



**Streff Insurance Services** provides a wide range of actuarial consulting support to property and casualty insurance companies, self-insurance funds, and state insurance departments. We trace our roots back to 1983, when Jim Streff started our firm and was the sole employee of J. Streff & Associates.

Steve Streff joined in 1993 and the firm moved to picturesque Red Wing, Minnesota in 1995. Since then our client base has steadily grown and our relationships with our other insurance vendors have strengthened.

We are known for our concise and informative reports, independent views, and affordable rates. Open communication and a sharp focus on the end product are the keys to meeting project deadlines and keeping clients satisfied.

Our areas of specialty include loss reserves, pricing, reinsurance analysis, start-up feasibility studies, strategic management, and industry research.

## Welcome to *Focus*

Welcome to the first issue of *Focus*, the newsletter from Streff Insurance Services!

Each quarter we will discuss actuarial ideas relevant to your company. Some articles will be theoretical, most will be practical, and the rest will be both. We'll also share our opinions from time to time about timely topics. Whatever the subject, we hope you'll enjoy *Focus*.

Reserve articles will be a regular feature. In this issue, Steve begins a series of articles describing the reserving habits of strong companies. Accurate claim count records are an indication that a company's reserves have been carefully estimated.

Our clients are increasingly interested in getting the most out of their reinsurance program. The issue boils down to "how much risk should we retain." Simulation

techniques are particularly useful for determining the right retention limit.

Credit scoring is a controversial issue. Jim discusses some early indicators for companies weighing the effectiveness of their credit scoring system.

We expect and encourage your feedback on *Focus*. Your comments will help make it more informative and practical. *Focus* can be downloaded from our website at [www.streffinsurance.com](http://www.streffinsurance.com).

For additional copies, please send an email to [cheryl@streffinsurance.com](mailto:cheryl@streffinsurance.com). Cheryl Olson joined our firm in January. She provides word processing and spreadsheet support for Jim and Steve and is the editor of *Focus*.

## Retention Limits and Simulation

In the interest of protecting surplus and stabilizing annual results, practically all companies purchase reinsurance. Only the largest personal lines carriers are able to forego reinsurance. This gives them an advantage as they can avoid the frictional costs of passing off a portion of their business.

The rest of us are left to decide how to make the most of reinsurance. First off, we all can agree that catastrophe

reinsurance is a necessity for regional companies. Disastrous spring and summer storms would wipe out insurers without such protection.

Our analysis of cessions over the past decade for 52 Midwestern companies shows that the average ceded loss ratio was 150% in 1998. The lowest ceded loss ratio is 2004, with an average of 35%.



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## The Importance of Accurate Claim Counts

Have you ever golfed with just three clubs? It's possible but difficult. If you had a driver, seven iron and putter in your bag, long fairway shots and short chip shots would be a challenge. Maybe you lose a shot per hole. Maybe more. That's what it's like to have inaccurate reported and open claim counts in Columns 12 and 25 of Schedule P.

Companies that can generate accurate reported and open claim count histories allow regulators, rating agencies and actuaries to golf with a full set of clubs. Numerous secondary statistics can be generated to allow a richer and fuller reserve study. Extra confidence can be assigned to recommended reserves, resulting in tighter reserve ranges.

With accurate claims counts, three important statistics can be derived:

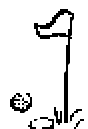
1. **Average Case Reserves.** Our clients will recognize this as our favorite secondary statistic. By dividing the case reserve history by the open claim counts, the average case reserve history is easily created. We like to gauge the strength of the case reserves. When the case reserves are strengthening in an extraordinary fashion, lower IBNR reserves might be permitted. In situations where the case reserves are stagnant or declining, the IBNR reserves probably need to be buttressed.
2. **Settlement Rates.** Most claims departments settle claims at varying rates over the years. This can have an impact on the paid losses patterns among other metrics. We make heavy use of settlement rates, which are simply the ratios of open claims to reported claims.
3. **Severity Trends.** Along with loss ratios, severity trends are an important "reality check". By dividing the projected ultimate losses by the projected the reported claims by accident year, the severity is easily computed. All things equal, severities have been increasing in recent years along with inflation.

"accurate claim counts will reflect well on the overall perception of your reserves"

Clients often ask if they should count claims on a per claim or per claimant basis. What matters most is consistency. Switching between claim and claimant bases can be worse than not tracking claims at all. Most companies record claims on a per claim basis and mark a claim as open if any sub-coverage is still unsettled. We prefer per claim basis because it allows companies to better compare themselves to industry benchmarks.

If you realize that the counts from past Annual Statements are inaccurate, Part 5 of Schedule P gives you a chance to correct past inaccurate claim counts. There is no penalty for this. We have seen companies take advantage of this option.

Finally and perhaps most importantly, accurate claim counts will reflect well on the overall perception of your reserves. Suspicions might be raised about your reserves if your claim counts are way off base.



## Retention Limits and Simulation (continued)

The bigger issue is where to set your per-claim retention limit. A rule-of-thumb states that a company's excess of loss limit should be set equal to 2% of its surplus. For example, if your surplus is \$10 million, then all losses above \$200,000 should be ceded away. This may be over-simplistic, as much depends on your underlying limits and probable maximum loss.

