

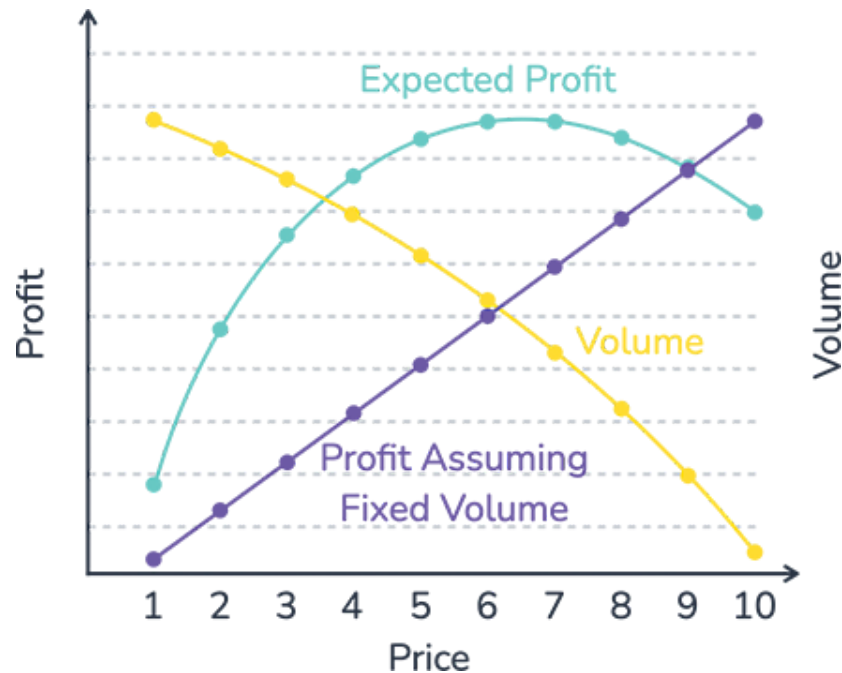
4.1.2 Marketing Considerations

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Marketing Considerations

Up until this point, we've primarily focused on using actuarial techniques to derive rates that adequately cover all costs associated with providing insurance while still earning a targeted amount of profit. However, we haven't yet discussed the insurance company's ability to sell policies. After all, it doesn't matter if the insurer has the capacity to sell more products if there isn't demand for those products.

Below is a graph illustrating the general relationship between insurance price, the volume of policyholder demand, and insurer profit.



The **purple** line represents the profit the insurance company would make, assuming the volume of demand remains constant. Unsurprisingly, this forms a positively sloped line; if the number of policies sold does not change, the insurer will make more money the higher they charge for a policy.

In practice, assuming that the volume of demand remains fixed is not realistic. Consumers are typically more likely to purchase affordable insurance, as indicated by the **yellow** demand curve. As the price increases, the volume of demand decreases. It is also important to realize that there are usually fixed costs associated with providing insurance. These costs cause the expected profit per unit sold to decrease slightly as volume decreases, as the same fixed costs are being spread over a smaller number of policies.

The expected total profit, depicted in **teal**, increases until the decrease in policy counts begins to offset the benefit from raising the price. At this point, the insurer's expected profit is maximized. This doesn't imply that the actuarial techniques we've learned thus far are incorrect; it simply means that an insurance company should consider both a cost-based rate indication and any marketing implications before finalizing a rate.

Companies tend to classify insureds as either new business or renewal business and analyze them separately. Some factors that affect a policyholder's likelihood to renew are:

- **Prices of competing products:** If insureds are aware that a competitor offers the same product at a significantly lower price, they are more likely to switch to the competing product.
- **Overall cost of the product:** When an insurance product represents a small portion of disposable income, insureds are less inclined to invest time in searching for cheaper alternatives. Conversely, if the product is expensive, insureds are more likely to compare prices to find savings.
- **Rate changes:** Large premium increases (or decreases) can prompt insureds to explore other options, believing better deals may be available.
- **Characteristics of the insured:** Price sensitivity varies based on the insured's profile. For example, a large law firm might be less concerned about the price of a commercial package policy than a sole practitioner. Similarly, younger policyholders may shop around more frequently than older ones.
- **Customer satisfaction and brand loyalty:** Negative experiences, such as poor claims handling or customer service, can lead insureds to seek alternatives.

Traditional Techniques for Incorporating Marketing Considerations

Marketing considerations are generally implemented into the ratemaking process judgementally. Some of the metrics used to implement these considerations include:

- Competitive comparisons
- Close ratios, retention ratios, growth
- Distributional analysis
- Policyholder dislocation analysis

COMPETITIVE COMPARISONS

The insurer compares its premium to the premium of a competitor. It can be challenging to obtain accurate information about competitors' premiums, but it is generally still worth doing. Insurance

companies seek to understand how competitive their rates are on average as well as how competitive individual groups of risks are.

