AUTHORS: Irene K. Bass is Vice President of the U.S. Fire Insurance Company and Actuarial Department head for Crum and Forster Personal Insurance. Prior to joining Crum and Forster, Miss Bass held positions at Commercial Union and Hanseco. She is a Fellow of the Casualty Actuarial Society and a Member of the American Academy of Actuaries. She holds a B.A. in German from Bowling Green State University and an M.S. in mathematics from Northeastern University.

Larry D. Carr is Senior Vice President and Chief Financial Officer of the U.S. Fire Insurance Company with responsibility for the Underwriting, Actuarial, and Financial and Planning areas of Crum and Forster Personal Insurance. He serves as a member of the Board of Directors and Executive Committee of the U.S. Fire Insurance Company. Mr. Carr had extensive experience at Allstate Insurance Company prior to joining CFPI in 1983. He holds a B.S. in finance from the University of Illinois.

ABSTRACT: A major property-casualty insurance group recently created a separate profit center for personal lines, thereby signaling a new emphasis on these lines. Since the group had been a carrier with primary emphasis on commercial business, the planning process at the personal lines profit center became similar to that of an emerging company: there was little relevant history available to use in order to plan effectively for a very different future.

Because planning at insurance companies is too often separated from field operations -- the very people who must make the plan happen -- we installed a process that is operationally driven.

We therefore developed an approach to premium and loss planning which did not rely on a simple projection of last year's results. The major benefit of this planning process is its lack of dependence on historical information and its explanation of current results in terms of specific components of the plan. We offer to share and discuss this approach to personal lines planning.

#### INTRODUCTION

Not too long ago, our insurance group reorganized and created, along with several commercial lines profit centers, a separate profit center for personal lines. Traditionally, the group's personal lines volume was a relatively minor part of its total business, representing about one-fourth of total premium. As such, there was no special attention paid to it in the corporate planning process. The profit center's new management, with its singular responsibility for personal lines, initiated a planning process with five basic goals in mind:

- 1. To build an operationally driven planning system from which the financial plan would follow
- To isolate measurements which are controlled -- or at least influenced -- by line management
- To insure commitment to the planning process by involving field management in selecting planned levels of performance
- 4. To create a plan optimal for personal lines which would work in an environment where the historical results would not necessarily be an accurate predictor of the future
- 5. To blend the annual operating and financial plans into the profit center's strategic plan.

Although the personal lines volume is substantial, this new profit center is an emerging company in the sense that the past will probably not be representative of the future. It is also an emerging company in terms of appointment of agents separately from the remainder of the corporation, planned growth within the American agency system, and independently defined goals, objectives, and marketing strategies.

This paper is intended to illustrate a premium and loss planning process for a personal lines company in a changing or emerging environment. Expense planning is an important phase of all planning, but the scope of this paper will be limited to premiums and losses only. Our planning process is fairly straightforward in terms of the mathematical concepts employed. It is not simply a matter of determining last year's results and then making some estimates for the coming year. Rather, each component of the premium is analyzed down to the basic elements, beginning with number of agents and ending with premium. Likewise, losses are analyzed in their elementary components of frequency and severity.

In this paper we first offer some background on the difficulties of planning for an emerging company and obtaining the proper source data to do a zero-base analysis. Then we discuss the premium and loss planning methods. Finally, we evaluate what was accomplished in the planning process.

## BACKGROUND

The operational plan is segmented into three separate but connected pieces:

- Agent Plan
- Production/Premium Plan
- Losses Plan

These represent the major planning decision areas in which baseline values and the impact of operational changes must be established. Charts of the detailed statistical flow are contained in Exhibits 1-5. Once a conceptual understanding of this flow is achieved, four things are required to plan:

- Base Data -- the explicit values of the variables in the equations to get from number of agents to premiums to incurred losses.
- 2. Operational Plans -- the expected changes in operating philosophy, approach, and execution. This information is based on the continuing analysis of programs and their results and on management's evaluation of areas where current performance requires improvement.
- 3. Quantification of Plans -- the specific numerical ramifications of operational plans. If operational plans are carefully

prepared within a structured framework and are based on objective evaluation of data, this quantification is often completed in the operational analysis process. If not, basic analysis to quantify operational changes is required. This is a critical step in that it allows management to see whether planned activity will achieve desired results. This is the fundamental reason for planning.

