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A Review of Root Cause in Insurer Insolvencies and Impairments

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In 2016 and 2017, we conducted a study of root causes in insurer insolvencies and impairments, with the focus on analyzing potential risk factors and prevention measures. The study was sponsored by the Canadian Institute of Actuaries, Casualty Actuarial Society and Society of Actuaries (collectively the sponsoring organizations). It looked at causes of insolvency and decisions made by management, regulators and policyholders over the life cycle of the insolvency. In addition, the study considered ways the actuarial profession can be equipped to help prevent or mitigate future insolvencies. It was also intended to assist other insurance industry practitioners in understanding the complexities of insurance company solvency and the benefits

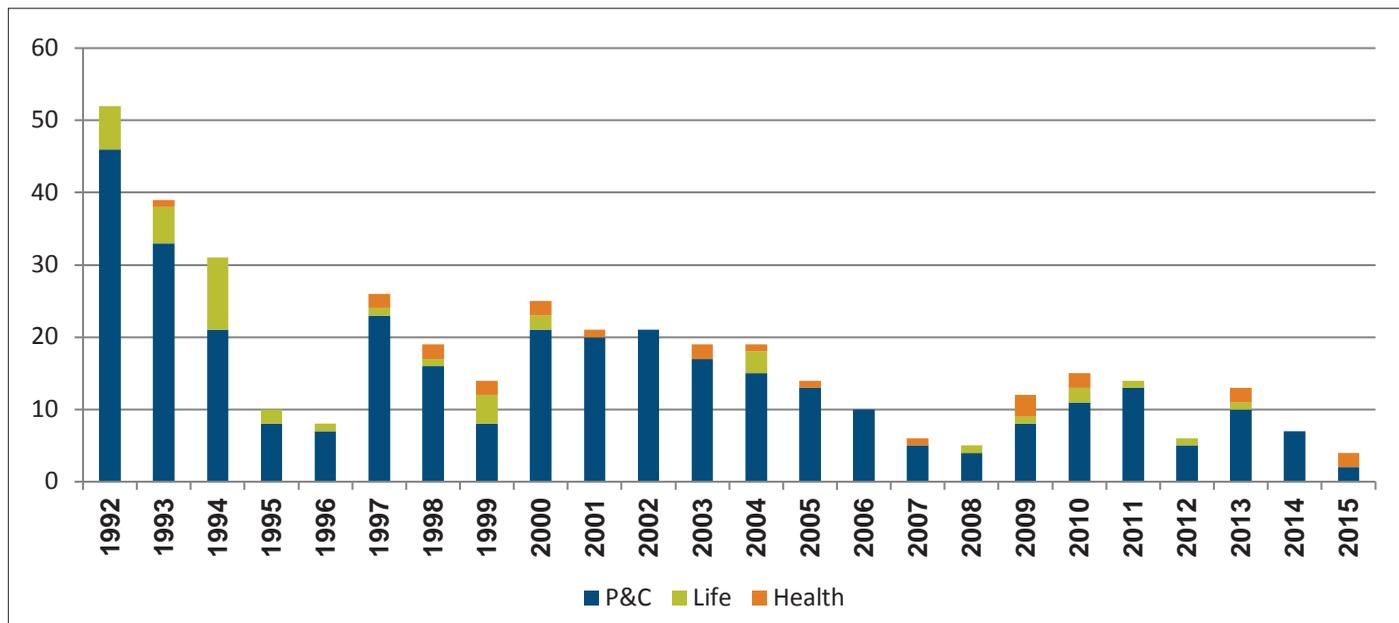
of keeping the actuarial profession in the forefront of company management, operations, and regulatory communication. This article provides a summary of our study. The complete report and case studies can be found on the SOA's website.¹

The study considered insurer insolvencies in both the United States and Canada. In Canada, the insolvency rates are very low, and detailed studies have previously been conducted on both individual company insolvencies as well as insolvency from an industry-wide perspective. Our analysis used available studies and insights from previous research on Canadian insolvencies to draw comparisons and contrasts to observations on risk drivers in the United States.

