Trends and Insights:
Risk-Based Pricing of Insurance

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"Risk-based pricing" is a basic insurance concept that might seem intuitively obvious when described – yet misunderstandings about it regularly sow confusion and spark calls for government intervention that would likely do consumers more harm than good.

Simply put, it means offering different prices for the same level of coverage, based on risk factors specific to the insured person or property. If policies were not priced this way – if, for example, insurers had to come up with a one-size-fits-all price for auto coverage that didn't consider vehicle type and use, where and how much the car will be driven, and so forth – lower-risk drivers would subsidize riskier ones.

Confusion begins to ensue when actuarially sound rating factors intersect with other attributes in ways that can be perceived as unfairly discriminatory. For example, concerns have been raised about the use of credit-based insurance scores, geography, home ownership, and motor vehicle records in setting home and car insurance premium rates.

Critics say this can lead to "proxy discrimination," with people of color in urban neighborhoods sometimes charged more than their suburban neighbors for the same coverage. Confusion around insurance rating is understandable, given the complex models used to assess and price risk. To navigate this complexity, insurers hire teams of actuaries and data scientists to quantify and differentiate among a range of risk variables while avoiding unfair discrimination.

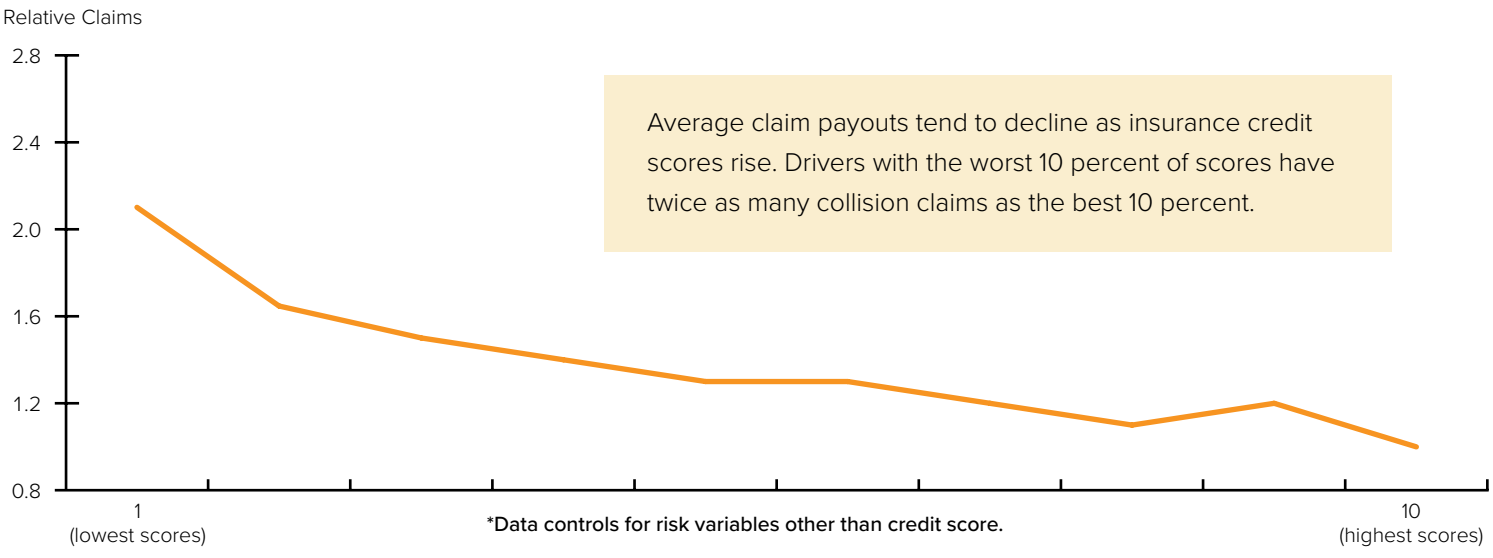
Risk-Based Pricing Benefits

- Price reflects risk, helps align premium paid with risk assumed
- Expands availability of coverage
- Promotes a competitive marketplace

The chart below illustrates how one frequently criticized rating factor for auto insurance – insurance-based credit scores – effectively tracks collision claim frequency. Drivers with the worst 10 percent of scores have twice as many collision claims as the best 10 percent.

Algorithms and artificial intelligence hold great promise for ensuring equitable pricing, but research has shown these tools also can amplify any biases in the underlying data. The actuarial profession has been researching and attempting to address these concerns for some time.

Collision Claims Track With Insurance-Based Credit Scores*



*Data controls for risk variables other than credit score.

Source: National Association of Insurance Commissioners (NAIC)

Climate affects pricing

When it comes to homeowners' insurance, climate-related risks have further complicated pricing. Areas that were once less vulnerable to certain natural perils – such as wildfire and hurricane-related flooding – increasingly are being affected by these costly events. Furthermore, more people have been moving into at-risk areas on the coasts and in the wildland-urban interface (WUI), putting more property into harm's way. Insurance pricing has to reflect these increased risks to maintain policyholder surplus – the funds regulators require insurers to keep on hand to pay claims.

In some states, this increased risk – combined with regulatory decisions that make it hard to raise premium rates to the levels needed to adequately meet it – has forced some insurers to make hard and undesired decisions to reduce their exposure and not write as many policies and even withdrawing from states completely. In these states, not only has homeowners' coverage become less affordable – in some cases, it has also become less available.

The role of inflation

As material and labor costs rise, the cost to repair and replace damaged homes and vehicles increases. If premium rates don't reflect these increased costs, insurers would quickly exhaust their policyholder surplus. If their losses and expenses exceed their revenues by too much for too long, they risk insolvency.

But insurers do more than pay claims: They employ people (labor costs) and conduct business operations (supplies and energy costs).

Insurers also invest heavily in technology and data to help streamline operations and improve the identification and pricing of risk, as well as customer experience. If they are to remain in business, they have to earn a reasonable profit.

A role for government

When insurance costs rise – as they are doing across the nation for many reasons, including those mentioned above – policymakers naturally want to do something to address the impact on their constituents. Unfortunately, the measures they often find immediately appealing are ones that would do more harm than good.

This is unfortunate, because government can do much to improve these conditions.

A good start would be for state and local governments to help reduce risk by modernizing building codes and incorporating resilience into their infrastructure investments. The cost savings associated with modern codes have been well documented.

They also can work with insurers and other stakeholders to incentivize homeowners to invest in mitigation and resilience. The Strengthen Alabama Homes program is a great example of one such collaboration between state government and the insurance industry that has measurably improved results and that is beginning to be imitated by other states.

Triple-I, along with its members and other partners, is working on many such collaborations and would welcome the opportunity to work with more businesses and communities to reduce perils and other cost drivers in ways that are imaginative, effective, and sustainable.

Learn More:

- Calls for Insurance-Price Legislation Would Hurt Policyholders, Not Help
- Easing Home Upkeep to Control Insurance Costs
- Study Touts Payoffs From Alabama Wind Resilience Program
- Insurance Affordability, Availability Demand Collaboration, Innovation
- Outdated Building Codes Exacerbate Climate Risk
- L.A. Homeowners' Suits Misread California's Insurance Troubles
- Data Granularity Key to Finding Less Risky Parcels in Wildfire Areas
- Calif. Risk/Regulatory Environment Highlights Role of Risk-Based Pricing
- Actuarial Studies Advance Discussion on Bias, Modeling, and A.I.
- Accurately Writing Flood Coverage Hinges on Diverse Data Sources