TEACHING THE ANALYSIS OF FINANCIAL STATEMENTS

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The student with a thorough understanding of the financial statement of an insurance company has a good foundation of knowledge of the entire field. In fact, it is no exaggeration to say that one interested in insurance as a career who can not interpret an insurance financial statement, has some glaring gaps in his education. Therefore, this analysis should play a leading part in any advanced course in insurance. Many teachers use the financial statement as a background for areas other than insurance accounting, e.g., regulation, investment practices, and agency problems.

This discussion will be limited to financial statements of property insurance companies. Many of the procedures and techniques developed here are applicable, however, to life insurance company statements.

In teaching this topic, most emphasis is placed on use of the Annual Report to Stockholders. These are available in sufficient numbers to permit each student the use of a copy. Such reports also contain explanatory and supplementary information which is helpful in understanding the operations of the company. Analysis of a particular company increases interest in the topic. The Annual Statement filed with the insurance departments is examined and is used to supplement the Annual Report.

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It is recommended that this portion of a property insurance course be preceded by a study of introductory material on basic principles, contracts, and rate making. It is also presumed that the student will have had a basic course in accounting.

Nature and Purpose of Annual Statement

In order to have a better understanding of the Annual Statement (upon which the Report to Stockholders is based), it is desirable to review briefly the historical development of the present form used. This is followed with a rapid survey of the material contained in the Annual Statement with an explanation of the purpose for which the information is needed.

The balance sheet is analyzed before the statement of income. However, before either is studied, it is usually desirable to review briefly the basic factors pertinent to these accounting devices. Particular emphasis is placed upon the static nature of the balance sheet as against the dynamic picture portrayed by the statement of income. Care must be taken to show that the balance sheet records the company's condition as of December 31st.

Balance Sheet

Assets

Even a beginning accounting student will notice important differences between an insurance company balance sheet and that of a manufacturing or mercantile firm. This requires an explanation of admitted versus non-admitted assets. At this point, some time might be spent explaining the investment-trust nature of a property insurance company.

The discussion of assets first centers on the factors influencing the nature of the assets found in the balance sheet of an insurance company. Important determinants here are the legal restrictions placed upon the company's investment practices. The influence of the type of business operations upon investments makes an interesting discussion. Here the students learn of mutual company practices in contrast with those of stocks, fire versus casualty and multiple-line companies, and the large and small company variations. It is also profitable to have students compare property insurance investments with those made in the life field. If time permits, the class may pursue the historical trends of investment practices through various periods. It is here that attention should be drawn to the effect upon surplus of a company heavily invested in common stocks, when the market takes a sharp drop. This leads to the important discussion of asset valuation.

Liabilities

Prior to analyzing any one of the liabilities on the statement, it has been found desirable to point out that there are no specific assets allocated to offset corresponding liability items. While it is true that certain laws state that a stipulated percentage of capital and surplus and another proportion of premium and loss reserves must be invested in a restricted list of securities, no one asset can be said to buttress any specific liability.

One of the largest items on the liability side of the ledger is the *unearned premium reserve.* Some of the factors to emphasize here are: the purpose of these reserves, the method of calculation, the variation in these reserves between fire and casualty companies (which stem primarily from the relative use of term premiums), and the redundant nature of these reserves since the law does not give credit for pre-paid expenses.

Loss reserves are often listed on the balance sheet apart from the loss adjustment expense reserve. If not, then the dual nature of this item must be made clear. Here again it is necessary to bring out the purpose of this reserve, the alternative methods of calculation (the annual report frequently states which method is used by the company reporting), the differences in these reserves found in fire and casualty companies and reasons for these differences. At this point the teacher might supplement the discussion of loss reserves by refering to Schedules O and P in the Annual Statements. The use of Schedules P-Part 5, 5A, and 5B can be utilized to demonstrate the relative conservative nature of the company's reserve practices. The incurred-but-not-reported loss reserve must be mentioned briefly.

Students with some accounting background will be familiar with the minor liability reserve items, such as the reserves for dividends and taxes. Consequently, these need little more than mentioning. If discriminatory taxes, such as the premium tax, were not studied under regulation earlier in the course, they can be the source of a lively discussion.

