A PUBLIC POLICY PAPER

Property/Casualty InsuranceCompany Insolvencies

September 2010

American Academy of Actuaries
Property/Casualty
Financial Soundness/Risk Management Committee

American Academy *of* Actuaries

Property/Casualty Insurance Company Insolvencies

September 2010

Developed by the
Financial Soundness/Risk Management Committee
of the American Academy of Actuaries

AMERICAN ACADEMY *of* ACTUARIES

2010 Financial Soundness/Risk Management Committee

Debbie Rosenberg, Chairperson

AMERICAN ACADEMY of ACTUARIES

1850 M Street N.W., Suite 300
Washington, D.C. 20036-5805

TABLE OF CONTENTS

PROPERTY/CASUALTY INSURANCE COMPANY INSOLVENCIES

Introduction

The Property/Casualty (P/C) Financial Soundness/Risk Management Committee (FSRM) of the American Academy of Actuaries[1] is charged with providing actuarial support, advice, and communications on topics that involve the soundness and risk management of P/C insurance. Since 2003, members of the Casualty Practice Council have researched the effects of loss reserve development in the P/C industry. This discussion is a product of ongoing research by committee members seeking to explore the role that the development of losses plays in the insolvencies of P/C insurance companies.

The Academy, through its Committee on Property and Liability Financial Reporting (COPLFR), issued two such studies in the 1990s. In each of the previous studies, COPLFR requested that chief examiners of the various insurance departments in states where the insolvent companies were domiciled complete a questionnaire for each of the insolvent companies.

The three main conclusions of the first study, *Study of Insurance Company Insolvencies from 1969-1987 to Measure the Effectiveness of Casualty Loss Reserve Opinions*, issued in 1990, were as follows:

1. <u>The most common cited principal cause of insolvency was “under-reserving.”</u> “Under-reserving” was noted in 58% of the insolvencies for which causes were identified. “Mismanagement” was the second most frequently identified cause of insolvency cited in 41% of the responses.
2. <u>Many of the loss reserve opinions for companies subsequently declared insolvent were qualified or conditioned in some manner.</u>
3. <u>In the majority of insolvencies studied, no loss reserve opinion was rendered</u> (81 of 105 cases).

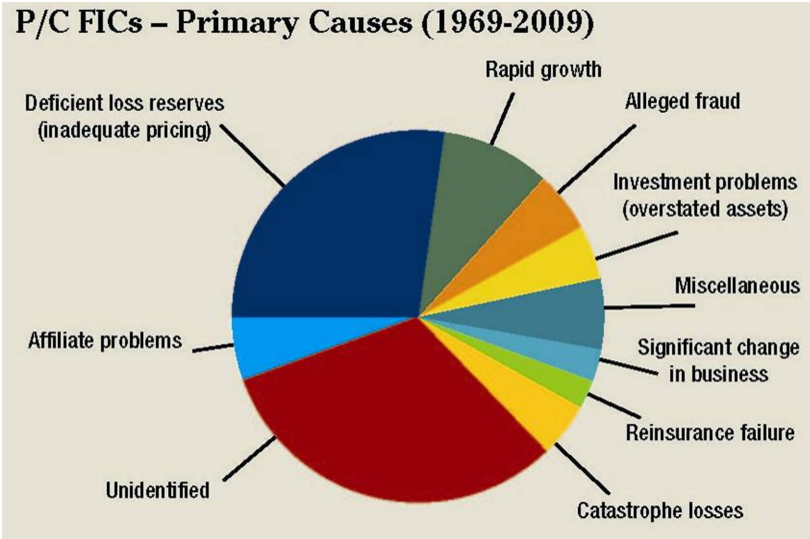
[1] The American Academy of Actuaries (“Academy”) is a 17,000-member professional association whose mission is to serve the public on behalf of the U.S. actuarial profession. The Academy assists public policymakers on all levels by providing leadership, objective expertise, and actuarial advice on risk and financial security issues. The Academy also sets qualification, practice, and professionalism standards for actuaries in the United States.

The four main conclusions of the second report, *Study of Property-Liability Insurance Company Insolvencies During 1988-1990 with Regards to Statements of Actuarial Opinion*, issued in 1992, were:

1. <u>The most common principal cause of insolvency cited by the regulator was "under-reserving."</u> "Under-reserving" was noted in 58% of the insolvencies in the first study and in 62% of the insolvencies in the second study for which causes were identified. "Mismanagement" was the second most frequently identified cause of insolvency, cited in 41% and 36%, respectively, of the responses.
2. <u>Of the insolvencies studied, a statement of actuarial opinion was rendered in 24 cases out of the 105 responses (23%) in the first study and in 42 cases of the 70 responses (60%) in the second study. (35 of the 42 included a copy of the latest opinion rendered)</u>
3. <u>Of the opinions rendered, 11 out of 24 in the first study (46%) and 7 out of 35 in the second study (20%) were rendered by actuaries.</u>
4. <u>Many of the loss reserve opinions rendered by qualified actuaries for companies subsequently declared insolvent were qualified or conditioned in some manner</u> (4 of 9 cases in the first study and 4 out of 7 in the second study).

