

# Actuarial Review of Insurer Insolvencies and Future Preventions

## Phase 1 – A Review of Root Causes of Insolvencies

# Actuarial Review of Insurer Insolvencies and Future Preventions – Phase 1

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# A Review of Root Cause in Insurer Insolvencies and Impairments

A look at root cause and potential risk factors with a focus on prevention measures

## Section 1: Background and Scope

This study is intended to educate insurance professionals on historical insurer impairments and insolvencies and possible future prevention indicators. It explores potential risk factors insurance professionals can leverage to mitigate future insolvent situations.

### 1.1 Background

As sponsored by the Canadian Institute of Actuaries (CIA), Casualty Actuarial Society (CAS), and Society of Actuaries (SOA), the study looks at causes of insolvency and decisions made by management, regulators, and policyholders over the life cycle of the insolvency. Further, this study considers ways the profession can be equipped to prevent or mitigate future insolvencies. In addition to directly benefitting the profession, the work is also intended to assist other insurance industry practitioners in understanding the complexities of insurance company solvency and the benefit of keeping the actuarial profession in the forefront of company management, operations, and regulatory communication.

A Project Oversight Group (POG) provided guidance and feedback throughout the study. The authors are grateful for the POG's contributions to this research.

### 1.2 Scope

#### Phase I – Review of Root Causes of Insolvencies

This review includes an analysis of root causes of insurer impairment and insolvency across property and casualty, life and annuity, and health insurance in the United States and Canada. It explores potential indicators which may facilitate earlier intervention for companies at risk of becoming impaired or insolvent.

Over the course of the analysis, we considered quantitative risk factors as well qualitative and other factors such as company strategy, financial management, economic downturn, structural/operational management, regulations and others. The qualitative factors are discussed in depth as part of the case studies associated with Phases II to IV of this research; the focus of Phase I is primarily on the quantitative risk factors associated with insolvency.

#### Phases II–IV – Case Studies

Phases II–IV, which are under separate cover, focus on specific case studies. Each case study targets in-depth research on “what went wrong” for one each of life, health, and property/casualty insurance companies. The goal of the case studies is 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.

### 1.3 Approach

There have been a number of insurer insolvency/impairment studies from a macro perspective. There have also been a number of insurer case studies; insolvency from a micro perspective. This study was conducted at a level between the

macro and the micro, through the use of cohorts. Each cohort consists of a common predominant product focus for companies that have experienced insolvency/impairment occurring between 1998 and 2015.

### 1.3.1 U.S. Analysis

We developed two comparative views of risk drivers when performing our analysis of U.S. insolvencies. The first view is based on a review of a sample of U.S. company insolvencies by risk factor and cohort. The second view is a comparison of the insolvent sample to the corresponding industry sample for each cohort.

View 1: Insolvent Sample –

- 76 U.S. insolvent companies grouped into seven cohorts
- 10 risk factors considered in analysis
- Values for each risk factor divided into low/medium/high categories based on distribution among all insolvent companies in the study
- Results shown graphically by cohort and risk factor

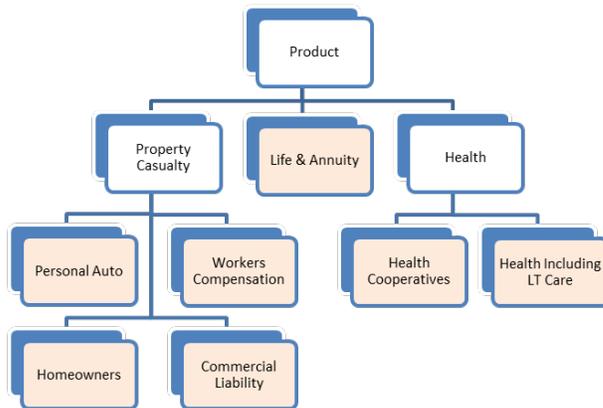
This view allows for comparisons of the potential importance of particular risk factors for each company and cohort within the study, relative to all insolvent companies and cohorts included in the study.

View 2: U.S. Industry Sample vs. Insolvent Sample –

- U.S. industry data aggregated for each of the seven cohorts, based on companies predominantly writing the same business that is associated with the cohort
- 10 risk factors divided into low/medium/high categories consistent with distribution from insolvent sample
- Graphical comparison to insolvent sample

This view allows for perspective on the extent to which the risk factors help distinguish insolvent companies within a particular cohort 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 active companies. They are more useful if they manifest differently, e.g., displaying higher risk characteristics for companies that ultimately experienced insolvency relative to similar active companies.

Cohorts:



Risk Factors	
○	Company Size
○	Number of Years in Operation
○	Geographic Concentration
○	Product Concentration
○	Growth
○	Profitability
○	Liquidity
○	Investment
○	Leverage
○	Risk-Based Capital

Note: Long-term care is abbreviated as “LT Care” or “LTC” throughout this report.

### 1.3.2 Canadian Analysis

Insolvency rates in Canada are very low, and detailed studies have previously been conducted on both individual company insolvencies as well as insolvency from an industry-wide perspective. We have used available studies and insights from previous research on Canadian insolvencies to draw comparisons and contrasts to observations on risk drivers in the U.S.

## Section 2: Risk Factor Analysis

Some insurer insolvencies point to one primary causal driver, such as fraud. A majority of the insolvencies evolved from multiple risk factors. Further, the underlying causes can be interrelated or unrelated to one another. These dynamics add complexity to any study of insolvency risk drivers.

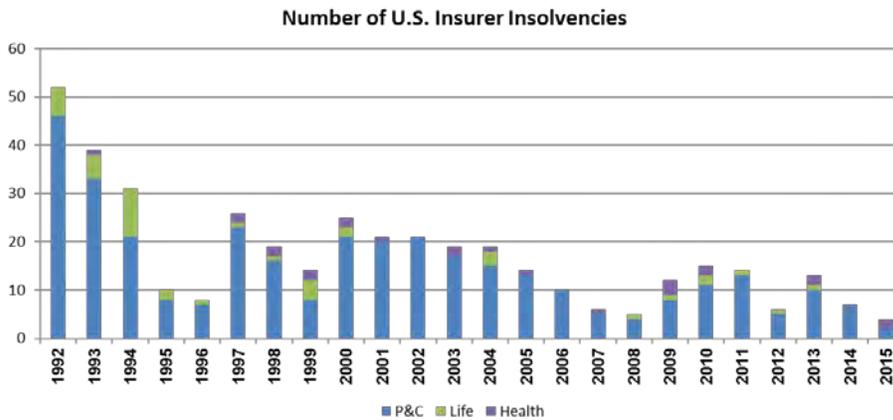
Many prior studies of insolvency isolate and attempt to quantify the impact of individual risk drivers. When factors are interrelated, this becomes a challenging and potentially highly judgmental exercise. We have reviewed individual risk factors and commented on potential impact from a qualitative perspective, but have not attempted to quantify the impact on insolvency as a whole.

We focused on risk factors that can be used as leading rather than lagging indicators. This was accomplished by analyzing many of the risk factors over a five-year period prior to the insolvency.

U.S. insolvencies peaked in the early 1990s. Property and Casualty (P&C) insolvencies far outnumber Life & Health (L&H). Health insolvencies increased in 2015 (and this has continued in 2016 and 2017). Health cooperatives in particular have had a significant incidence of failure in the U.S.

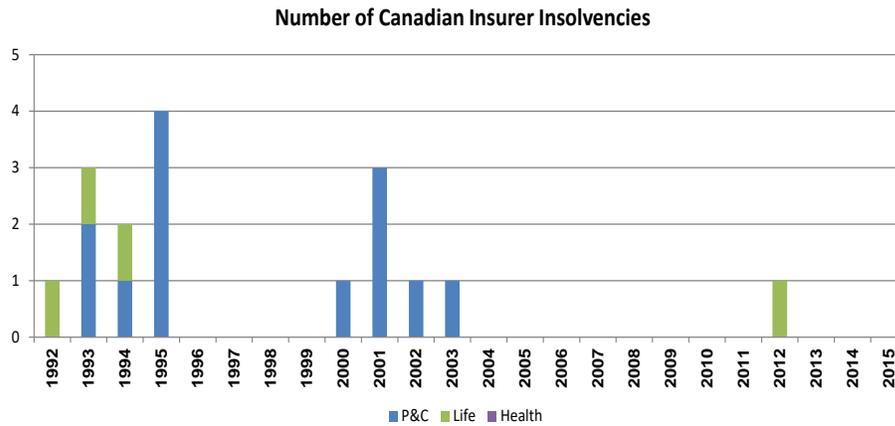
The Canadian regulatory system is more centralized than the U.S., leading to the question of whether this centralization has potentially contributed to lower insolvency rates. However, though U.S. insurer insolvency rates are higher than Canada, the U.S. system has shown decreases in insolvency rates over time (see figure 1). The U.S. has also developed centralized tools over time such as risk-based capital (RBC) and the Own Risk and Solvency Assessment (ORSA) that give regulators additional monitoring opportunities.

**Figure 1**  
Historical Number of U.S. Insolvencies by Year by Product Type



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

**Figure 2**  
Historical Number of Canadian Insolvencies by Year by Product Type



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

Risk factors identified as significant in this research share a number of commonalities with previous Canadian research. Key P&C insolvency drivers identified in Canadian industry research include the following:

- Pricing inadequacy/reserve deficiencies (also noted as significant for U.S.);
- Number of years in operation; and
- Rapid growth (also noted as significant for U.S.).

Other key factors noted in this research for the U.S. include the following:

- Liquidity;
- Investment risk; and
- Capital position (measured by risk-based capital (RBC) ratio).

## 2.1 Research and Literature Review

As a foundation for this study, we reviewed numerous prior works published by various U.S. and Canadian organizations and industry experts. A listing of sources considered in this research is included in *References*.

This research differs from most prior insurance industry studies in that it includes representation from P&C, Life, and Health companies in the analysis of underlying risk drivers.

Many of the risk factors for insolvency that were highlighted in prior works served as a starting point for the risk factors used in this study. However, the researchers made certain judgments in the measurement of particular risk factors, such as liquidity and profitability. These judgments were made in consultation with the POG.

## 2.2 Risk Factor Analysis: Findings and Observations

The risk factors we analyzed can be categorized as financial and demographic: financial risk factors include premium growth, profitability, liquidity, investment mix, leverage, and RBC ratio. Demographic risk factors include company size, years in operation, geographic concentration, and product concentration.

Overall, our analysis suggested that the financial risk factors were useful indicators for insolvency. The financial risk factors in the insolvent sample analyzed generally show a greater proportion in higher risk brackets when compared to the industry. The demographic risk factors analyzed showed a less significant relationship between risk levels within the insolvent sample and the industry.

We found some commonality across financial risk factor strength by cohort. For example, the P&C personal lines had similar financial indicators. Health Cooperatives appeared to show higher risk overall confirming their unique operating model. Life & Annuity proved to be differentiated in both Leverage and Years in Operations risk factors. P&C commercial liability had indications that were more challenging to interpret.

**Figure 3**  
Summary of Strongest Risk Factors by Cohort

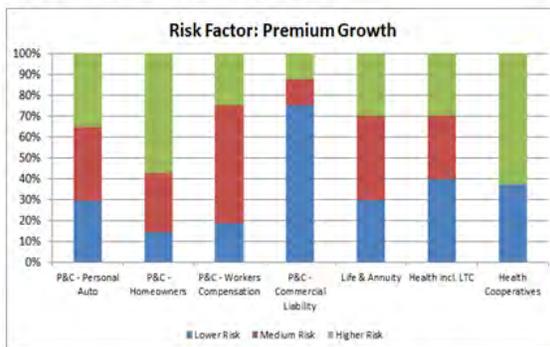
	P&C Personal Auto	P&C Homeowners	P&C Workers Compensation	P&C Commercial Liability	Life & Annuity	Health incl. LTC	Health Cooperatives
<b>Financial</b>	Premium Growth	X	X	X	X	X	X
	Profitability		X	X	X	X	X
	Liquidity	X	X	X		X	X
	Investment	X	X	X	X	X	
	Leverage			X		X	
	Risk-Based Capital	X	X		X	X	X
<b>Demographic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

Consistent with our U.S. review, Canadian studies by the Property and Casualty Insurance Compensation Corporation (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 our review of U.S. companies.

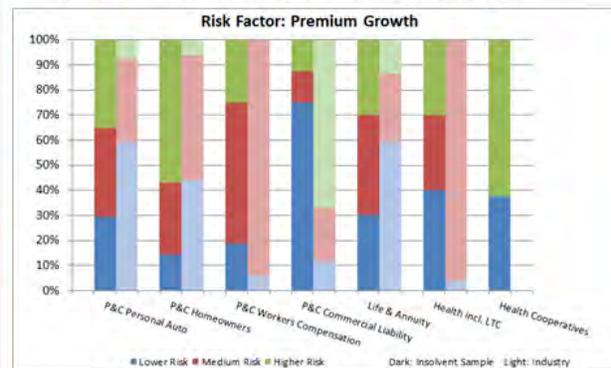
In the charts that follow, all U.S. data was derived from statutory financial statement information, sourced from SNL Financial. The charts represent two main views. The first view is based on the initial analysis of risk factors focusing on the insolvent sample of companies by cohort. The second view provides an industry overlay. This supports the second chart view in which the insolvent sample and the industry sample are compared side by side with the industry shown in a lighter shade. The cohorts and risk factors are consistent between both views. The second view is inclusive of the first. Each view divides companies into low, medium, and high risk categories for a given risk factor. These risk categories are shown in blue, red, and green, respectively. The methodology for assigning companies to each category is described in Section 3.1. Please note that we excluded health cooperatives from the second (industry) view due to the significant number of insolvencies that have occurred for this cohort subsequent to the valuation date underlying the phase 1 analysis.

Sample Chart View 1 and View 2:

**View 1: Insolvent Sample**



**View 2: Insolvent and Industry Sample**



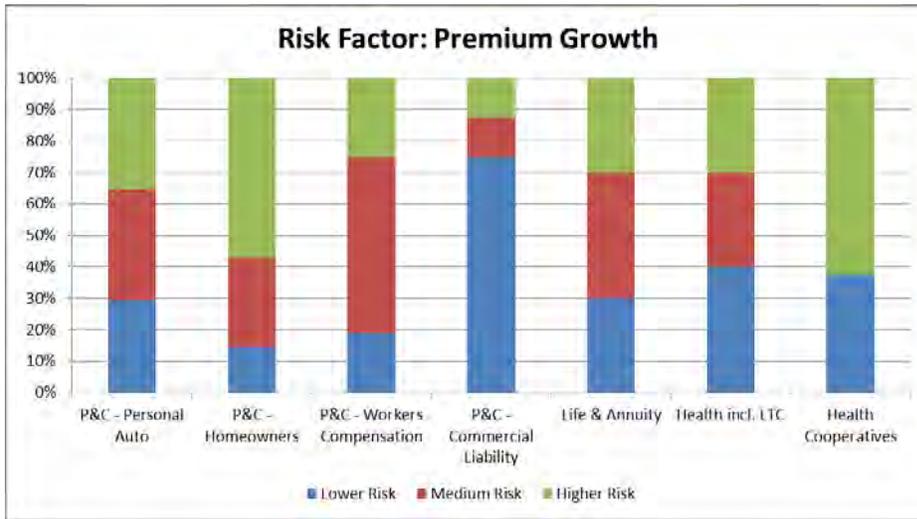
### Premium Growth

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% and a contributing cause to 43% of P&C insolvencies in Canada.

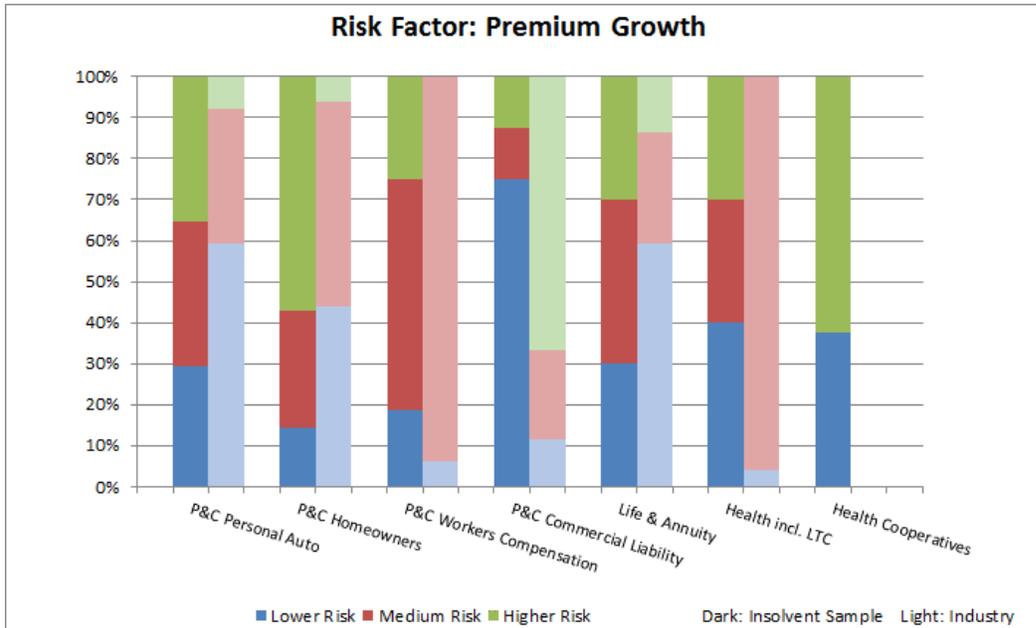
Our review of premium growth as a risk factor among cohorts within the insolvent sample shows a varied risk mix (figure 4). The homeowners and health cooperative cohorts have the largest proportion of high-growth companies within the insolvent companies.

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 (figure 5). This suggests that growth is a strong indicator of insolvency risk.

**Figure 4**  
Premium Growth for U.S. Insolvency Sample by Cohort



**Figure 5**  
Premium Growth for U.S. Insolvency Sample and U.S. Industry Sample by Cohort



### Profitability

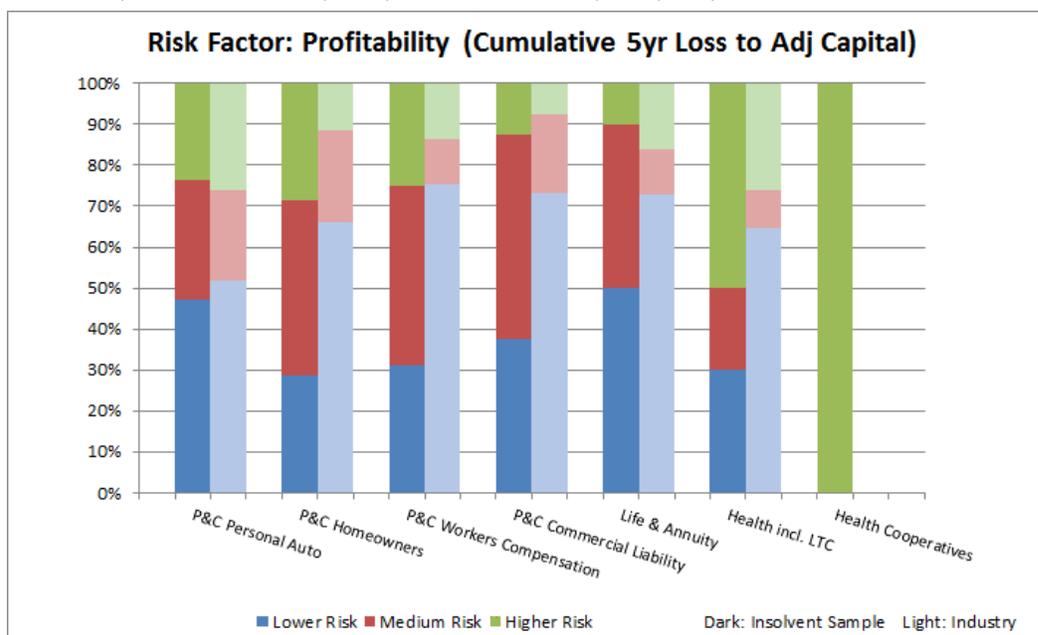
There are specific examples of insolvencies that appear to result primarily from price inadequacy. For purposes of this study, we defined profitability as the cumulative five year operating loss as a percentage of the initial (positive) adjusted capital (as measured by RBC) during the insurer’s last five complete years of operation.

A review of profitability as a risk factor among cohorts within the insolvent sample shows personal auto and the health-related cohorts as the most susceptible to profitability issues.

A review of profitability in the insolvent sample relative to the industry sample shows a higher risk mix in the insolvent sample, with the exception of personal auto and life/annuity. This suggests that profitability is a strong indicator of insolvency risk (figure 6).

A PACICC study by Suela Dibra and Darrell Leadbetter (“Why Insurers Fail”, 2011 Report) examines profitability using a different metric: reserves as a percentage of premium. This too pointed at price inadequacy as an insolvency driver (figure 7).

**Figure 6**  
Profitability for U.S. Insolvency Sample and U.S. Industry Sample by Cohort



**Figure 7**

PACICC

**Exhibit 7 – Price adequacy**

**All new entrants**

Reserves as a percent of NPW net of the industry average



Source: PACICC with data from TRAC and A.M. Best

### Liquidity

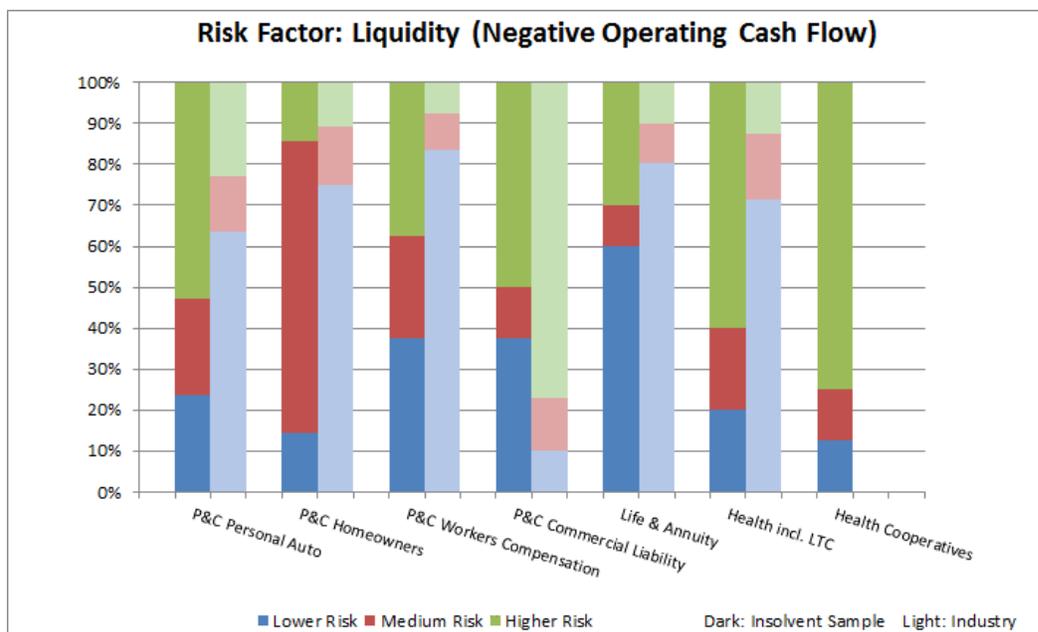
For purposes of this study, we considered negative operating cash flow as indicative of liquidity risk. We ranked companies by the number of years within the last five during which negative operating cash flow occurred.

A review of liquidity in the insolvent sample to the industry sample shows a higher risk mix in the insolvent sample, with the exception of commercial liability. This suggests that liquidity challenges may be a significant indicator of insolvency risk (figure 8).

The “Why Insurers Fail” Canadian study did not note liquidity as a significant risk factor. It is important to note that this study focused on P&C companies only, and did not define liquidity in the same manner as used in this study.

The results below suggest that in general for P&C, Life, and Health companies, the occurrence of multiple years of negative operating cash flow is potentially a significant indicator of insolvency risk.

