

# FOCUS

P&C Actuarial Insight

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## Spring Notes From Steve Streff

The answer to the question you're asking yourself right now is "No. The postal service did not lose your last two issues of Focus." We at Streff Insurance Services just finished up a busy and successful year-end reserve season. A batch of pricing projects has also kept us busy well into spring. After six quarterly editions of Focus, we're shifting to a semi-annual format. We hope to deliver the same amount of actuarial know-how in half the number of issues. We'll use our website for extended articles and special downloads, so be sure to visit [www.streffinsurance.com](http://www.streffinsurance.com) every now and then.

The past year was a record-breaker for the industry. The estimated combined ratio of 93% is the best result since 1936. Most of our clients beat the industry, making our reserve projects more satisfying than usual. Everyone is feeling the effects of the current soft market: it's hard to grow policy counts, some companies are pricing irrationally, and expense ratios are creeping up. Looking into the future, it's hard to imagine how a hard market will form in the next several years, barring an event that washes away a third of the industry's capital. And who would wish for that? It would be wise to settle in to this soft market by holding to high underwriting standards and keeping expenses under control.

We recently completed three Dynamic Financial Analysis (DFA) models through our relationship with a reinsurance broker. Our models are built around each client's detailed loss history. Simulation techniques help identify the most sensitive items to the annual results such as the number of storms or the severity of individual casualty claims. Our models are built with the flexibility to adjust the current reinsurance program. This ensures that companies get the most bang for their reinsurance buck. Visit our website to learn more about DFA. We should have a sample DFA report on our website by the end of summer.

We welcome back Ryan Beckman to our firm. Ryan just graduated from Hamline University in St. Paul with a Mathematics degree. You'll remember that Ryan worked as an intern with us last summer. He is quite good at Excel and data analysis. He'll make a fine actuary someday, and perhaps it will be right here with us.

Instead of dropping rates across the board for all risk classes, our clients are now more likely to make selective cuts on their best insureds. Such moves require premium and loss information at the policyholder level. Most new rate cuts are given to insureds with good financial responsibility ratings. We're helping several companies with pricing projects along these lines.

Don't forget to rotate your IBNR reserves forward throughout the year. We advise keeping this process simple through the first two quarters, then sharpening the pencil as the year finishes up. For the mid-year reserves, take half of the IBNR from each accident year and move it forward a year. Be sure to verify that the resulting loss and LAE ratios square with the previous year-end ratios and recent case reserve development. We always recommend playing it safe with the current year, so check that the IBNR reserves for Accident Year 2007 are conservative.

Predictive modeling has gained popularity lately. The term refers to techniques that use a set of characteristics to predict future results by finding data relationships that may not be obvious. For example, what kind of insured is most likely to yield long-term profits? What loss characteristics lead to quick and favorable settlements? How can you tell if a new agent will bring good business? Like any other quantitative tool, predictive modeling must be combined with sound managerial decisions. Give us a call if you'd like to learn about predictive modeling.

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## Professional Liability Insurance - Actuarial Challenges and Opportunities

**L**ong-tailed lines such as medical malpractice, directors and officers coverage, and legal liability insurance have special qualities that set them apart from other casualty lines. Recognizing these traits can make the difference between profit and loss, growth and retreat. Keep these actuarial tips in mind when managing a book of professional liability insurance.

**Understand and accept the wild market cycles.** Because professional liability claims can take a decade or more to settle, there is great pricing uncertainty when a policy is sold. This uncertainty becomes magnified as the years wear on and can wipe out aggressive insurers that under priced their products. Combined with various external factors, hard markets usually form after years of stagnant premium growth, lackluster underwriting results and when key market leaders throw in the towel. The early months of hard markets are, of course, the best time to start a professional liability company.

For those of us already in the game, waiting for the next hard market seems to be the hardest part. Recognizing the current state of the market and accepting that there is little that a single company can do to change it should help management focus on the factors within its control. Today's soft market is the wrong time to cut prices across the board. Instead, it's the right time to strengthen your relationships with your best policyholders with select rate cuts.