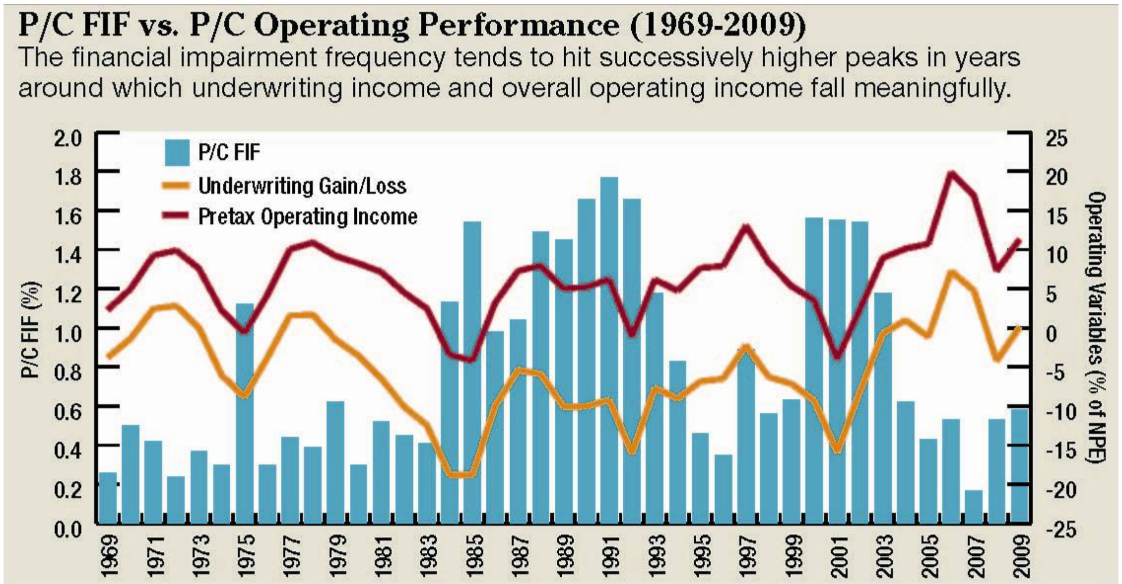
Historical Perspective

To begin the present study, members of the FSRM Committee reviewed the May 2010 A.M. Best annual report on company impairments. A.M. Best cites deficient loss reserves/inadequate pricing and rapid growth as the major causes of financial impairments in the P/C industry over the past 41 years.



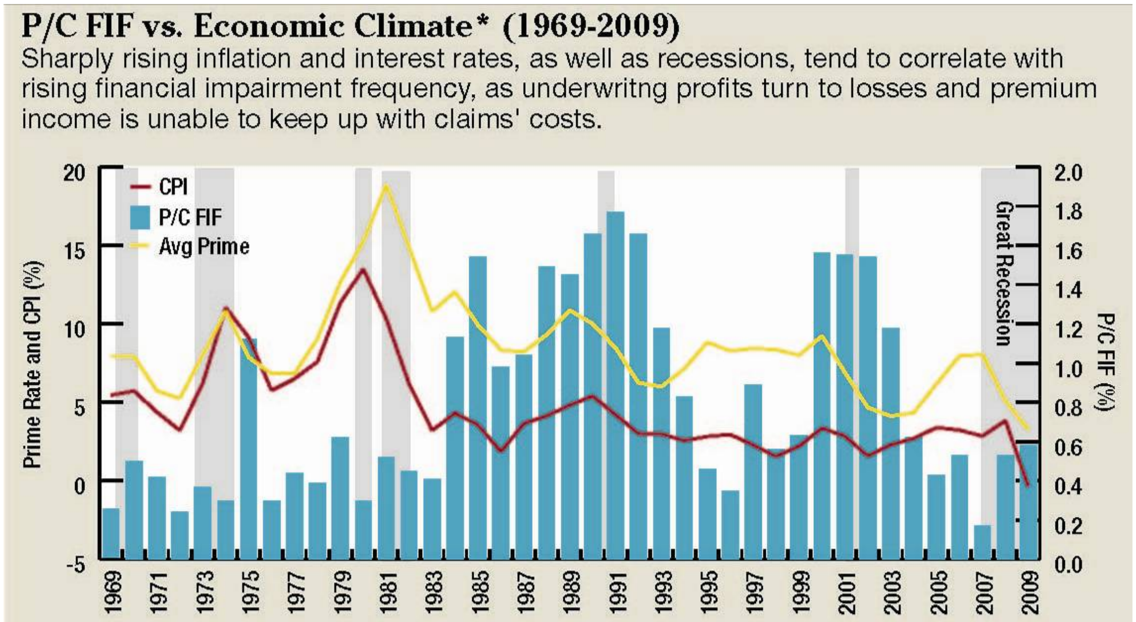
Reprinted with permission of the A.M. Best Company.

While an impaired company may not necessarily be declared insolvent, the causes of impairments are often precursors to insolvencies. Impairment rates also are highly correlated with underwriting performance, as illustrated in the following graph:



Reprinted with permission of the A.M. Best Company.

A.M. Best also looks at how the rate of impairment correlates with the economic climate.



Shaded areas represent official recessions.
Reprinted with permission of the A.M. Best Company.

Sharply rising inflation and interest rates tend to correlate with an increase in the number of impairments.

Scope of the Current Research

Since the last Academy report was issued in 1992, the science of enterprise risk management (ERM) has evolved, and the risk-focused surveillance framework has been introduced to provide tools for early identification of troubled companies. The FSRM committee determined this would be an ideal time to revisit the issue of company insolvencies, with an eye toward achieving the following goals:

- To determine if inadequate loss reserves still would be identified as the primary cause of insolvencies. When loss reserves are found to be deficient, an insurer must increase reserves, thereby depleting its capital and surplus.
- To assess what role the SAO has played in helping to mitigate P/C insurer insolvencies. The SAO has been in effect for nearly 30 years and has undergone significant changes over that time.

To examine these issues, the FSRM Committee chose to examine the problem through the following means:

- Revisiting companies that experienced the largest loss reserve development in the early 2000s to assess how they fared and to identify some of the distinguishing characteristics that allowed some to survive while others failed;
- Establishing a current listing of companies with significant loss reserve development to try to identify the cause or causes of this problem, leveraging available company data in conjunction with the SAOs;
- Researching recent insurer insolvencies to identify the underlying causes, including how well SAOs worked to distinguish these companies prior to insolvency.

