

Car 932, Where Are You?

BEFORE THERE WERE STATE-RUN LOTTERIES, the popular form of penny gambling was called “policy.” The lure was that low-income individuals might get lucky on a small bet and be able to pay off a debt. Unlike the lottery, policy writers made the game convenient by socializing throughout their territory. The winning number might be tied to the last three digits of the number of shares traded on the New York Stock Exchange, but later was tied to Totalizer results released with the “Daily Racing Form.” This allowed for seven-day action, as the NYSE was closed on Sundays but open on Saturday. Fittingly, the Totalizer company was owned by Marjorie Merriweather Post, wife of E.F. Hutton.

Policy racketeers could be remarkably sophisticated in managing their risks. On any given day they might not have collected enough to pay off a winning slip, so they had to maintain reserves. The distribution of wagers wasn’t always uniform, either. In such cases, policy writers would reinsure or “lay off” risk by swapping bets with other racketeers. Concurrently centralized exchanges operated with telephone banks, runners, and risk underwriters who carried diverse portfolios ranging from retail policy layoffs to shares of high-stakes sports wagers.

Because this business was sophisticated, fast-paced, informal, and illegal, gambling racketeers could be notoriously skilled with numbers and have phenomenal memories. One of the best, known as “the brain,” managed a financial empire in his head without any written records. Where are they now?

The integrity of the system was tested on a September morning in 1958 when a two-diesel, Jersey City-bound commuter train overran a drawbridge signal and plunged 10 fathoms to the bottom of Newark Bay. Regional newspapers all carried the same newsflash picture of a pas-

senger car teetering precariously over the edge of the bridge. Rescue workers were hurriedly trying to ballast the high end to allow survivors to escape.

Prominently displayed in the middle was the car number 932. Because gamblers tend to be superstitious, 932 suddenly became a very popular number. The next day the rackets were hit with an astounding, one-in-a-million loss, as the winning policy number turned out to be—932.

The payout is rumored to have been \$50 million throughout the Greater New York area. In current dollars, that’s a \$325 million loss and headline news today. It’s not known how much policy writers may have borrowed against future profits to pay off winnings. Forty passengers

and four traincrew were killed, but the toll could have been higher as the disaster took place on the first day of Rosh Hashanah.

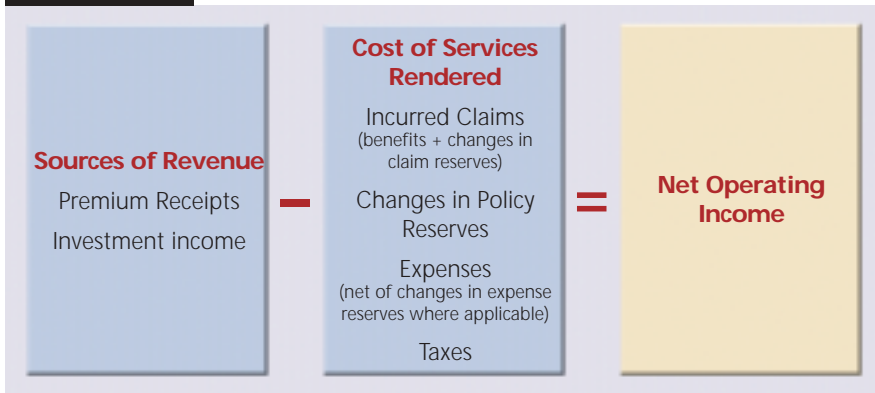
Equally remarkable is another legend that, on that same morning, a New York-bound investment banker got off an earlier train to make a telephone call. He then boarded the fateful train but left his briefcase in the telephone booth. The case

was stuffed with negotiable securities. When he realized his mistake he frantically tried to persuade the conductors to stop the train, finally jumped off, and ran back to the station.

When he got to the telephone booth he saw that the briefcase was no longer there. In what must have been complete apoplexy, he then ran to the ticket window. To his staggering relief, the janitor had found the unattended case and turned it over to the stationmaster. A substantial reward was purportedly paid. Perhaps catastrophe is a zero-sum game where for every fortuitous misfortune there exists an equally serendipitous good fortune.



TIM COLE IS AN INDEPENDENT CONSULTING ACTUARY IN WESTPORT, CONN.

