Auto Insurance Industry Leaves Billions on the Table

Failure to Stem Premium Leakage Forces Good Drivers to Pay More

A report by Quality Planning
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Quality Planning

In 2008, premium leakage cost auto insurers $15.9 billion. Most of it could have been prevented.

In 2008, the private passenger auto insurance industry missed $15.9 billion in premiums because of rating errors. This estimate is based on nationwide premium audits conducted by Quality Planning, a Verisk Analytics company that specializes in the validation of policyholder information. Premium rating error represented 9.8% of the total $161.7 billion in personal auto premium written. Without action, insurers will continue to miss billions more over the coming years — a worrisome thought in today's uncertain economic times.

This report, *Auto Insurance Industry Leaves Billions On the Table*, aggregates and summarizes audit results of more than 4 million policies from multiple carriers. The sample includes substandard to preferred books of business, all distribution channels, and national and regional carriers.[1] Sample results were weighted to reflect the total national private passenger auto line.

In this report

[1] The sample was limited to audits for which Quality Planning maintains contractual rights to aggregate data for industry analysis.

1. The Symptoms: The Effects of Rating Error

Direct Premium Loss

For individual carriers, opportunities for profit gains in rating error reduction are significant. In a good year, individual carriers might have average profits of 5% of premium. Under such circumstances, every 1% reduction in error can result in a 20% profit gain. Likewise, every 1% of error left uncorrected results in a 20% profit loss.

Risk Management Costs

Rating error leads directly to failures in risk management. For instance, policies with unrated 16-year-old male drivers in the household experience an average loss ratio of more than 200%.

Moral Hazard Costs

An often-overlooked cost of rating error is moral hazard. Analyses repeatedly demonstrate that individuals who misreport policy-rating information are associated with high loss experience. For example, an individual driving 20,000 miles per year but reporting mileage of 5,000 will, on average, have higher claim costs than an individual driving and reporting 20,000 miles.

Rating error also causes honest policyholders to subsidize dishonest ones — generally leading to low-risk drivers subsidizing high-risk drivers.

Similarly, the majority of agents who work to determine premium accurately have a strong interest in rating integrity. In the absence of meaningful controls, however, the honest agent is placed at a competitive disadvantage by the minority of agents willing to rate a policy inaccurately in order to obtain a cheaper quote and close a sale.

Business Management Costs

The modern insurer relies heavily on rating and underwriting data in all primary areas of corporate management. Policy data provides key inputs to marketing, sales, business segmentation, financial planning, corporate planning, and staff compensation, among others. Errors — or worse still, systematic biases in underwriting data — deteriorate performance in all management functions.

2. The Cause: What's behind Rating Error and Premium Leakage?

Rating error can happen at any stage of the underwriting cycle: sales, risk analysis, policy servicing, and renewal. While significant error occurs at initial application, analysis shows that the majority of rating error — and massive premium leakage — arises through changes in rating factors over time.

Cause #1: Consumer Fraud

It is those people who are well informed on how rates are determined who perpetrate auto insurance fraud. They intentionally misrepresent their circumstances and then rely on the fact that most companies are either indifferent or incapable of detecting the misrepresentations. A growing concern is cunning individuals who intentionally mislead auto insurers after being schooled on websites that outline exactly how motorists can reduce their automobile insurance by lying about key facts.

Just type the words "automobile insurance reduce premium" into Google, and one is presented a seemingly endless list of websites that provide tips on how to pay less for one's insurance. While many are legitimate, the typical website lists all the rating factors, making it clear which are open to misrepresentation.

What is even more worrisome is that these websites often encourage policyholders to switch companies and even coach them on how to get the lowest quote from a competitor. Of course, those types of customers aren't necessarily ones that a carrier would like to acquire, so safeguarding against them is imperative.

Cause #2: Change

But Internet tips on how to commit fraud are not the industry's only enemy. Another is the nature of America itself. Americans lead more dynamic lives than ever; every hour there are[2]:

- 254 marriages and 124 divorces
- 25,608 vehicles registered, of which 6,402 are new
- 163 drunk-driving arrests
- 5 traffic fatalities
- More than 2,800 auto insurance claims paid
- 445 new driver's licenses issued

On top of all this, every hour 3,453 Americans move, and another 6,526 change jobs.