Summary of Observations

Based on the results of these analyses, the FSRM Committee concluded that underreserving, by itself, is not the leading cause of insolvency. This is consistent with current ERM theory, which encourages each company to develop its own ERM culture using an individual assessment of all functional areas and determining how those areas relate to company solvency. Although the FSRM Committee identified deficient loss reserves/inadequate pricing, rapid growth, and alleged fraud as major causes of insolvency, there does not appear to be one primary cause. Where multiple causes of insolvency are listed, it is not clear that any one cause is independent of the others. For example, mismanagement often is cited as the cause of insolvency—but mismanagement can manifest itself in many ways, including deficient loss reserves and inadequate pricing.

- A retrospective look at the status of the 30 companies that were identified as having the greatest deficiencies in their 2001 loss reserves as of year-end 2002 resulted in the following observations:
    1. Of these companies, 80 percent are actively writing today and are not in financial difficulty.
    2. Most of the companies either were very large or were subsidiaries of very large companies.

3. Almost all the loss reserve development occurred in commercial lines, including asbestos and environmental (A&E).
4. The long tails of their liabilities gave these companies more time to better evaluate and fund their liabilities, thereby strengthening their financial positions.
5. Beginning in 2004, SAOs include a more robust discussion of risk factors.

- Identification and analysis of the 30 companies with the largest loss reserve development based on 2008 data revealed the following:
  1. The most severe adverse loss reserve developments were driven mainly by the broader financial crisis.
  2. Almost half the companies were repeat offenders in that they also were among the top 10 companies with the largest loss reserve development, based on 2007 data.
  3. Risk of material adverse deviation (RMAD) disclosures were issued infrequently by the appointed actuaries of the Top 30 companies.

- Analysis of the 36 P/C companies that became insolvent between 2005 and 2009 revealed the following:
  1. The companies, in general, were small, relatively new, and/or concentrated in one line of business or state.
  2. Indicators of poor management were apparent, as evidenced by inadequate levels of reinsurance, rapid premium growth, data problems, underpricing, and underreserving.
  3. SAOs, for the most part, did not include a robust discussion of risk, nor did they identify when there was an RMAD.

The results of these analyses are discussed more fully in the sections that follow.

1. A Retrospective Look at the 30 Companies With the Greatest Loss Reserve Development in 2002 From 2001 Losses

A perfect storm presented itself in 2001 with the convergence of the bottom of a soft pricing cycle, deterioration of California workers compensation (WC) results, the Sept. 11 attacks, and A&E development. In 2002, the deficiencies in the 2001 reserves emerged, and P/C actuaries were criticized for either getting the reserves wrong or failing to insist that management book stronger reserves. Of the $23 billion in adverse loss reserve development that emerged in 2002 on 2001 reserves, nearly $18.5 billion (80 percent) was in the 30 companies that had the highest dollar amount of adverse development. For this section, the committee looked back at those 30 companies and reviewed their opinions and financial results for the years leading up to the 2002 development, as well as what has transpired since then. See Appendix 1.

General Observations

By 2002, the Casualty Actuarial and Statistical Task Force[2] of the National Association of Insurance Commissioners (NAIC) already had begun work on modifying the actuarial opinion instructions after the introduction of Actuarial Standard of Practice (ASOP) No. 36, *Statements of Actuarial Opinion Regarding Property/Casualty Loss and Loss Adjustment Expense Reserves*. The revisions to the instructions were effective for year-end 2004 opinions. While there were some high-quality opinions prior to 2004, the revised instructions appear to have triggered a more rigorous discussion of risks in opinions issued in 2004 and later. Signers now were required to indicate whether there was an RMAD, to identify those risk factors, and to define what they considered to be material. Before 2004, signers only were required to comment if they believed there was a risk of insolvency.

Some additional observations:

- Of the 30 companies, 22 were rated A or better by A.M. Best, including 11 that were rated A++.
- Only 12 of the 30 opinions in 2001 indicated the presence of an RMAD. Yet 27 of the 30 experienced adverse deviation greater than 10 percent of surplus in 2002. Through 2008, all 30 experienced development greater than 10 percent of surplus on the 2001 reserves.
- Three of the companies experienced significant adverse development related to personal lines, mostly due to mold. The majority of the development was due to WC, medical professional liability, and A&E.

[2] At the time, the Casualty Actuarial and Statistical Task Force was known as the Casualty Actuarial Task Force.

- In 2001, nine opinions were signed by consultants. Three of the nine contained RMAD statements. The other 21 were signed by company actuaries. Nine of these had RMAD statements. Since these 21 companies were generally larger companies, there were a greater percentage of company actuaries signing the SAO. Consultants had a lower percentage of RMADs than company actuaries.
- The $23 billion of adverse development was only 6 percent of the total industry surplus of $378 billion—but the $18.4 billion for these 30 companies was 23 percent of their surplus. Subsequent development in nine of the 30 companies is greater than their 2001 surplus. In other words, if they had known and booked the true ultimate value of their reserves in 2001, they would have been insolvent. While it is not possible to calculate accurately a revised risk-based capital (RBC), at least an additional 11 companies would have been in some type of RBC action level, had they known and booked their ultimate reserves.
- Six of the companies on the list were reinsurers.

In the sections that follow, the 30 companies will be discussed individually in more detail.

The Best of Those Companies With Adverse Loss Reserve Development

- Three companies made the list simply due to their size.
- Their 2002 development was less than 10 percent of their 2001 surplus.
- They are still large active participants in the market, although one has since been acquired by another company.
- Their surplus is equal to or greater than their surplus in 2001.
- Their RBC ratios in 2008 were 400 percent, 500 percent, and 600 percent.
- Although their 2001 reserves continued to develop adversely, their recent reserve positions appear quite stable.
- Two of the three indicated an affirmative RMAD in 2008.