FIGURE 1

The Investor Perspective

This is not to imply that insurance is a racket or a game. In the absence of the preservation of capital, an economy cannot function, and thus, insurance is a necessity. The challenge facing the insurance company is translating irregular cash flows into a predictable earnings stream.

However, the ability to withstand catastrophe is constrained by market forces as price competition and consumer elasticity of demand preclude the ability to insure for complete annihilation. The objective then becomes one of determining the budgeted level of non-systemic risk.

Suppose the equity markets decided there's a significant likelihood that present shareholders' equity is at risk for sudden dissipation. The stock price would logically be expected to decline in anticipation of a reported loss. However, if a natural disaster is anticipated, the markets don't automatically write down the value of insurance stocks.

Ideally, the impact of a disaster shouldn't affect what the shareholder has invested in—a predictable rate of return. It's anticipated that the cost of claims is to be funded from reserves. If earnings (and therefore shareholder's equity) are affected, then reserve levels must necessarily have been insufficient to some degree.

From the shareholders' perspective, a useful tool would be understanding how much is budgeted from present underwriting operations to allow for stabilization of future earnings in the event of fortuitous circumstances. The amounts

thereof will vary depending on the nature of the risks being underwritten. Retail coverages with many moderate exposure levels will have different contributions than coverages that have very irregular benefit events and cash flows. As illustrated by the case of car 932, however, even risks with a seemingly deterministic likelihood can be subject to spectacular exogenous events, equivalent to a sudden epidemic or other non-estimable occurrence.

Reserve Funding and the Claims Budget

A representative simplified insurance company earnings statement may contain seven items: premiums receipts, investment income, operating expenses, benefits actually paid, increase in reserves, changes in expense reserves (where applicable), and taxes. This is illustrated in Fig. 1. Insurance company financial reporting is complicated by the presence of policy benefit valuation reserves, or simply by policy reserves. What isn't readily apparent is that policy reserves represent an implicit trust agreement with the insurance company, and it's the source of funding for incurred claims. All funding for benefit costs flows through policy reserves. If no claims are incurred, then the total benefit cost would be monies added to policy reserves.

The matter is simplified when the premium budgeted is matched to current benefit costs in a given year. In that case, policy reserves would be zero. The role of the policy reserve is thus to account for

the portion of income that's applied to fund future benefits not yet incurred. The absence of a policy reserve doesn't mean such reserves don't exist, only that all of the funds budgeted therein have been applied to fund current-period benefits. The liability aspect comes into play when a portion of the premiums deposited as cash is held in trust to pay future benefits.

This is old hat to actuaries. Actuaries have been managing this implicit trust agreement since the practice began. The shareholders, however, want their returns, so a portion of amounts held in trust is budgeted to pass to them as planned for underwriting profits. Because the policy reserve reflects a financial plan, the amount earmarked for shareholders is both accountable and predictable.

Each period, a planned-for amount is deducted from policy reserves to pay incurred benefits. In the individualized retail business this is commonly called the claims cost. In the generalized and non-retail sectors this is often referred to as the pure premium—the amount required to pay expected benefits. This deduction may simply be a portion of unearned premiums—the amount of premium apportioned to accrue from the present to the next premium payment.

Examining the Claims Budget

Now, I hope, the accounting aspect of the business of insurance is a little clearer. In the insurance business, the cost of the goods sold—benefits—flows through the policy reserve. Each period, a tabular claims budget is deducted from the policy reserves to pay current benefit expenses. These reserves may be represented as a portion of premiums (unearned premium reserves) or, in the case of long-term plans, accumulated reserve amounts.

The accounting is the same in either case. A budgeted amount is deducted from the reserve. From this amount a predetermined portion is earmarked for shareholders, but recognition of such is subject to accounting principles. Since it's not guaranteed, it's subject to a period of realization. Most of the funds are expect-

ed to be used to fund benefits, so the budget is transferred as a claim liability.

Tabular Claims Budget → transferred to → **Current Claim Liabilities**

Depending on the nature of the risk, these budgeted funds may be applied in a number of ways. Portions will be paid directly, held to pay for continuing benefits, or not distributed at all. Depending on the nature of the business insured, the budget may also include claims settlement budgets. Some types of business, such as coverage for oil tankers, may have substantial salvage and cost mitigation expenses, while retail life insurance settlement costs will mimic day-to-day operating expenses.