The risk profile of auto policies is constantly changing, making personal auto insurance risk management a rapidly moving target. Consider job changes: The

[2] Marriage and divorce statistics from Census Bureau Current Population Reports; move estimates based on 2000 U.S. Census; job change estimates from the Bureau of Labor Statistics; drunk-driving arrests from MADD website; traffic fatalities from Department of Transportation; and auto claims paid from National Association of Insurance Commissioners and National Association of Independent Insurers Fast Track.

time has long passed when a worker got a job soon out of school and stayed with the same company throughout his or her career. In fact, the average worker has held ten jobs by the age of 36. Overall, 25% of workers change jobs every year. Why should underwriters take note of this trend? Because, if an individual's job changes, it is likely to be associated with changes in vehicle usage, commute distance, and annual mileage.

Unlike homeowners insurance, the basic facts of personal auto insurance change frequently.

- 52 percent of household auto policies experience a change of vehicles or drivers every year
- Nearly 30 percent of households replace vehicles every year

Newly acquired vehicles are associated with changes in vehicle-driver assignment, annual mileage driven, commute, and other rating factors.

While insurers provide policyholders with multiple methods to report changes, many changes aren't reported at all. Not surprisingly, policyholders are significantly more likely to report life changes that reduce auto premium than changes that increase premium.

In fact, analysis shows that policyholders are more than **five times more likely** to report midterm mileage changes that lower annual premium than to report mileage changes that raise premium.

Every day in the course of conducting premium audits, Quality Planning uncovers examples of this behavior: for instance, younger drivers who retain the policy address of their parents in the suburbs long after they've moved to higher-rated territories in central cities, or individuals who've changed jobs and extended their commute but somehow forgot to let their insurance company know. One suburban mom, when asked about her 17-year-old daughter who was not listed on the policy, emphatically stated that she "totally forgot she was in the household!"

3. The Tab: Losses Broken Out by Rating Factor

Almost $16 billion was lost in 2008 because of premium rating error. It's important to understand how this error is broken down, revealing areas where leakage can — and should — be prevented.

Types of Rating Error

This study of premium rating error for 2008, conducted by Quality Planning, found substantial rating error exists in all common factors used to determine auto premium. Table 1 presents estimated premium loss by rating factor.

Table 1: Premium loss by Rating Factor

Private Passenger Auto	Percent of Premium	Total Error Cost ($ Billions)
Vehicle Rating Factors		
Commute	1.00%	1.6
Annual Mileage	0.90%	1.5
Vehicle Usage	0.90%	1.5
Vehicle Characteristics, Discounts[3]	0.35%	0.6
Rated Territory	0.82%	1.3
Vehicle Subtotal	**3.97%**	**6.5**
Driver Rating Factors		
Unrated Operators	1.60%	2.6
Vehicle-Driver Assignment	1.05%	1.7
Driver Characteristics, Discounts[4]	1.45%	2.3
Violations/Accidents	1.40%	2.3
Driver Subtotal	**5.50%**	**8.9**
Other Rating Factors[5]	0.30%	0.5
Total Rating Error	**9.77%**	**15.9**

Rating error costs were found to vary greatly by individual insurer. The amount and kind of rating error vary by many factors, including characteristics of the book of business, geographic location, distribution channels, rating plan, rate pursuit history within the company, state regulatory environment, agent relations, and underwriting standards.

[3] Includes symbol, safety discounts such as alarms, and vehicle body type discounts.
[4] Includes years driving experience, age, marital status, student discounts, affinity group membership, driver identification such as DL and SSN.
[5] These factors vary greatly by carrier including multicar discounts, years insured, credit score, and multiple products.

4. Commentary: Comparison of ’07 and ’08 Statistics

The year 2008 saw a slight decrease (-0.18 percentage points) in auto premium leakage over 2007. The decrease was a cumulative effect of one of the most serious economic recessions since the great depression and record level gasoline prices (above $4.00) in the summer of 2008.