4. External or Extraordinary Factors -- the impact of any anticipated changes in external factors. These factors must also be isolated and considered. Extraordinary weather-related claim volume in the historical data is an example of this kind of influence.

The planning model -- composed of the variables in the planning equations and the equations themselves -- is fundamentally important in that it allows for measuring the impact of planned actions on operating results.

Because this profit center is a personal lines operation emerging from a predominantly commercial lines environment, it is not surprising that the kind of data we sought was not available from readily accessible sources. Therefore, the acquisition of base data was the most difficult part of the process and certainly the most time-consuming. Annual Statement and Insurance Expense Exhibit data do not provide sufficient detail for an operationally driven plan. New and renewal production, frequency, and severity data just do not exist in these sources. At our company, it also required compromises regarding the desired breakdown of data by line of business.

It became obvious that ideal information was not to be found, so we settled on the following compromise prioritization.

- 1. Necessary data would become available over time, so the most important aspect was the integrity of the statistical flow. When a source of net written premium by desired line of business did not have a companion policy count report, we chose a summary level that preserved the desired statistical flow. More important than planning by ideal product line, it was essential to begin installing the operational discipline, involving field management in the planning process, and planning in a fundamental step-by-step method that would permit isolating the sources of variance from plan.
- 2. Because of the need to focus on markets, results, constraints, and opportunities on a state-by-state basis, higher levels of product summarization were accepted than was desired. For example, homeowners was handled as one line rather than separating it into owner, renter, and condo business.
- When all else failed and source data was not to be found, prior experience, judgment, and estimates were often used.

We often used sources for purposes other than their original intent. Agent counts were developed from a monthly report used to check validity of mailing lists. New business production and renewal ratios were derived by an elaborate manipulation of in-force policy counts and cancellation activity. New business and renewal premiums

were generated from reports originally prepared to measure processing through the underwriting department. Claim counts -- and, ultimately, frequency and severity -- were completed using claim department workload reports.

## STATISTICAL MODEL

The premium planning process is outlined on Exhibits 1-4. Loss planning is outlined on Exhibit 5.

# Agents

The process begins with the agent plan and develops into premium on a line of business basis.

Because of the radically changing environment in the company, we could not begin with last year's premiums and project forward. We knew we would be cancelling personal lines contracts for many agents who were commercial lines oriented and appointing new agents for personal lines only. Since this activity is part of regional management's objectives, it made sense to involve them in the quantification of the number of active agents and to have this item become a measurable variable in the plan. This is an example of field management involvement and of the isolation of measurements that are controlled or influenced by them.

## Production

Average number of new policies per agent was calculated by line of business from prior years, and an estimate for the ensuing year was based on several assumptions. This number would be very different from prior years because now we would be dealing with agents who are primarily personal lines agents and who would use our company as a major market. Agency management would be directed at personal lines only, and major changes in pricing would shift our competitive position.

By multiplying average number of agents by number of new policies we obtained the total number of new policies issued for each line (Exhibit 1). But renewals also had to be calculated. The prior year's policies (which become available for renewal this year) were multiplied by a renewal ratio to obtain the number of renewal policies issued (Exhibit 2). Careful analysis of the renewal ratio was necessary since the expected termination of some agents and the planned re-underwriting programs would most likely cause this ratio to drop. At the same time, improved policy service and changes in the mix of business would tend to increase the renewal ratio.

## Premium

The next step starts with number of policies issued and ends with the net written premium (Exhibit 3). New policies must be handled separately from renewal policies when estimating the average written premium by line of business. New business, given the thrust to appoint primarily personal lines agents and to penetrate a different market sector, should have a significantly different average premium from prior period business that will be renewing. For example, an effort to write many more homes of high value will cause the average premium to be much higher.

Even the average renewal premium might be very different from prior years. If, as in the prior example, an effort to penetrate the high-value homeowners market is coupled with competitive pricing in that segment, changes in homeowners relativity curves may greatly increase the premiums charged for low-valued dwellings. Re-underwriting and a campaign to insure to value may also increase these averages. In our plan, field management input along with information from the pricing actuaries was needed to quantify this variable.

Gross written premium is obtained by multiplying the number of policies issued by the average premium separately for new and renewal policies (Exhibit 3). Endorsement premium is loaded by means of a factor and the remainder of the steps leading to net written premium are straightforward.