Those Companies No Longer Actively Writing

- Six of the companies either are no longer writing business or are not writing the same type of business they were writing in 2001. While one of the six was quite large if measured by its 2001 surplus, the others were five of the smallest companies that made the list.

- Of the three reinsurers in this category, one has been in runoff since October 2002. The 2002 SAO contained an affirmative RMAD, as has every opinion since then. While it has been close to insolvency in the past, the company appears to have stabilized. The actuary wrote a good discussion of risk factors in the SAO.
- The other two reinsurers in this category are members of the same group of companies and were purchased by another reinsurer in 2006. At that time, one of the companies ceased to exist as a separate entity. It had affirmative RMADs throughout our review period with good discussions of risk factors. It was largely an excess reinsurer that suffered heavy adverse development from 2002 until its end in 2006. The second reinsurer in this group also has had robust descriptive SAOs and RMADs since 2000. It is in runoff as a reinsurer, but continues to write primary business. The company had several parental infusions of capital prior to its acquisition in 2006.
- The most distressed company was insolvent by the end of 2002, and it was put into liquidation in 2003. The 2001 SAO is the only pre-insolvency SAO available. It was a reasonable opinion with little or no discussion of any risk factors, except to state that the RBC was below the authorized control level (ACL). There was no affirmative RMAD stated in the SAO by the consulting actuary.
- One company was already in runoff before 2001. The company was technically insolvent but had a parental agreement and retroactive reinsurance in place. Its liabilities were largely A&E. The SAOs had good discussions of risk from the company actuary, including affirmative RMAD statements.
- The final company, no longer actively writing, has been in runoff since 2002. Neither the 2000 nor 2001 SAOs indicated that the company was experiencing any difficulties. The RBC fell from 486 in 2001 to 114 in 2002. There has been an affirmative RMAD each year since 2002.

Special Cases

- Two of the companies are state WC funds. One has had an affirmative RMAD since 2000 and the other has had an affirmative RMAD since 2002. Based on subsequent runoff, one would have been insolvent in 2001. One has been exempt from RBC during the period; the other has a 650 RBC score. While one SAO has a reasonable discussion of risks, the other is less descriptive.

- The third company in this category is a medical professional liability writer in New York. It is subject to specific New York regulatory requirements regarding rates and solvency. While technically insolvent, its opinions have had affirmative RMADs and good risk discussions each year since 2000.
- A fourth company in this category is a company that writes only homeowners' insurance. The company has a strong parent, but, in 2002, its one-year development was 350 percent of the prior year's reserves. Since then, it has experienced favorable development on what was largely a Texas mold reevaluation. The company's 2001 SAO included an affirmative RMAD statement and a good discussion of risks. The company has not had an affirmative RMAD since 2004 and has stabilized and been profitable since that time.

For a discussion of the companies analyzed on the basis of the NAIC group to which they belong, see Appendix 2.

Additional Discussion

As shown on the next page in Table A, the loss reserve development of the worst 30 companies drives total development for the industry each year. Of the 30 companies described in this section, 16 were among the worst 30 in 2003, and 18 were on the list in 2004. Fourteen of the 2002 companies were on the list in 2003 and 2004. Twenty of the companies on the list in 2003 were also on the list in 2004.

TABLE A

Calendar Year	All Companies (Billions)	Worst 30 (Billions)
2002	$23.1	$18.4
2003	13.8	13.5
2004	10.1	13.4
2005	1.0	20.2
2006	-6.7	4.5
2007	-8.3	4.8
2008	-1.8	14.9

Table B shows the average RBC for the industry and for the worst 30 companies in each year.

TABLE B

Calendar Year	All Companies	Worst 30
2002	457	301
2003	492	342
2004	523	296
2005	556	372
2006	610	464
2007	624	422

Conclusions:

- Of the 30 companies, 80 percent are actively writing today and are not in financial difficulty.
- Most of the companies either were very large or were subsidiaries of very large companies.
- Almost all the development occurred in commercial lines, including A&E.

- The long tail of their liabilities gave these companies more time to recover and strengthen their financial positions. Smaller companies with shorter tail lines have an immediate demand for cash outlay and, therefore, do not have the option to seek capital infusions, exit troublesome lines of business, implement rate increases, or pursue merger opportunities

- SAOs, beginning in 2004, include a more robust discussion of risk factors.

2. The Companies With the Highest Loss Reserve Development Based On 2008 Data

This analysis updates the prior studies of loss reserve development in the P/C insurance industry. Using 2008 financial statement data, the FSRM committee identified the 30 companies driving the largest loss reserve development and labeled this group the Top 30. The Top 30 is defined as those companies that reported the largest one-year development statistic (in raw dollars), as reported on a company's Schedule P. Selecting this statistic in this manner naturally predisposes the Top 30 to be populated almost exclusively by larger companies. In addition to reviewing the financial data affected by loss reserving, the FSRM Committee also looked at the SAOs to see how accurately they identified companies in possible distress. See Appendix 3.

This research has been compiled using publicly available data on companies that have contributed to loss reserve development over the past few years. The goals of this research include gaining a greater understanding of the occurrence and magnitude of material adverse loss reserve developments in the industry, the role of the SAO, and the role of the actuary in general.

Reserve Developments—Financial Data

In the early part of the past decade, material loss reserve developments experienced across the P/C industry drew the scrutiny of industry observers. In the years 2002 to 2004 alone, overall loss reserve developments accounted for a deterioration of more than $40 billion in industry surplus, as shown in Table A on Page 11. The source of individual company developments varied, but the prevailing factor was material increases in asbestos reserves. It appears from available data that 30 percent to 35 percent of more than $40 billion came from increases in these reserves attributed to accidents occurring years or even decades earlier. In addition to asbestos, a number of other lines contributed to these earlier developments, including medical professional liability, WC, high excess liability insurance, and long-tailed casualty reinsurance. During this time period, many insurers enjoyed a hard insurance market (i.e., a period of rising prices), in which favorable underwriting results helped members of company management to strengthen reserves and shore up their balance sheets.