The capital and surplus items will also be familiar, but it is well to emphasize the fluctuating nature of the surplus. Allocated surplus items, designated "voluntary reserves" or "reserves for contingencies," also need to be explained. The extremely large amounts of surplus found in some long-established property insurance companies may be new to the students and since these amounts have also been subject to criticism at times, it is well to clarify that these represent profits withheld over long periods of time. The increased security which these provide the policy holder should be evident. And since policy holders' surplus is a frequently used terms, in both annual reports and company comparisons, its discussion can cap the analysis of the balance sheet.

Statement of Income

By having the study of the statement of income follow that of the balance sheet, relatively little time need be allocated for this portion of the report, since the student is now familiar with the concepts and terminology.

Some time, however, must be spent in explaining the difference between earned and written premiums, and the relation to changes in the unearned premium reserve. This may be in the nature of a review if rate making has been studied previously. The various claims and expense items are familiar to the student by this time and can be covered quickly. It is of great interest to discuss the underwriting experience of the industry in the various lines during the past decade or so. It is also necessary to point out that any conclusions to be drawn from a company's underwriting experience must be based upon the experience of several years, and not that of one year alone. Considerable time should be devoted to clarifying the difference between statutory and true underwriting profit or loss. Roger Kenney's book *Fundamentals of Fire and Casualty Insurance Strength* is helpful here. Students seem to learn this aspect of the course best by working out problems in this area. Problems from old C.P.C.U. examinations can be used, or better yet, the teacher can devise problems from annual reports being studied.

The importance of investment income and the stability of this source of income in contrast to that of underwriting is brought out in most recent annual reports. The fact that stock companies follow a practice of paying stockholders' dividends from investment income alone should be made clear.

The controversial issue of Federal income taxes as applied to property insurance companies has been the topic of recent congressional debates. If the students are not familiar with this issue, it is pertinent here. The statement of capital and surplus is self-explanatory.

In addition to the problems on underwriting profit, it has been found helpful to work out the changes which take place in the balance sheet of an imaginary new company as a consequence of certain assumed underwriting experiences. If the asset and liability totals equal 100, it is easy for students to understand the relative percentages of each, as well as the totals. The actual figures used will vary greatly, depending upon whether the model used is a fire or a casualty company. The model used here is a multiple-line company.

A simplified balance sheet (see accompanying table) is used with bonds and stocks of equal amounts of $45 each. At the outset there is no premium balance and cash is $3 with real estate at $2 and miscellaneous assets at $5. As changes occur in operations, it is assumed for simplicity that the only assets that fluctuate are the premium balance and cash. The beginning balance sheet shows no amounts in the reserve items, with surplus as the dominate factor.

Period 1—During the first period it is assumed that $50 in premiums are written on one-year policies. Of this $50, $10 are incurred for acquisition expenses and $10 for all other expenses. It is assumed that all expenses on the policies are incurred and paid during the year in which they are written. A 60 per cent loss ratio is assumed and with $25 earned premium (since all policies written are on a one-year basis), the losses and loss expenses total $15. Of this, it is assumed that 2/3 or $10 are paid and $5 are set up in reserve. The amount set aside for unearned premiums is $25. This period's experience indicates that $50 in premiums were written and only $30 were paid out, leaving an increase in assets of $20. However, expenses of

$20 ($10 for acquisition expenses and $10 for other expenses), losses of $15 ($10 in losses paid and $5 in loss reserve), and $25 for unearned premium reserve indicates an operating deficit of $10 for the period. The new balance sheet reflects these changes, with surplus reduced by $10.

Period 2A—It is assumed that no premiums are written during the second period. This serves to illustrate the equity built up in the unearned premium reserve. Of the $25 in UPR (unearned premium reserve), 60 per cent or $15 is needed to pay losses. Since it is assumed that all expenses were incurred and paid during the period when the policy was written, there is a balance of $10 which is returned to surplus. The $5 in the loss reserve is paid out during this period. This leaves the balance sheet at the end of the second year as it was when the company first began operations. A profitless operation is assumed. Many companies today would consider this to be a desirable state of affairs!

Period 2B—During this period (these are not consecutive chronological periods), it is assumed that during the second year of the company's existence premium writings were increased to $100, all in one-year policies. The same percentage assumptions as to expenses and losses are used during this period. This results in $20 incurred for acquisition expenses, $20 for other expenses, $30 for losses (only $20 of which is paid, $10 held in reserve), and $50 must go into the UPR. This means that $100 in premiums were written and only $60 were paid out, so there is a net increase in assets of $40. This net increase must be emphasized, because although new business was written, there were loss payments during this year resulting from the previous year's writings. This is portrayed in Period 2A. But while assets increase $40 during the period, there is a statutory deficit of $20. These changes are shown in the balance sheet under Period 2B. Here surplus is reduced $20 from the original balance sheet and $10 from that of Period 1.