### **Incorporate alternative reserving techniques.**

The standard incurred and paid projection techniques often fail in professional liability reserves analyses, especially for small companies and almost always for the current accident year.

The Bornhutter-Ferguson method acknowledges that little is known about the current accident years and blends in the expected loss ratio. This method gained widespread acceptance long ago because of its intuitive approach and basis in statistical theory.

There are other "out of the box" methods that rely on detailed assumptions about severity, inflation and the closure rate. We recently built such a model for a medical client. Simulation techniques might also have a place in professional liability reserve studies. They are especially good at setting a range around a midpoint estimate.

**Set a legal strategy.** Some companies alternate between legal strategies. They settle claims quickly one year and then defend similar claims with force the next year. This can be dangerous as it is difficult to lose one's way. It's best to stay with a legal strategy through various markets. In any event, defense costs and losses can serve each other in a complementary fashion. Combining losses and DCC expenses in the reserve study can accommodate any shift in legal strategy. A good actuary will be able to keep the losses and DCC expenses separated and measure the adequacy of each reserve category.

**Go deeper than Schedule P.** For all its rich beauty, Schedule P falls short for professional liability reserves. Since there's still a lot of action beyond ten years, selecting a tail factor, especially the paid tail factor, can be a stab in the dark. Going out to 15 years would add great value to the reserve analysis; 20



years would be a dream. Internal loss databases can be used to build data histories beyond Schedule P's limitations. Also, the details of large claims from such databases can help your actuary set reserves, especially on the older years. We've found that companies have made much progress in recent years downloading data to Excel data files.

**Respect New Claims.** Unlike property claims where the details are quickly known, it takes months if not years for the facts to come to light in most professional liability claims. Even freshly reported "potential" claims should get respect. Try to pick a case reserve amount that every new claim will get, no matter the likelihood of eventual payment. We advise an initial reserve of \$5,000 to \$10,000 on all new claims. Ratchet this initial reserve up a little bit every year. Since most of these "potential" claims will settle for no cost, you'll see some comfortable reserve releases in due course. These releases can be transferred to the few claims that get big.

### **Prepare for the next hard market.**

Visionary firms will spend years patiently watching for signs that market conditions are set to turn. The final leg of past soft markets have been marked by companies pulling out of trouble states, legacy companies going bankrupt and widespread talk about "a permanent soft market". Those are signs that the market is turning. Until then, continue to build a platform that can take off when pricing conditions improve. Plant seeds in new lines and territories. And don't forget: all previous soft markets have ended.

## Reserve Leverage – An Insight on Solvency

Much regulatory attention is devoted to the ratio of net written premium to surplus, and rightly so. There is a clear historical link between high premium to surplus ratios and insolvencies. The long-standing industry average was a ratio of 2 to 1, but that average has drifted downward over the years to just under 1 to 1 where it stands today. There are now far fewer insolvencies due to premium leverage than there were a generation ago, owing mostly to universal respect of the ratio's predictive power.

Insufficient reserves are now the leading cause of insolvency. For large companies or long-tailed lines, estimating the reserves accurately can be difficult, even where an entire team of actuaries is dedicated to the task. Given that reserving is an imprecise discipline, it is wise to build in a small margin of safety in the event that your reserve model is off. A review of the most respected firms' reserve run-off would indicate that a 5% to 10% reserve adequacy level is common.

The nearby table shows the ratio of reserves to surplus ranked in descending order for the fifty largest companies. High ratios underscore a company's vulnerability to reserving missteps. A company with a reserve leverage ratio of 2.0 implies that if its reserves are under funded by just 5% then the surplus is overstated by 10%. Such a surplus correction could impair a company's condition and lead to a downgrade.

Companies with high reserve leverage ratios tend to stress commercial insurance. It makes us a little nervous to see that CNA has a leverage ratio of 2.9. That firm has a long history of weak reserves, especially on old liabilities. Notice how Liberty Mutual and Ohio Casualty, which will combine later this year, both have the same leverage ratio of 2.1.