Since that time, however, company loss reserves have not developed as adversely as previously observed. From 2006 to 2008, industry development was favorable. The relative infrequency of material increases in asbestos liabilities played a significant role in this positive shift in prior-year loss reserve development.

Table C shows that, since 2002, the number of companies with one-year development in excess of 10 percent of their previous year-end surplus steadily decreased until 2007. This table is based on all companies reporting data to the NAIC.

TABLE C

Calendar Year	Percentage of Companies with Reserve Development > 10 Percent of Surplus	Percentage of Companies with Reserve Development > 10 Percent Previous Reserves
2001	15.5	20.7
2002	16.8	23.7
2003	15.7	21.1
2004	11.1	14.9
2005	5.9	9.3
2006	4.2	8.2
2007	4.8	8.8
2008	5.2	8.8

The table above also shows the proportion of companies that experienced one-year development in excess of 10 percent of the previous year's reserves. It also provides some perspective on the proportion of companies that are subject to the one-year-development IRIS test, triggered only when a company's development exceeds 20 percent of the previous year's surplus. This table also provides perspective on the potential variability of the reported loss reserves for each company in the industry.

In 2008, the most severe adverse loss reserve developments were driven mostly by the broader financial crisis. The development is attributable to a small number of insurers that wrote mortgage insurance and financial products. Although the rest of the industry had fairly low adverse development, the small number of insurers affected by the 2008 meltdown in the housing and credit markets became new members of the Top 30 list. Similar to the asbestos liabilities earlier in the decade, the emergence of these reserves can be viewed as a unique event for the P/C industry.

The 2008 Top 30

One must look closely at the actual companies that make the list to avoid making inaccurate inferences. Many companies in the 2008 Top 30 were from the financial products group described above. In fact, five of the top six companies in the 2008 Top 30 made the list because of unique developments in financial products and mortgage guaranty insurance. In addition, three members were large personal-lines companies that experienced minor loss-reserve developments when measured as a percentage of their surplus. Because of their overall size, the dollar amount of adverse development was large, resulting in their placement in the Top 30. Beyond these unique situations, however, the FSRM Committee was able to identify 13 companies that were repeat offenders from the 2007 Top 30.

The Appointed Actuary and the SAO

The role of the appointed actuary, actuarial practice, and the SAO were also of great interest to the committee. Members reviewed the SAOs prepared for each of the large companies for these

Top 30 companies, tracking important data about the company, its affiliation, and the actuary who signed the SAOs. The FSRM Committee also noted information about the actuary's relationship with the company or its auditor and whether the actuary had replaced a previous appointed actuary.

The FSRM Committee found that eight of the companies in the Top 30 had appointed actuaries who were employees of the company. This is a result of the fact that the Top 30 were identified as those companies with the largest dollars of loss reserve development. This naturally led to the identification of companies that are large enough to employ actuaries full time to sign their SAOs. Of the 22 consultants retained by companies in the Top 30, 11 worked for the firm that also performed the audit of the company.

Specific focus was placed on the RMAD disclosure, which has been a requirement of actuaries since 2004. Affirmative RMAD disclosures appear infrequently among the appointed actuaries serving the Top 30. In 2008, only 19 of the Top 30 (63 percent) indicated affirmative RMADs for those companies with large loss reserve developments. In 2006, only nine of the companies with large developments in the Top 30 (30 percent) had an affirmative RMAD. The percentage of groups in the Top 30 with RMADs has increased only gradually over the years, with the maximum frequency approximating 75 percent of the Top 30 groups. The number of SAOs with affirmative RMADs is lower than the FSRM Committee would have expected, given that the Top 30 is a group of companies that, by definition, have exhibited material loss reserve development. Because a materiality standard is selected by the appointed actuary, not every actuary will agree as to what constitutes a material deviation. In addition, large companies can be included in the list even when their development is less than 10 percent of surplus. Even with all these considerations, however, the FSRM Committee believes continued research and guidance for the actuarial profession is necessary to address the fact that a large percentage of Top 30 companies lacked affirmative RMADs just a few years before experiencing material loss reserve development.

Areas of Continued Interest

In future years, the FSRM Committee plans to expand its review of companies. The FSRM Committee aims to expand the field of companies by observing financial and SAO data from companies with significant loss reserve development ratios (to surplus). It is likely this will enable FSRM Committee members to observe smaller to mid-sized companies that have experienced material developments.

The committee also would like to continue to monitor the prevalence of affirmative RMADs among those companies that have material development and subsequently have become impaired because of loss reserve developments.

3. Insolvent Property Casualty Companies 2005-2009

Financial data and SAOs, when available, were reviewed for 36 companies that were declared insolvent between 2005 and 2009. This information was reviewed for each of the five years prior to the company's year of insolvency. Several common themes emerged in the study of these companies. The majority of the companies was small, relatively new, and/or was concentrated in one line of business and/or state. The review of financial data for many of the companies showed evidence of poor management and decisionmaking, including little or no reinsurance, inadequate reinsurance for the amount of risk, very rapid premium growth, significant adverse development, inadequate pricing, and potentially serious data problems.

Out of the five years of data for the 36 companies, a little more than half of the opinions (89) were available for review. One opinion was qualified; the rest stated that reserves were reasonable. An affirmative RMAD disclosure was included in 43 of these opinions and 33 noted that there was no RMAD. The remaining opinions either were silent regarding RMAD or the wording was such that it was not possible to determine with certainty whether there was an RMAD. There were some cases in which surplus was depleted entirely due to adverse development over a short time period (one to two calendar years), but the actuary did not mention that there was an RMAD. In one of these cases, the actuary explicitly stated that there was *not* an RMAD. As stated earlier in this report, beginning in 2004, signers of SAOs were required to provide an RMAD comment that includes their definition of material. Before 2004, appointed actuaries were required to comment only if there was an RMAD. The materiality standard used in the majority of the opinions was between 5 percent and 20 percent of surplus. Only eight of the reviewed opinions had a standard measured as a percentage of reserves.

