

INSURANCE COMPANY FINANCE AND INVESTMENTS (113-1)

[Finance is the science of managing funds.

***Financial services** is the field of finance that produces and delivers financial products.*

***Managerial finance** is the stewardship of a business's financial affairs by **financial managers**.*

*Managerial finance uses **marginal analysis**, an economic technique that weighs the costs and benefits of different projects within the relevant quantity range.*

*A **chief financial officer (CFO)** bears a business's accounting and financial responsibilities.*

***Financial intermediation** occurs when a business offers its surplus funds to others.*

*Insurers, banks, stock brokerages, and pension funds are **financial intermediaries**.*

*Unlike other financial intermediaries, P+L insurers do **not** pay interest for using policyholders' funds.*

*Insurers do **not** pay an explicit rate of interest because, unlike banks and savings and loan associations, insurers historically have **not** paid interest to policyholders and are therefore **not** expected to do so now.*

*Even more significantly, insurers do not pay an explicit rate of interest to policyholders because the insurer owns those aggregated funds, **not** the individual policyholders.]*

EO 1. THE FUNDAMENTAL FINANCIAL MANAGEMENT DECISIONS FOR ANY CORPORATION:

Short-term financial management decisions concern managing working capital.

Long-term decisions concern the amounts and kinds of financing to get.

All businesses work toward two objectives:

1. Profit maximization--to maximize a firm's overall profits.
2. Wealth maximization--to maximize a firm's stocks' market values.

[Portfolio investment decisions concern a group of assets rather than a single asset.]

EO 2. *[Legal definitions of insurance list activities that qualify as insurance (and are therefore subject to regulations, statutes, and common law).*

*In general, **insurance** transfers risks to insurers and distributes losses among their policyholders.]*

INSURERS USE THREE FORMS OF LEGAL ORGANIZATION:

1. Stock insurer--is a corporation owned by stockholders and run by a stockholder-elected board of directors. The board of directors appoints executive officers, who then hire other employees. Stockholders share operating gains and losses through cash dividends and changes in stock values. Stock insurers account for seventy five percent of all P+L business written by US private insurers.
2. Mutual insurer--is a corporation owned by its policyholders and run by a policyholder-elected board of directors.
Assessment mutuals charge policyholders for losses and expenses *after* they have been incurred. Advance premium mutuals can *not* assess policyholders for losses and expenses. Some advance premium mutuals charge an inflated premium and regularly return the unused portion as dividends; others set premiums close to projected costs and rarely issue dividends. Advance premium mutuals account for twenty-five percent of all P+L business and almost fifty percent of all life insurance in the US.
3. Reciprocal exchange--is an unincorporated association in which each subscriber insures and is insured by all of the other subscribers in the exchange. An attorney-in-fact administers the reciprocal and sells insurance to new subscribers. The attorney-in-fact of large reciprocals is usually a corporation. Pure reciprocals keep individual surplus accounts and assess additional premiums as needed, but modified reciprocals act like advance premium mutuals. Reciprocals write a small share of all P+L business and no life insurance in the US.

