NAMIC® ADVOCACY

WHY YOUR INSURANCE COSTS WHAT IT DOES:
A RISK-BASED PRICING PRIMER

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NAMIC®
ISSUE ANALYSIS

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NAMIC membership includes more than 1,400 member companies. The association supports regional and local mutual insurance companies on main streets across America and many of the country's largest national insurers. NAMIC member companies write $273 billion in annual premiums. Our members account for 58 percent of homeowners, 44 percent of automobile, and 30 percent of the business insurance markets.

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INTRODUCTION

Is it any wonder Americans are confused by the unending stream of insurance commercials seen and heard all over media today? An extraordinarily competitive industry employing nearly 3 million people across the country, modern day property/casualty insurance is much more than entertaining characters, clever slogans, or celebrities conjuring up unusual scenarios to the tune of a familiar jingle. As an industry, insurance affects multiple parts of every American citizen's daily life and provides financial safety for more than 80 million homes and 200 million vehicles each year, but sadly there is very little understanding among consumers of what insurance is or how it is priced.

Insurance industry professionals spend decades learning a tangled web of laws, regulations, and trade jargon, while most customers are left scratching their heads when they hear terms like premium, exposure, exclusions, limits, rating, and underwriting thrown around with little explanation or appreciation for what they actually mean. The exchange of future risk for periodic payment in legal contracts can get very complicated very quickly, but it does not have to be. This introductory paper seeks to provide a simplified, straightforward, user-friendly explanation on the core principle underlying the business of insurance: ***Risk-based pricing***.

WHAT INSURANCE COMPANIES DO

Risk is a reality of life. Put simply, insurance companies buy the risk of specified losses from individuals and businesses, then pay if those losses happen. This admittedly oversimplified concept of risk transfer underlies the entirety of one of the most complicated and expansive industries on the planet.

At the outset, it is important to establish that insurance contracts, known as ***policies***, are not like most consumer products, or even most financial products. When you buy an item off the shelf at the store and take it to the checkout line, the price of the product is based on known cost, expenses, and profit, which have all been factored into the amount you see on the price tag. Insurance does not and cannot work the same way because the actual cost to the seller is unknown at the time of the sale.

This, of course, is not to say that insurers have no idea what their promised coverage will cost – they make extremely complex and educated judgments about accepting risks based on actuarial science[1], including fundamental principles like the law of large numbers[2], risk pooling[3], and risk spreading[4]. They then predict how likely it is that something will go wrong that will require the company to pay and estimate the costs using two primary processes that support risk-based pricing: underwriting and ratemaking. This is how they decide how much your insurance ***coverage*** costs, known as your ***premium***.

[1] Often joked about as a "fancy word for math," actuarial science is a wide-ranging discipline that combines applied mathematics, statistics, economics, and more. The actuarial profession is a community of consultants and analysts employed across dozens of industries all over the world. More information is available at the American Academy of Actuaries: www.actuary.org.

[2] As sample size grows, randomness and uncertainty decrease.

[3] Combining similar risks to spread costs.

[4] Diversifying risks across geographies, lines of business, or other divisions.

Key Point: Insurance is a ***forward-looking*** business – issuance of a policy and collection of premium happens before and regardless of whether claims are ever filed.

THE UNDERWRITING PROCESS

In order to accept risk efficiently, responsibly, and profitably, insurers must have mechanisms and processes in place to assess, select, and classify the risks customers are looking to be rid of. Underwriting is the process insurance companies use to assess the risk presented by a customer seeking insurance coverage.

Why Is It Called "Underwriting"?

While the concept of insurance dates back many thousands of years, the modern property/casualty insurance industry has special historical ties to a 17th century London coffeehouse. In those times, exploratory and trade voyages were extremely risky and expensive; ships and cargo were frequently lost to pirates, storms, and other perils. Owned by Edward Lloyd, the Lloyd's Coffee House became a prime place to seek not only news about ships and foreign trade, but also maritime coverage; individuals interested in investing in voyages or cargo would write their names under the text describing the possession or event for which they were interested in assuming risk – thus, "underwriting."

At its core, underwriting is done by considering three basic questions:

1. Risk Assessment – How likely is it that there will be a claim on this policy?

As was discussed above, insurance companies are in the business of making their best educated predictions on whether a particular person or business seeking insurance coverage is likely to experience a loss. Things they consider will differ depending on what the buyer wants to cover, but in every instance they have to keep ***frequency*** and ***severity*** of potential losses front of mind. How often a loss occurs matters – for instance, car crashes are frequent while terrorism is not. However, frequency of loss alone cannot paint an accurate picture – while car crashes may be frequent, they are not all equal. The difference between a two-car fender bender in an alley and a five-car pile-up on the interstate is something insurers must consider in assessing risks. This difference in the size of the loss – its severity – matters because the size and scope of a potential claim must be balanced against its frequency. Whether it's ten small, frequent losses or one rare, large one, underwriting requires planning for all possibilities.