There is evidence that people drove less in 2008 due to the sticker shock of higher gas prices, so some of those insureds who were underreporting mileage earlier in the year actually ended up driving less when gasoline prices increased. As a result, for some of these individuals misreporting on mileage decreased slightly in 2008 (-0.05 percentage points) as compared to 2007. This finding is consistent with the National Highway Administration findings of decrease in annual miles travelled in 2008 (about 3.6 percent).

The economic recession led to widespread job losses in 2008, which resulted in fewer people commuting to work, leading to a drop in premium leakage caused by underreporting of commute mileage. Fewer job openings, coupled with the national mortgage crisis, led to fewer people moving because they found it difficult to sell their homes. According to the Census Bureau, the moving rate dropped to 11.9 percent from 13.2 percent in 2007. There was also a slight decline in premium leakage through business use of a vehicle as the construction work slowed down and the real estate business declined.

Quality Planning found a small upward trend in the misreporting of garaging address and youthful drivers, most likely due to an attempt by policyholders to lower their insurance costs. The trend was most striking in large urban areas where vehicle-garaging location may dramatically affect premium. Nationwide, one to two percent of all policies written include an unrated operator, who is most often a high-premium younger driver. Rated properly, these policies account for more than $2 billion of annual premium leakage.

5. The Prescription: How to Reduce Premium Leakage

The insurance industry can prevent multibillion-dollar premium leakage by leveraging new detection methods. These tools tackle the new dynamics of America: changing jobs, locations, life circumstances, and so forth. By adopting new approaches to ensure accurate rating, insurers can reduce premium leakage and, in so doing, increase profits. Here's how:

A Three-Step Rating Integrity Process Reduces Leakage by 60%

As mentioned earlier, rating error can be introduced at all stages of the underwriting cycle. Experience shows that premium leakage can be reduced by as much as 60 percent in a single policy period. While significant error occurs at initial application, Quality Planning's analysis shows the majority of rating error arises through changes in rating factors that occur over time.

On average, and after initial policy screening, 82% of audits uncover policies lacking enough premium to cover the intended risk. By efficiently revealing flaws in rating data, carriers can take the steps necessary to correct costly errors and improve profitability of a book of auto polices.

Step 1: Get It Right at the Point of Sale

To ensure rating integrity and limit premium leakage, insurers need to employ available technologies and conduct sophisticated data analyses. This should be done on all new business, in real time, from an agent's or customer service representative's desktop. New business audit checks should also be applied to numerous rating variables to identify potential rating errors.

Audit checks should look to verify:

Commute distance
Annual mileage
Vehicle garaging territory
Unlisted drivers
Accidents and violations
Identity theft
Farm use
Vehicle-driver assignment
Non-owned vehicles
Vehicle symbols
Salvage vehicles
Business use
Marital status
Commercial use
Criminal records
VIN identification

With additional analytic tools such as pattern analysis and statistical algorithms, insurers can flag questionable policyholder information for a variety of findings, including:

Vehicles garaged at a mail-drop address
Households with unreported youthful operators
Incorrect vehicle-driver assignments
Underreported commute distances
False driver's licenses and Social Security numbers
Commercial vehicles insured as private passenger autos

Step 2: Get It Right at Renewal

Whether or not a policy is reviewed at application, great likelihood exists that changes in everyday lives will create a different risk profile over time. A change in marital status, a job change, new cars, new houses, and 'new' 16-year-olds — all create very different risks. Staying on top of these changes can be accomplished by annually reviewing renewals.

The renewal review process is similar to a new business review, but it should be done in greater depth. By constructing the right combination of letter, website, and telephone communications, customer contact rates of 80 percent to 90 percent can be achieved. This is important not only for securing customer acknowledgment of rating variable changes but also for improving the overall customer insurance experience.

Far too often, a policyholder's only contact with his or her insurance company is the annual invoice. An annual 'checkup' call goes a long way toward maintaining a positive — and long-term — company/policyholder relationship but only if a few key concepts and readily available re-underwriting tools are implemented. For instance, a contact strategy that is both comfortable (for the policyholder) and comprehensive consists of letters, website interaction, and telephone calls.

When used appropriately in concert with each other, these methods of contact can be very effective. If calling, it's most beneficial to develop dynamic scripts that are customized to the specific re-underwriting effort and to follow calling patterns designed to find customers at home. These techniques can boost response rates well in excess of 80 percent.