EO 3. **FINANCIAL MANAGEMENT OF INSURERS COMPARED WITH THAT OF OTHER BUSINESSES:**

1. **Maximization of wealth**--Insurers must subordinate the maximization of wealth objective to state and federal insurance regulations and to policyholders' interests.
Wealth maximization is generally assumed to be a business's primary objective.
2. **Financial statements**--Insurers' balance sheets differ from those of other businesses.
Under "assets", insurers have many current assets and few fixed assets.
Most insurer assets are stocks and bonds, which, while generating investment income, maintain liquidity and avoid some income tax.
Under "liabilities", insurers have many reserves and little or no financial debt.
An insurer's **equity** (total admitted assets minus total liabilities) is called its **policyholders' surplus** or, for stock insurers, its **capital and surplus**.
Insurers maintain two risk portfolios:
 - a. **the underwriting portfolio**--consists of insurance contracts *and*
 - b. **the investment portfolio**--consists of securities, mainly stocks and bonds.
Both must comply with strict insurance regulatory requirements.
3. **Accounting principles**--Insurers use statutory accounting principles (**SAP**) while other businesses use generally accepted accounting principles (**GAAP**).
SAP require and allow insurers to list only **admitted assets** (those which can be readily converted into cash) on the balance sheet and to value bonds at **amortized cost** (which gradually adjusts values from cost to maturity value) rather than at **market value** (current value).
Nonadmitted assets (those that can *not* be readily converted into cash) are left off the SAP balance sheet entirely.
SAP charges expenses on a cash basis and premium income on an accrual basis to more conservatively estimate insurer solvency.
The insurance exposure (the premiums to surplus ratio) indicates the susceptibility of policyholders' surplus to underwriting risk.
SAP understate the profits of a growing insurer and overstate the profits of a declining insurer.
4. **Financial leverage**--describes use of funds obtained at fixed interest.
It is the debt to equity ratio.
Most businesses' financial leverage consists of long-term debt.
Insurers' financial leverage is called **insurance leverage**, measured as the reserves to surplus ratio.
Property and liability (**P+L**) insurance reserves include the unearned premium reserve and the loss and loss adjustment expense reserves.
Life insurance reserves consist mainly of the aggregate of **policy reserves** (the unearned premium reserves, generated during the early years of level-premium life policies).
5. **Capital structure**--describes the forms of permanent financing used by a firm to raise capital.
Insurers are required to maintain the reserves listed in #4 preceding. They represent a form of permanent financing. Most other businesses use long-term debt and preferred stock.

EO 4. **COMMON APPROACHES TO MEASURING AN INSURER'S CAPACITY:**

The capacity ratio describes the degree to which an insurer can issue new policies.

An insurer's capacity is determined by the amount of capital it can commit to underwriting its loss portfolio.

Both SAP and conservative management practices decrease insurance capacity.

1. **Kenney rules**--The noted authority, Roger Kenney, stated that property (fire) insurers should maintain a policyholders' surplus to unearned premium reserve ratio of at least 1:1.
Kenney stated that liability (casualty) insurers should maintain a premiums written to policyholders' surplus ratio of no more than 2:1.
These two ratios are known as **the fire ratio** and **the casualty ratio**.

2. **Cover ratios**--are used by US surplus lines groups to study an insurer's financial condition. One cover ratio states that loss reserves plus policyholders' surplus should equal at least 2.5 times premiums written.
A second cover ratio, used in workers' compensation insurance, requires a loss reserves to premiums written ratio of at least 1:1.
A third cover ratio requires an admitted assets to net premiums written ratio of at least 1.25:1.

(Net premiums written equals gross premiums written minus ceded reinsurance premiums.)

EO 5. **THE IMPORTANCE OF LIQUIDITY:**

Liquidity describes an entity's ability to meet its financial obligations as they come due.

Poor liquidity causes investment losses when the insurer must sell assets prematurely to cover claims.

[Liquidity (of an asset) describes how easily that asset can be converted to cash within a small price range and within a short time period.]

TO DETERMINE BALANCE SHEET LIQUIDITY: The liquidity ratio equals (cash + invested assets at market value) / (unearned premium reserves + loss and loss adjustment reserves).

An insurer's liquidity ratio should be at least 1.00.

Insurers should also analyze their cash flows to identify alternative sources of funds.

EOs 6 - 8. **METHODS OF EXPRESSING PROFITABILITY:**

- A. **COMBINED RATIO**--summarizes the insurer's underwriting results during an accounting period and compares profitability among different lines of insurance and among different insurers.

The combined ratio equals the loss ratio plus the expense ratio. **Calculation:**

1. **Preliminary calculations**--[See Exhibit 1-12.]