Below are a few of the different metrics that can be used to measure the competitiveness of a set of risks.

$$\% \text{ Competitive Position} = \frac{\text{Competitor Premium}}{\text{Company Premium}} - 1 \quad (4.1.2.1)$$

$$\$ \text{ Competitive Position} = \text{Competitor Premium} - \text{Company Premium} \quad (4.1.2.2)$$

$$\% \text{ Win} = \frac{\# \text{ Risks Meeting Criteria (e.g., Premium Lower than Competitor)}}{\text{Total \# of Risks}}$$

$$\text{Rank} = \text{Rank of Company Premium Compared to Several Competitors} \quad (4.1.2.3)$$

CLOSE RATIOS, RETENTION RATIOS, GROWTH

As covered in Section 1.1, the **close ratio** (sometimes called a hit ratio, quote-to-close ratio, or conversion rate) measures the rate at which prospective insureds accept a new quote.

$$\text{Close Ratio} = \frac{\# \text{ of Accepted Quotes}}{\text{Total \# of Quotes}} \quad (1.1.3.11)$$

Likewise, the **retention ratio** (sometimes called a persistency ratio) measures the rate at which existing policyholders renew their policies upon expiration.

$$\text{Retention Ratio} = \frac{\# \text{ of Policies Renewed}}{\text{Total \# of potential renewals}} \quad (1.1.3.12)$$

Growth is achieved through attracting new policyholders while retaining existing ones.

$$\begin{aligned} &= \frac{\text{New Policies Written} - \text{Lost Policies}}{\text{Policies as Start of Period}} \\ &= \frac{\text{Policies as End of Period}}{\text{Policies as Start of Period}} - 1 \end{aligned} \quad (4.1.2.5)$$

A "lost policy" can be either a canceled or a non-renewed policy.

DISTRIBUTIONAL ANALYSIS

Distributional analysis involves studying the distributions of new and renewal business by customer segment and how those distributions change over time. A company can compare its current distribution of policyholders within a particular segment to its target distribution and to the industry-wide distribution.

To give an example, suppose that a company examines its distribution of homeowners policies by the amount of insurance. If the company notices that 2% of the homes it insures are valued at between \$250,000 and \$300,000 while 20% of houses on the market are within that price range, it may indicate that the company's rates are not competitive for houses within that price range.

POLICYHOLDER DISLOCATION ANALYSIS

Insurers may perform a *dislocation analysis* to study how different rate changes impact policyholders' propensity to renew their policy. The goal is to quantify the number of policyholders who will receive specific rate changes and then use that information to predict retention.

In general, a simple rate change will affect retention uniformly across all groups of insureds. If relativities are also changed, the amount of dislocation can vary significantly between groups. If the study reveals that a rate change will result in too many policyholders canceling or not renewing their policy, the insurance company may reconsider proceeding with the rate change.

Systematic Techniques for Incorporating Marketing Considerations

We'll also discuss two approaches to incorporating marketing information into rate implementations that are more systematic in nature:

- Lifetime value analysis
- Optimized pricing

LIFETIME VALUE ANALYSIS

Rather than looking at a rate change as a way to maximize profits over a single policy term and assuming that all insureds will renew, an insurer may choose to take a *lifetime value* approach (sometimes referred to as **asset share pricing**). Lifetime value analysis attempts to understand the profitability of an insured over a longer period of time by acknowledging that not all insureds will renew and that certain actions can influence some insureds to stay.

A common example is insuring young drivers at a loss. Younger drivers are typically considered riskier. Nevertheless, insurers are willing to insure them at a short-term loss, with the expectation of them becoming more profitable and loyal customers in the long run.

Lifetime value analysis is conceptually similar to cost-benefit analysis. The main difference is that the **time horizon** is typically a bit longer for a lifetime value analysis.

OPTIMIZED PRICING

Optimized pricing utilizes multivariate statistical modeling techniques to produce better estimates for policyholder retention, policyholder conversion, and customer demand. These models are created using a series of historical observations that contain relevant policyholder information such as risk characteristics, amount of premium quoted, etc.

By combining these models with loss estimates, a company can project the expected profitability and the probability of renewal for individual risks under a variety of different scenarios. The goal is to maximize profitability while still achieving overall volume goals (or maximize volume while still achieving overall profitability goals).

Underwriting Cycles

The growth rate and profitability of companies within the insurance industry tend to vary cyclically. During periods when prices, and therefore profits, are high, policy growth tends to be fairly low. This portion of the cycle is called a *hard market*.

At some point, certain insurers within the industry will begin to lower prices in order to attract new policyholders and stimulate growth. This forces all insurers to lower rates in order to compete. This period of high growth and low prices is called a *soft market*.



It's important for an actuary to consider what stage of the underwriting cycle the industry is currently in when making pricing decisions. For instance, it would be unwise for a company to implement a significant rate increase during a soft market because it is likely that it would lose a large portion of its customer base to competitors.