Step 3: Develop a Long-Term Approach

Once an insurer has completed steps one and two — and cleaned up its auto book of business — a baseline of accurate information then exists to enable regular maintenance of a premium leakage program. The baseline will help enable affordable rating integrity effectiveness in coming years. The key is to avoid lapses that could allow rating error to creep back in. Studies show that changes made during re-underwriting have a life span of two to three years. That means there is substantial lifetime value in a rating integrity program that goes far beyond the first-year cost of execution.

A streamlined approach during the second and subsequent year reviews can be implemented at substantially lower cost. If a baseline for a particular policy is established in year one, and nothing changes on that policy in year two, then a process that can identify this policy and preselect it prior to a full review will pay sizable dividends.

The bottom line is that a great deal of time and effort goes into a one-year clean-up effort. But only minimal time and effort are required to *keep* an auto book clean. Smart companies realize this and have integrated rating integrity into their regular renewal processes.

6. Endnote

Increasingly, insurance companies are losing contact with their policyholders. Internet-based communication and mass-mailing techniques have replaced the direct contact that builds healthy customer relationships. From high turnover rates to adversarial relationships, there are hidden costs to this ever-increasing depersonalization.

In addition, the Internet itself is introducing policyholders to clever ways to commit fraud against carriers. Without detailed analytics and audits, this type of insurance leakage is virtually undetectable.

By conducting the research and analytics necessary, insurers can recover hundreds of millions of dollars in lost premium each year. If nothing is done, auto premium leakage will continue to rise year after year, cutting into carriers' profits and perpetuating higher-than-necessary annual auto premiums for most policyholders.

As a by-product of establishing an effective premium leakage detection program, carriers can re-establish direct contact with their policyholders. Direct contact will — in addition to putting a stop to premium leakage — help create a trusting relationship, lead to increased sales, and have an overall beneficial effect on future reported claims.

About Quality Planning

A Verisk Analytics company, Quality Planning is focused on providing rating integrity solutions to auto and home insurers. Quality Planning works with insurance companies to identify areas of significant rating errors using sophisticated database management, statistical analysis and modeling, customized survey design, and highly targeted customer interaction. Quality Planning helps clients work within their existing rating plans and charge fair prices to policyholders, based on a true representation of risk. The company was founded in 1985 and is headquartered in San Francisco. For more information, visit www.qualityplanning.com.

Appendix: Audit Methods

The 2008 premium rating error report aggregates and summarizes audit results of more than 4 million policies from multiple carriers. The sample includes substandard to preferred books of business, all distribution channels, and national and regional carriers.[6] Sample results were weighted to reflect the total national private passenger gross written premium.

Two primary methods were used to develop the estimates of rating error: *statistical risk estimators* and *direct measures*.

Statistical Risk Estimators: The first method we employ to estimate rating error is to compare the expected distribution of rating factors with the rated distribution. In the case of annual mileage, the expected distribution is the distribution given the characteristics of policies written. We expect the average new Ferrari to be driven an average of 3,500 miles per year and the average new Chevy cargo van to be driven more than 20,000 miles. Based on numerous studies of vehicle use patterns, we have estimated and validated equations that develop an expected mileage based on vehicle make, model, and year; number of vehicles in the household; garaging ZIP code; number of drivers in the household; age and occupation of driver; and so on. Actual odometer data from more than 80 million vehicles was used in developing the statistical models. For every vehicle insured, expected mileage is compared with reported mileage to detect any patterns of systematic error.

Direct Measures: The second method we use to estimate rating error is direct measurement. For more than a million vehicles in the sample, we had data for multiple odometer readings to evaluate actual annual mileage. In addition, for multiple carriers, we interviewed more than one million insureds concerning their vehicle usage patterns and annual mileage. Results of the odometer and interview data, in turn, were used to validate and refine the statistical models.

Statistical and direct measures were combined for each carrier in the sample and contrasted with rated values. These were then consolidated for this industry report.

[6] The sample was limited to audits for which Quality Planning retained contractual rights to aggregate data for industry analysis.