We advise companies to study their retention limits carefully. It is our general impression that companies cede away too much for non-catastrophic claims and are trading dollars every year on routine and predictable large claims.

The graph below demonstrates that a company's level of ceded premium and the volatility of its ceded loss ratios are inversely related. In other words, companies are simply trading dollars when they rely too heavily on reinsurance.

The red company is small, as indicated by the size of the bubble, and cedes just 12% of its premium. Because it cedes so little premium, the volatility of its ceded loss ratios is high. This company ceded a lot of losses in 1998 and 2001 and very

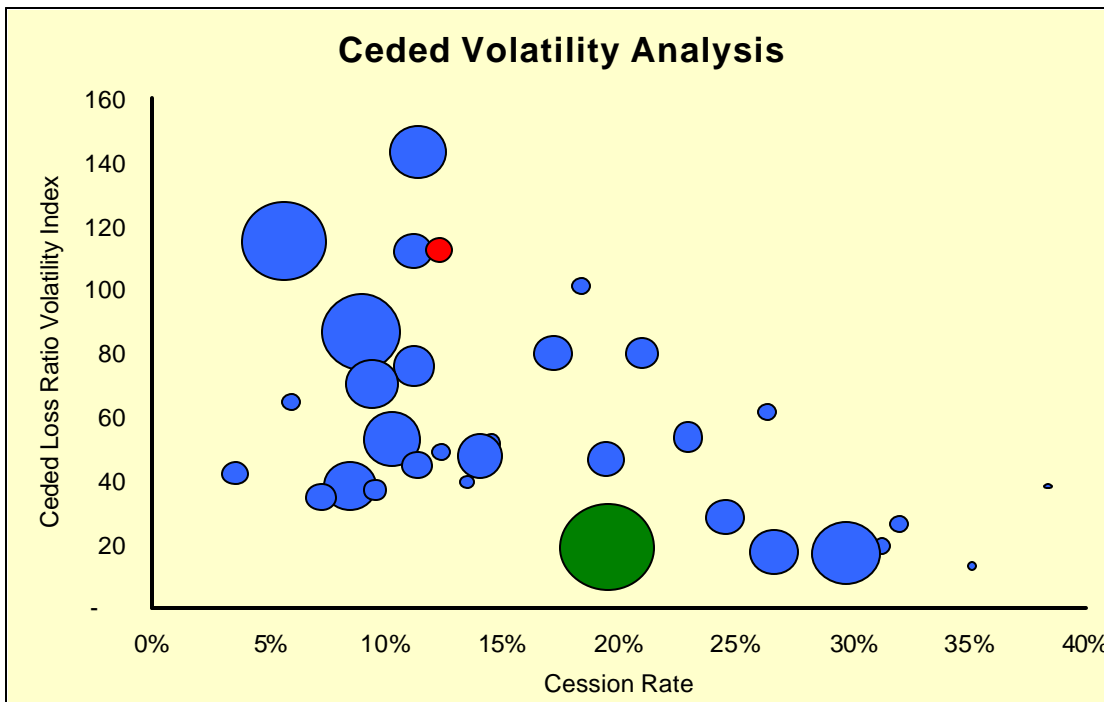
little in the most recent three years. We favor this company's efficient use of reinsurance.

The green company is the largest in our survey and cedes 20% of its premium. However, its ceded loss ratios are perhaps too stable. This is an example of ceding too much premium and over-using reinsurance.

Simulation techniques can help determine the right retention limit. With a five to ten year history of claims in electronic format, a statistical curve can be fit to the "shape" of the losses. This theoretical curve is then used to study the expected future losses above any given retention limit. This allows one to compare the current cost of excess of loss reinsurance to the predicted price so that informed reinsurance decisions can be made.

The real benefit of simulation is that it assigns confidence levels to all scenarios. The larger the claim database and the longer the history, the "tighter" the confidence range. Companies are then in a position to make the most of their reinsurance program and get away from trading dollars.

**"companies are simply trading dollars when they rely too heavily on reinsurance"**



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## Credit Scoring - An Actuarial Perspective

There is a powerful correlation between credit scores and expected loss ratios for auto and homeowners insurance. Numerous studies have shown this to be true. As each company builds credit scoring into their rate manuals, a few points should be kept in mind.

- If the credit score discounts are large, they will begin to encroach on other rating variables such as loyalty, multi-policy or safe driver discounts and take away from their discriminating ability.
- It might be a good time to re-examine the need for discounts such as driver's training or good student.
- In building good techniques for analyzing the effectiveness of credit score, create accurate exposure measures such as car or house years. Don't rely simply on earned premium.

Adverse selection and profit leakage can occur if a company becomes too passive in understanding all there is to know about the impact of credit scoring. There are things you can do. Compare the profile of the new business and expiring business by credit score category each month. If they don't match well, it may be an early signal that agents are not giving your company the "first look" at the customers with the best credit scores.

We can help your company create better ways to look at business intelligence related to credit scores. We would be happy to share ideas that have worked well for our clients.

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