Most of the companies' opinions lacked comments about risk factors. There were several examples in which there was significant risk, but there was no comment in the SAO. In the actuaries' defense, some of the items noted above as poor management and decisionmaking could have been described as outside the scope of what the actuary should include in his/her comments. One particular multi-state, multi-line company had poor loss ratios in the late 1990s and improving loss ratios thereafter. There was some adverse development from the A&E reserves, and the company entered and exited lines of business quickly (for example, it appears that the company wrote WC only in 2002). The reviewed SAOs included an affirmative RMAD statement but did not discuss any of the risk factors, such as the poor loss ratios, entering and leaving lines of business very quickly, etc.

Observations:

- Many of the insolvent companies were small, relatively new, and mono-line and/or mono-state.
- Reasons for most of the insolvencies could be classified as poor management and/or decisionmaking.
- Many of the opinions did not adequately disclose companies' major risk factors.
- RMAD disclosures were questionable.

General Comments:

- The introduction of the SAO raised the standard for appointed actuaries.
- The SAO is a living document that has undergone many changes in response to developments over the years.

- While the SAO, by itself, cannot prevent insolvencies, it can help identify those companies and/or categories of companies that could be in trouble.
- Access to the SAOs has become easier over the years, enabling actuaries to aggregate information for the industry as whole.
- Several actuarial organizations are involved in providing continuing education opportunities on the topic of SAOs. Such opportunities include COPLFR's annual practice note, the Effective Loss Reserve Opinion Seminar, and the Casualty Loss Reserve Seminar.
- Regulators employ SAOs as one of their primary tools in assessing the solvency and vulnerability of the companies under their domain.

Future Steps:

- Periodic studies of the causes of P/C company insolvencies should be undertaken to provide insight into the drivers of insolvencies and how they evolve over time.
- Future studies should include ERM methodologies to help identify those companies with significant insurance risk, including underwriting, reserving, and operational risk.
- Data gleaned from SAOs should be aggregated and reviewed to determine their effectiveness, including discussions of risk factors and RMAD definitions.

The effectiveness of the SAO is directly related to the efforts undertaken to ensure that actuaries are familiar with the SAO requirements and to ensure that actuarial reports adhere to both the spirit and the letter of the SAO instructions. Extra vigilance in times of economic turmoil may go a long way to help identify companies that are at risk of insolvency.

Appendix 1

Company Name	Source of Adv. Dev't	One-Year Dev't (000)	Two-year Dev't (000)	2002 Surplus (000)	2001 Surplus (000)	One-Year Dev't as % of 2001 Surplus	2001 Dev't thru 2009 (000)	2001 Dev't since 2002 (000)	RMAD in SAO	2002 Total Reserves Loss and LAE (000)
American Rein Co	R	2,220,824	2,662,169	2,230,032	2,643,094	84.02%	-1,564,934	-3,785,758	Yes	7,309,153
Employers Reins Corp	R	1,883,350	1,886,799	4,431,736	4,857,911	38.77%	5,034,835	3,151,485	Yes	5,665,420
Columbia Ins Co	SS	1,115,786	847,985	3,997,187	4,075,309	27.38%	1,549,293	433,507		1,844,401
National Union Fire Ins Co Of Pitts	D&O	1,011,189	1,167,409	5,885,057	6,410,712	15.77%	6,205,708	5,194,519	Yes	5,477,821
Travelers Cas & Surety Co	ASB	992,548	947,200	2,572,746	2,998,765	33.10%	2,264,320	1,271,772		7,903,103
American Home Assur Co		954,209	1,105,147	2,883,305	3,518,539	27.12%	5,876,896	4,922,687	Yes	5,242,722
Travelers Ind Co	ASB	811,357	770,188	3,963,326	3,824,743	21.21%	2,661,811	1,850,454		6,390,271
Century Ind Co	A&E	757,943	935,351	25,000	150,561	503.41%	1,518,554	760,611	Yes	2,277,859
Allstate Ins Co	A&E	752,544	778,816	13,760,543	13,772,727	5.46%	2,613,180	1,860,636		13,317,572
Lumbermens Mut Cas Co	Mold	733,358	893,054	696,846	1,266,575	57.90%	926,173	192,815		7,309,153
Zurich American Ins Co	WC	723,792	1,131,490	2,617,850	2,421,276	29.89%	5,210,582	4,486,790		7,116,657
Ge Reins Corp **	R	710,260	749,588	623,413	735,050	96.63%	1,798,221	1,087,961	Yes	1,575,797
State Compensation Ins Fund	WC	651,469	331,093	1,449,361	1,431,382	45.51%	4,298,797	3,647,328	Yes	9,837,966
US Fidelity & Guaranty Co	ASB	488,260	268,875	1,798,445	1,859,633	26.26%	462,040	-26,220	Yes	2,412,088
Federal Ins Co	ASB	405,625	221,189	4,451,016	3,526,320	11.50%	1,740,627	1,335,002		7,685,188
State Ins Fund	WC	393,416	181,141	1,134,405	1,172,033	33.57%	1,339,125	945,709		7,035,395
General Rein Corp	R	389,514	1,521,581	4,095,127	3,737,764	10.42%	-2,094,406	-2,483,920	Yes	12,291,641
Liberty Mut Ins Co	OTLB	385,224	1,458,294	4,007,749	4,476,207	8.61%	3,846,178	3,460,954		9,335,887
Medical Liability Mut Ins Co	MM	318,165	294,967	993,042	1,428,745	22.27%	348,761	30,596	Yes	3,241,702
Transatlantic Rein Co	R	293,540	448,091	1,545,944	1,401,055	20.95%	2,475,797	2,182,257		2,917,147
State Farm Lloyds	HO	289,788	153,247	587,203	82,740	350.24%	244,049	-45,739		691,056
Fremont Ind Co *	WC	280,121	370,589	-290,610	36,904	759.06%	Inactive	Inactive		1,168,633
Commerce & Industry Ins Co		266,080	307,213	962,877	976,982	27.23%	1,796,369	1,530,289		1,441,532
Gerling Global Reins Corp Of Ameri	WC, R	248,794	355,710	288,507	522,707	47.60%	449,507	200,713	Yes	1,142,070
Phoenix Ins Co	ASB	243,712	232,584	771,327	818,785	29.77%	556,071	312,359		1,728,614
Standard Fire Ins Co	ASB	236,190	225,405	741,652	854,883	27.63%	538,276	302,086		1,675,300
Mid-Century Ins Co	EQ	231,998	429,601	513,595	508,877	45.59%	1,215,809	983,811		1,107,779
St Paul Fire & Marine Ins Co	MM	226,942	969,372	4,925,779	4,142,586	5.48%	2,703,818	2,476,876	Yes	9,399,286
Farmers Ins Exch	HO	214,093	60,848	2,045,064	1,969,553	10.87%	1,434,205	1,220,112		2,953,363
Factory Mut Ins Co	A&E	207,818	37,952	1,933,030	1,781,683	11.66%	719,544	511,726		1,264,879
		18,437,909	21,742,948	75,640,557	77,404,101					
Industry Totals		23,046,147	32,185,730	378,474,577	378,531,136					