Figures 1 and 2 illustrate the historical number of U.S. and Canadian insurer insolvencies by year and by product type. (Please note that there were no health insurer insolvencies in Canada for the period from 1992 to 2015)

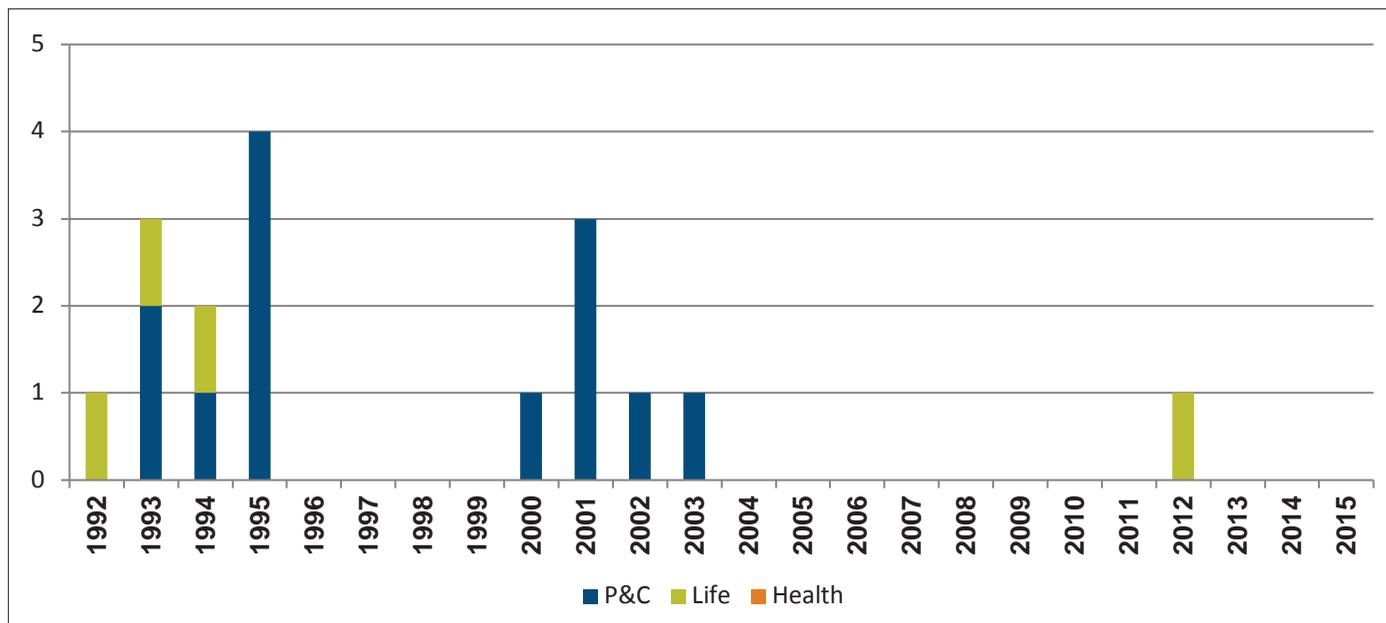
A key aspect of our study was the review of insolvency risk factors by cohort. The use of cohorts allowed us to compare insolvency risk factors across life, health, and P&C companies. The cohorts included P&C personal auto; P&C homeowners; P&C workers' compensation; P&C commercial liability; Life & Annuity, Health, including long-term care (LTC); and Health cooperatives.

Figure 1
Number Of U.S. Insurer Insolvencies



Sources: National Conference of Insurance Guaranty Funds (NCIGF) and the National Organization of Life & Health Insurance Guaranty Associations (NOLHGA).

Figure 2
Number of Canadian Insurer Insolvencies



Sources: Assuris and Property and Casualty Insurance Compensation Corporation (PACICC).

RISK DRIVERS

During the course of the study, we developed two comparative views of risk drivers when performing the analysis of U.S. insolvencies. The first view was based on a review of a sample of U.S. companies’ insolvencies by risk factor and cohort. The risk factors considered in the study were grouped into two major categories—financial and demographic. This view allowed for comparisons of the potential importance of particular risk factors for each company and cohort within the study, relative to all insolvent companies and cohorts included in the study.

The financial risk factors were:

- Premium growth
- Profitability
- Liquidity
- Investment
- Leverage
- Risk-based capital

The demographic risk factors were:

- Company size
- Number of years in operation
- Geographic concentration
- Product concentration

The second view was a comparison of the insolvent sample to the corresponding industry sample for each cohort, which allows for perspective on the extent to which the risk factors help distinguish insolvent companies from a broader industry sample with the same product focus. Risk factors are likely to be less useful in identifying potential insolvencies if they manifest the same way for insolvent companies as they do for similar going concern companies. They are more useful if they manifest differently, e.g., displaying higher risk characteristics for companies that ultimately experienced insolvency relative to similar going concern companies.