Some of the outstanding claims budget will be applied for claims incurred but not yet reported (IBNR). The guid-

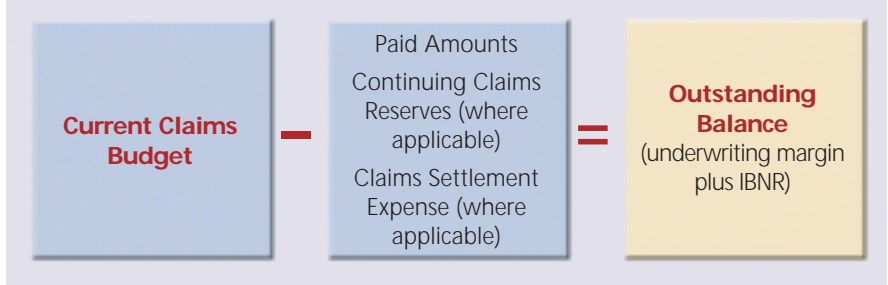
If the outstanding claims budgets indicate insufficiency, it's certainly time to commission actuarial experience studies.

ing principle here is budgeted versus actual. And this outcome may take a substantial period of time to develop, as shown in Fig. 2.

Sufficiency of continuing claims reserves needs to be evaluated in a similar manner—amounts budgeted versus amounts actually paid. The total paid over time will be applied to amounts paid in the budgeted-for year. This is commonly referred to as an Incurral Year basis. That is, amounts paid 10 years hence on a claim opened today will be applied to the present-year claims budget. It's easy to see that the total of prior-year balances, across all lines of business, will equal an outstanding claims reserve that may or may not have a balance to be transferred to shareholders' equity as a source of underwriting profit.

From a financial performance stand-

FIGURE 2



point, the outstanding balance is where the action is. The investor wants consistent earnings. However, particularly in the case of coverages subject to extreme variations, these balances may be positive or negative. If the overall historical record is negative, the company has not realized a positive underwriting result.

It's important to differentiate this procedure from actuarial experience studies and loss ratio analysis. The intent of evaluating the sufficiency of the claims budget is to gain an assessment of financial performance, whereas actuarial studies evaluate the variables subject to stochastic influences used during the budgeting process. If the outstanding claims budgets indicate insufficiency, it's certainly time to commission actuarial experience studies.

Managing Adversity

The direct result of the claims budget approach is that it provides an immediate indication of amounts available for IBNR and underwriting performance. The realization principle from accounting governs that the entire balance should be held until such time as sufficiency is established. The pollution and asbestos liability coverage disasters of the past 20 years provide a powerful insight into the need for disciplined controls as regards amounts transferred as underwriting profits. It may be many years before a claim arises. Premature recognition of underwriting profits above those planned for will serve to weaken the ability to withstand fortuitous circumstances.

But what of the retail business with many small exposures and relatively stable cash flow patterns? These areas of insurance have been largely unaffected by cataclysmic events. One hundred years

ago, if a meteor smashed into Las Vegas, the result would have been a few dead horses and burned-down shacks. And there were no automobiles.

That higher population densities bring the potential for catastrophe with them is a given. That catastrophes are expected to occur and are consciously accepted is demonstrated by the following clause from an American Academy of Actuaries exposure draft on the subject:

“Catastrophes that had not been contemplated previously, such as the World Trade Center Bombing . . . , raised other questions concerning how to provide for such losses”

The date of the document was February 1999.

A useful tool in this regard is to examine just how much the market is willing to pay toward this end, vis-à-vis the amount of funding presently available. The funds in this regard are reflected by the outstanding balance of the unused claims budget.

Opportunities for Development

A sound investment provides both a useful purpose today and value for the future. The process of reviewing funded-for claims budgets offers some rich opportunities for actuarial practice. It allows a means for actuaries to use more information from the liability side of the insurance company balance sheet, it presents a rich area of systems applications that would provide a comprehensive overview of liability cash flows and sufficiency, it creates a uniform method to reserve for IBNR, and it can create an informative means of communication for management and financial reporting. The results would be stronger business and a better informed investor public.