Lines of Business:		
	R	WC
	SS	HO
	D&O	EQ
	ASB	MM
	A&E	OTLB

* latest available statement 2002

** latest available statement 2006

Appendix 2

Group A

This group had five companies on the original list of 30. They are part of an intercompany pool. After 2002, the group also acquired one of the first three companies discussed in the section above. While none of the companies would have been insolvent, four subsequently have experienced adverse development of 35 percent to 55 percent of their 2002 surplus and likely would have been in some RBC action category. The fifth company, also acquired after 2002, has experienced adverse development of less than 20 percent of its 2002 surplus and would not have been in an RBC action level. Since 2005, they all have experienced favorable development, and all have RBCs in the 500 percent to 600 percent range or higher. Their SAOs have had affirmative RMAD statements from 2001 forward, except the fifth company, which had one with extensive discussions of risk factors. These companies have grown in premium volume and surplus and have generally experienced positive net income. All have had positive underwriting income since 2006. All of the companies listed A&E as the primary source of their adverse development.

Group B

In this group of three companies, two fall into one subgroup and the third stands on its own. The subgroup with two companies has had the same actuary throughout our review period. There was no mention of an RMAD prior to 2004, and, since then, the actuary has stated that there is no RMAD, using a materiality standard of 25 percent of surplus. The discussion of risks offers little beyond the basic required information. The companies have experienced underwriting losses most years and persistent adverse development. One company would have been insolvent and the other would have been in an RBC action level had they initially booked the full amount of their subsequent development.

The third company had three different actuaries over this time span. The company generally has suffered underwriting losses and would have been insolvent in 2001, based on the subsequent loss reserve development of more than 200 percent of surplus. There is no mention of an RMAD prior to the 2004 requirement, and, since then, the actuaries have said there is no RMAD using a materiality standard of 10 percent of surplus. There was a reasonable discussion of risks in the

2001 SAO, but, beginning in 2002, the SAO was less robust, and it has weakened over time. The 2008 opinion had a much more thorough discussion of risks than its predecessor. The company's RBC has been below 400 percent throughout our review period.

Group C

This is another group that includes a reinsurer and three primary companies. The reinsurer has had two SAO signers. Based on the development to date, all three primary companies would have been insolvent in 2001, and the reinsurer would have been in an RBC action level. All of the primary companies have had affirmative RMAD statements throughout the review period, but the discussion of risks has been brief. The reinsurer has had an affirmative RMAD since 2003. The materiality threshold has been 20 percent of surplus for the primary companies and 25 percent for the reinsurer. The companies write mainly liability lines and have experienced both premium and surplus growth. Their results have been more stable since 2005.

Group D

The final group consists of a primary company and a large reinsurer. The primary insurer is a large insurer, and its inclusion on the list was attributed to the assumption of a stop-loss contract from affiliates. The company has never had an affirmative RMAD statement, and its RBC has never been below 400 percent. Since 2002, its development has been less than 15 percent of the 2002 surplus. The reinsurer fell into an RBC action level in 2001 and stayed there through 2003. The company's subsequent development on the 2001 and 2002 reserves has been favorable, but that has been distorted by a reinsurance agreement that ceded approximately half of its reserves. Otherwise, it would have experienced additional adverse development. The SAO did not address the cession. The reinsurer has had an affirmative RMAD each year based on a 5 percent of surplus standard. This RMAD might not provide meaningful information for a large reinsurer for which a 5 percent swing would likely be within a reasonable range of results.

Others

The final three companies include two large insurers and one large reinsurer. The first large insurer is a subsidiary of a large group that writes mainly commercial lines business. The SAO included a reasonable discussion of risk factors, but did not have an affirmative RMAD statement until 2004. The 2001 runoff would have placed the company at an RBC action level, while the 2002 runoff would have been close to the action-level threshold. It is possible that the parent company would have intervened, as the group is rated A++ by A.M. Best. Development since 2005 has been favorable. A&E reserves were identified as a significant contributor to its adverse development. Since 2002, the company's surplus has nearly tripled, and its RBC is now at 500 percent.