**Figure 8**  
Liquidity for U.S. Insolvency Sample and U.S. Industry Sample by Cohort



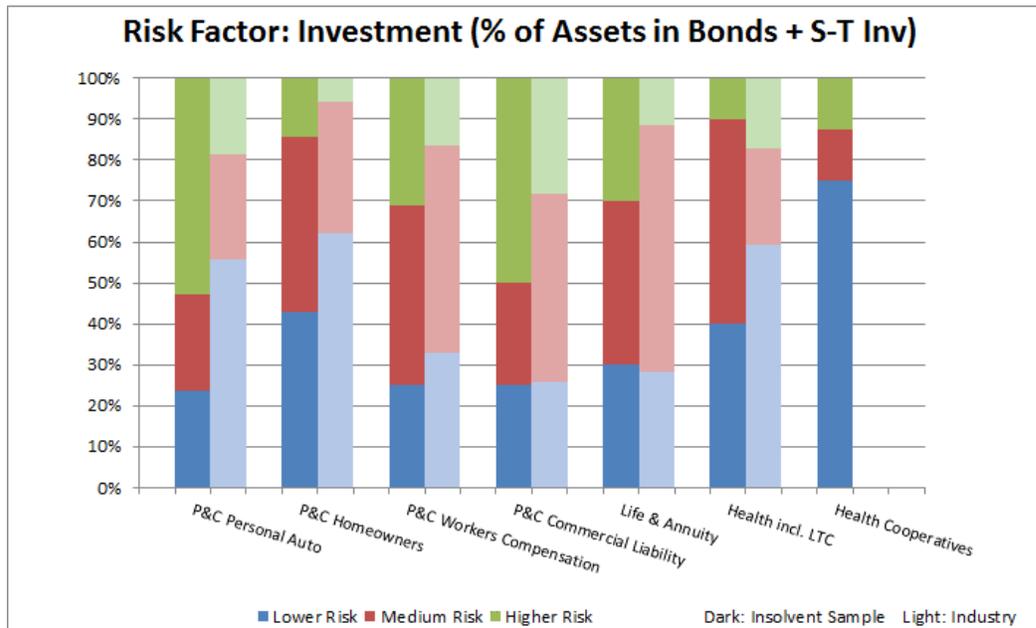
### Investment

We defined investment risk based on the proportion of invested assets held in bonds and short-term investments (relatively “safe” instruments) as compared to total assets.

A review of investment in the insolvent sample to the industry sample shows a higher risk mix in the insolvent sample, with the exception of the health insurance cohorts. This suggests that investment mix may be a strong risk indicator for insolvency (figure 9).

PACICC Canadian studies have also found higher concentrations of investments in relatively high-risk categories associated with insolvency risk (figure 10).

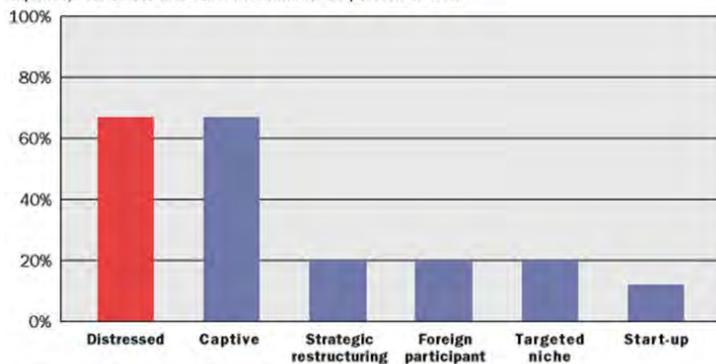
**Figure 9**  
Investment for U.S. Insolvency Sample and U.S. Industry Sample by Cohort



**Figure 10**  
Canadian Investment Risk – PACICC Study

**Exhibit 12 – Investment risk in new entrants**

Equities, real estate and other investments as percent of total



Source: PACICC, with data from TRAC and A.M. Best

**Risk-Based Capital Ratio**

The introduction of RBC requirements in the U.S. in 1994 sought to provide added measures to curb insolvency, by providing a metric to help identify weakly capitalized companies. While RBC is not an all-encompassing tool for solvency monitoring, it is notable that the rates of insurer insolvency in the U.S. declined significantly following the adoption of RBC.

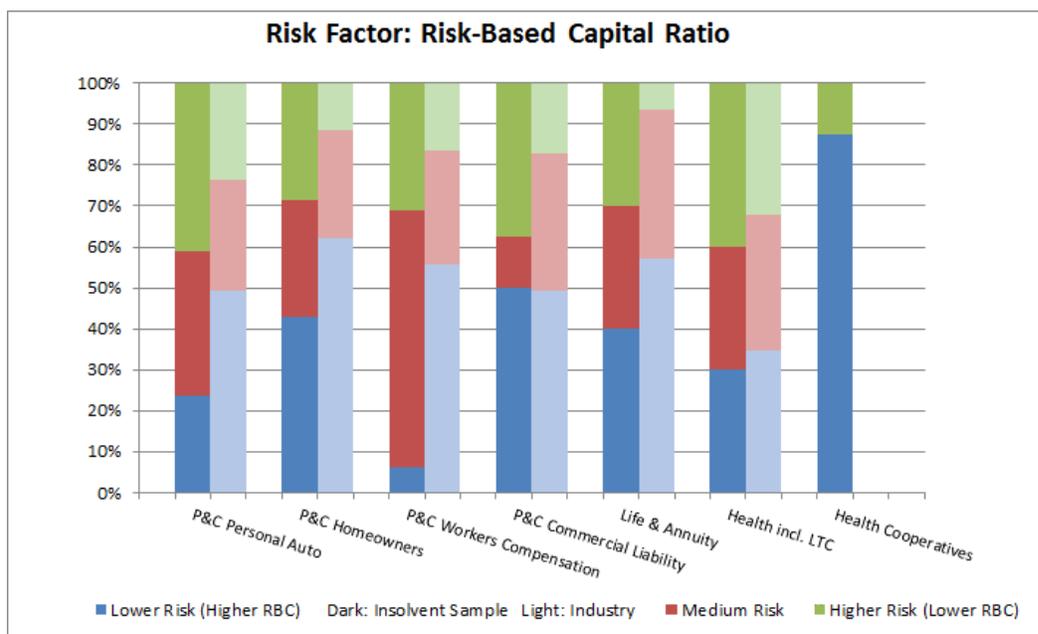
A review of RBC ratio in the insolvent sample relative to the industry sample shows a higher risk mix in the insolvent sample. This suggests that RBC continues to be a strong indicator of potential insolvency risk (figure 11).

There are potential challenges to using RBC as a predominant leading indicator for insolvency risk, however. To illustrate this challenge, we note the following with respect to the workers' compensation insolvencies:

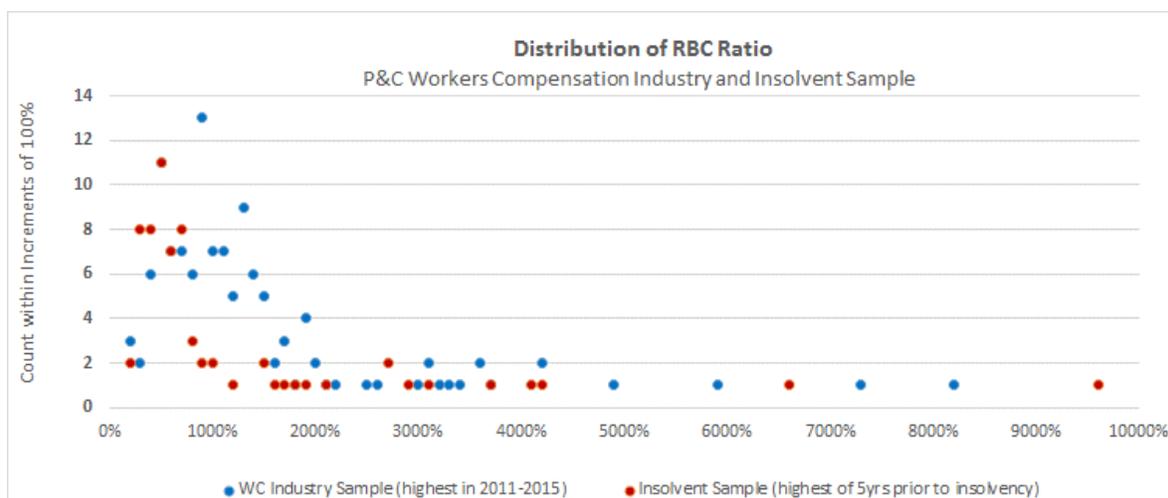
- 31% of insolvent WC insurers had RBC ratios greater than 200% across a five-year history
- 50% of insolvent WC insurers had a negative RBC ratio in the last year sampled
- Of those with negative RBC, the years preceding showed a 20%–30% RBC decrease
- Most insolvent WC insurers had significant year-over-year volatility in RBC ratio in at least one annual period

Further, the range of RBC values varies significantly across products and lines, making the potential risk range considerably wide (see figures 12 and 13 for examples with workers' compensation and life and annuity industry RBC ratios).

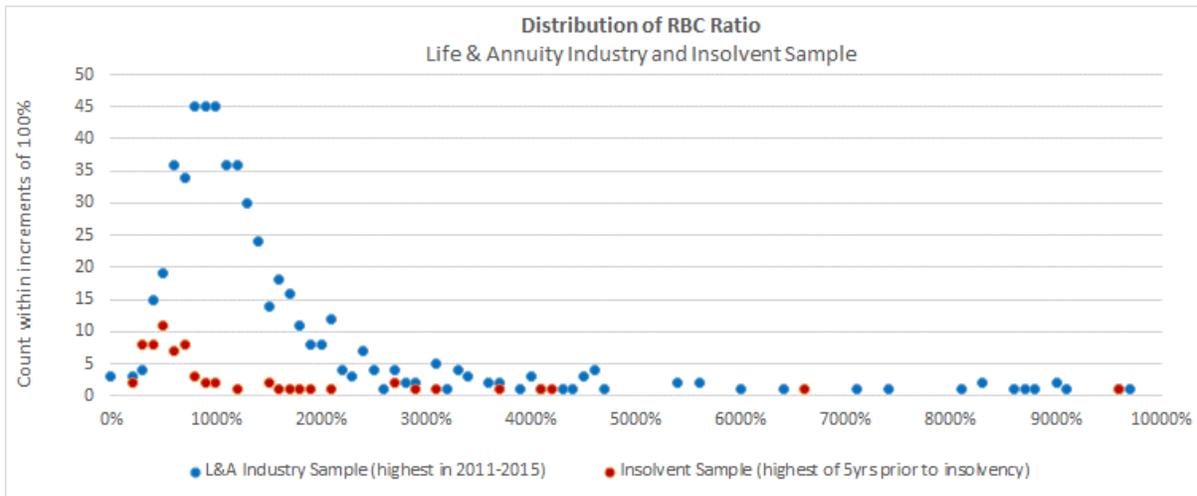
**Figure 11**  
RBC Ratio for U.S. Insolvency Sample and U.S. Industry Sample by Cohort



**Figure 12**  
Distribution of RBC Ratio for U.S. Workers' Compensation Industry and Insolvent Sample



**Figure 13**  
Distribution of RBC Ratio for U.S. Life and Annuity Industry and Insolvent Sample



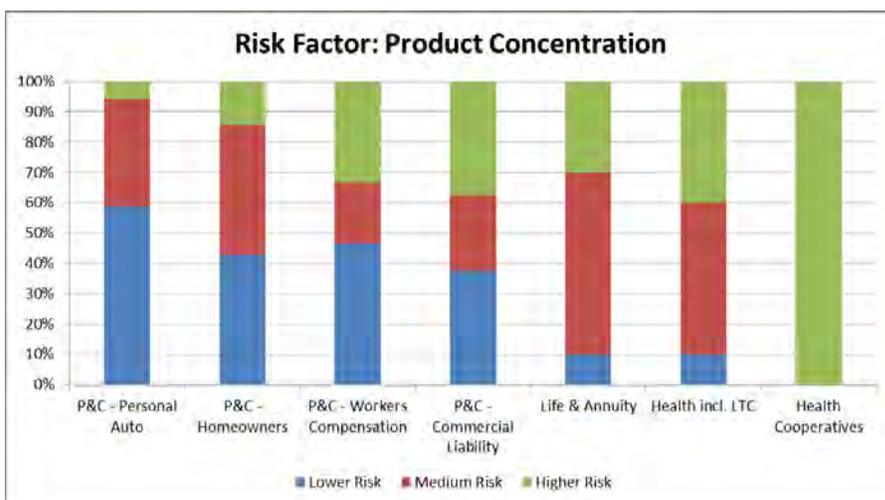
**Product Concentration**

We defined product concentration as the percentage of direct premium written in the largest line of business for those companies in the insolvent sample.

As expected, high product concentration risk is observed for health cooperatives. It can also be observed that product diversification does not appear to stand out as a key risk factor for the other cohorts, suggesting that such diversification is not necessarily correlated to less insolvency risk; other factors such as company management’s experience, economic conditions, and other factors may be more important in this context.

We did not compare the insolvent companies to broader industry counterparts for this risk factor, as the industry cohorts were defined on the basis of product concentration.

**Figure 14**  
Product Concentration for U.S. Insolvency Sample by Cohort



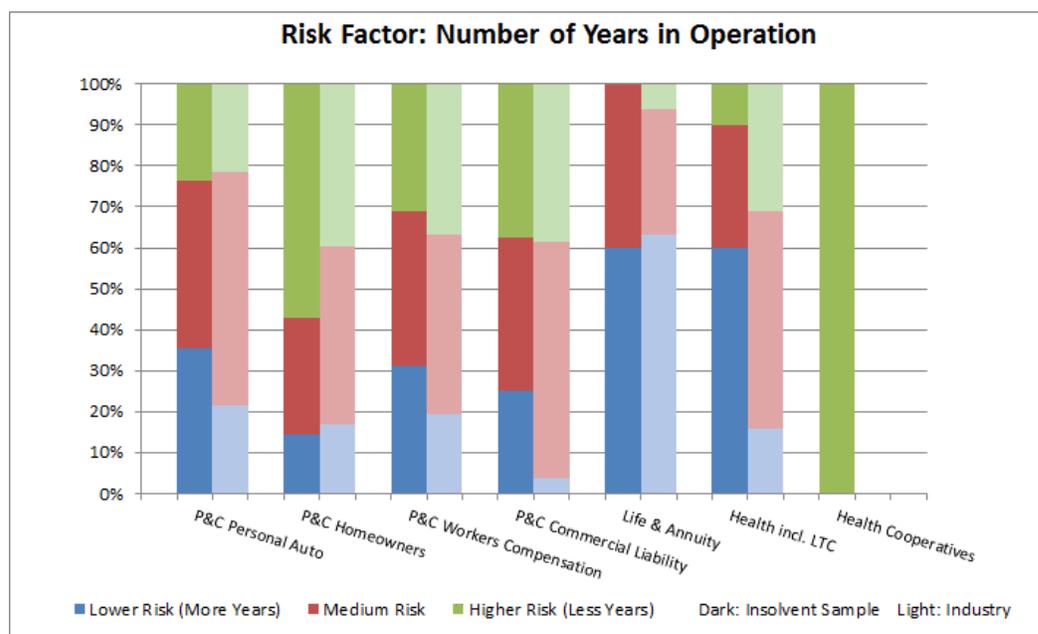
### Years in Operation

Industry studies from the PACICC found that “nearly 1/3 of Canadian P&C insurance companies that entered the market since 1980, exited involuntarily. The average age of these failed companies at the time of insolvency was 7.9 years.”

“Analysis of the age distribution of 164 involuntarily-exited insurance companies incorporated since 1980 in the US and Canada suggests that the greatest risk of insolvency for a P&C insurance company is during the first six years, and 69.5% failed within the first ten years of operation”.

A review of years in operation as a risk factor among cohorts within the insolvent sample shows mixed results, suggesting that years in operation may not be as significant a risk factor for U.S. insolvencies as is the case for Canadian insurers.

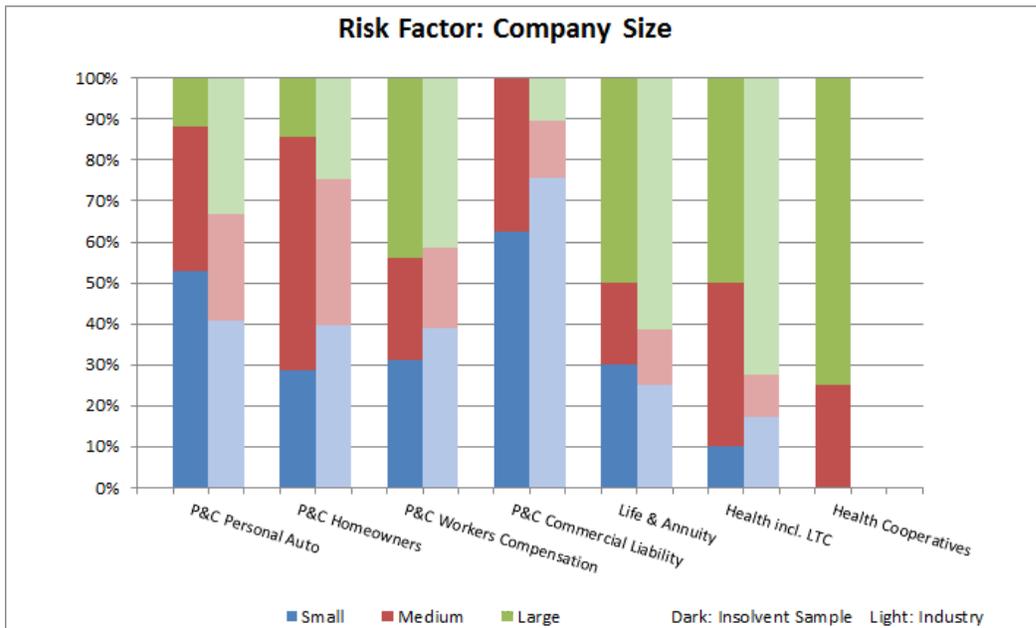
**Figure 15**  
Years in Operation for U.S. Insolvency Sample and U.S. Industry Sample by Cohort



### Company Size

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. We did not categorize small companies as indicative of higher risk from an insolvency perspective. It can be seen in the comparison to the broader industry results that company size does not appear to clearly indicate relative insolvency risk, as there is no observable pattern of small or large companies predominating the insolvent cohorts relative to their industry counterparts. Company size may therefore be less predictive of future insolvency as compared to other financial risk factors discussed previously.

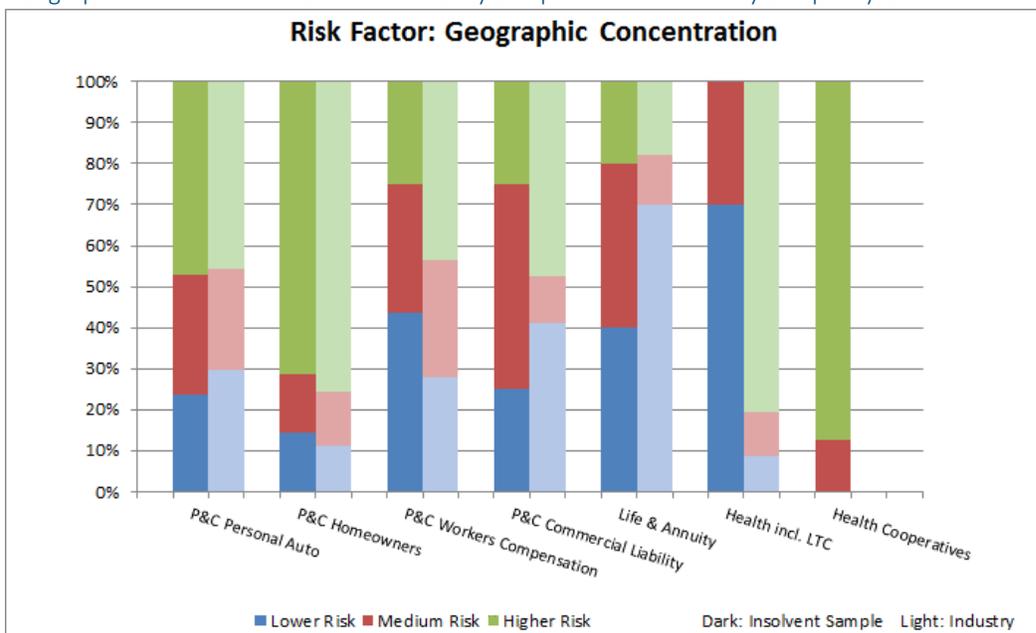
**Figure 16**  
Company Size for U.S. Insolvency Sample and U.S. Industry Sample by Cohort



**Geographic Concentration**

Geographic concentration was defined by the proportion of direct written premium for the insolvent company in its predominant state, as of the latest available point in time from statutory financial filings. It does not appear that geographic concentration distinguishes insolvent companies from the industry as a whole, and therefore this risk factor may be less predictive of insolvency risk.

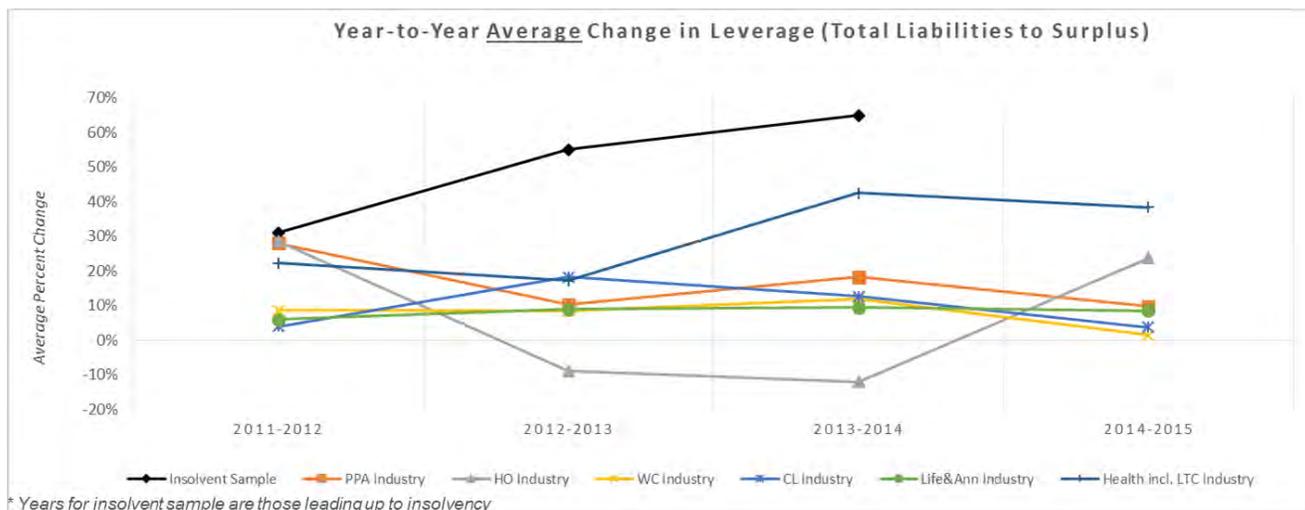
**Figure 17**  
Geographic Concentration for U.S. Insolvency Sample and U.S. Industry Sample by Cohort



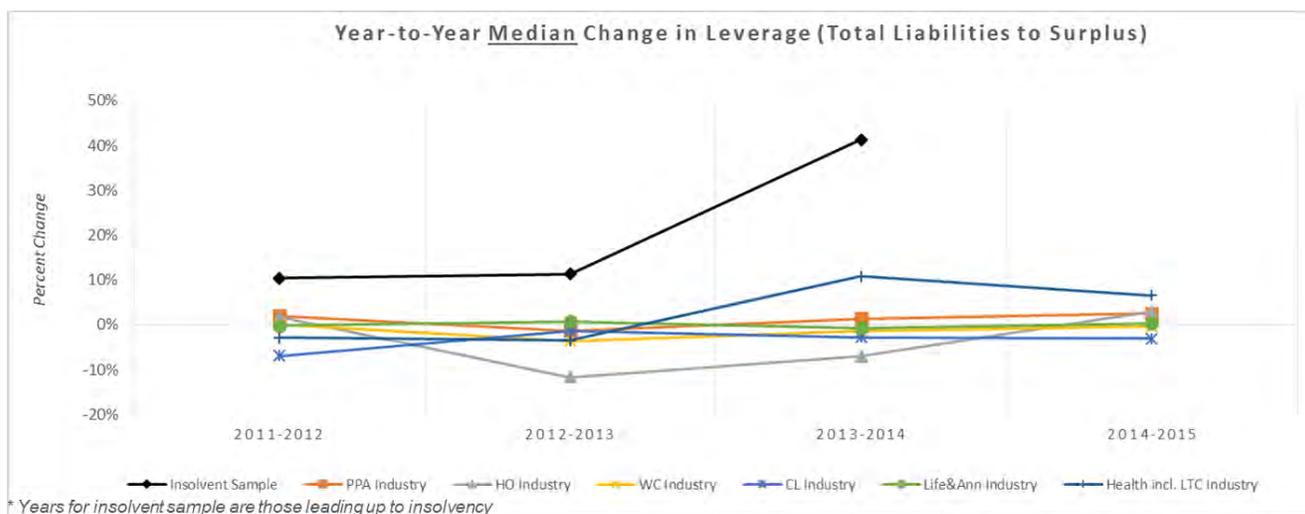
### 2.3 Additional Analysis

Another dynamic of the risk factors that may merit future research is their volatility over time. In the example of leverage, we observed larger year-over-year variation in the insolvent sample relative to the industry samples by cohort. Lack of stability in the financial risk factors previously discussed could present another leading indicator to consider.

**Figure 18**  
U.S. Industry Sample by Line of Business – Average Change in Year-over-Year Leverage



**Figure 19**  
U.S. Industry Sample by Line of Business – Median Change in Year-over-Year Leverage



## Section 3: Methodology and Data

### 3.1 Methodology

The risk factors used in our analysis were generally selected based on prior works and research in this subject area. We also considered the availability and consistency of data elements used to derive each risk factor, many of which are available in statutory financial filings.