All companies should be aware of their reserve leverage. A ratio under 1.0 could be considered conservative and a ratio above 2.0 would call for extra reserve attention.



### Reserve Leverage Ratios

Company	Reserve to Surplus Ratio	Reserve Inadequacy that would lead to a 10% Surplus Drop
State Comp. Fund of CA	4.6	2%
State Ins. Fund of NY	3.5	3%
CNA	2.9	3%
Zurich U.S.	2.6	4%
ACE	2.6	4%
St. Paul Travelers	2.4	4%
W.R. Berkley	2.3	4%
Everest Re	2.3	4%
AIG	2.2	5%
Liberty Mutual	2.1	5%
Markel	2.1	5%
Ohio Casualty	2.1	5%
Firemans Fund	2.0	5%
Hanover	2.0	5%
Swiss Re America	2.0	5%
Selective	2.0	5%
Chubb	1.8	6%
Fairfax	1.8	6%
Employers Re	1.8	6%
Great American	1.7	6%
Farmers	1.6	6%
NJM	1.4	7%
Safeco	1.3	8%
Old Republic	1.3	8%
Allstate	1.2	8%
Nationwide	1.2	8%
Hartford	1.2	8%
MetLife Auto & Home	1.2	8%
Sentry	1.2	8%
Progressive	1.1	9%
Erie	1.1	9%
Unitrin	1.1	9%
Westfield	1.1	9%
White Mountains	1.0	10%
Winterthur	1.0	10%
American Family	0.8	13%
Auto-Owners	0.8	13%
Cincinnati	0.7	14%
Mercury General	0.7	14%
Country	0.7	14%
GMAC	0.6	17%
State Farm	0.5	20%
Berkshire Hathaway	0.5	20%
FM Global	0.5	20%
Southern FB	0.5	20%
Commerce	0.5	20%
Assurant	0.5	20%
USAA	0.4	25%
CA State Auto	0.3	33%
Automobile Club of So. CA	0.3	33%

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*Streff Insurance Services provides a wide range of actuarial consulting support to property and casualty insurance companies. We trace our roots back to 1983 and have been located in picturesque Red Wing, Minnesota since 1995. Since then, our client base has steadily grown and our relationships with our other insurance vendors have strengthened.*

*We are known for our informative reports, independent views and practical advice. 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.*



## Notes from Steve Streff (continued from front)

It's not every day that you accept losing three clients, but that's what happened in early May. South Dakota exempted farm mutuals that cede all liability premium and reserves from needing an actuarial opinion. These small companies have few late claims and the known claims are usually well reviewed. An actuary can add only minor value to the reserve process of insurers that retain only property reserves. It is our hope that our actuarial advice makes you more profitable. We try to go well beyond the minimum requirements of the opinion and loss reserve report to address the issues most important to you.

On the topic of year-end reserves, we are actively looking for new year-end 2007 clients. Drop us a line if you'd like a proposal. We offer all prospective clients a complete review of the 2006 reserves to illustrate our style. Since a second opinion is unofficial and can be conducted during the summer, we can bid these projects at a discount. Call us if you'd like us to look at your reserves.

We also offer reviews of your current actuary's reserve study. More than likely, our check-up will confirm that your reserves are being reviewed with appropriate methods and that the advised reserves are reasonable. Of course, there is the chance that your reserve study is off base. Our peer review will give you the confidence you need to have about your reserve study.

Have you upgraded to Excel 2007 yet? It's a beauty. The new version allows up to 1 million rows and 16,000 columns. It also does away with the standard menus on the top and replaces them with "ribbons". These ribbons are intuitive and will be welcomed by novices. Other new features include better graphs, pivot tables and printing options. For our purposes, the extra rows and columns are like a gift from Heaven. The new Excel will take the hassle out of big data analyses. But like most upgrades, it's probably best to buy a new computer, rather than stretch an old computer.

*Steve*