Period 3C—This period assumes that $100 in premiums are written, all for 5-year policies. Following the previous assumptions, there is an acquisition expense item of $20, $20 for other expenses, $6 in losses (60 per cent of earned premiums of $10, of which $4 is paid out and $2 goes into the loss reserve), and $90 goes into the UPR. This results in $100 being written and $44 being paid out, with an increase in assets of $56. However, the statutory deficit is $36, (this is greater than in Period 2B even though the amount of the premium is the same, since these premiums are 5-year, rather than 1-year premiums).

It can easily be shown that a larger amount of written premiums, especially if in term policies, will result in a still faster drain on the surplus. The student should be able to see that surplus may act as a limitation on the volume and type of premiums written. The fact that this drain on surplus is eased when premium writings level off, should also be understood.

This sequence of periods demonstrates that an insurance company, in contrast with other types of business firms, can have a drain on surplus even with profitable operations. Other factors which the demonstration should show are that although the assets are increasing with the new premium writings, this may not be a profitable operation since the liabilities are also increasing at an even more rapid pace. But the drain on surplus is not indicative of an underwriting loss, because of the equity built up in the unearned premium reserve. The student should also have a clearer understanding of the purpose of unearned premium and loss reserves after such a demonstration.

TABLE 1

BALANCE SHEET

	Time Period				
	Beginning of 1st Prd.	*End of Prd. 1*	*End of Prd. 2A*	*End of Prd. 2B*	*End of Prd. 2C*
Bonds	$ 45	$ 45	$ 45	$ 45	$ 45
Stocks	45	45	45	45	45
Prem. Balance	0	5	0	5	10
Cash	3	18	3	38	49
Misc.	7	7	2	7	7
Total	$100	$120	$100	$140	$156

	Time Period				
	Beginning of 1st Prd.	*End of Prd. 1*	*End of Prd. 2A*	*End of Prd. 2B*	*End of Prd. 2C*
Unearned Prem. Res.	$ 0	$ 25	$ 0	$ 50	$ 90
Loss Reserve	0	5	0	10	2
Misc. Liab.	3	3	3	3	3
Capital	2	2	2	2	2
Surplus	95	85	95	75	59
Total	$100	$120	$100	$140	$156

Transactions During Prd. 1

Assume $50 premiums written, all one-year policies.

Expenditures:

$10 acquisition expenses—paid
10 other expenses—paid (assume all expenses paid immediately)
15 losses—⅔ paid (assume 60% LR) $5 in LR
25 Unearned Prem. Res. (UPR)

$60 ($10 deficit)

$50 in premiums written, $30 paid out, increase in assets of $20 at end of year.

Unearned premium res. increased $25, loss res. increased $5 and surplus decreased $10.

Transactions During Prd. 2A

Assume no new premiums written.

Expenditures:

$25 in UPR becomes earned, 60% ($15) paid for losses and since all expenses previously paid, $10 is returned to surplus.
$ 5 in loss reserve paid out.

$5 in premium balance is collected and that along with $15 in cash is used to meet above expenditures of $20.

Transactions During Prd. 2B

Assume $100 premiums written, all one-year policies.

Expenditures:

$20 acquisition expenses—paid
20 other expenses—paid
30 losses—⅔ paid
50 UPR

$120 ($20 deficit)

$100 in premiums written, $60 paid out, increase in assets of $40 at end of year.

Unearned premium res. increased $25 (over prd. 1), loss res. increased $5 (over prd. 1), and surplus decreased $10 (over prd. 1).

Transactions During Prd. 2C

Assume $100 premiums written, all five-year policies.

Expenditures:

$20 acquisition expense—paid
20 other expenses—paid
6 losses—⅔ paid
90 UPR

$136 ($36 deficit)

$100 in premiums written, $44 paid out, increase in assets of $56 at end of year.

Unearned premium res. increased $65 (over prd. 1), loss res. decreased $3 (over prd. 1) and surplus decreased $26 (over prd. 1).