We obtained values for each risk factor based on published statutory data for each U.S. company in the study. We grouped companies into low/medium/high categories based on the lower third, middle third, and upper third of the distribution of values for each factor. Thus, the 76 companies were ranked by relative riskiness across the entire sample of insolvent companies, spanning all cohorts. The thresholds derived from the 76 insolvent companies were also used in the review of risk level for the industry sample comparisons. While we did not explicitly test the sensitivity of the thresholds selected, we did review the cumulative distributions by risk factor for points of inflection.

### 3.2 Data

#### 3.2.1 Data Sources

- SNL Financial LC
  - Operating metrics and documents (statement of opinion, notes to financials, management discussion and analysis, etc.)
  - Five-year historical extract based on latest available December 31, 2015 and prior
- NAIC Global Receivership Information Database (GRID)
- U.S. Guaranty Associations (NCIGF/NOLHGA)
- Canadian Guaranty Associations (Assuris/PACICC)
- Legal Documents
- Literature Review – Property and Casualty
  - 23 sources reviewed
  - Studies represent 40+ years of insolvencies
  - Studies focus on both industry-wide and company-specific drivers of insolvency
- Literature Review – Life and Health
  - 13 sources reviewed
  - Studies represent 40+ years of insolvencies
  - Studies focus on both industry-wide and company-specific drivers of insolvency

#### 3.2.2 Risk Factor Derivation from SNL Data Element

Risk Factors	SNL Field(s)	Derivation
Company Size	“Net Written Premium”	Maximum of 5-year historical
Number of Years in Operation	“Latest Year of Business” “Commenced Business”	Difference
Geographic Concentration	“% NWP in Largest State”	n/a
Product Concentration	“% NWP in Largest LOB”	n/a
Growth	“Highest Growth”	n/a
Profitability	“Net Income” “Adjusted Capital”	Cumulative 5-year operating loss to earliest (positive) adjusted capital during last 5 years
Liquidity	“Operating Cash Flow”	Years with operating cash flow < \$0 over count of all years
Investment	“% Bonds + ST Inv”	Minimum of 5-year historical
Leverage	“Total Liabilities” “PHS”	Total liabilities to surplus (earliest > 0 of last 5 years)
Risk-Based Capital	“RBC Ratio”	Maximum of 5-year historical

### 3.2.3 Risk Factor Thresholds

Risk Factors	Lower Risk	Medium Risk	Higher Risk
<b>Company Size*</b> <i>Max of net written premium in 5 yrs</i> <i>* We did not categorize small companies as indicative of higher risk</i>	Up to \$20.8M	\$20.8M-\$55.9M	Over \$55.9M
<b>Number of Years in Operation</b>	Over 44 years	15 to 44 years	Up to 15 years
<b>Geographic Concentration</b> <i>% of direct written premium in largest state</i>	Up to 58%	58%–96%	Over 96%
<b>Product Concentration</b> <i>% of net written premium in line</i>	Up to 74%	74%–99.9%	Over 99.9%
<b>Growth (annual)</b>	Up to 23%	23%–101.2%	Over 101%
<b>Profitability</b> <i>max of 5 yr [cumulative operating loss to starting surplus (using adjusted capital)]</i>	Over 9%	-19%–9%	Less than -19%
<b>Liquidity</b> <i>% of last 5 years with operating cash flow &lt; \$0</i>	0%-60%	60%–80%	Over 80%
<b>Investment</b> <i>minimum % in bonds + short-term investments</i>	Over 95%	70%–95%	Under 70%
<b>Leverage</b> <i>ratio of liabilities to surplus in earliest of last 5 years</i>	Up to 127%	127%–271%	Over 271%
<b>Risk-Based Capital</b>	Over 1071%	574%–1071%	Less than 574%

### 3.2.4 Industry Data Definitions

Industry Cohort	Criteria for SNL Data Extract	Sample Size
P&C Personal Auto	<ul style="list-style-type: none"> <li>• 2015 Direct Written Premium of &gt;\$1M in Personal Auto</li> <li>• 2015 Direct Written Premium in Personal Auto &gt; 90% of all lines written</li> <li>• 2015 Net Written Premium greater &gt; \$0</li> </ul>	162
P&C Homeowners	<ul style="list-style-type: none"> <li>• 2015 Direct Written Premium of &gt;\$1M in Homeowners</li> <li>• 2015 Direct Written Premium in Homeowners &gt; 90% of all lines written</li> <li>• 2015 Net Written Premium greater &gt; \$0</li> </ul>	53
P&C Workers Compensation	<ul style="list-style-type: none"> <li>• 2015 Direct Written Premium of &gt;\$1M in Workers' Compensation</li> <li>• 2015 Direct Written Premium in Workers' Compensation &gt; 90% of all lines written</li> <li>• 2015 Net Written Premium greater &gt; \$0</li> </ul>	133
P&C Commercial Liability	<ul style="list-style-type: none"> <li>• 2015 Direct Written Premium of &gt;\$1M in Commercial Liability</li> <li>• 2015 Direct Written Premium in Commercial Liability &gt; 90% of all lines written</li> <li>• 2015 Net Written Premium greater &gt; \$0</li> </ul>	78
Life & Annuity	<ul style="list-style-type: none"> <li>• 2015 Premium, Considerations &amp; Deposits in Life &amp; Annuity &gt;\$1M</li> </ul>	558
Health Including LTC	<ul style="list-style-type: none"> <li>• 2015 Premium, Considerations &amp; Deposits in Health &gt;\$1M, manually removed Coops by name based on U.S. GAO Coop listing</li> </ul>	741
Health Cooperatives	<ul style="list-style-type: none"> <li>• 2015 Premium, Considerations &amp; Deposits in Life &amp; Annuity &gt;\$1M, Coops identified by name based on U.S. GAO Coop listing</li> </ul>	16

## Section 4: Reliance and Limitations

### 4.1 Reliances

We relied upon information from various industry sources. In conducting this analysis, we relied upon the data provided without audit or independent verification. Any inaccuracies in quantitative or qualitative representations could have a significant effect on the results of our review and analysis.

### 4.2 Limitations on Use and Distribution Of Report

This report has been prepared for the internal use of the Canadian Institute of Actuaries (CIA), the Casualty Actuarial Society (CAS), and the Society of Actuaries (SOA) for the purpose of qualitatively evaluating potential root causes of insolvency. This report is not intended or necessarily suitable for any other purpose. Other use or further distribution of this report is not authorized without prior written approval of RRC. Distribution of this report will not result in the creation of any duty or liability by RRC to a third party.

The charts in support of the findings in this report are an integral part of this report. These charts have been prepared to draw observations.

Judgments about the findings presented in this report should be made only after considering the report in its entirety.

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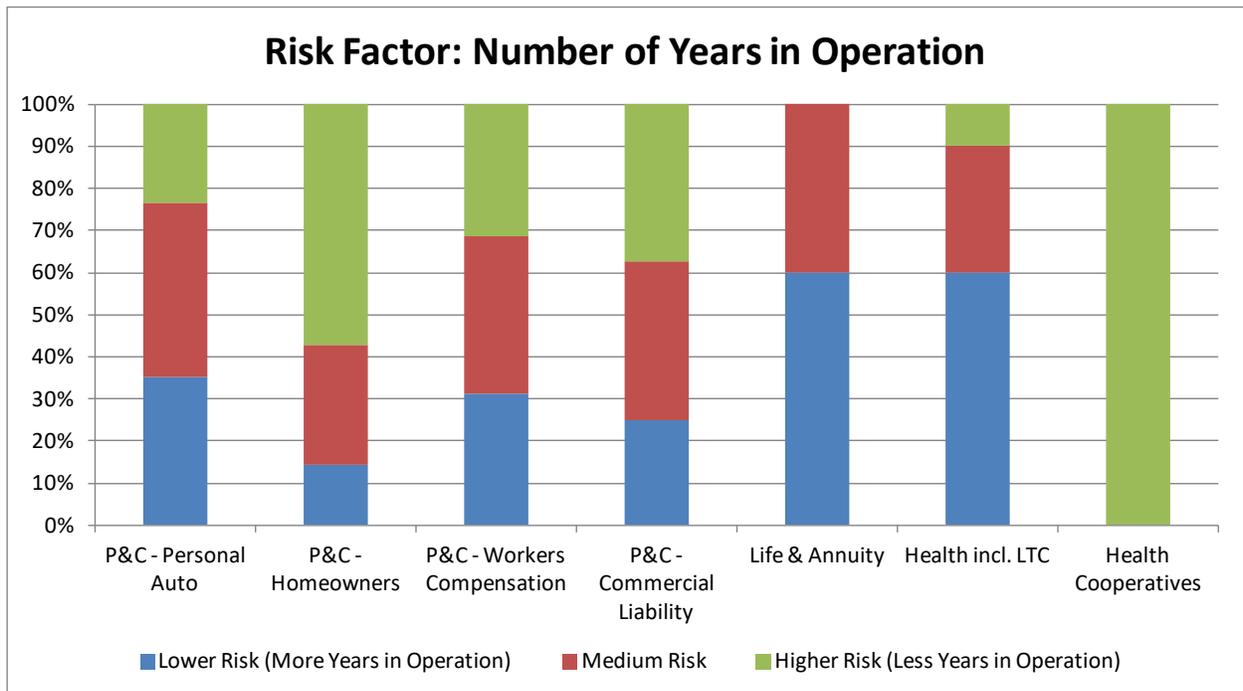
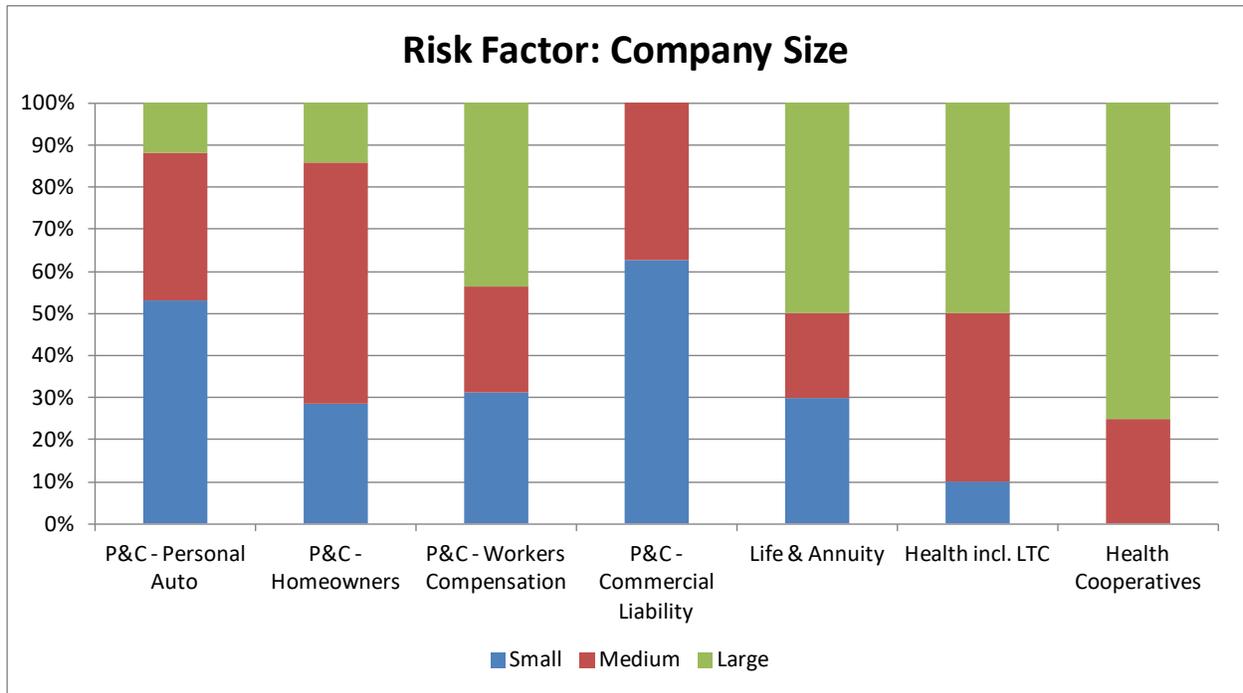
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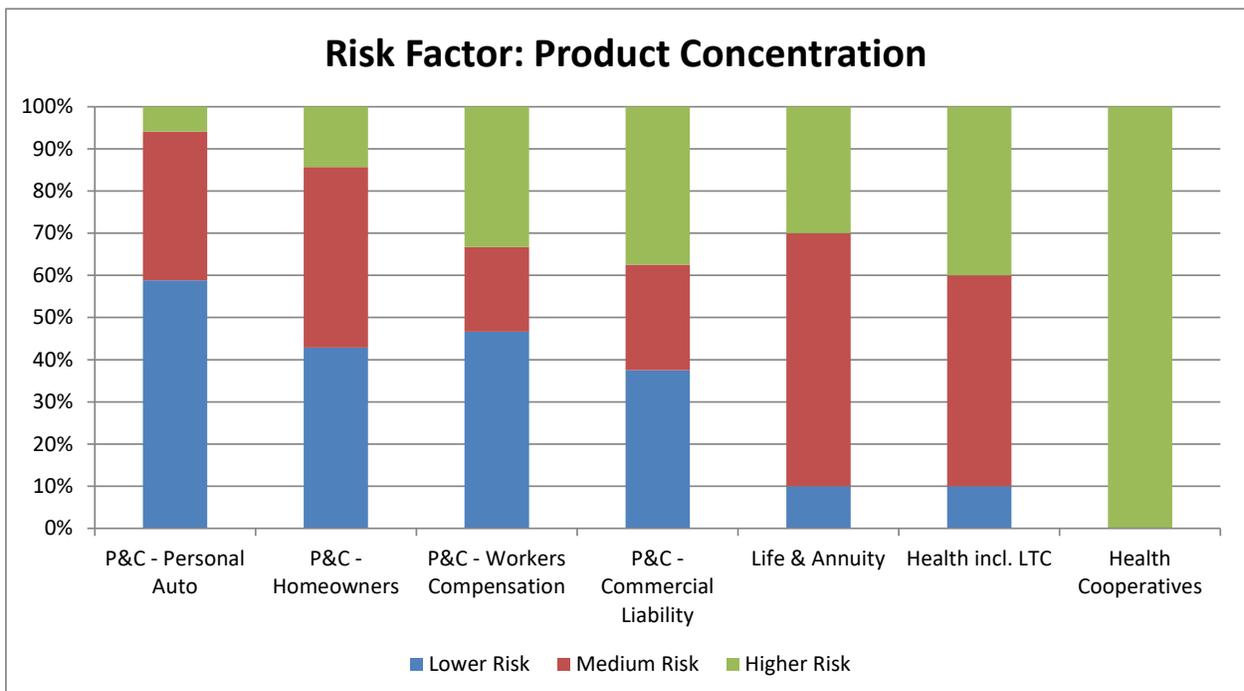
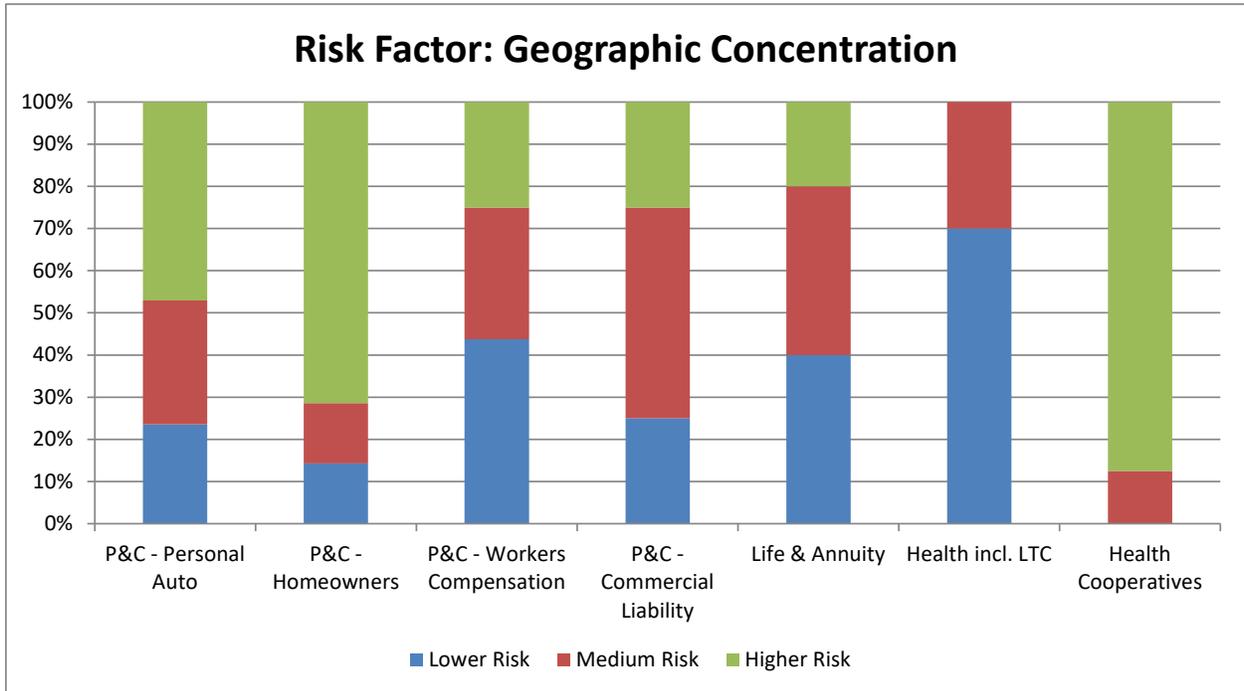
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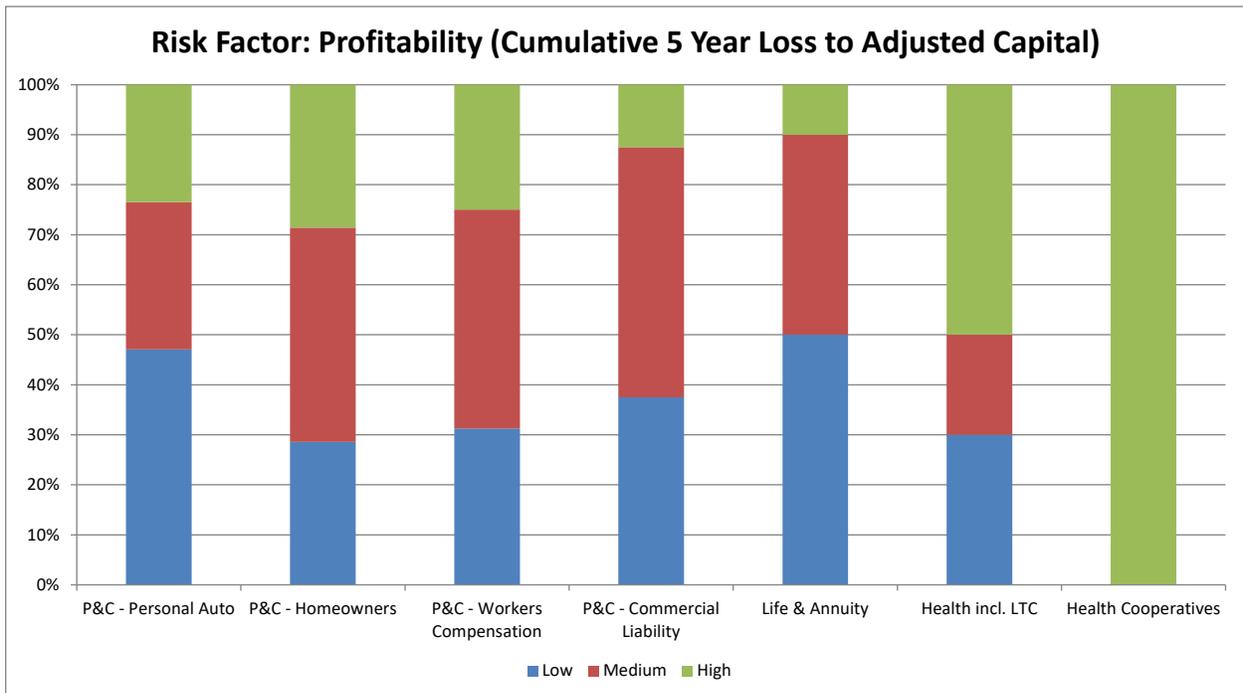
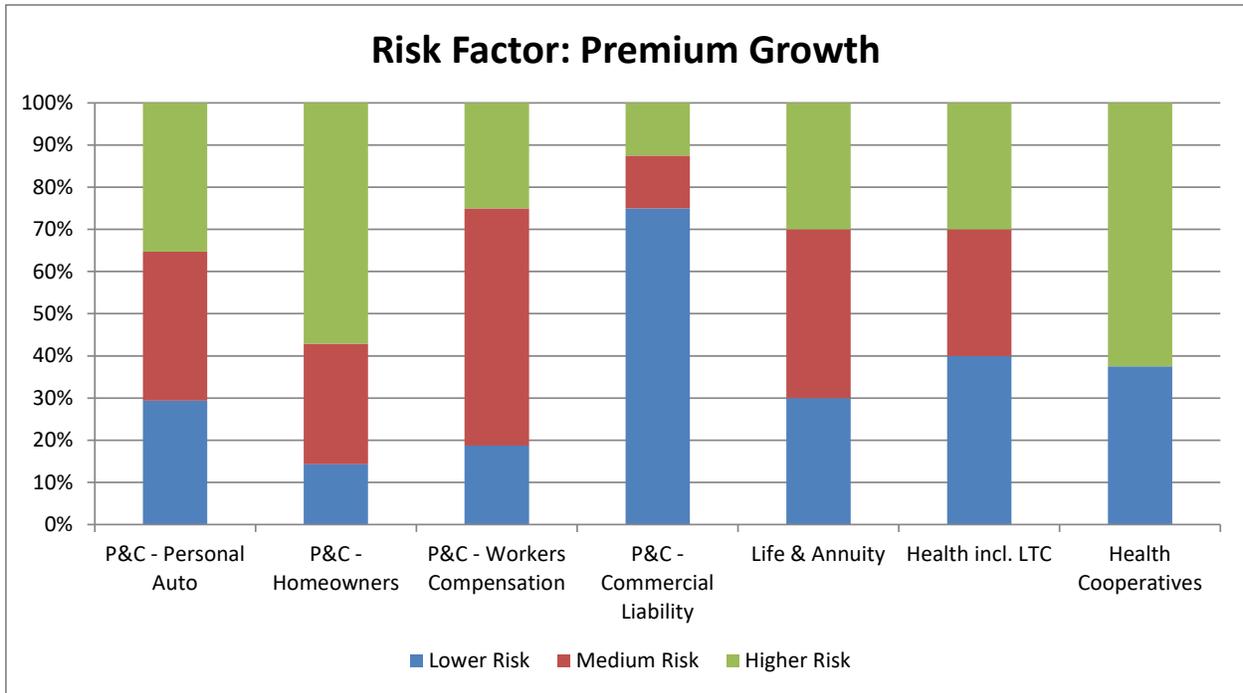
Appendix A — Risk Factors by Cohort (pg. 1)