For example, one of the key risks identified as a potential insolvency driver for the U.S. companies was premium growth, and the charts below represent two main views (described above) for that risk. The first view includes only the insolvent sample of companies by cohort. Based on financial information for the companies in the study, we defined those companies showing low, medium, or high premium growth (and therefore low, medium, or high risk) in the years prior to the insolvency. It can be seen from the first view in Figure 3 that, among the insolvent insurers included in the study, high growth and high risk was present predominately in the P&C cohorts as well as the health cooperatives. In other words, the P&C companies and health cooperatives exhibited more risk associated with premium growth than the life or other health companies. The second view provides an industry overlay, in which the insolvent cohorts are

Figure 3
View 1: Insolvent Sample

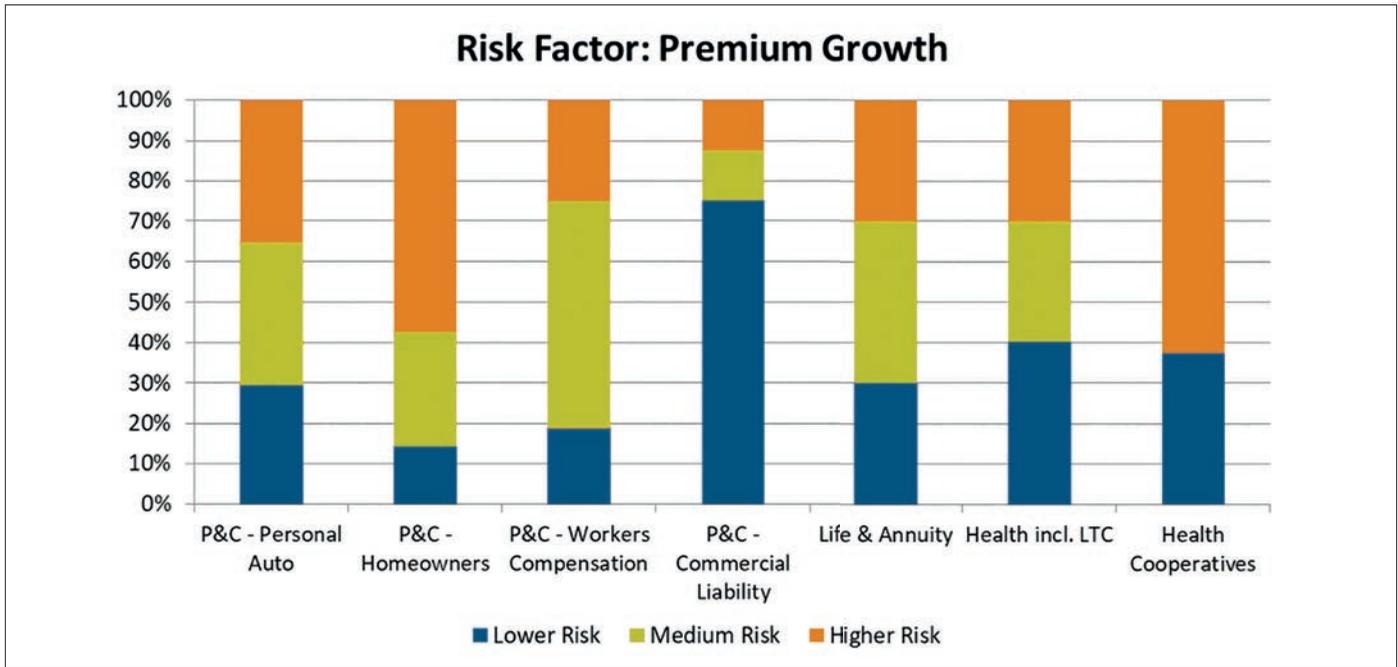
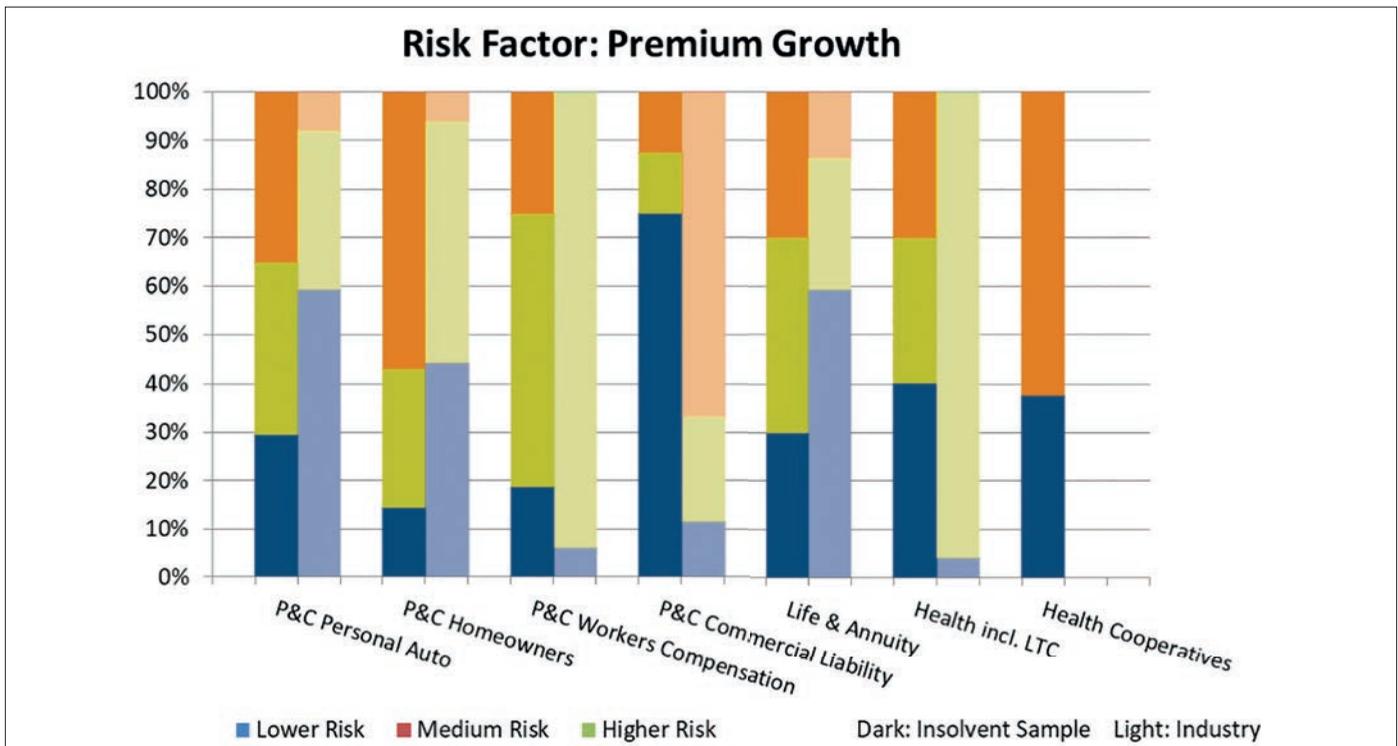