Earned premium and policies in force are important by-products of the statistical flow (Exhibit 4). Neither is planned directly: they flow from the numbers being generated by the internal relationships of the model. By developing a historical relationship between formula earned premium (1/24 of current month's written premium plus 1/12 of prior eleven months' written, plus 1/24 of twelfth prior month's written) and actual monthly earned premium, a clear pattern should

develop which will establish an appropriate relationship between formula and actual earned premium (Exhibit 4).

At this point in the flow, developing the earned premium involves only selecting an appropriate earned premium compensating factor and doing the arithmetic. Policies in force (new and renewal separately) are arrived at by accumulating all of the policies that could be in force from the prior 12 months' policies issued and applying an appropriate termination rate.

#### Losses

Once the premium plan is complete, the generation of incurred losses essentially flows out of a continuation of the logic. Policies in force become the base against which frequency ratios (new business separately from renewals) are applied to arrive at claim counts (Exhibit 5). It is important that the assumptions about changes in the agency force, market focus, and underwriting rules be carried through to frequency selection. Otherwise, loss ratios will be distorted.

Claim counts can then be multiplied by an appropriate severity to arrive at losses (Exhibit 5). A number of different approaches are possible here but, essentially, historical levels are modified to reflect expected changes in average claim costs due to inflation, changes in mix of business, limits, deductible, etc. The effectiveness of the claims department must also be reflected. IBNR reserve changes can then be added to incurred losses before arriving at the final loss ratio.

It is important to recognize that the various operational action plans are quantified in very different ways in the development of the plan. A careful evaluation of the loss ratio will help insure that the impact of various operational plans is consistently assessed in determining both premium-related and loss-related base data.

#### EVALUATION

A number of legitimate questions seem obvious. With all the compromises in data, did the process really accomplish anything? Was the cost in time and effort appropriate in the completely manual environment? In short, was it worth the effort? Our answer is an unequivocal, "Yes," because several very important baselines were established, as discussed below.

- 1. A base of information was developed.
- 2. Management became more in touch with the company's expected results more quickly than it would have without the planning process.
- 3. An operationally based planning process was installed. Accepting that the first plan would be the worst, we decided it was important to install the process in order to begin its evolution. We could not have waited another year to begin establishing those disciplines and thought processes.

- 4. The planning process clearly established the relationship between functional management and results. Operational actions -- the changes, refinements, and corrections -- are necessary if results are to change.
- 5. A set of performance benchmarks were established. They could have been established in a number of other less time-consuming ways. But the advantage of this approach is that when actual net written premiums or incurred losses are different from plan, the source of the difference can be specifically identified and evaluated. From an informed perspective, management can then decide to accept the variance or take action to correct it.

## CONCEPTUAL MODEL

Critical questions to ask in an operationally based planning process include:

<u>Market Direction</u> -- Will there be any changes in products, geographic focus, or target market segments? Will there be changes in the relationship with agents such as new profit-sharing agreements, increased or decreased leverage, or an agency force restructuring? All of these areas could impact assumptions about agents, productivity, renewal trends, average premium, retention, losses, and expenses.

<u>Pricing Philosophy</u> -- Are there going to be changes in price, competitiveness, or rating schemes to attract certain risks? These will also impact nearly all parts of the statistical flow.

<u>Underwriting Approach</u> -- Will any changes occur in underwriting rules which could impact production and average premiums as well as losses? Changes in emphasis on policy limits, deductibles, or sale of optional coverages should also be carried through to the numbers selected. It is important to evaluate the impact of past underwriting decisions that could be "cycling through" their period of impact, e.g., a re-underwriting program begun in the middle of the prior year.

Level of Service -- Strong correlations exist between retention and the level of policyholder/claim service. What will be the impact of anticipated changes in level of service which should be considered in developing renewal and retention levels and changes?

<u>Claims Handling Practices</u> -- How will opening and closing practices, different emphasis on case reserve adequacy, clearing backlogs, etc., influence both frequency and severity measurements?

Once a consensus on these five areas is achieved, only one conceptual step remains: environmental issues need to be examined. Inflation, unemployment, housing starts and car sales, trends in miles driven, gasoline prices, and so on, all impact key planning variables. So, too, do the actions of competitors, regulators, and legislators as

their collective modifications of the environment influence the effectiveness of our actions.