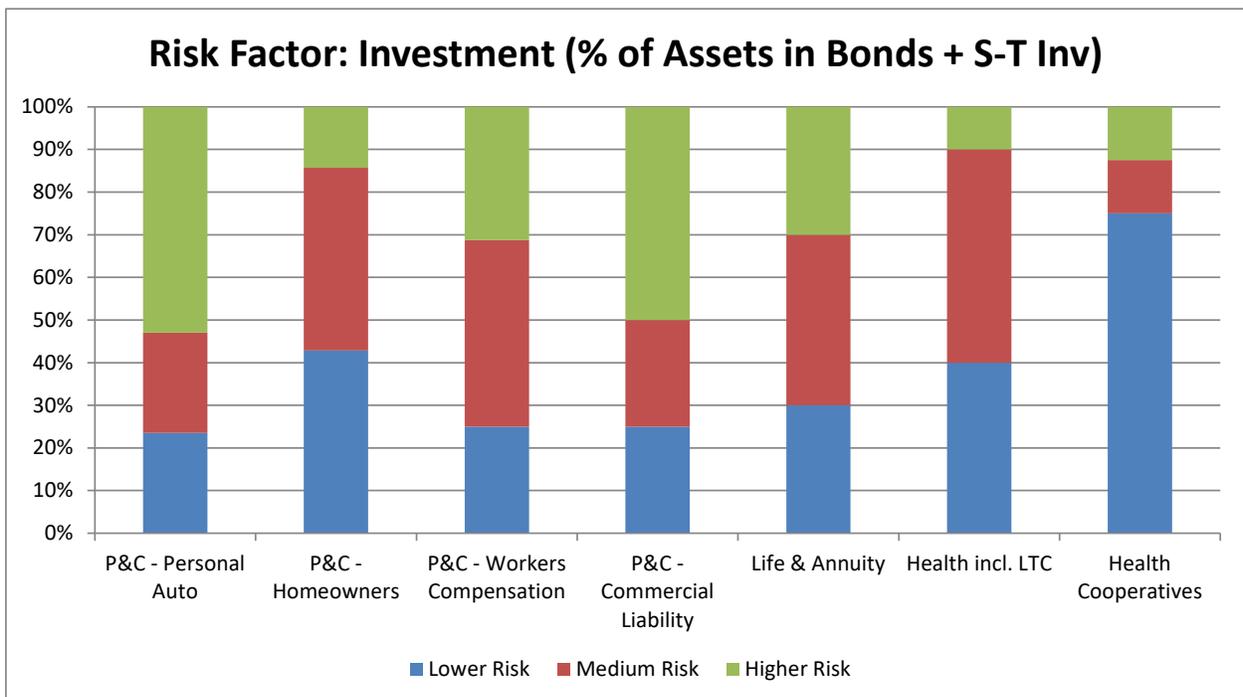
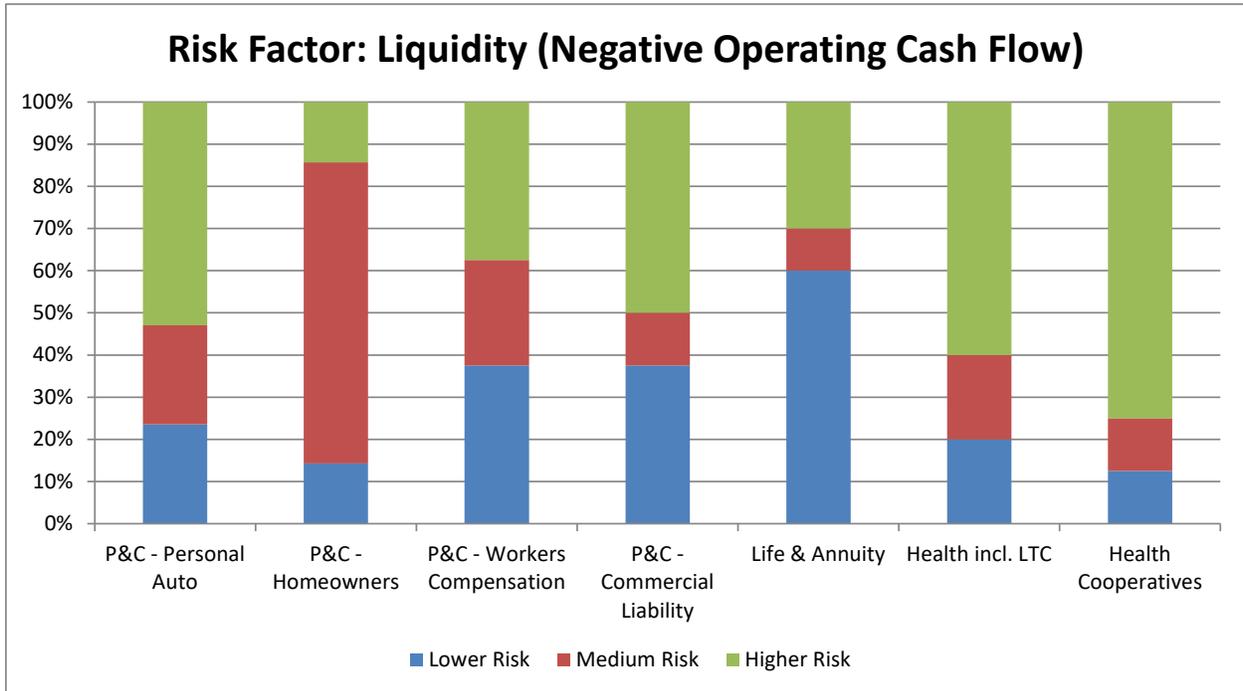
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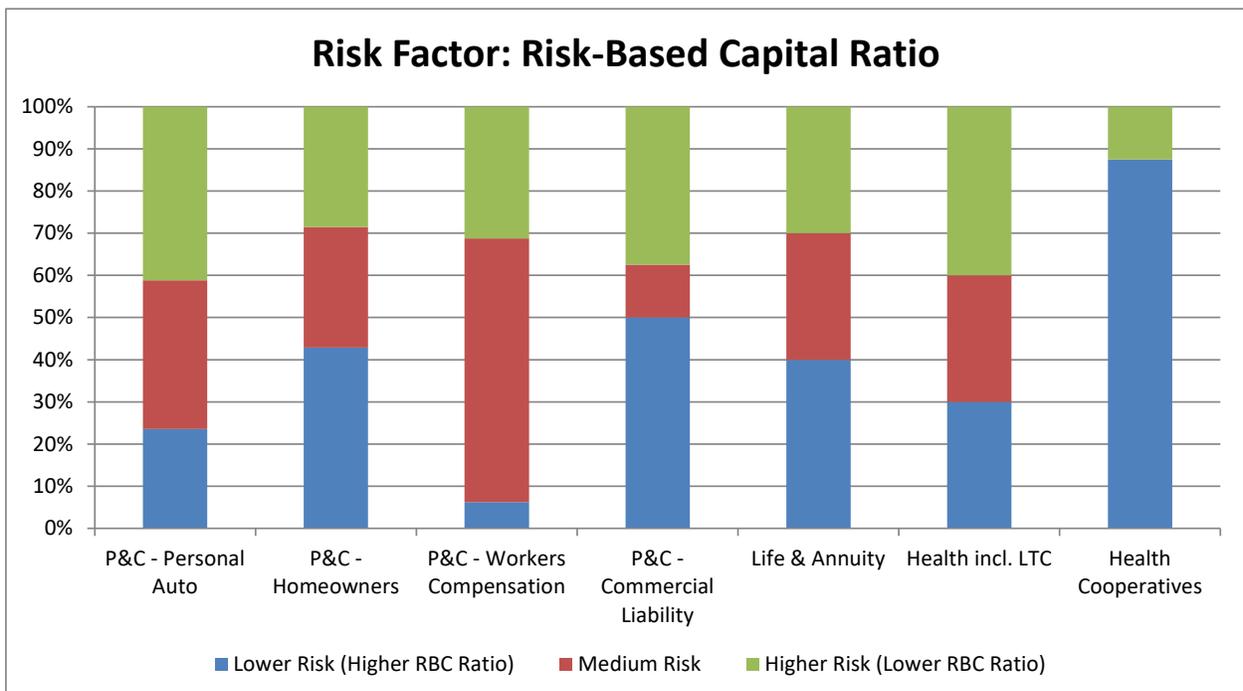
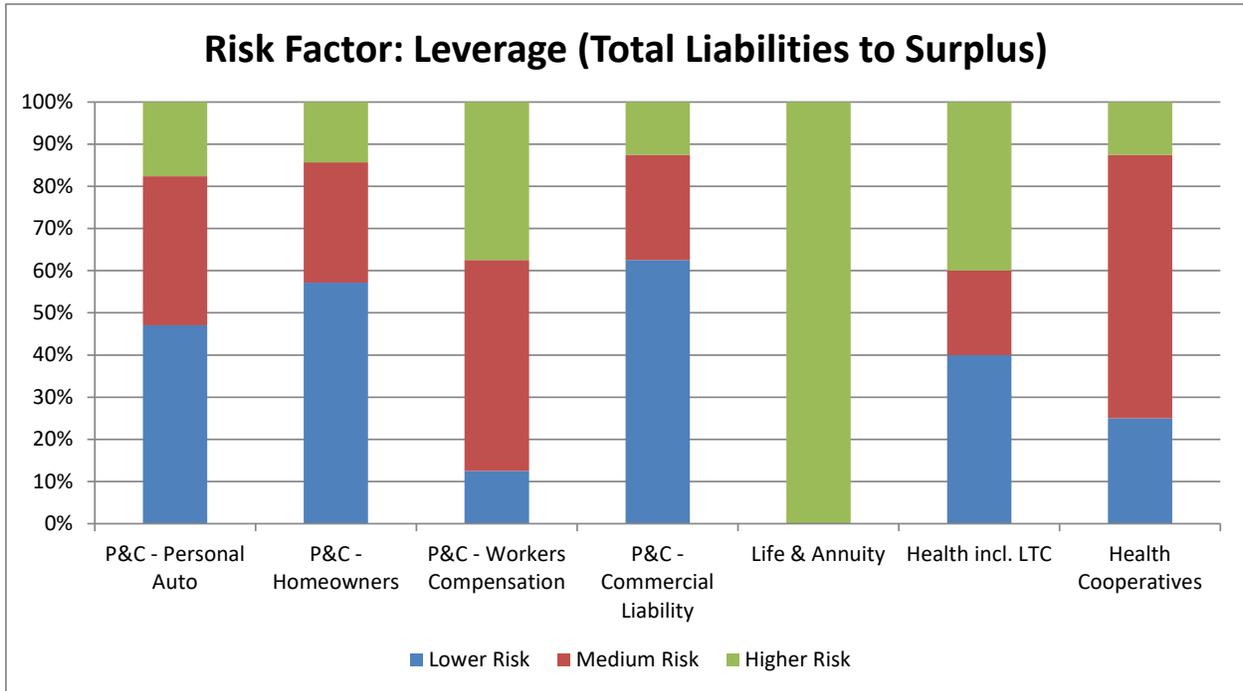
Appendix A — Risk Factors by Cohort (pg. 3)



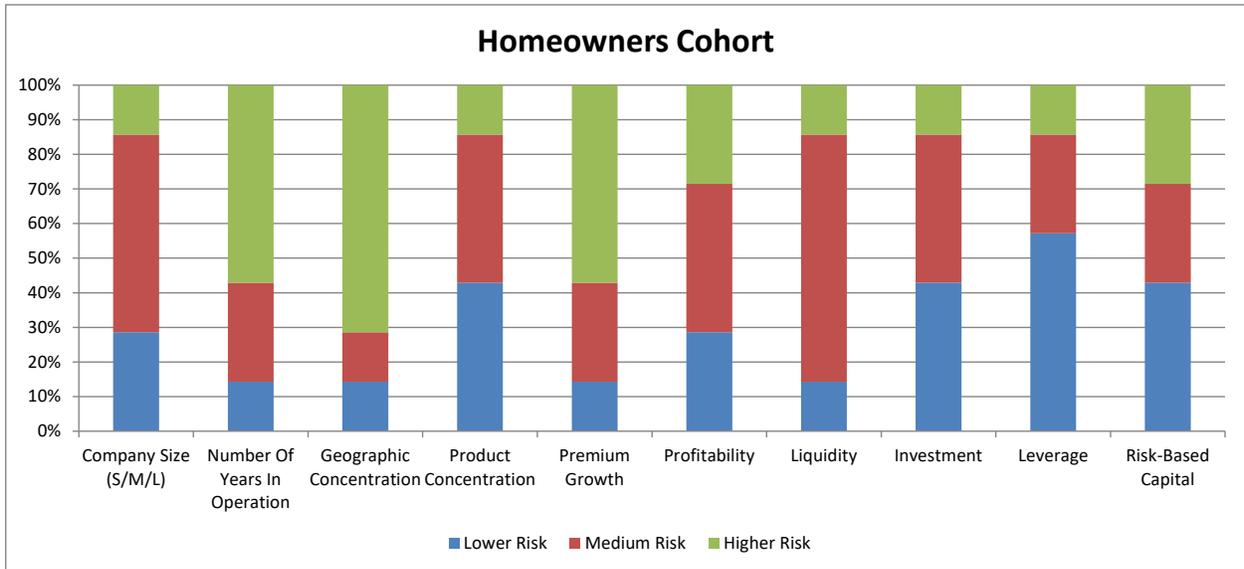
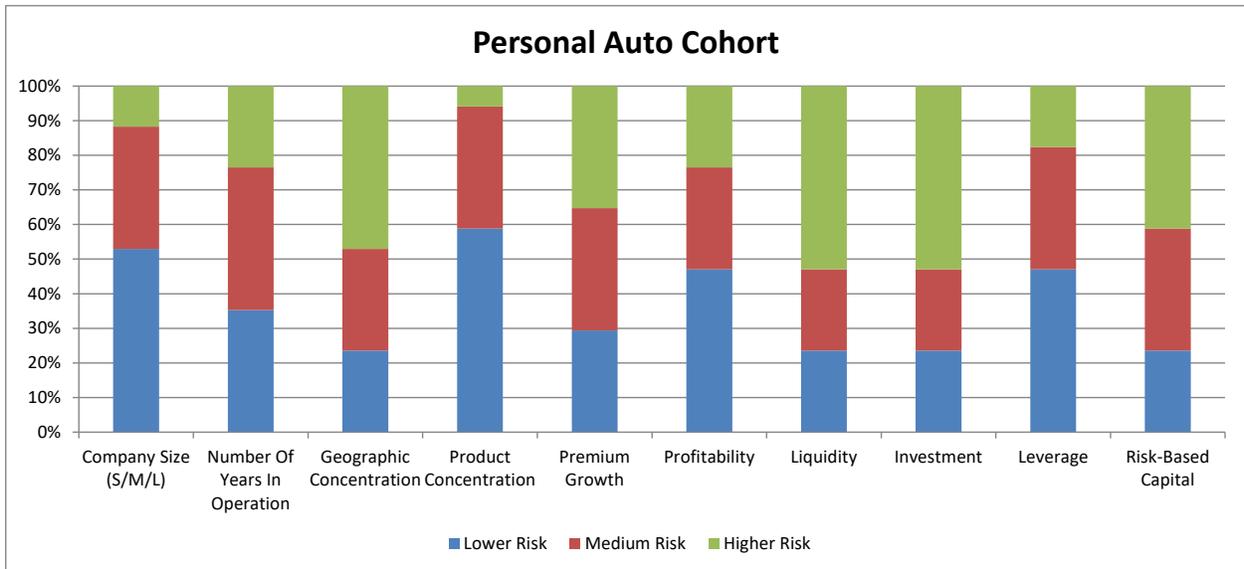
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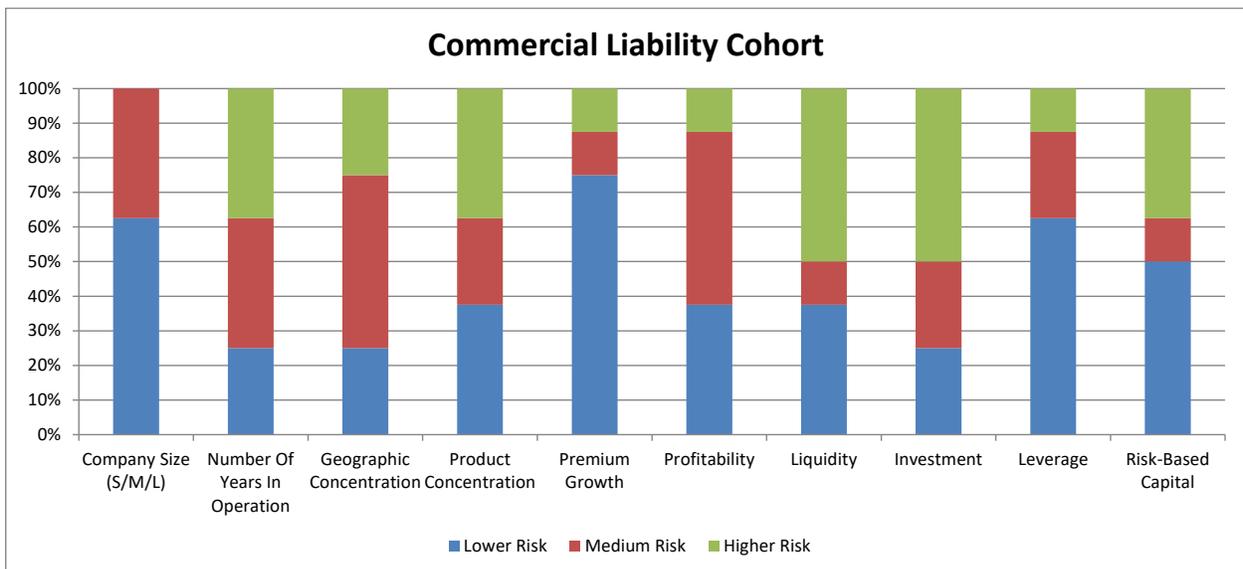
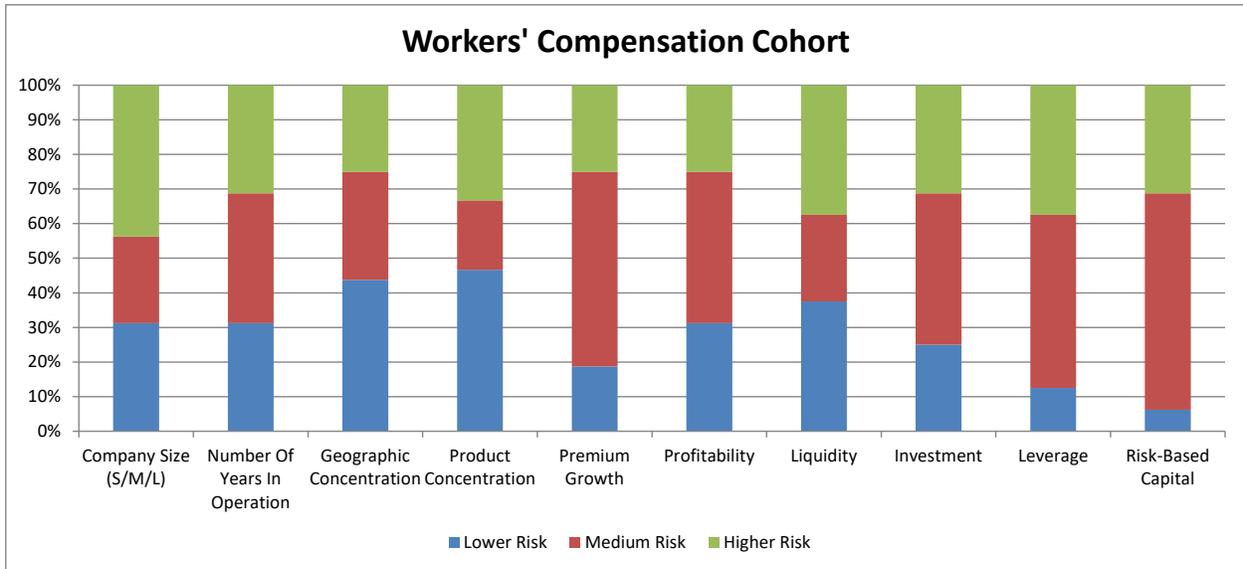
Appendix A — Risk Factors by Cohort (pg. 5)



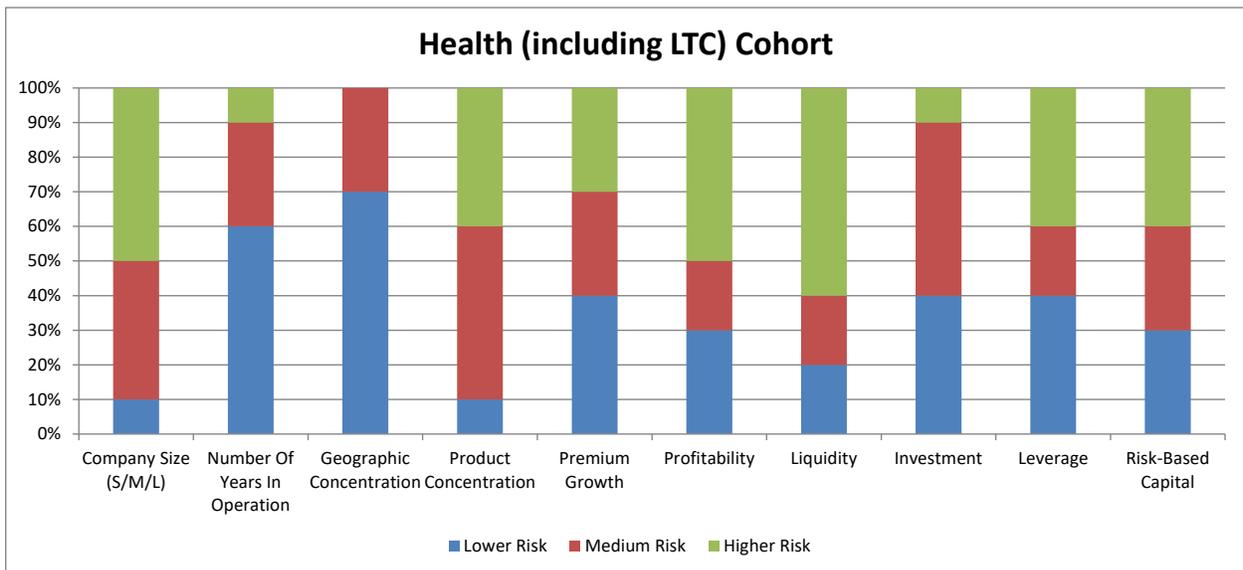
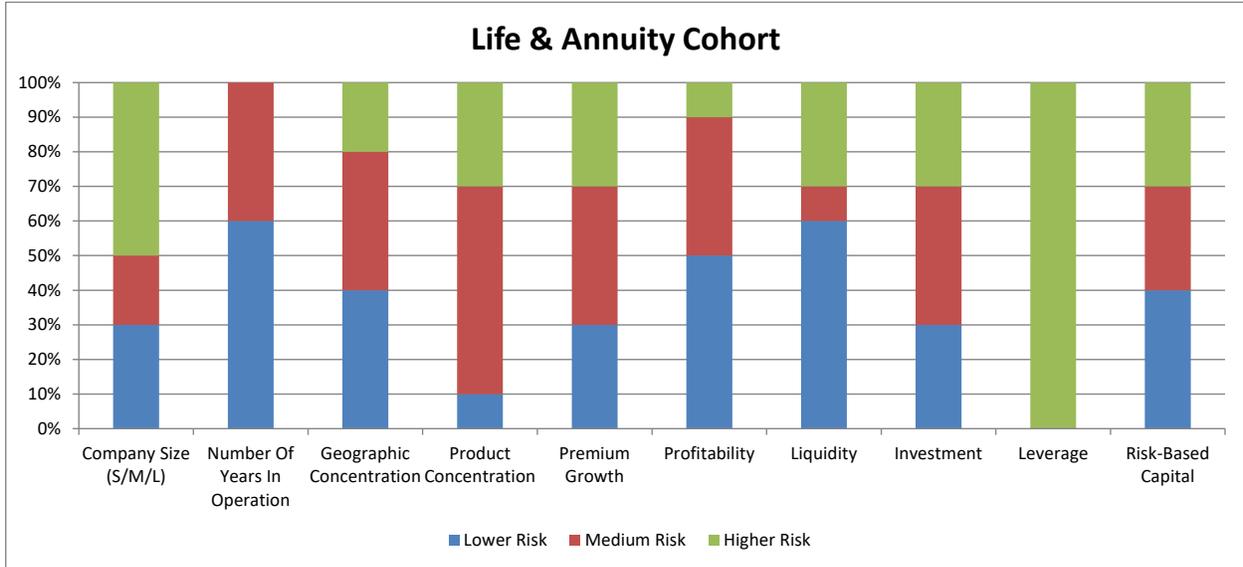
## Appendix B—Results by Cohort (pg. 1)



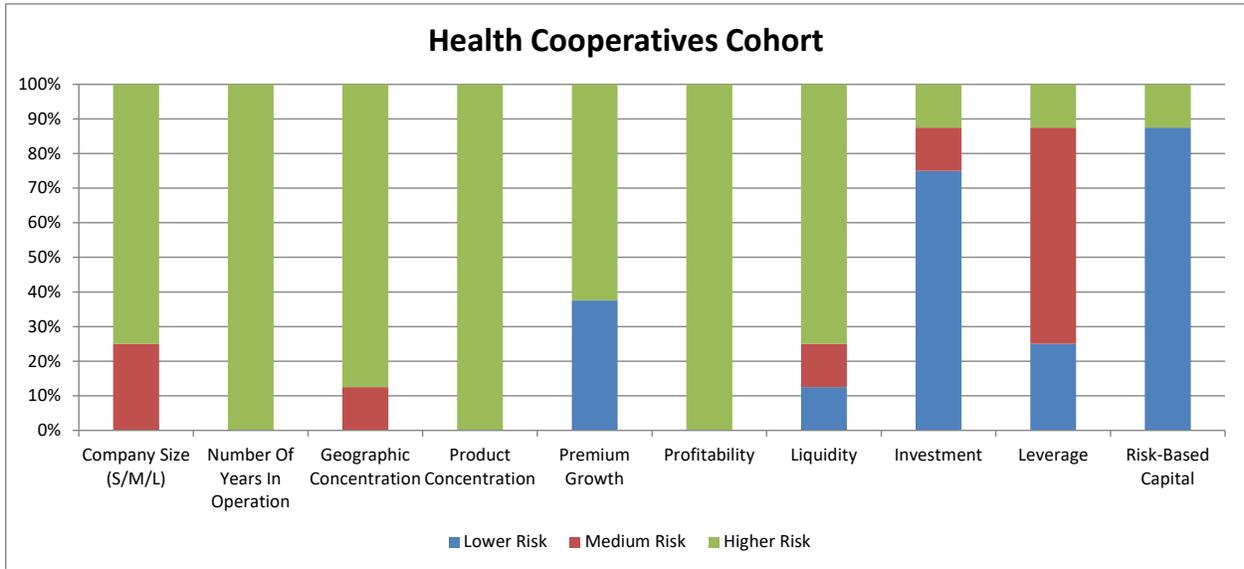
## Appendix B—Results by Cohort (pg. 2)