2. Risk Classification – How do insurers best group risk with others like it?

The grouping of risks by commonalities is known as ***classification***, and without it, it would be impossible for insurance to exist.[5] Insurance companies use factual data points like location and age of an asset to separate one risk from another, then place risks into groups based on common characteristics. Classification is important because while individuals cannot truly be said to have an expected loss probability, groups can. Narrower, more homogenous groups improve the accuracy of predictions, which allows for the most fair and accurate pricing.

The accurate pricing enabled by classification also helps consumers who take steps to mitigate known risks. For example, something as simple as adding a deadbolt to a door modifies an insurance company's view of the risk of theft; by changing characteristics and potentially classification, the consumer can contribute to a lower rate.

3. Risk Selection – Does this insurer want to buy this risk?

Like any business, insurance companies must always be mindful to balance the risks they are taking on. Each company has a different appetite for risk and makes business judgments based on historical data and statistics to develop its desired portfolio and market to potential consumers. Like all other aspects of the insurance business, an insurer's financial situation is subject to strict regulation. Insurers are required to keep significant amounts of money in ***reserves*** to pay out claims, an amount that is affected by anticipated and potential losses.

Insurers constantly analyze their risk assessment, classification, and selection standards to better compete in the marketplace and to stay in compliance with shifting state laws and regulations. It's important to understand that even though the ultimate objective of underwriting is to match each risk with an appropriate policy and premium[6], the underwriting process itself is rarely profitable. No matter how good actuaries and underwriters are, uncertainty, fluctuating claims costs, and other expenses make profitable underwriting very difficult. The insurance industry has made underwriting profits in fewer than half of the last twenty years, a stretch which included the first time since 1973 with three consecutive years of underwriting profit. Most insurance company profitability comes not from underwriting, but from investment income, which is also currently under severe pressure due to historically low interest rates.[7]

[5] Kenneth S. Abraham, Distributing Risk: Insurance, Legal Theory, and Public Policy, Yale University Press (1986).
[6] Robert W. Klein, A Regulator's Introduction to the Insurance Industry, National Association of Insurance Commissioners (2005).
[7] Insurance Information Institute, Financial Analysis of P/C Insurer Performance in 2019, available at https://www.iii.org/article/triple-i-financial-analysis-of-p-c-insurer-performance-in-2019.

UNDERWRITING'S TWIN SIBLING: RATEMAKING

After underwriting the risk, pricing must be determined for taking on the risk, and the premium to be charged to the consumer is established.[8] This is known as ***ratemaking***. Like underwriting, ratemaking is a prospective exercise – an effort to use the expertise of underwriters and actuaries, along with objective data statistically correlated to losses, to come up with the price at which the insurance company will take the risk.

Ratemaking is tightly regulated by state laws and enforced by insurance commissioners and nearly 12,000 Department of Insurance staffers across all 56 U.S. jurisdictions. Each state insurance code includes provisions establishing that rates cannot be "inadequate, excessive, or unfairly discriminatory."[9] While states vary in their exact requirements and processes governing the consideration and approval of rates, the prohibitions mentioned above exist to protect both insurance companies and policyholders and have served both well over the last century since many of them were adopted.

1. Ratemaking Math: Rating Variables

Underwriting and ratemaking depend on an insurers' ability to collect and use accurate information about the entity seeking to buy coverage. Part of this information generally takes the form of underwriting or rating variables, known as ***factors***. Every company uses different factors and evaluates them differently, but there is broad agreement that factors should be objective, actuarially sound, and have a credible, statistically significant correlation to expected losses and expenses. Because factors are correlative, the more information an insurer has and is able to use, the more accurately it will be able to assess the likelihood of a loss; the inverse is also true: less information makes accurately assessing the likelihood of a loss more difficult.[10]

While the exact characteristics considered are sometimes limited by state law in the name of perceived fairness by policymakers, the chart below provides just a few examples of some of the hundreds of factors about a person seeking insurance and the item being covered as well examples of factors that companies do ***NOT*** consider:

Considered	**Potentially Considered**	**Never Considered**
Location	Gender	Race
Claims History	Occupation / Employment	Ethnicity
Age of Home or Vehicle	Education	National Origin
Type of Home or Vehicle	Marital Status	Religion
Driving Record (Auto)	Credit-Based Insurance Score	Income
Unfenced Swimming Pool (Home)	Criminal History	Literacy

[8] While most premium dollars go toward policyholder claims and surplus, additional premium dollars are used to pay operating expenses like rent, commissions, taxes, licenses, and guaranty fund contributions. These expense considerations must also be factored into rates. A business model with premiums solely calculated on expected claims would be unstable, unprofitable, and unsuccessful.