At this point, the truly difficult part of planning is finished. The remaining work involves, simply, a translation of these operational and environmental conclusions into statistical impact. It is at this point that the planner needs extraordinary discipline. There will be times when, after all the work is completed, the results are unsatisfactory -- management can't live with the bottom line.

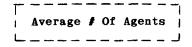
An easy way to correct this situation is simply to change a number. If this happens, the entire planning process is invalidated and displeasure with planned performance quickly becomes dismay over actual results. When unacceptable results are projected in the planning process, only two valid actions can be taken. First, the translation of concepts to numbers should be rechecked. Any mistakes should be corrected and the numbers recalculated. If this does not correct the problem of unacceptable results, management must return to its basic assumptions about operations and modify them to achieve acceptable results.

Only in this way is it possible to arrive at financial plans based on sound operating decisions. Only with this detailed approach can the future sources of variance be isolated and corrected.

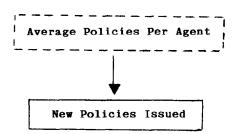
# Discussion Questions

- 1. If results are different from plan, does this method allow one to identify the cause of the variation? Does it pinpoint the cause sufficiently for management to take proper corrective action?
- 2. Is this approach adaptable to planning in the commercial lines environment?
- 3. Is an operationally focused, detailed plan really needed in the insurance industry?
- 4. What sort of controls are necessary to insure the integrity of the plan?
- 5. Will this approach be effective for an emerging company or does it require an established company "culture"?

# NEW PRODUCTION

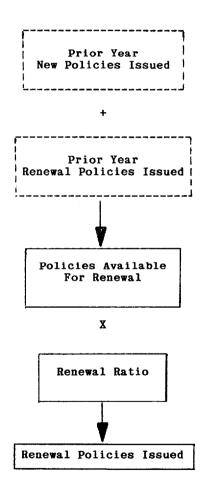


X

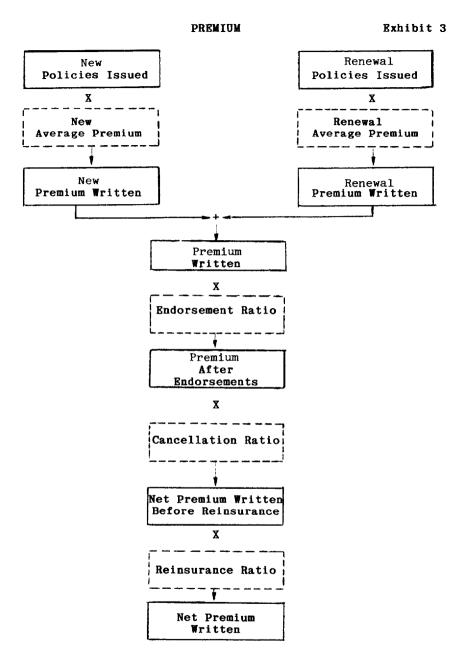


Prepared by line of business

# RENEWAL PRODUCTION

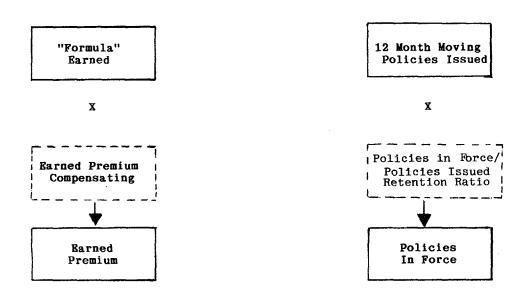


Prepared by line of business



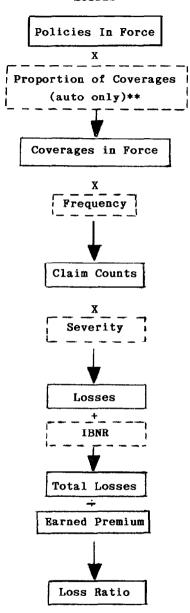
Prepared by line of business

# EARNED PREMIUM AND POLICIES IN FORCE\*



Prepared by line of business

\*Policies in force calculated separately for new and renewal



Prepared by Line of Business
\*\*Prepared by Coverage for Auto