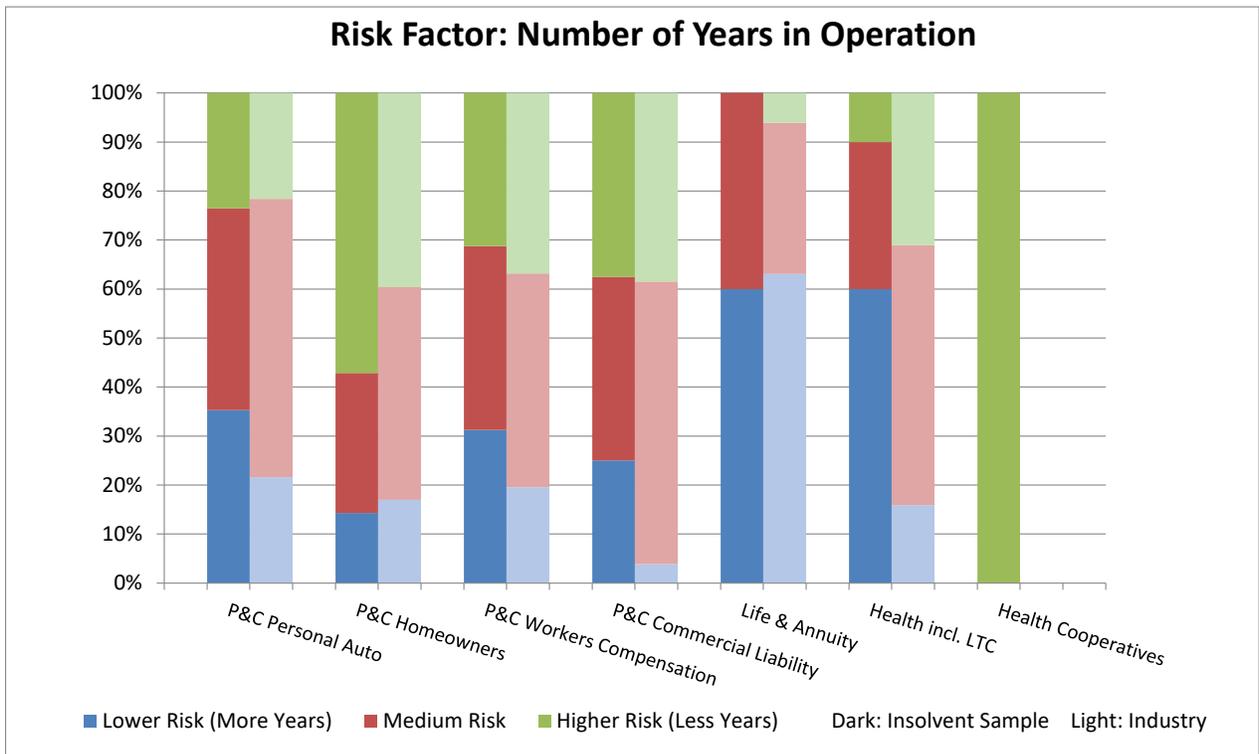
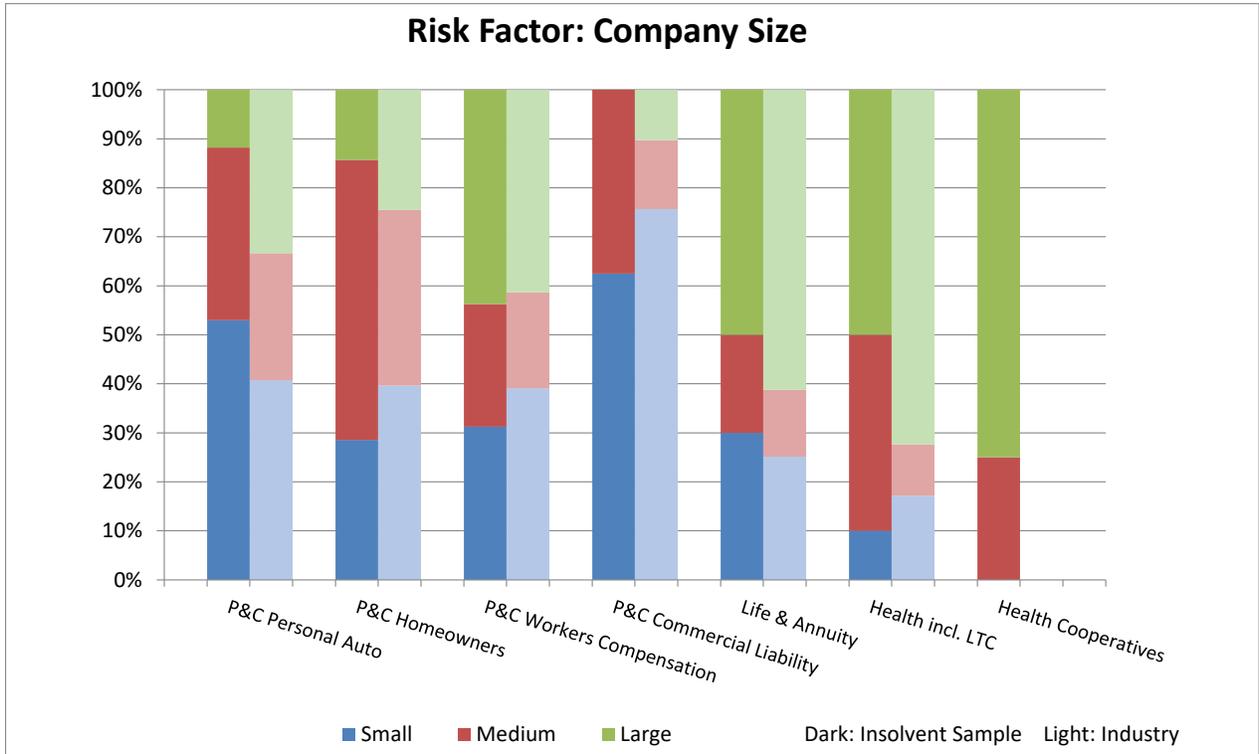
## Appendix B—Results by Cohort (pg. 3)



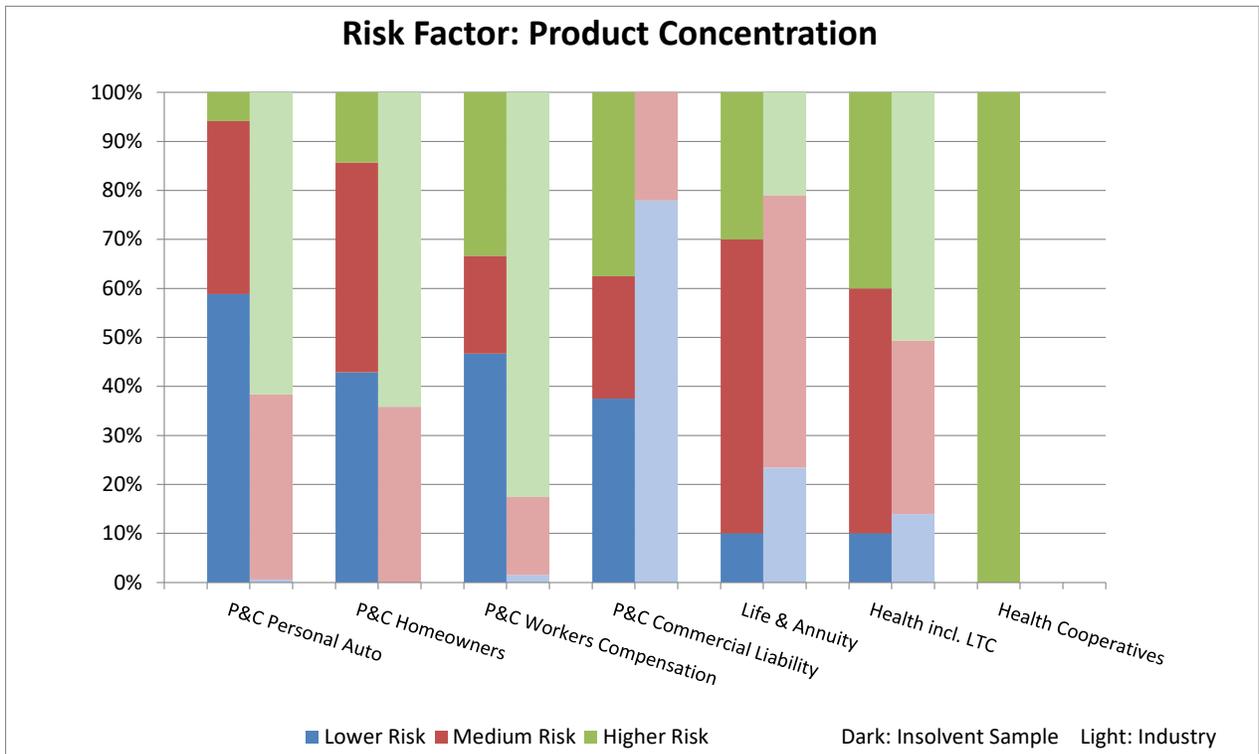
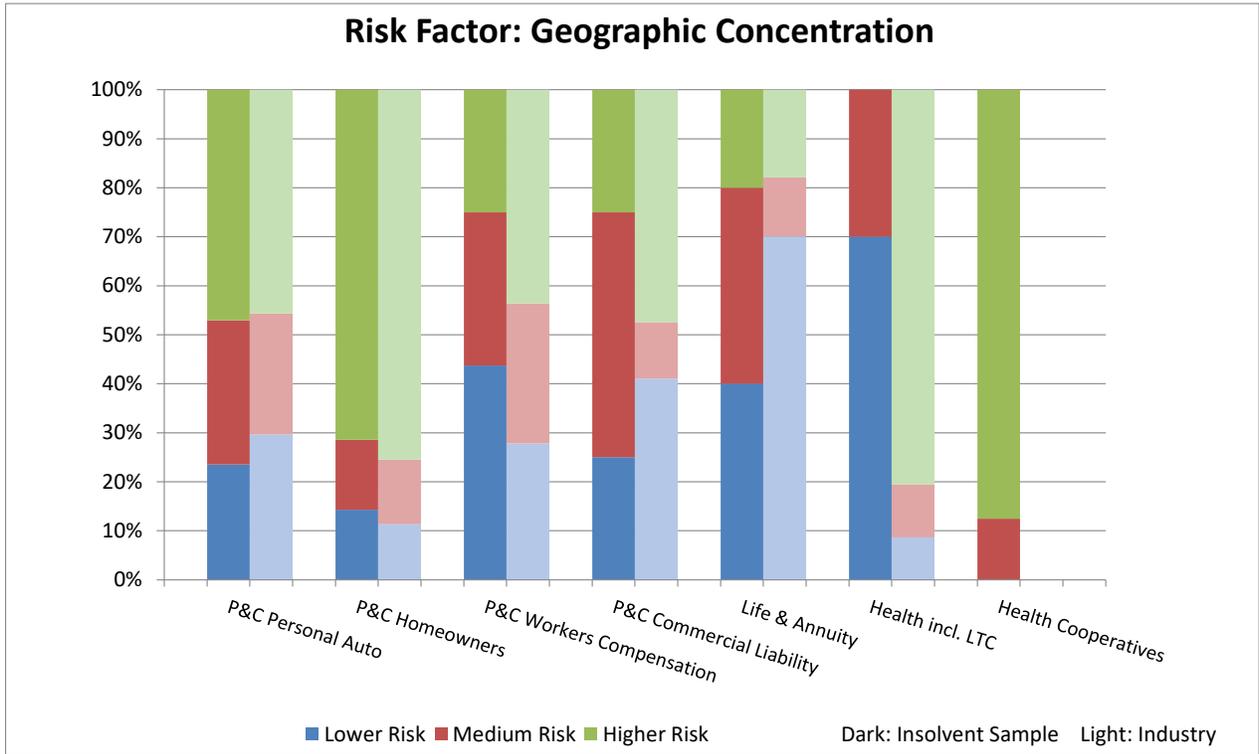
Appendix B—Results by Cohort (pg. 4)



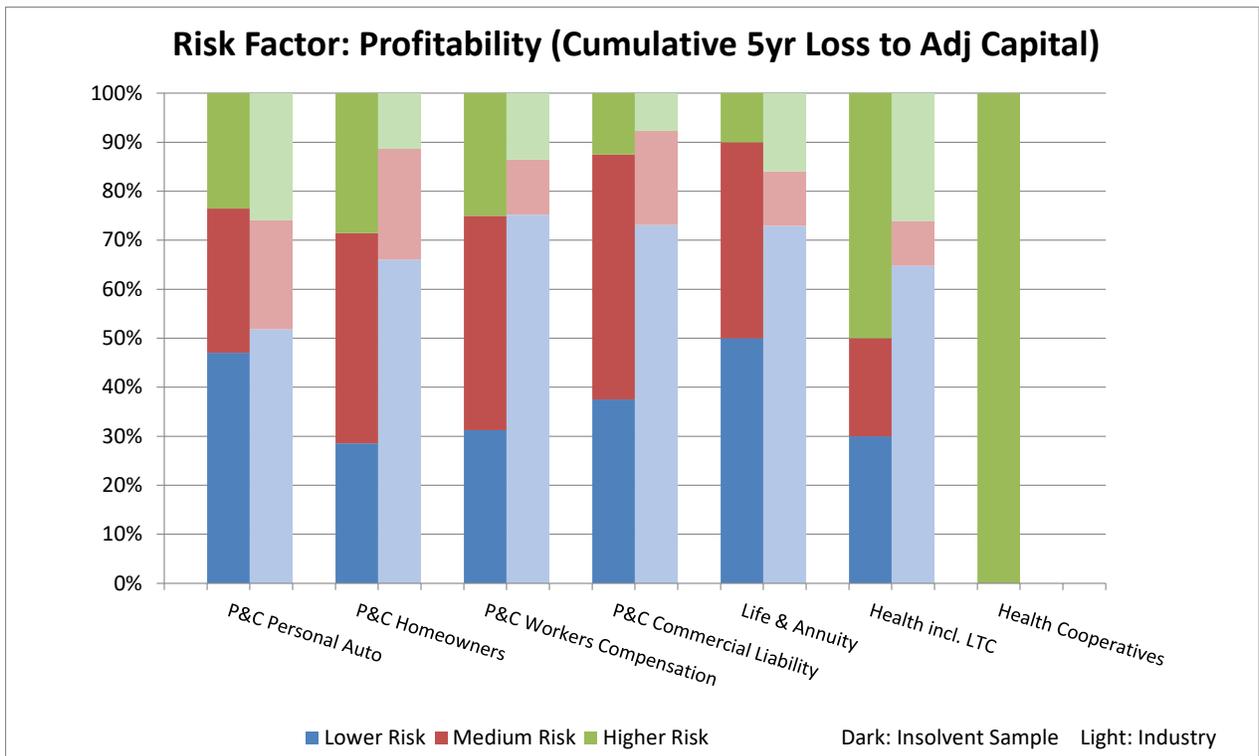
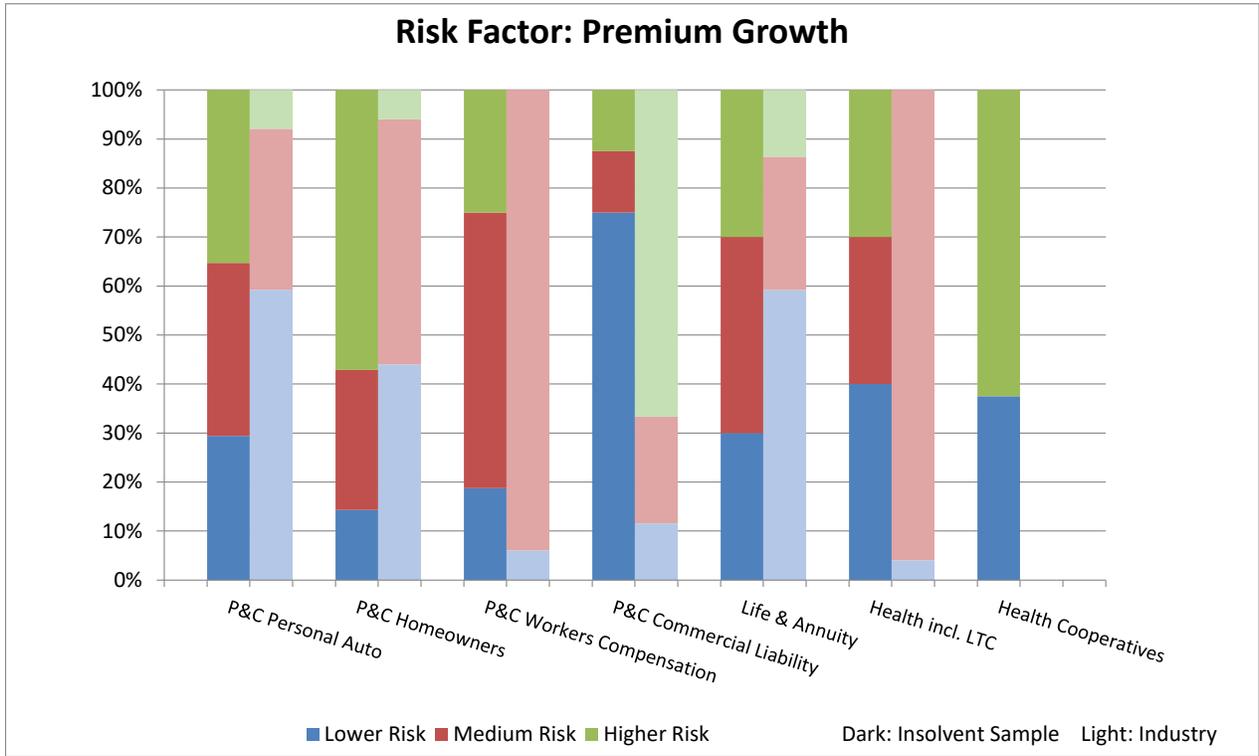
### Appendix C — Risk Factors by Cohort with Industry Comparison (pg. 1)



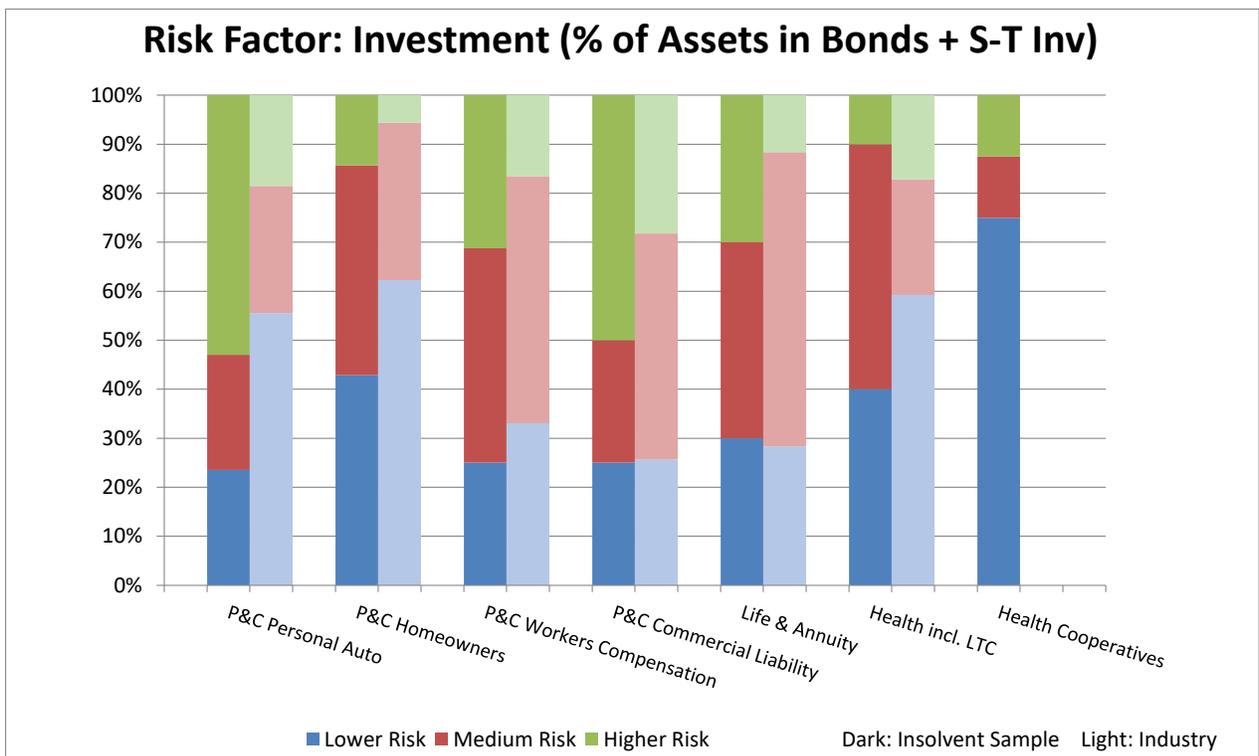
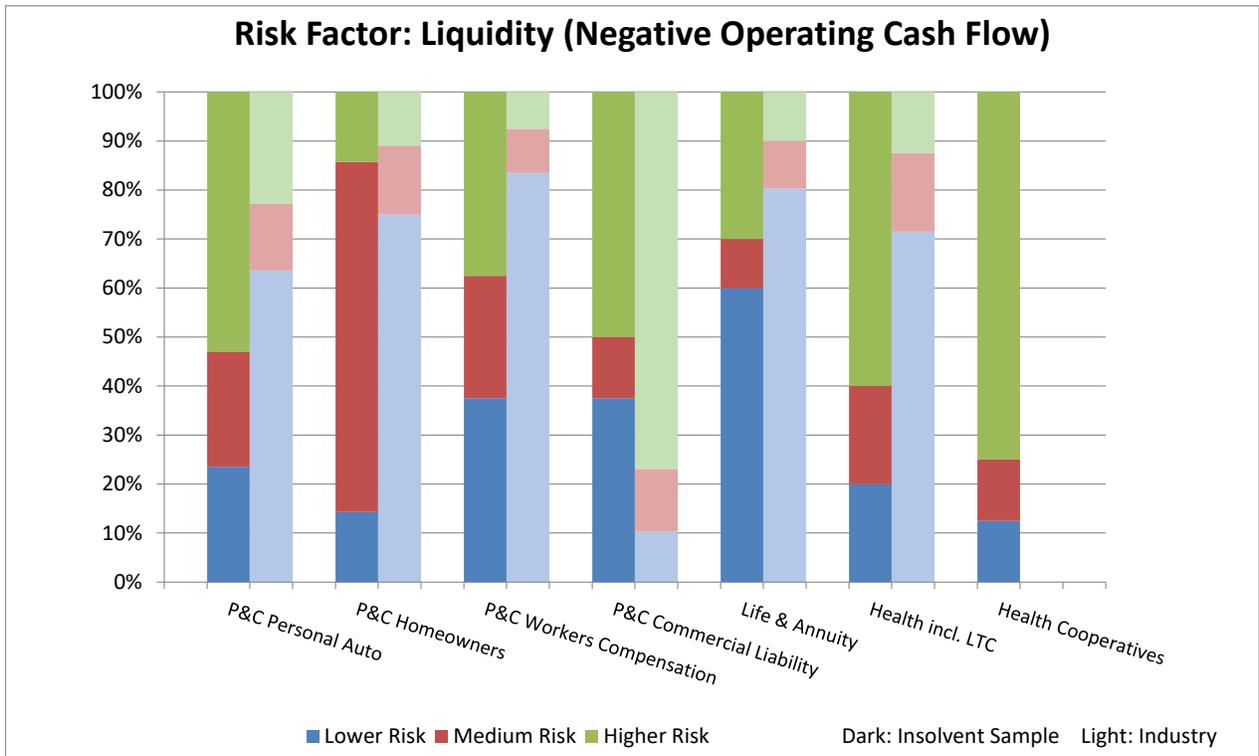
### Appendix C— Risk Factors by Cohort with Industry Comparison (pg. 2)