The other large primary insurer is also a subsidiary of a larger group. The company's RBC never slipped below 300 percent and the runoff of the 2002 reserves has been a comparatively modest 12 percent of surplus. The company did not have an RMAD statement prior to 2004, and, since 2004, it has stated that there was not an RMAD based on a materiality threshold of 3 percent to 5 percent of surplus. The company's runoff would not indicate it would ever have been impaired or in an RBC action level. A&E is cited as a major contributor to its adverse development in 2002. The company has experienced small favorable development each year since 2004.

The final company is a large reinsurer that had the largest adverse development during 2002 on the 2001 reserves. That development put it at an RBC action level from which it recovered slowly over the next two years. It then appears that the company entered some sort of reinsurance agreement that increased its RBC to over 400 percent, where it remains today.

Appendix 3

Top 30 Groups in 2008 One-Year Development

Financial Data

Group Rank	Type of Company	Type of Insurance	2008 Surplus	2007 Surplus	Change in Surplus	2008 Reserves	2008 Net EP	1 Year Dev.	2 Year Dev.	Dev / PHS (%)	2 Yr Dev / PHS (%)	2007 Top 30?
1	Stock Co.	Comm'l Financial	(2,399,692)	191,983	-1349.9%	4,849,700	279,669	9,773,694	7,697,315	5090.9	3718.3	Y
2	Stock Co.	Comm'l Financial	1,052,029	2,059,490	-48.9%	1,677,835	587,995	1,148,404	6,772	55.8	35.1	N
3	Stock Co.	Comm'l Financial	3,502,422	3,663,052	-4.4%	1,870,697	906,920	852,412	42,161	23.3	1.0	Y
4	Mutual Co.	Personal Lines	53,170,815	63,618,527	-16.4%	30,191,934	48,122,449	404,733	865,724	0.6	1.5	N
5	Stock Co.	Comm'l Financial	1,674,280	1,372,632	22.0%	6,622,520	1,410,839	362,929	413,875	26.4	25.4	Y
6	Stock Co.	Comm'l Financial	464,833	358,386	29.7%	1,213,126	753,810	245,513	23,517	68.5	7.7	N
7	Stock Co.	Personal Lines	13,155,649	18,162,769	-27.6%	16,155,051	26,091,182	235,304	42,922	1.3	0.2	N
8	Mutual Co.	Comm'l Casualty	37,542			30,063	23,137	219,069	205,401			N
9	Stock Co.	Multi-National Ins	3,902,746	3,784,206	3.1%	7,147,720	5,334,079	163,741	230,381	4.3	6.1	Y
10	Stock Co.	Reinsurer	2,216,212	2,976,238	-25.5%	4,991,516	2,624,415	153,091	188,270	5.1	5.8	N
11	Stock Co.	Mortgage Ins	568,019	781,863	-27.4%	2,141,826	774,542	136,788	198,801	17.5	24.3	Y
12	Stock Co.	Comm'l	13,139,645	13,598,709	-3.4%	13,051,442	15,611,576	135,807	207,758	1.0	1.6	N
13	Mutual Co.	Large Multi-Line	261,859	250,372	4.6%	321,468	366,311	117,389	130,462	46.9	51.0	Y
14	Stock Co.	Comm'l Financial	1,555,606	3,316,986	-53.1%	1,160,538	1,081,725	112,263	(9,690)	3.4	-0.3	N
15	Stock Co.	Reinsurer	2,363,243	2,906,656	-18.7%	4,442,801	1,139,873	111,557	333,534	3.8	12.2	Y
16	Stock Co.	Reinsurer	6,038,001	7,198,288	-16.1%	10,536,400	2,222,225	91,395	711,515	1.3	9.2	Y
17	Stock Co.	Personal Lines	1,374,267	1,724,921	-20.3%	1,128,072	2,786,826	85,887	77,004	5.0	4.9	N
18	Stock Co.	Comm'l Financial	(2,618,757)	66,093	-4062.2%	431,322	22,373	83,307	-	126.0	0.0	N
19	Stock Co.	Comm'l Financial	552,744	1,275,201	-56.7%	3,011,535	1,058,882	81,819	71,627	6.4	3.9	Y
20	Stock Co.	Med Mal	64,286	261,607	-75.4%	640,215	129,370	73,294	85,851	28.0	66.8	N
21	Stock Co.	Multi-Line	332,140	446,053	-25.5%	1,096,303	(1,718)	69,069	385,501	15.5	153.0	Y
22	Stock Co.	Comm'l Property	66,722	71,734	-7.0%	203,802	154,915	56,623	91,841	78.9	102.5	Y
23	Stock Co.	Personal Lines	55,547	100,203	-44.6%	281,413	337,171	37,922	105,660	37.8	2.8	Y
24	Stock Co.	Personal Lines	4,471,123	4,589,414	-2.6%	5,932,937	13,632,696	29,614	137,742	0.6	-45.8	Y
25	Stock Co.	Runoff	(83,009)	(53,707)	54.6%	253,790	(1,840)	28,797	22,372	-53.6	21.8	N
26	Stock Co.	Comm'l Liability	530,907	462,951	14.7%	1,216,288	297,300	24,939	90,550	5.4	5.8	N
27	Stock Co.	Comm'l	350,043	371,976	-5.9%	771,453	425,269	23,887	19,402	6.4	1.7	N
28	Rec. Exch.	Comm'l Property	231,506	198,320	16.7%	258,603	552,226	23,265	2,007	11.7	9.8	N
29	Stock Co.	Comm'l Property	465,106	530,510	-12.3%	445,695	299,798	22,830	57,171	4.3	40.2	N
30	Stock Co.	Runoff	61,863	84,441	-26.7%	272,253	(10)	22,412	38,838	26.5	NA	N
Subtotal			106,495,834	134,285,435	-20.7%	122,076,064	127,024,017	14,905,342	12,435,446	11.1		
Industry Wide			462,571,269	530,829,829	-12.9%	567,037,874	443,477,108	(1,807,543)	(9,034,040)	-0.3		