Determine the

- a. **net premiums written**--equals total premiums written but not ceded during the year,
- b. **premiums earned**--equals net premiums written + the unearned premium reserve at the end of the previous year - the unearned premium reserve at the end of the current year,
- c. **incurred losses**--equals loss payments for the year + the unpaid loss reserve at the end of the current year - the unpaid loss reserve at the end of the previous year,
- d. **loss adjustment expenses**--equals expenses incurred to settle losses, *and*
- e. **other underwriting expenses**--includes inspection, commission, policy issuance, and audit expenses.

2. **Calculate the loss ratio:** The loss ratio indicates the quality of the business written and the adequacy of premiums.

The pure loss ratio equals (incurred losses / earned premiums) X 100%.

The net loss ratio adjusts the pure loss ratio for loss adjustment expenses.

The net loss ratio equals [(incurred losses + loss adjustment expenses) / earned premiums] X 100%.

3. **Calculate the expense ratio**--The expense ratio measures operating efficiency by showing the relationship between underwriting expenses and premiums.

The trade basis expense ratio equals (expenses incurred / *written* premiums) X 100%.

The financial, or statutory, basis expense ratio equals (expenses incurred / *earned* premiums) X 100%.

In both cases, "**expenses incurred**" is the sum of the expenses shown in the NAIC Annual Statement, Underwriting and Investment Exhibit, Part 4, Other Underwriting Expenses.

The trade basis expense ratio is based on the rationale that acquisition costs are a function of written premiums and that they must be expensed as incurred to comply with SAP.

4. **Calculate the combined ratio--**

The trade basis combined ratio equals the loss ratio (the net loss ratio, *not* the pure loss ratio) plus the expense ratio (on a trade basis).

The financial, or statutory, basis combined ratio equals the loss ratio (again, the net loss ratio) plus the expense ratio (on a financial basis).

The underwriting profit margin equals 100% minus the combined ratio.

B. **PROFIT RATIOS--are used to analyze P+L insurer profitability.**

1. **Underwriting profit ratio**--shows profits in relation to revenues (earned premiums).

The underwriting profit ratio aka the underwriting profit margin = 1 - either combined ratio.

2. **Insurance operating profit ratio**--is the underwriting profit ratio adjusted to include investment income.

The insurance operating profit ratio = underwriting profit ratio + [(policyholder supplied funds X net yield on nonstock investments) / earned premiums].

3. **Return on invested funds ratios--**

The investment earnings ratio (*net* investment income / average admitted assets) shows profits in relation to investments.

The investment profit ratio (*total* investment profit or loss / average admitted assets) gives a broader rate of return.

The return on net worth ratio (net profit / policyholders' surplus) shows profits in relation to net worth.

The adjusted return on net worth ratio adjusts SAP data to conform to GAAP and then recomputes the ratio. Consider the degree of insurance exposure and the proportion of assets invested in common stock when analyzing an insurer's investment operations.

4. **Earnings per share (EPS)**--shows profits in relation to the number of shares of common stock outstanding.

EPS = net income available to common stockholders / weighted average number of common shares outstanding during the accounting period.

Other helpful share-related profit ratios:

a. **Dividends per share** equals (annual dividends paid on common stock / number of common shares outstanding).

b. **Statutory unassigned surplus per share** equals (unassigned surplus / number of common shares outstanding), which calculates the maximum amount of accumulated earnings available for distribution.

[Insurers generally separate investment income from underwriting income since investment income should belong to the insurer, not the policyholders.

Political and regulatory pressure has forced insurers in many jurisdictions to include investment income in ratemaking.

Statutory income statements include both

1. *net investment income earned and*

2. ***net realized capital gains and losses*** (from securities sales at greater or less than their statutory values).

*A high degree of **insurance exposure** (premium to surplus ratio) coupled with a high proportion of assets invested in common stock is financially dangerous.*

Interpret financial ratios carefully because they are only meaningful when considered in conjunction with industry norms and with the insurer's prior and forecasted ratio values.]