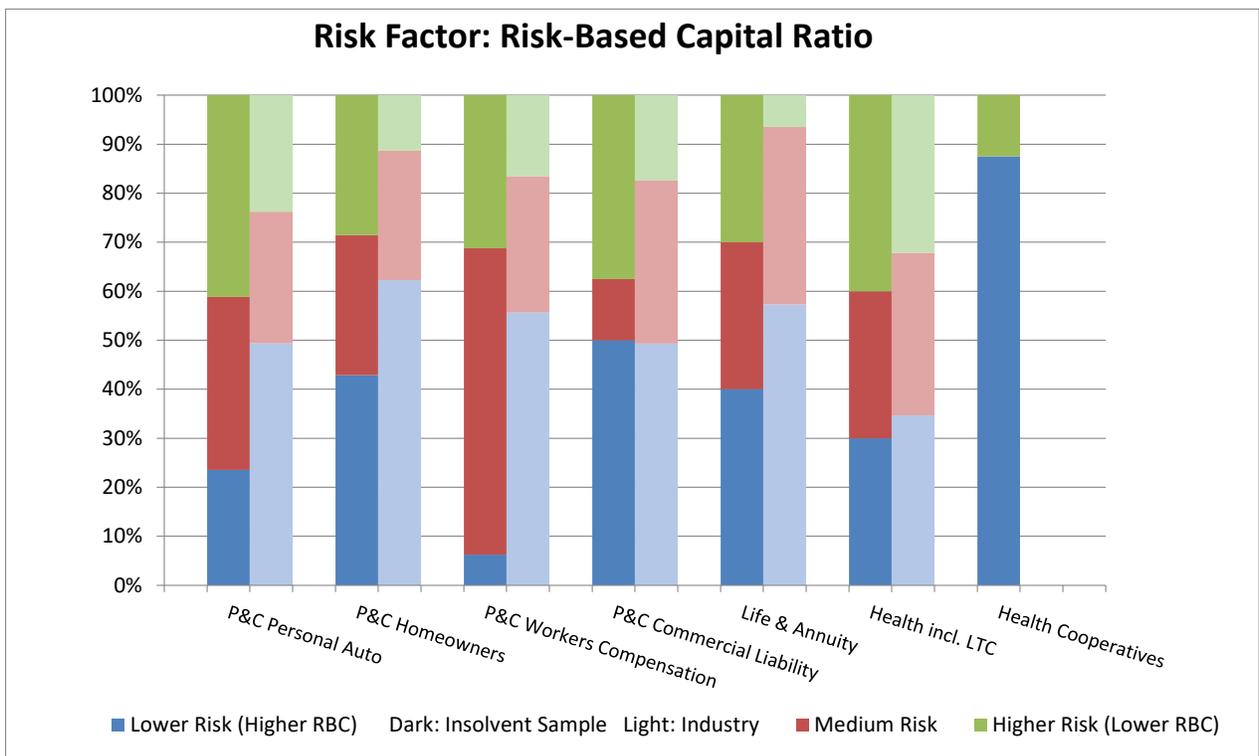
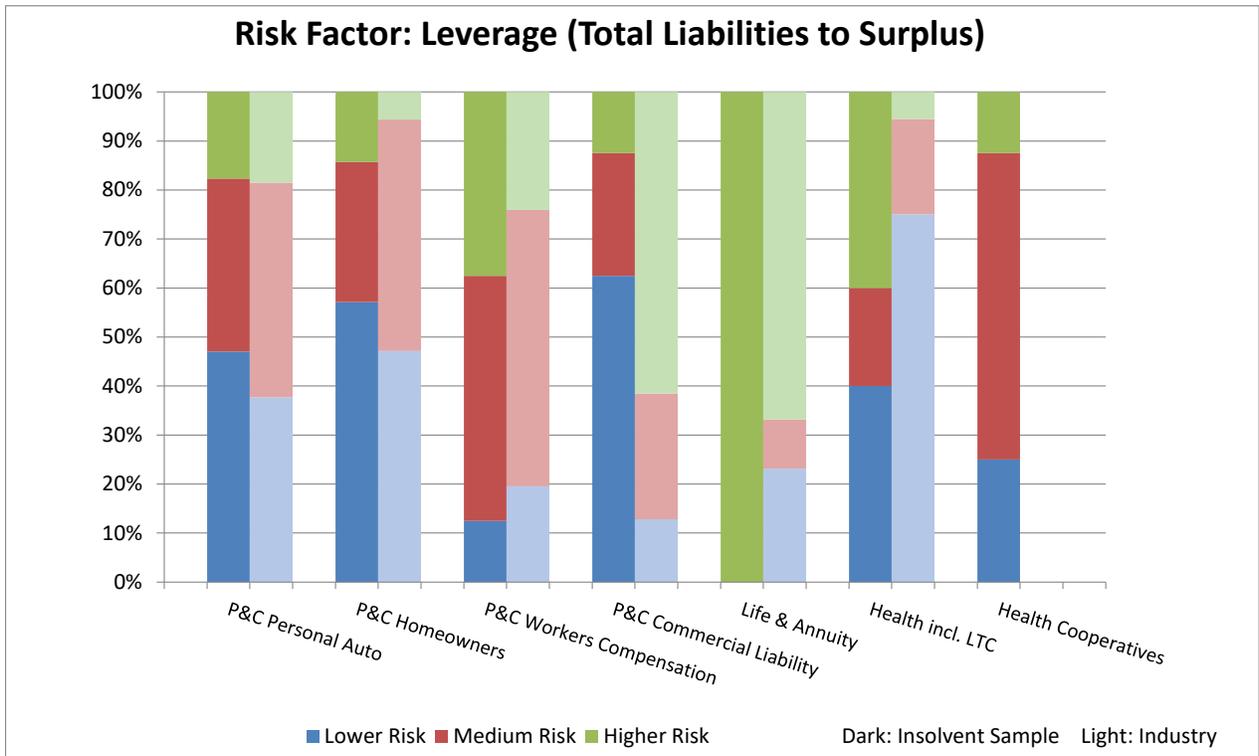
### Appendix C— Risk Factors by Cohort with Industry Comparison (pg. 3)



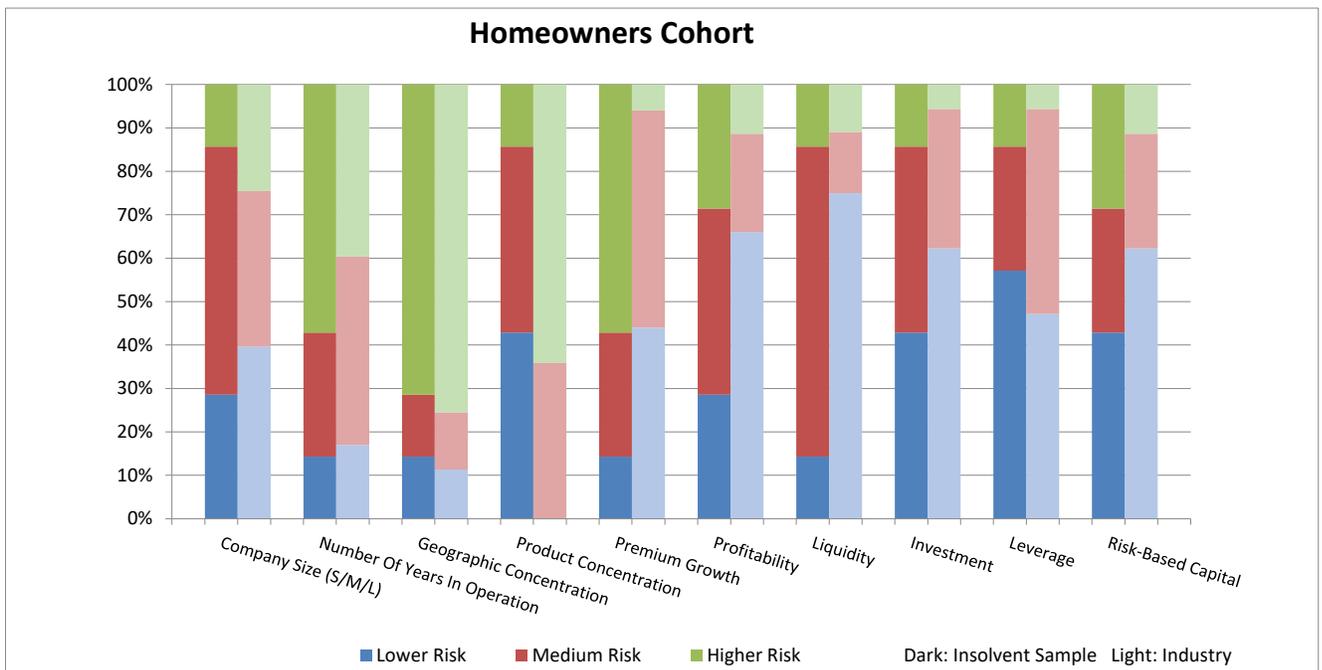
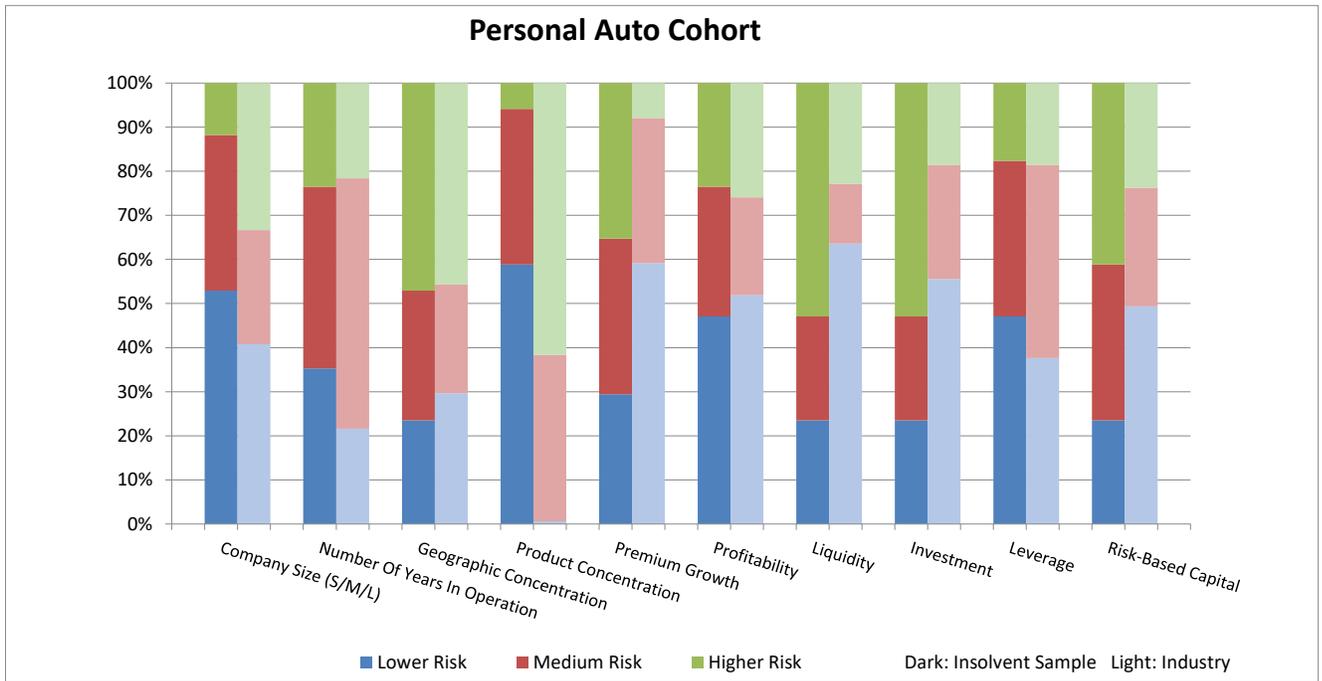
### Appendix C— Risk Factors by Cohort with Industry Comparison (pg. 4)



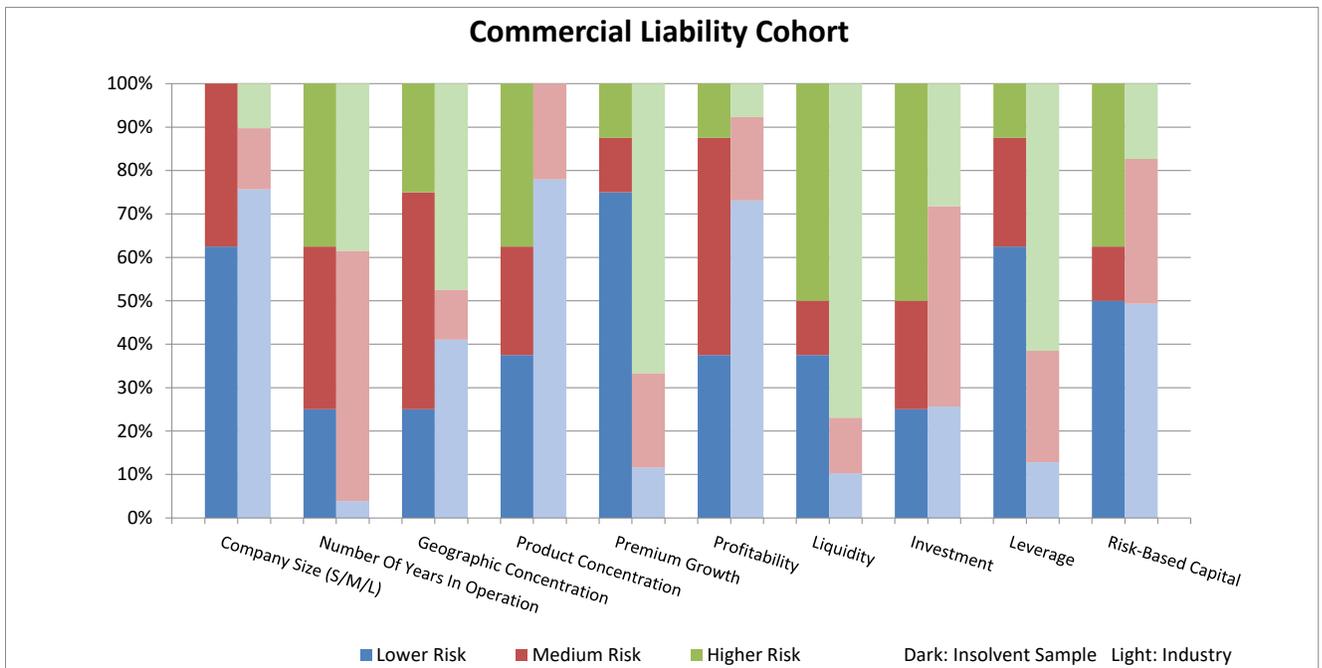
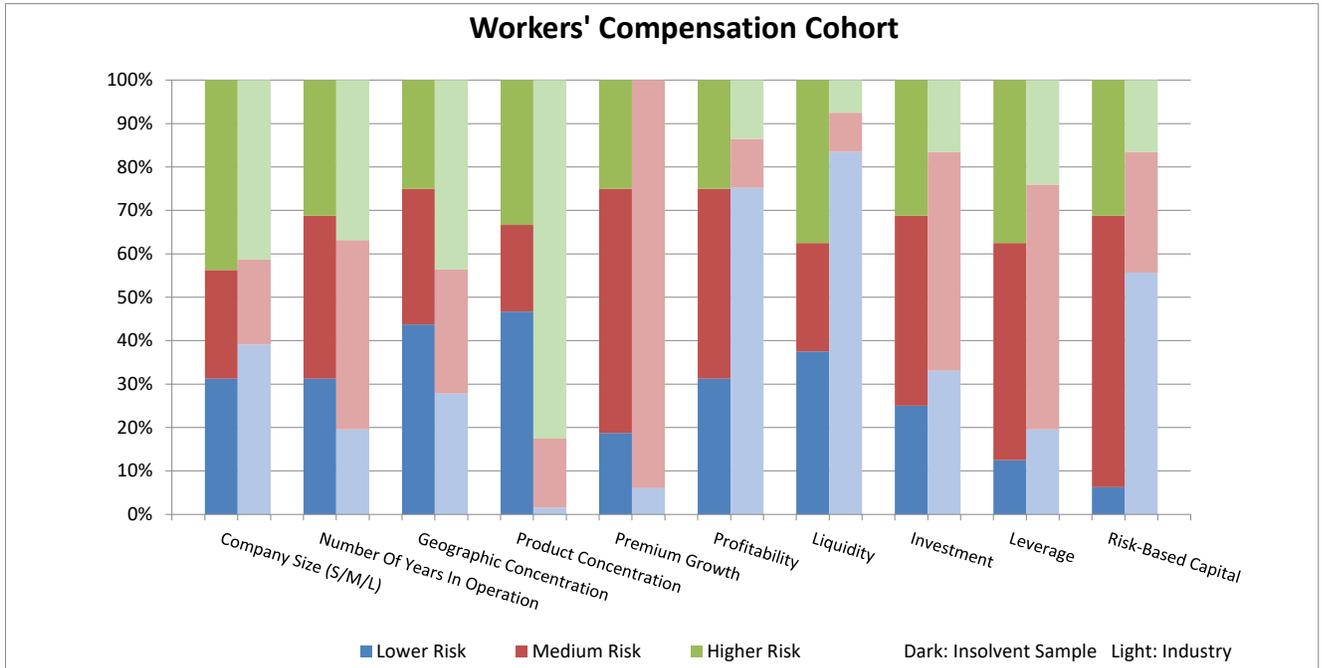
### Appendix C— Risk Factors by Cohort with Industry Comparison (pg. 5)



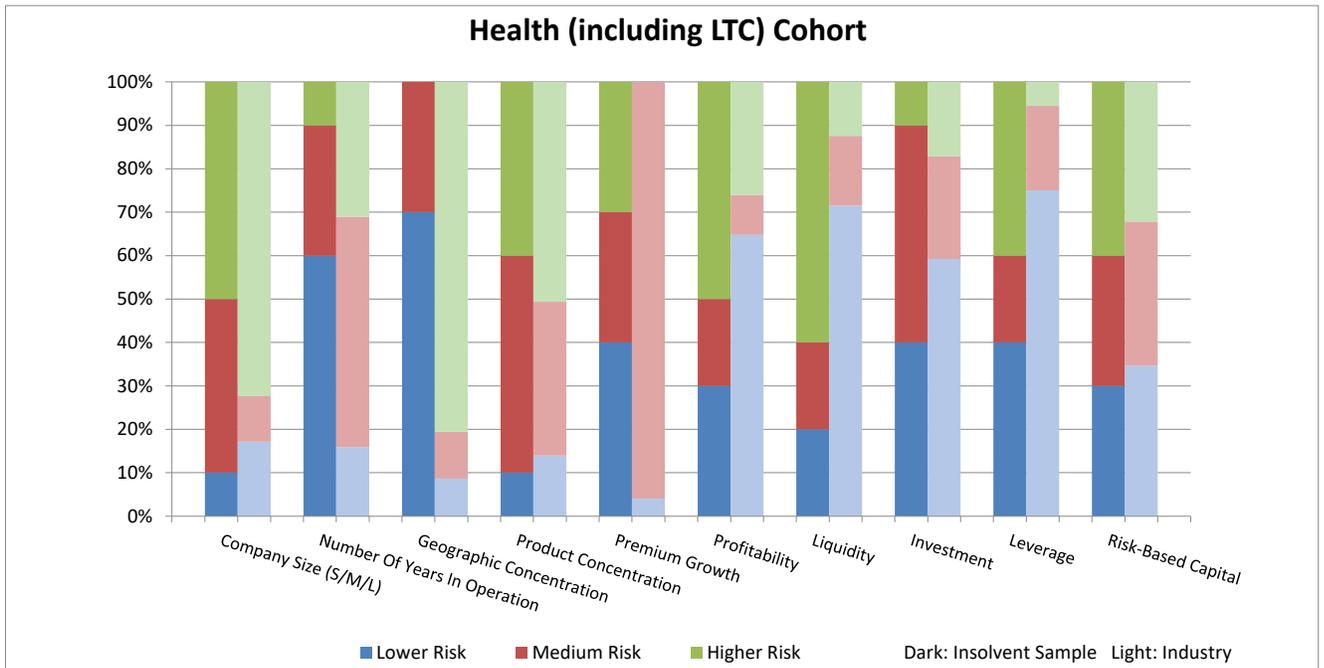
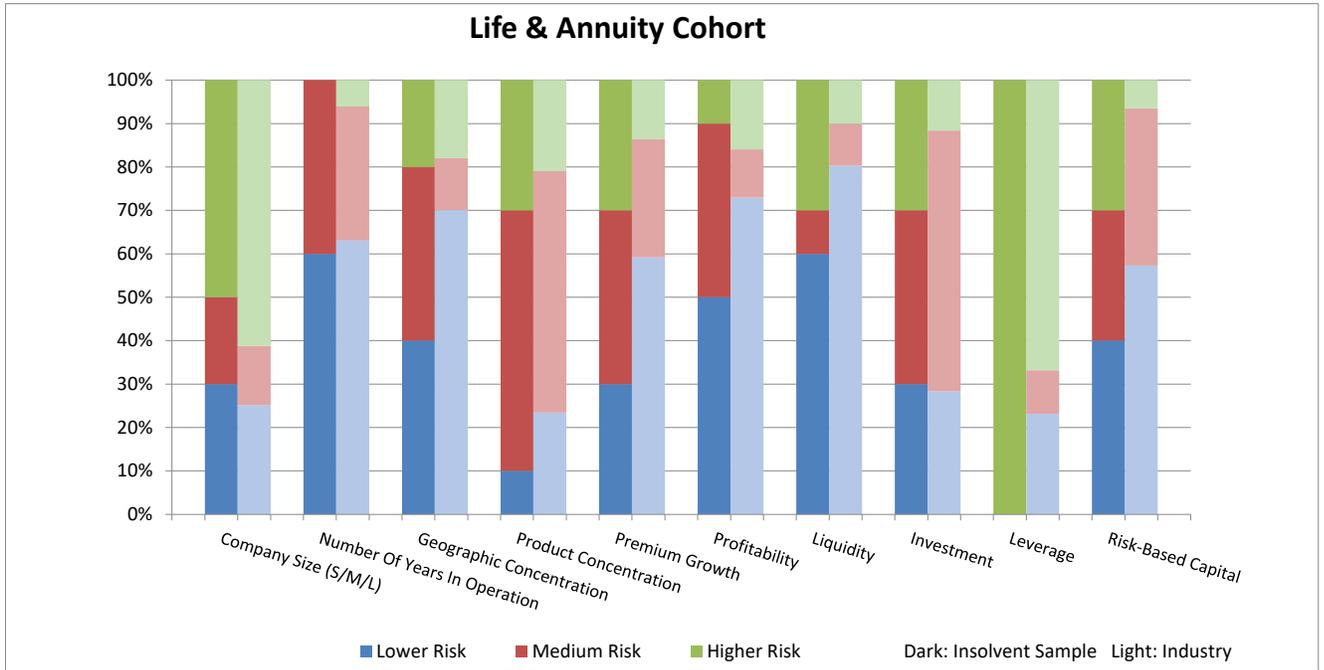
## Appendix D—Results by Cohort with Industry Comparison (pg. 1)



## Appendix D—Results by Cohort with Industry Comparison (pg. 2)



## Appendix D—Results by Cohort with Industry Comparison (pg. 3)



# Appendix E — Life and Annuity Case Study

## Lincoln Memorial Life Insurance Company (“Lincoln Memorial” or “the Company”)

May 14, 2008: Status—Rehabilitation  
 September 22, 2008—Status: Liquidation

### Root Causes of Insolvency

- Fraud—Policyholder funds were not placed in appropriate trust accounts in accordance with policy representation and state laws and regulations. Instead, funds were used in ways that created personal gains for the ultimate owners of Lincoln Memorial Life Insurance Company (“Lincoln Memorial” or “the Company”) and a consortium of related entities. New business became the main source of funding for funerals that customers had paid for in advance. Ultimately, the trust accounts were significantly underfunded.

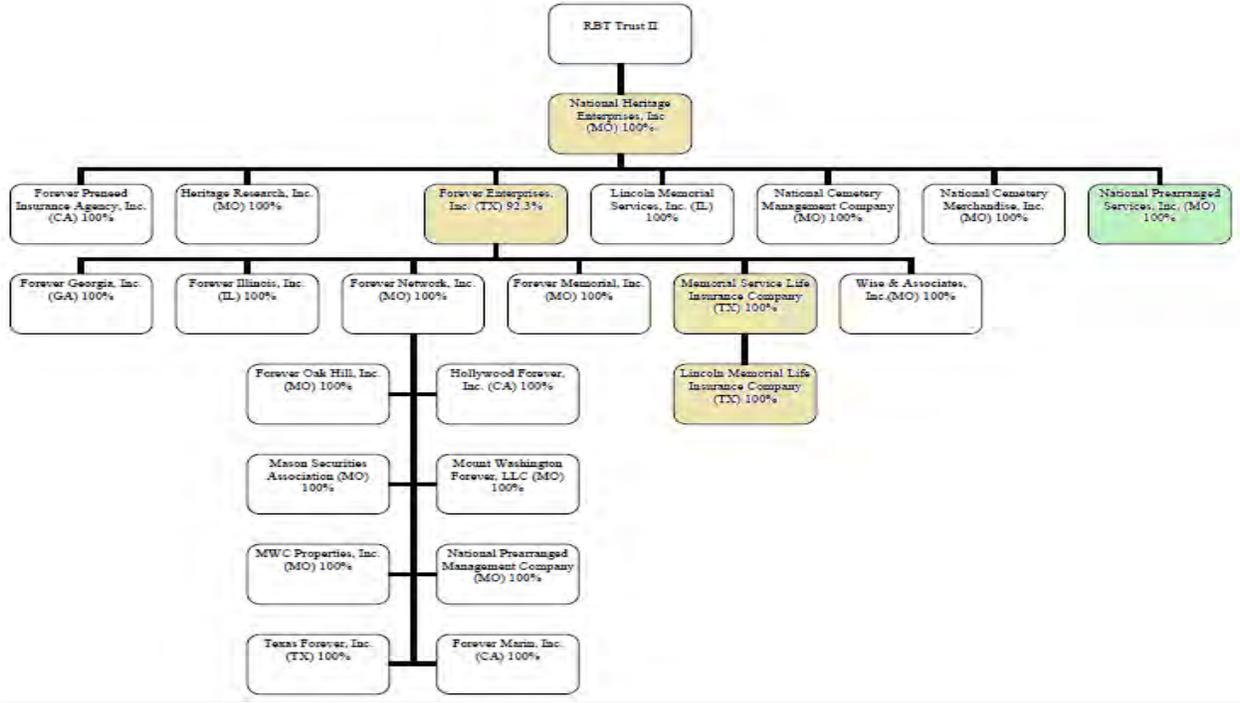
### Section I—Background

#### Company Summary

Texas-domiciled Lincoln Memorial was licensed in 44 states as an accident, life, and health insurer. It was a wholly owned subsidiary of Memorial Service Life Insurance Company, which in turn is a wholly owned subsidiary of Forever Enterprises, Inc. (formally known as Lincoln Heritage Corporation). In 1998 Lincoln Memorial acquired World Services Life Insurance Company of America.

