. Res. + Res. for stockholders' dividends	447,433	412,057	391,637	345,167	762,165	385,104	29,494	13,941
Acquisition Expense and Tax Ratio	17.4%	20.4%	22.7%	25.7%	24.2%	11.2%	12.2%	10.7%
Non-admitted Assets + Equity in Unearned Premium	72,495	113,403	93,406	142,273	140,254	24,530	5,767	2,763
Adjusted Surplus (4)+(6)	519,928	525,460	485,043	487,440	902,419	409,634	35,261	16,704
Fraction $\frac{(1)-(7)}{(4)+(6)}$ + (1)	59.6%	57.8%	56.5%	59.2%	37.7%	60.1%	67.1%	82.7%
Net Investment Gain	51,783	52,016	35,947	48,148	50,765	32,953	2,673	3,450
Und. Profit from Invest. (8)x(9)	30,863	30,065	20,310	28,504	19,138	19,802	1,794	2,853
Proportion of Unpaid Losses & L.E.	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Proportion of Unearned Premium	80.4%	46.6%	32.9%	27.3%	22.0%	55.8%	41.3%	20.8%
Earned Premium	1,049,319	832,975	760,367	795,185	617,412	567,658	87,471	71,930
Ratio (10)+(13)	2.9%	3.6%	2.7%	3.6%	3.1%	3.5%	2.1%	4.0%

* See footnote on previous exhibit