Figure 4
View 2: Insolvent and Industry Sample



compared to the full industry set of companies in terms of premium growth and risk. This is shown in Figure 4 in which the insolvent sample and the industry sample are compared side by side with the industry shown in a lighter shade. The comparison shows a higher risk associated with premium growth for nearly all cohorts in the insolvent sample, which suggests this risk is a strong indicator of insolvency.

We used data derived from SNL Financial to develop these results for the U.S. companies, both for the insolvent cohorts and their industry counterparts.

CASE STUDIES

In the earlier phases of the review, the focus was on analyzing the root causes of insurer impairment and insolvency across property and casualty, life and annuity, and health insurance in the United States and Canada with emphasis on potential indicators which may facilitate earlier intervention for companies at risk of becoming impaired or insolvent. In the later phases of the analysis, the focus shifted to specific case studies, where each case study targeted in-depth research on “what went wrong” for a life, health, and P&C insurance company. The goal of the case studies was to provide insight into potential actions that could be taken by actuaries and other insurance industry practitioners to help prevent or mitigate future insolvencies arising from similar circumstances.

Some insurer insolvencies point to one primary causal driver, such as fraud. However, a majority of the insolvencies evolved from multiple risk factors. The most significant of those were identified as financial risk factors. We also identified some of the key regulatory activities that now exist (or are under development) that may help detect issues that were present in some of the case studies under review. The regulatory activities include (but are not limited to) risk-focused examinations, regulatory stance on rate increases, reserve increase requirements, requirements for corporate governance, NAIC filing requirements for LTC on stand-alone basis, changes in opining actuary, and morbidity risk in capital.

KEY FINDINGS

During the course of the study, we found that financial risk factors were better indicators of insolvency when compared to the industry, while demographic risk factors showed a weaker relationship between the insolvent sample and the industry.