Lincoln Memorial offered ordinary life and individual annuity contracts that were designed to fund pre-need funeral services. Most of its policies were sold by National Prearranged Services, Inc. (NPS). NPS was an affiliated company that collected payment for the prearranged funeral contracts and remitted such amounts to the Company either directly or through assumed reinsurance.

Figure 1  
 LINCOLN MEMORIAL ORGANIZATIONAL CHART



Relative to all life insurers, based on direct written premium and annuity consideration as of year-end 2007, Lincoln Memorial’s market share was very small (figure 2).

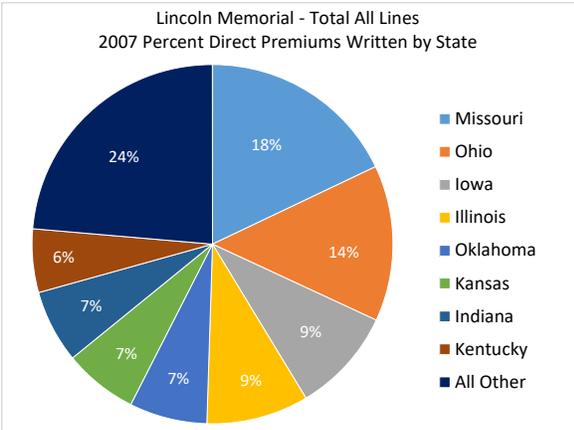
**Figure 2**  
LINCOLN MEMORIAL MARKET SHARE

Total Filed - Total Life			2007	2007
2007 Rank	2006 Rank	Institution *	State Direct Premiums & Annuity Considerations (\$000)	Market Share (%)
1	1	MetLife Inc. (SNL Life Group)	82,834,539	13.86
2	2	Prudential Financial Inc. (SNL Life Group)	42,347,519	7.09
3	3	Voya Financial Inc. (SNL Life Group)	38,049,175	6.37
4	5	Hartford Financial Services (SNL Life Group)	32,387,977	5.42
5	6	AEGON (SNL Life Group)	30,517,175	5.11
6	4	John Hancock (SNL Life Group)	29,783,898	4.98
7	9	Principal Financial Group Inc. (SNL Life Group)	22,696,476	3.80
8	7	American International Group (SNL Life Group)	21,948,870	3.67
9	8	New York Life Insurance Group (SNL Life Group)	21,874,343	3.66
10	10	Lincoln Financial Group (SNL Life Group)	21,531,912	3.60
<b>125</b>	<b>118</b>	<b>Lincoln Memorial Life Ins Co.</b>	<b>86,403</b>	<b>0.01</b>
<b>Total Life Premiums in Market</b>			<b>597,643,217</b>	

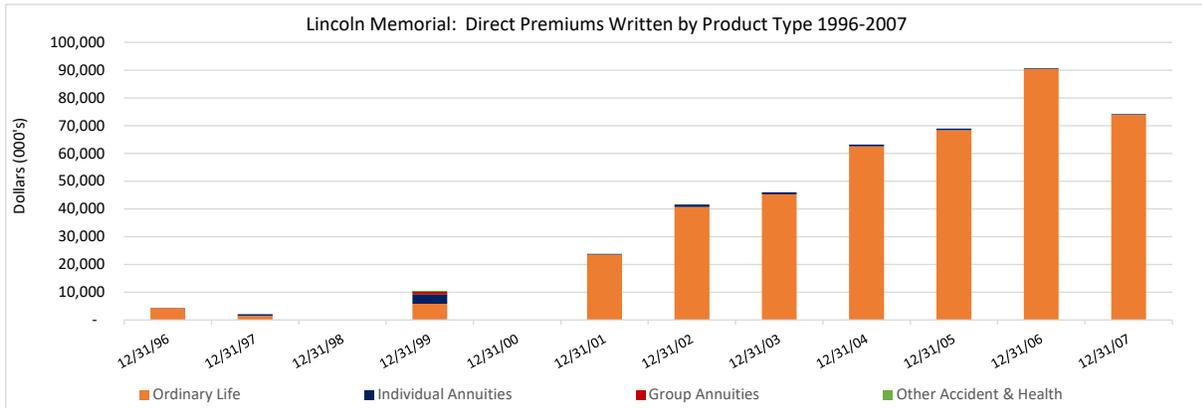
\* Market share information is presented on an "as-is" (pro-forma) basis based upon current filing sector and group composition.

Despite being domiciled in Texas, Lincoln Memorial’s largest state was Missouri, based on 2007 direct premium, followed by Ohio and Iowa. The Company wrote in a total of 24 states in 2007 (figure 3).

**Figure 3**  
LINCOLN MEMORIAL STATE MIX

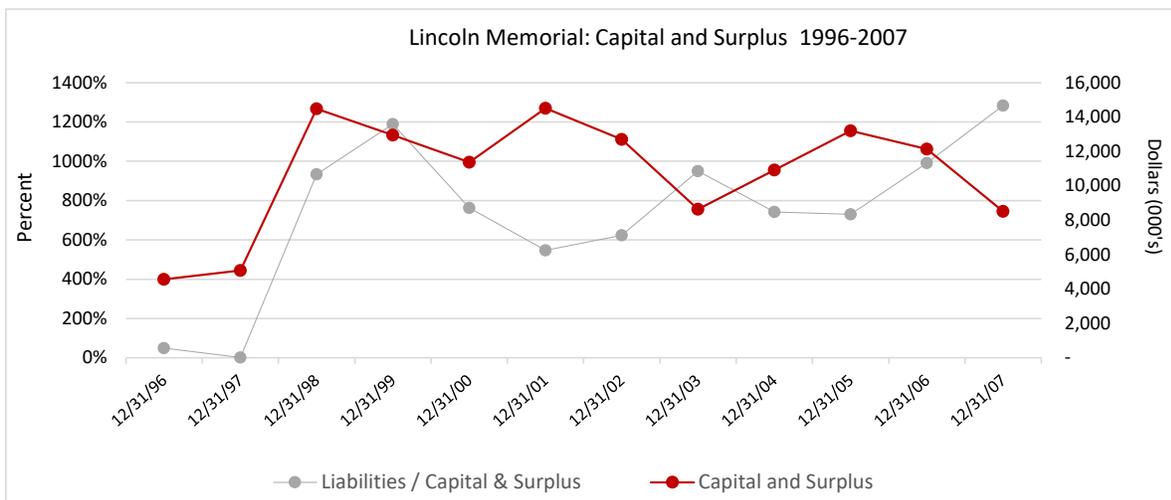


**Figure 4**  
**LINCOLN MEMORIAL HISTORICAL WRITTEN PREMIUM**

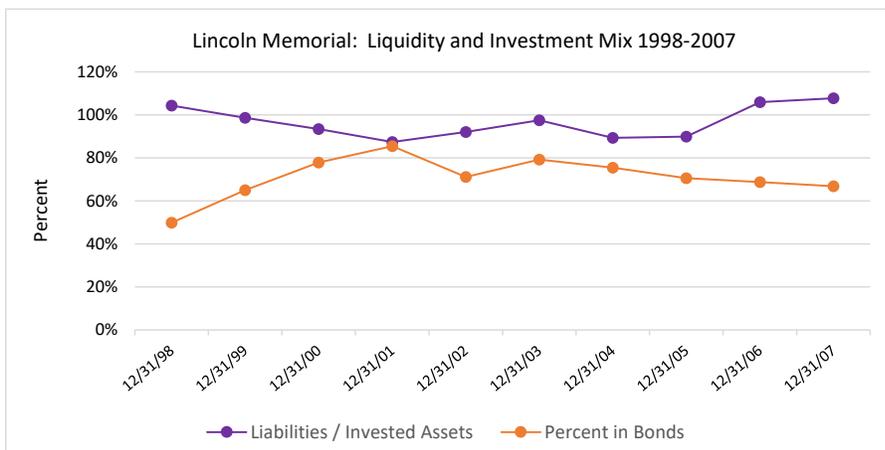


A majority of the Company's business was ordinary life (99 percent), and premiums began to increase substantially, with double-digit growth rates beginning in 2001 through 2006 (figure 4).

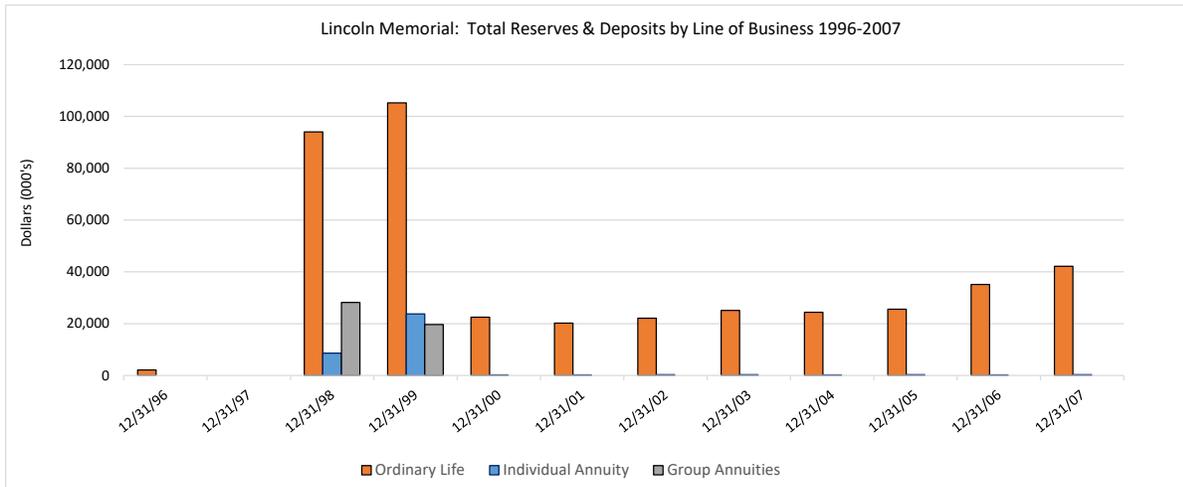
**Figure 5**  
**LINCOLN HISTORICAL CAPITAL AND SURPLUS**



**Figure 6**  
**LINCOLN MEMORIAL HISTORICAL RESERVE LEVERAGE AND INVESTMENT MIX**



**Figure 7**  
**LINCOLN MEMORIAL HISTORICAL RESERVES AND DEPOSITS**

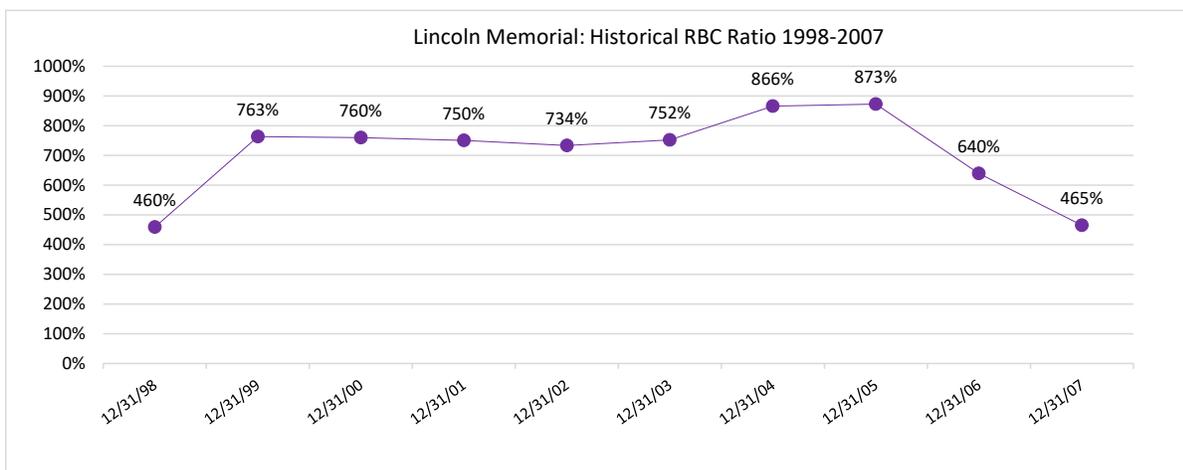


Lincoln Memorial’s capital and surplus had some volatility from 1998 to 2007, though a marked trend upward or downward was not apparent. Liabilities as a percentage of capital and surplus trended upward after 2001, which is consistent with the time period during which premiums grew (figure 5). Likewise, liabilities to invested assets trended upward gradually. The percentage invested in bonds trended downward during the 2001 to 2007 period (figure 6).

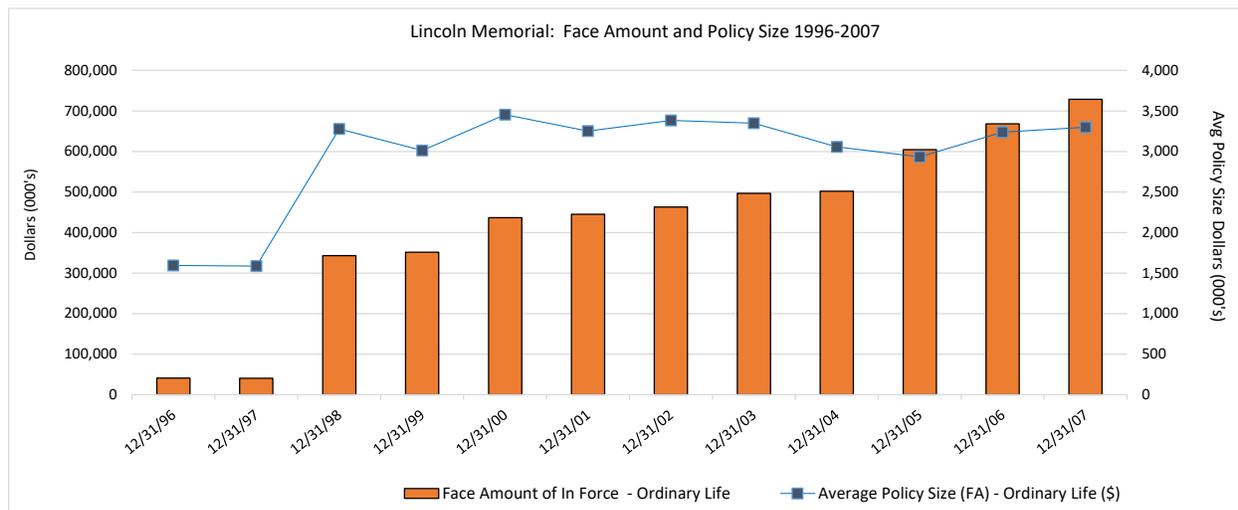
Please note that the decrease in reserves in 2000 relates to several significant life reinsurance transactions.

Lincoln Memorial’s RBC ratio was relatively stable for the period 1999 through 2005, at which time it decreased substantially in each of the following two years (figure 8).

**Figure 8**  
**LINCOLN MEMORIAL HISTORICAL RISK-BASED CAPITAL RATIO**



**Figure 9**  
**LINCOLN MEMORIAL HISTORICAL POLICIES IN FORCE**



Lincoln Memorial's average policy size on ordinary life was relatively stable for the period 1998 through 2007, while the face amount of in-force policies increased year to year, consistent with the growth in business described above.

While not necessarily apparent from the financial data, Lincoln Memorial was involved in large-scale fraud.

#### Fraud Allegation

A complaint against Lincoln Memorial, along with numerous individuals and related organizations, was filed on August 7, 2009:

<http://www.lincolnmemorallife.com/documents/08-07-09%20Complaint.pdf>

The allegations in the complaint include:

In perpetrating, assisting in, or negligently failing to detect the scheme to defraud the funeral homes and their customers, Defendants violated the Racketeer Influenced and Corrupt Organizations Act ("RICO"), 18 U.S.C. §§ 1961 et seq., violated the Lanham Act, 15 U.S.C. §§ 1051 et seq., committed fraud, breached their fiduciary duties, violated numerous state consumer protection acts, committed fraudulent transfers, breached obligations to repay funds, and/or were unjustly enriched by more than half a billion dollars.

- From the early 1990s to 2008, NPS sold prearranged funeral contracts in states including Missouri, Illinois, and Ohio. Customers typically paid a single sum of money up-front for the contract. Insurance companies affiliated with the NPS (Cassity Consortium, described further below) issued life insurance policies related to the contracts.
- Plaintiffs are bringing this lawsuit to recover losses in excess of \$600 million caused by the RICO Defendants' (as defined later in this Complaint) scheme to defraud hundreds of funeral homes and consumers across the nation into selling and purchasing pre-need funeral contracts marketed by St. Louis-based National Prearranged Services, Inc. ("NPS"), and purportedly backed by life insurance policies issued by two affiliated entities: Texas-based companies Lincoln Memorial Life Insurance Company ("Lincoln") and Memorial Service Life Insurance Company ("Memorial")
- NPS, Lincoln, and Memorial are part of a larger consortium of related entities that are all ultimately owned by a family trust of the St. Louis-based Cassity family, whose members are Defendants Doug,

Rhonda, Brent, and Tyler Cassity. The majority of entities within this consortium are involved in some aspect of the funeral industry. This group of Cassity-controlled and -related entities is collectively referred to in this Complaint as the “Cassity Consortium.”

- The Cassity family operated and ultimately owned NPS (which was formed in 1979), created Memorial in 1986, and acquired Lincoln as part of the Cassity Consortium in 1998. The acquisition of Lincoln and creation of Memorial were critical to perpetrating the scheme to defraud the funeral homes because the vast majority of pre-need funeral contracts sold by NPS were claimed to be backed by whole-life insurance policies issued by Lincoln or Memorial. The NPS/Lincoln/Memorial enterprise provided the RICO Defendants with a seemingly legitimate cover under which they could siphon off the pre-need funds entrusted to NPS by funeral homes and their customers all over the country.
- Defendant Doug Cassity is a disbarred Missouri lawyer who in 1982 was sentenced to two years in federal prison as a result of a felony fraud conviction. Defendant Doug Cassity used fraudulent letters of credit in order to obtain loans or lines of credit to acquire property and assets, and falsified an income tax return. As a result of his conviction, Doug Cassity was and is permanently banned from having any involvement in the insurance industry. Despite and contrary to this bar, Doug Cassity actively engaged in the management of all entities within the Cassity Consortium, including but not limited to NPS, Lincoln, and Memorial.
- The RICO Defendants intentionally misled funeral homes and consumers around the country into believing pre-need funds entrusted to NPS would be safeguarded in a trust and/or backed by whole-life insurance policies so that the funds would be readily available when a pre-need beneficiary died and the funeral home’s death claim came due. Rather than safeguarding the pre-need funds they accumulated, the RICO Defendants systematically: (1) siphoned money away from NPS, Lincoln, and Memorial; (2) looted NPS’s pre-need trusts; (3) used the funds from the pre-need funeral contract sales to enrich other entities within the Cassity Consortium as well as individual Defendants; and (4) depleted the cash value of whole-life insurance policies by repeatedly taking policy loans, converting the policies to “reduced paid up” (“RPU”) status, mass surrendering the whole-life policies, and frequently replacing these policies with term life insurance policies that are of no cash value and that may be cancelled if premiums are not paid.
- The RICO Defendants concealed and knowingly failed to disclose these practices from the funeral homes and consumers, despite the RICO Defendants’ knowledge that these practices would have been material to the funeral homes’ decisions regarding whether to sell NPS pre-need contracts and consumers’ decisions regarding whether to purchase NPS pre-need contracts.
- To further their schemes, the RICO Defendants hired Defendants Wulf and Wulf Bates (the “Investment Advisor Defendants”) to act as purported “independent” investment advisors for the various NPS trusts holding the proceeds of the pre-need funeral contracts. Defendants Wulf and Wulf Bates subsequently appointed and authorized the president of both NPS and Lincoln (Defendant Sutton) to act as an “investment agent” for the pre-need trust funds, thus allowing the RICO Defendants to manipulate the trust assets directly.
- Defendants Wulf and Wulf Bates not only actively participated in the RICO Defendants’ various schemes to loot NPS, Lincoln, and Memorial, but directed the investment of millions of dollars of NPS pre-need trust funds into Defendant Wulf’s personal investment partnerships and Cassity family entities in which Wulf held a personal ownership interest.
- Defendant banks Bremen Bank, National City Bank (as the ultimate successor in interest to Allegiant Bank), Marshall & Ilsley, Southwest Bank, U.S. Bank (as the ultimate successor in interest to Mark Twain Bank), Bank of America, American Stock Transfer, and Comerica Bank and Trust (collectively, the “Trustee Defendants”) served as trustees of the various NPS pre-need trusts and failed to supervise the NPS pre-need trusts’ assets properly. The Trustee Defendants allowed the NPS pre-need trust assets to

be pillaged through the purchase and mass surrender of life insurance policies from Lincoln, the transfer of cash to Cassity Consortium entities in exchange for promissory notes from those entities that the Cassity Consortium entities never intended to enforce, and numerous other acts detailed below.

- Defendants Scannell, Wittner, and Wittner’s law firm, Wittner, Spewak & Maylack, P.C. (collectively, the “Attorney Defendants”), served as general counsel to the entities within the Cassity Consortium and were directly involved in and profited from the RICO Defendants’ illegal schemes. Scannell and Wittner also committed legal malpractice by providing legal advice authorizing and assisting in the development and implementation of the techniques used to siphon money as described in this Complaint.
- The RICO Defendants siphoned away the pre-need funds through a variety of mechanisms, including:
  - Directing NPS, as the improper “owner” of the whole-life insurance policies issued by Lincoln, to take over \$130 million of policy loans against the policies;
  - Directing NPS, as the improper assignee/beneficiary on the Lincoln whole-life insurance policies, to surrender thousands of policies so the RICO Defendants could confiscate millions of dollars of the cash surrender values;
  - Replacing the whole-life policies with term policies that required NPS to pay far less in monthly premiums to Lincoln, thus allowing the RICO Defendants to keep for themselves more of the funds received from the funeral home consumers;
  - Altering life insurance policy applications to allow the RICO Defendants to keep for themselves the bulk of the funds received from the funeral home consumers;
  - Taking tens of millions of dollars in cash out of the pre-need funeral trusts and replacing those funds with promissory notes, debentures, and general ledger entries that were never intended to be repaid;
  - Funneling the pre-need contract funds to other entities the RICO Defendants owned and controlled within the Cassity Consortium;
  - Paying commissions to themselves through NPS for insurance policies purchased from their own affiliated companies, Lincoln and Memorial; and
  - Reducing by millions of dollars reinsurance recoveries due to Lincoln and Memorial by wrongfully surrendering whole-life policies and issuing term policies in their place.
  - The RICO Defendants used the ill-gotten funds for a variety of improper purposes, including personal enrichment. For example, NPS paid personal credit card and other expenses of some of the RICO Defendants, ranging from \$150 to \$3 million.
  - The RICO Defendants looted NPS, Lincoln, and Memorial by engaging in sham transactions that included recording a note receivable without a promissory note in return.

The regulatory response to Lincoln Memorial’s activities is described in the timeline below.

#### Timeline Summary

- **October 24, 2007:** Lincoln Memorial and Memorial Services (Memorial) were placed under an Order of Confidential Supervision by the Texas Department of Insurance.
- **March 17, 2008:** Texas Department of Insurance issued a No New Business Directive for Lincoln Memorial to cease writing new business in all states.
- **May 14, 2008:** Lincoln Memorial, Memorial, and NPS companies were placed on rehabilitation, as they were found to be in hazardous financial condition by the State of Texas at the request of the Insurance Commissioner.
- **September 22, 2008:** Lincoln Memorial, Memorial Services and National Prearranged Services companies were approved for liquidation.
- **August 7, 2009:** Complaint was brought against the Lincoln Memorial, Memorial Services and National Prearranged Services companies, their Executives, investment advisors, trustees, and other parties.
- **June 17, 2013:** The NPS Executives pleaded guilty in the \$600 million Ponzi scheme.