[9] The National Association of Insurance Commissioners, the U.S. standard-setting and regulatory support organization created and governed by the chief insurance regulators from the 50 states, the District of Columbia, and five U.S. territories, has three models related to rate regulation: GDL-1775, GDL 1776, and GDL 1780. More information is available at www.naic.org.

[10] The power of correlation is what makes any given factor valuable for enhancing accuracy. Factors do not "cause" a loss, but they inform the likelihood of one.

To reiterate, these are only examples – the list is nowhere near comprehensive, and exact factors change frequently. All the same, it is a useful illustration of some things that may and may not be taken into account in setting insurance rates. Insurers rely on applicants, third-party vendors, and their own internal systems to validate and confirm the accuracy of data being considered in ratemaking.

2. Ratemaking Math: Coverage Desired

In addition to rating factors, the details of coverage requested play a large role in determining the exact premium. This, of course, makes sense – the amount of coverage sought lets an insurer know the size and scope of potential losses if a policy coverage is triggered. Customer selections regarding deductibles, policy limits, riders, endorsements, exclusions, inspections, and other coverage details will further refine the price and enhance the efficiency of the risk transfer. Minimum coverage requirements are usually imposed by state law for auto insurance and by mortgage lenders in the case of homeowner's insurance. Typically, a base rate[11] is developed for covering a risk, and consumers are able to further affect their premium by modifying deductibles, policy terms, or by qualifying for things like multi-policy, multi-vehicle, anti-theft, loyalty, good driver, or good student discounts, to name a few. Regulators are also currently modernizing rules for discounts in light of improving technology, for instance, to allow a premium discount if a homeowner agrees to install a water-pressure monitor provided by the insurer on the pipes in their house.

[11] A base rate is best understood as a starting price per unit of insurance, typically $100 of property value for property/casualty lines.

When developing rates, insurers must consider not only statutory and regulatory restrictions, but business and operational realities. Just as with underwriting, responsible ratemaking requires an insurance company to balance its approach: being too aggressive with pricing means greater than expected claims will compromise a company's financial health, while being too conservative means a company won't be able to compete in the market because its prices are too high. This balance benefits consumers as it keeps markets well populated with companies competing for their business, offering coverage for more consumers with downward pressure on rates.

WHY DO I CARE? I JUST WANT TO BUY RELIABLE COVERAGE AT A LOW COST.

Most consumers are not particularly interested in ongoing public policy discussions over potentially further restricting insurers' ability to use underwriting and ratemaking. This makes sense for a rarely used product that only comes to mind when paying premiums or filing a claim. However, if insurance companies can't price products to match the risks being covered, **policyholder insurance costs will go up across the board** because all rates will be less accurate. At the same time, consumers will have fewer coverage options available to them. Accurate underwriting and ratemaking have many positive effects that would be threatened by additional government restrictions:

- Keep consumers from overpaying to cover the risky behavior of others by ensuring safe driver A is not overcharged to make up for risky driver B
- Encourage and incentivize mitigation of known risks, thus increasing public safety
- Encourage and facilitate competition among insurers, which drives down prices
- Reduce insurers' need for capital and possibility of insolvency
- Overall increase in available insurance

Perhaps most importantly, accurate underwriting and ratemaking let consumers avoid the higher prices that come from forcing challenges like adverse selection and moral hazard onto insurers by not allowing them to accurately measure the risk they are being asked to buy.

Two Negative Consequences of Inaccurate Underwriting and Ratemaking

Adverse selection occurs when low-risk insureds purchase less coverage and high-risk insureds purchase more coverage than they would if the price accurately reflected expected losses. All else being equal, people with higher risks are more likely to purchase coverage while people with lower risks are more likely to go uncovered.

Moral hazard is the tendency of an individual to be reckless because they know they have insurance coverage. Once coverage has been extended, some individuals will see no purpose in making efforts to mitigate or minimize their losses.

In both the above situations, exposures and consequently prices **must go up**.

CONCLUSION

Setting a price, in advance, to protect an individual or business against something that may or may not happen and whose actual cost is unknown is what insurance companies do every day. The existence and availability of insurance at competitive rates let individuals and businesses of all sizes move forward in life with the peace of mind that comes from knowing they have limited some of the risks connected to some of the most significant purchases in their lives. With less uncertainty, people buy and furnish houses; drive cars; start businesses; hire employees; and manufacture, process, stock, and distribute goods. Insurance paves the way for improved driver and worker safety, helps communities recover from natural catastrophes, and provides trillions of dollars in taxes, funding, and investments in the economy. All of this is only possible when companies can offer their products and coverages at accurate prices after responsible underwriting and ratemaking, which is to say, with risk-based pricing.

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