A few examples of our analysis of financial and demographic risk factors are below.

For purposes of this study, we considered negative operating cash flow as indicative of **liquidity risk**. The companies were

ranked by the number of years within the last five during which negative operating cash flow occurred. A review of liquidity in the insolvent sample as compared to the industry sample showed a higher risk mix in the insolvent sample, with the exception of commercial liability insurers. This suggested that liquidity challenges may be a significant indicator of insolvency risk.

Significant **premium growth** in short time frames may be problematic for any insurer. Industry studies from the PACICC found that rapid growth was a primary cause of 17 percent and a contributing cause to 43 percent of P&C insolvencies in Canada. The review of premium growth as a risk factor among cohorts within the insolvent sample shows a varied risk mix. The homeowners and health cooperative cohorts have the largest proportion of high-growth companies within the insolvent companies. A review of premium growth in the insolvent sample relative to the industry sample shows a higher risk mix in the insolvent sample, with the exception of commercial liability insurers. This suggests that growth is a strong indicator of insolvency risk.

Company size was based on the largest net written premium amount observed in the last five full years of company operations for the insolvent sample. The study *did not* categorize small companies as indicative of higher risk from an insolvency perspective. The analysis also indicated that when comparing to the broader industry results, company size did not appear to clearly indicate relative insolvency risk as there was no observable pattern of small or large companies predominating the insolvent cohorts relative to the industry counterparts. Company size may, therefore, be less predictive of future insolvency as compared to other financial risk factors.

Figure 5 provides a summary of the risk factors for which we observed noticeable differences in the insolvent cohorts relative to their industry counterparts.

Consistent with the U.S. review, Canadian studies by the PACICC showed growth and profitability (pricing) as leading factors in insolvency. They also highlighted foreign parent as a significant factor, which was less evident in the review of the U.S. companies.

As a result of the study, including the case studies, we observed key areas in which increased actuarial involvement may support earlier identification of some of the challenges that lead to insurer insolvencies:

- Increased involvement of actuaries in the surveillance process, which includes (but is not limited to) identifying issues such as underpricing and aggressive rate increase assumptions used in reserve adequacy analysis.

Figure 5
Risk factors noticeable in insolvencies

| | P&C Personal Auto | P&C Homeowners | P&C Workers Compensation | P&C Commercial Liability | Life & Annuity | Health incl. LTC | Health Cooperatives |
|------------------------------|-------------------|----------------|--------------------------|--------------------------|----------------|------------------|---------------------|
| Premium Growth | X | X | X | X | X | X | X |
| Profitability | | X | X | X | | X | X |
| Liquidity | X | X | X | | X | X | X |
| Investment | X | X | X | X | X | | |
| Leverage | | | X | | X | X | |
| Risk-Based Capital | X | X | | X | X | X | X |
| Company Size (S/M/L) | X | | | | X | | |
| Number Of Years In Operation | | X | | | | | X |
| Geographic Concentration | | | X | | | | X |
| Product Concentration | | X | X | X | | | |

- Improved practices and disclosures regarding the assumptions used in assessing reserve adequacy, which includes providing enhancements to Actuarial Standards of Practice, developing educational materials and updating practice notes.
- Increased coordination and consistency of actuarial requirements across states, including items such as additional disclosures to consumers, additional requirements for rate filings, experience tracking, and additional requirements for testing adequacy of LTC reserves²

CONCLUSION

The study was intended to educate insurance professionals on historical insurer impairments and insolvencies and possible future prevention indicators. It explored potential risk factors insurance professionals can monitor to mitigate future insolvent situations.

Overall, the analysis suggested that the financial risk factors (premium growth, profitability, liquidity, investment, leverage, and risk-based capital) were useful indicators for insolvency. The financial risk factors in the insolvent sample analyzed generally showed a greater proportion in higher risk brackets when compared to the industry. The demographic risk factors analyzed (company size, number of years in operation, geographic concentration and product concentration) showed a less

significant relationship between risk levels within the insolvent sample and the industry.

We would like to thank the sponsoring organizations and the Project Oversight Group for their contributions and support throughout this research process. ■



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ENDNOTES

- 1 <https://www.soa.org/resources/research-reports/2018/actuarial-review-insurer-insolvencies/>
- 2 The NAIC recently adopted Actuarial Guideline 51 *The Application of Asset Adequacy Testing To Long-Term Care Insurance Reserves*, effective with December 31, 2017 annual statements.