Beginning in mid-2007, insurance regulators from various states began confidentially investigating the operations of NPS, Lincoln Memorial, and Memorial and uncovering the scheme to defraud. On October 24, 2007, Lincoln Memorial and Memorial were placed under an Order of Confidential Supervision by the Texas Department of Insurance. While under the Supervision Order (from the remainder of 2007 through mid-May 2008), the Defendants violated the order by taking improper actions without the knowledge and/or consent of the Texas Department of Insurance. They intentionally and fraudulently concealed these actions from the Supervisor and other regulators.

By early 2008, additional state regulators had also begun investigations. NPS, Lincoln Memorial, and Memorial were placed into receivership in Texas. Soon after, numerous states had revoked or suspended Lincoln's and NPS's right to do business in their states, and the FBI had begun an investigation into the illegal and fraudulent practices detailed in this Complaint.

#### Fraud Allegations—A Review of Financials

As shown below, the following observations regarding policy handling are consistent with the allegations noted in the case against Lincoln Memorial and other defendants.

- Significant increase in lapse in 2007
- Significant decrease in whole-life policies in 2007 and 2006
- Significant increase in term policies in 2007

**Figure 11**  
**LINCOLN MEMORIAL 2005 TO 2007 POLICY DATA ANALYSIS**

**Ordinary Life Surrenders**

2007		Prior Year Comparison		2006		Prior Year Comparison		2005	
# of Policies	\$ Amount	% Incr/(Decr) Policies	% Incr/(Decr) Policy Amount	# of Policies	\$ Amount	% Incr/(Decr) Policies	% Incr/(Decr) Policy Amount	# of Policies	\$ Amount
39,560	101,987,000	126.4%	178.9%	17,471	36,574,000	-11.7%	-32.4%	19,789	54,091,000

**Ordinary Life Lapse**

2007		Prior Year Comparison		2006		Prior Year Comparison		2005	
# of Policies	\$ Amount	% Incr/(Decr) Policy Lapse	% Incr/(Decr) Policy Lapse Amount	# of Policies	\$ Amount	% Incr/(Decr) Policy Lapse	% Incr/(Decr) Policy Lapse Amount	# of Policies	\$ Amount
5,602	18,024,000	1332.7%	1367.8%	391	1,228,000	-5.3%	-28.2%	413	1,711,000

**Whole Life Policies Issued During the Year**

2007		Prior Year Comparison		2006		Prior Year Comparison		2005	
# of Policies	\$ Amount	% Incr/(Decr) Policy Issues	% Incr/(Decr) Policy Issue Amount	# of Policies	\$ Amount	% Incr/(Decr) Policy Issues	% Incr/(Decr) Policy Issue Amount	# of Policies	\$ Amount
26,118	100,503,000	-14.2%	-20.2%	30,456	125,894,000	-46.3%	-36.3%	56,757	197,769,000

**Term Policies Issued During The Year**

2007		Prior Year Comparison		2006		Prior Year Comparison		2005	
# of Policies	\$ Amount	% Incr/(Decr) Policy Issues	% Incr/(Decr) Policy Issue Amount	# of Policies	\$ Amount	% Incr/(Decr) Policy Issues	% Incr/(Decr) Policy Issue Amount	# of Policies	\$ Amount
67,605	178,436,000	1235.5%	3659.7%	5,062	4,746,000	-79.8%	-93.6%	25,096	74,367,000

Section II—Phase I Comparison

Based on the data available prior to insolvency, we summarized Lincoln Memorial’s risk profile and compared it to the analysis performed in Phase I. The following charts include a percentile distribution from the insolvent and life industry samples as well as the risk thresholds (“TH”) determined in Phase 1 and the Company data point. Low, medium, and high risk thresholds are denoted by the dotted line. The legend further indicates directional order.

Figure 12  
LINCOLN MEMORIAL RISK PROFILE AND PHASE I COMPARISON

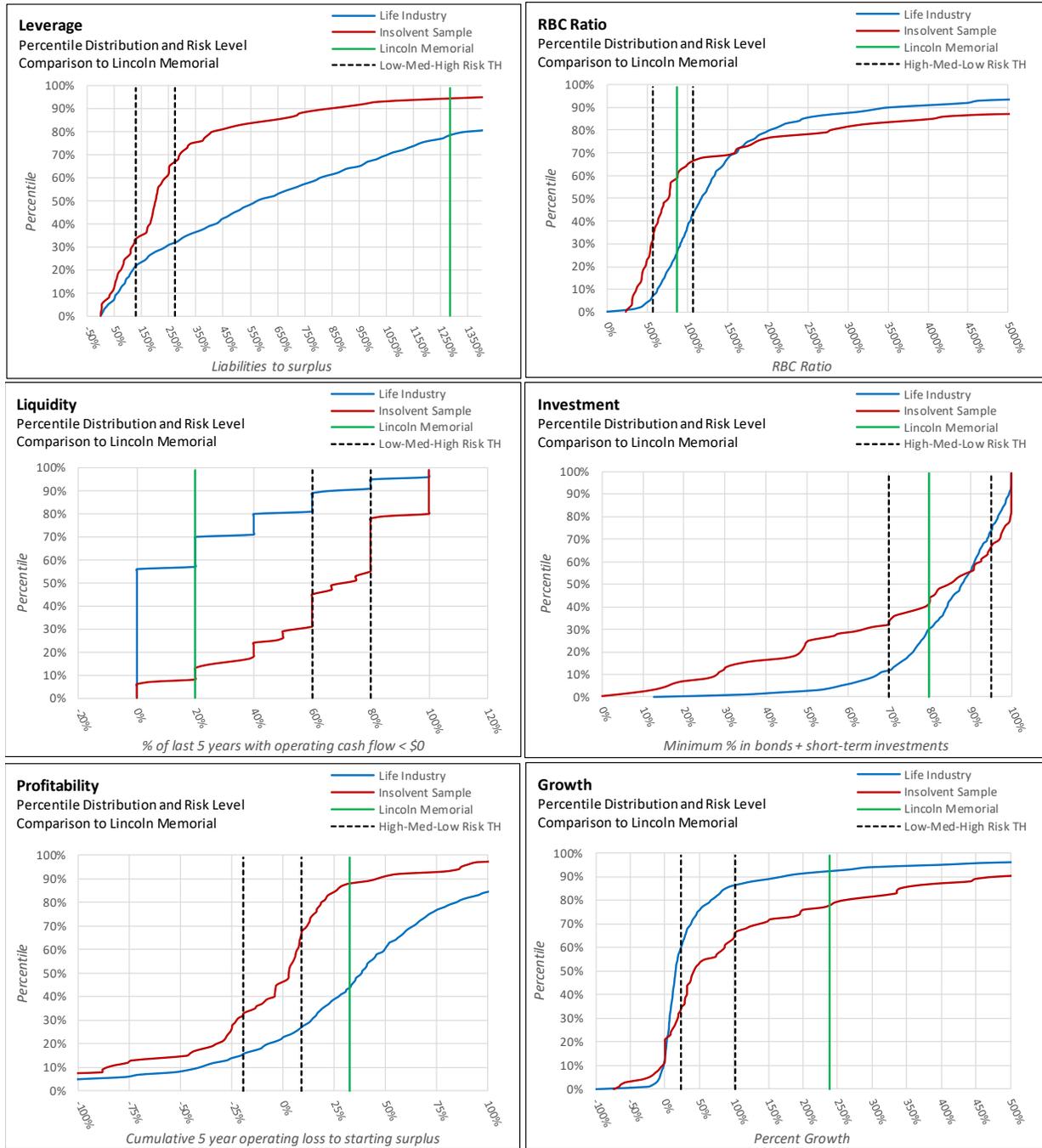
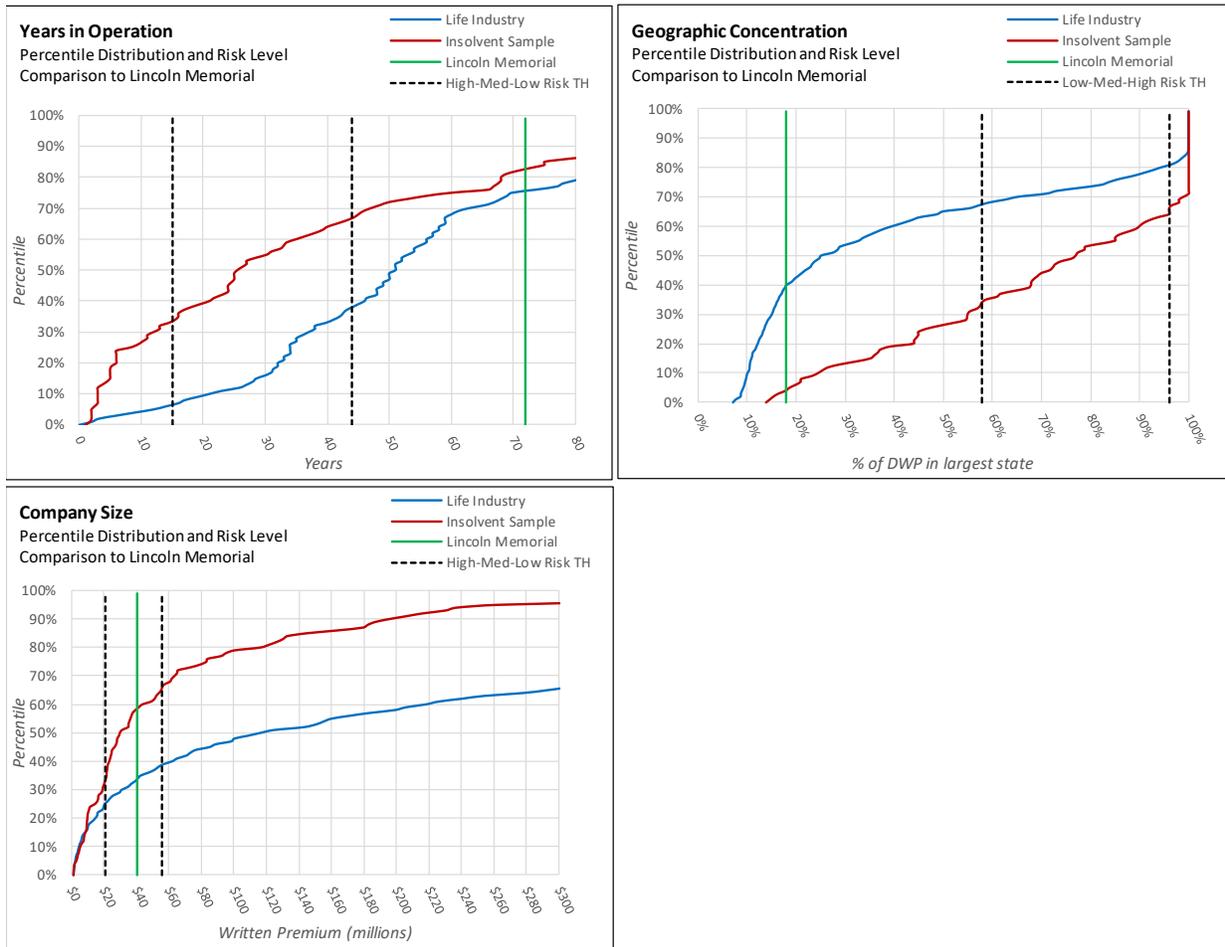


Figure 12 (cont.)



The following is a summary of observations related to figure 12:

- Overall, during Phase 1, the most indicative risk factors for the life & annuity cohort appeared to be premium growth, liquidity, investment, leverage, and RBC ratio.
- When compared to the insolvent sample and the industry sample (life & annuity cohort) in the charts above, Lincoln Memorial’s highest notable risk factors were their premium growth and leverage.
- The Company also showed a medium percentile ranking in financial risk factors including investment and RBC ratio and a lower percentile ranking for profitability. This is consistent with the fact that the fraudulent activity did not impact the financials prior to being uncovered.
- Lincoln Memorial’s number of years in operation is in the low-risk range. However, this notion is somewhat offset by the fact that the business mix for the pre-need contract picked up in the 1990s, long after the company’s inception in 1936.
- Other demographic factors including years in operations and geographic concentration were in the low-risk category for Lincoln Memorial. Company size fell close to average.
- In this case, early indicators of insolvency risk would be more difficult to detect given the nature of the underlying issue of fraud.

### *Section III—Analysis of Key Findings*

Some of the key observations from Lincoln Memorial's insolvency are as follows:

- a) **Requirements on Corporate Governance**—Lincoln Memorial's ownership structure and related "consortium" may have lent itself to conflicts of interest. Stricter oversight of corporate governance may have had an impact on business decisions and thereby changed the course of the road to impairment. Some of the more recent corporate governance standards adopted by the NAIC, for example the annual corporate governance disclosure requirements and the enhancements associated with group supervision (Insurance Holding Company System Regulatory Act and Insurance Holding Company System Model Regulation with Reporting Forms and Instructions), may have helped with the identification of these issues.
- b) **Assessment of Underlying Assets**—A review of the validity of underlying assets and confirmation as to their adherence to policy language appears to have been a significant issue in the case of Lincoln Memorial. In the practice of actuarial assessment, this area may often be overlooked, or, perhaps more commonly, disclosed as a reliance or limitation in cases in which the assets are believed to be valid. This points to the importance of actuaries, accountants, and investment specialists working in concert with one another in assessing the value of key assets and liabilities.
- c) **Lapses**—The dramatic increase in lapse activity in 2007 was a potential indicator of unusual activity. There is no mention in the 2007 Statement of Actuarial Opinion of this activity. Currently, the only requirements for the Appointed Actuary regarding identification of unusual changes in the business in the current year (assuming those changes are not directly impacting reserve adequacy) are those required by Actuarial Standard of Practice No. 41, Actuarial Communications (ASOP41). ASOP41 requires a range of disclosures, including comment on any areas of risk or uncertainty or any subsequent events that might impact the analysis. In light of the actuary's understanding of the risk exposures of an organization, additional regulatory requirements that include commentary from the Appointed Actuary on general business trends could be a helpful addition to the surveillance process.

# Appendix F – Health Case Study

## National States Insurance Company (“National States” or “the Company”)

April 1, 2010: Status—Rehabilitation  
 November 15, 2011: Status—Liquidation

### Root Causes of Insolvency

- Pricing inadequacies for Long-Term Care (LTC) insurance, particularly in the FL market
- Concentration in a single product line, namely LTC
- Lack of strong corporate governance

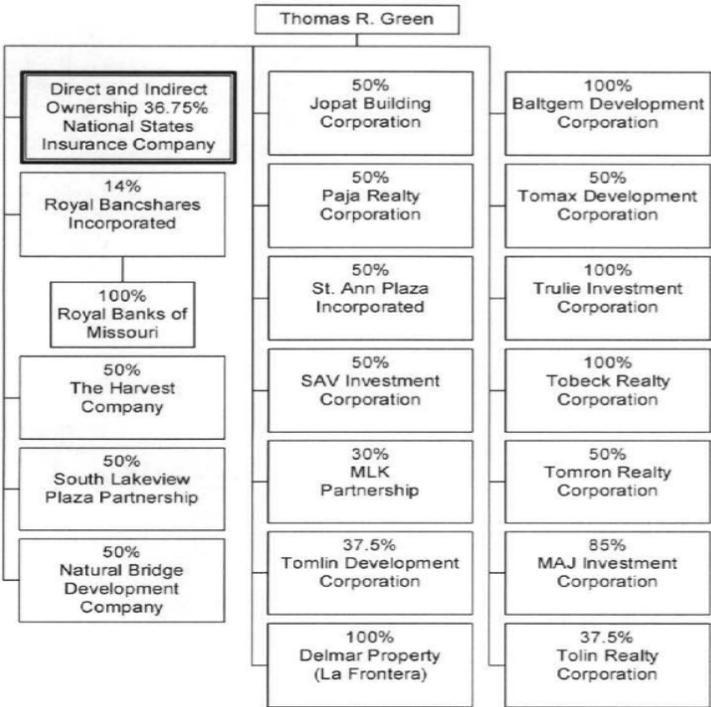
### Section I—Background

#### Company Summary

National States Insurance Company was licensed in 37 states as a life, accident, and health insurer. The company was domiciled in Missouri and was incorporated in 1964 as American Independence Life Insurance Company. It was renamed and reorganized in 1967 as National States Insurance Company.

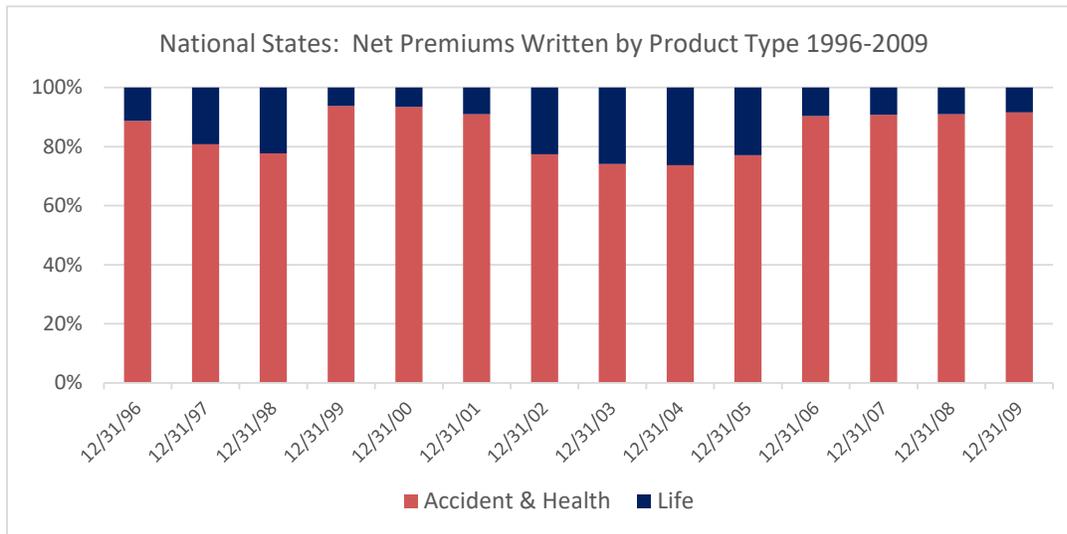
The CEO Thomas Green was also the owner of the company. His holdings included banks, real estate, and development companies. His background was much more on the banking side than insurance. The ownership structure is shown below (figure 1):

Figure 1  
 NATIONAL STATES OWNERSHIP CHART



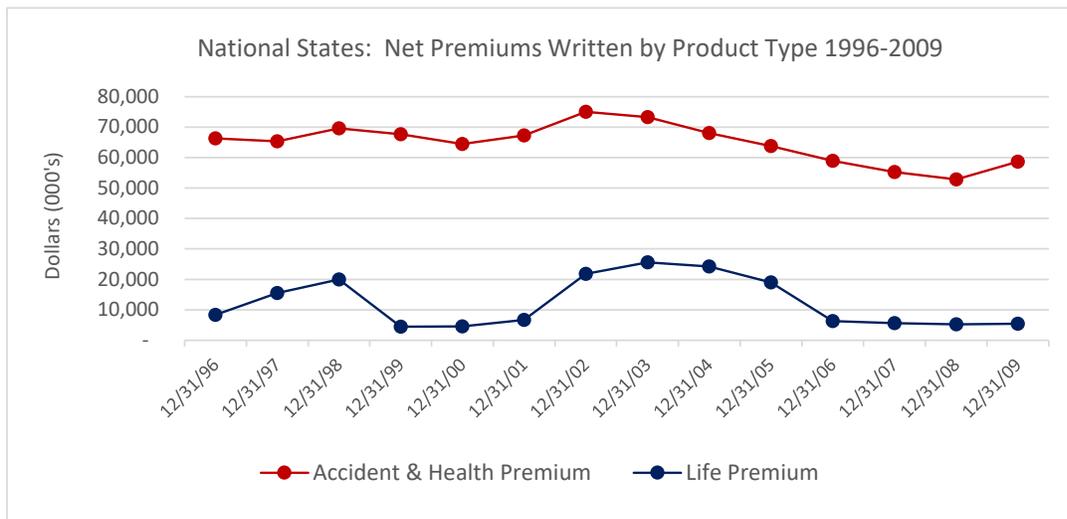
The Company’s primary lines of business were accident and health, long-term care, and whole-life insurance. Results, discussed further below, indicated that the LTC business was underpriced for experience that ultimately emerged. Further, the company underestimated the cost associated with the home health care business. By year-end 2006, 90 percent of the business was in health care (figure 2).

**Figure 2**  
NATIONAL STATES HISTORICAL PRODUCT MIX



Relative to all A&H insurers, National States would be considered small, with a .04 percent market share in 2008 and 2009 based on direct written premium. Net premium growth was steady, and eventually downward, for A&H from year-end 1996 through year-end 2009. Life premiums, which made up a small part of the business, were more volatile over the same period (figure 3). A&H business consisted of guaranteed renewable individual contracts (primarily LTC), and life business consisted of ordinary life.

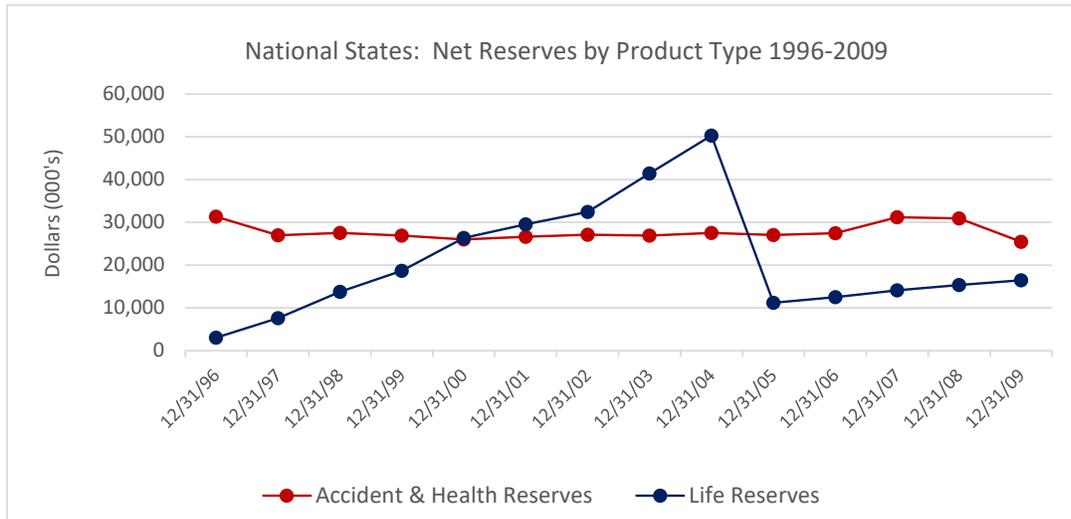
**Figure 3**  
NATIONAL STATES HISTORICAL PREMIUMS



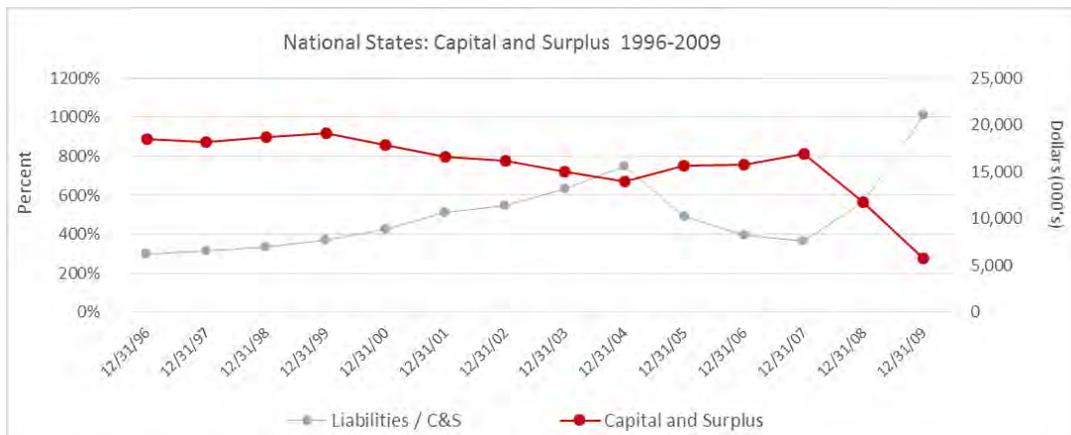
Net reserves were relatively flat for accident and health (A&H) business from year-end 1996 through year-end 2009. Life reserves increased steadily until year-end 2004. National States entered into a 90 percent co-insurance treaty with Northstar in September of 2005, causing a significant net reserve decrease followed by a gradual increase through 2009 (figure 4). The treaty was in dispute for several years, and was in arbitration at the time of the last examination of National States.

National States' total capital and surplus slowly declined after year-end 1996. By year-end 2008, the decline became more significant. Likewise, the ratio of reserves and deposits to capital and surplus gradually increased, again impacted by the co-insurance treaty in 2005, and continued to increase at a more rapid rate until year-end 2009 (figure 5).

**Figure 4**  
NATIONAL STATES HISTORICAL RESERVES

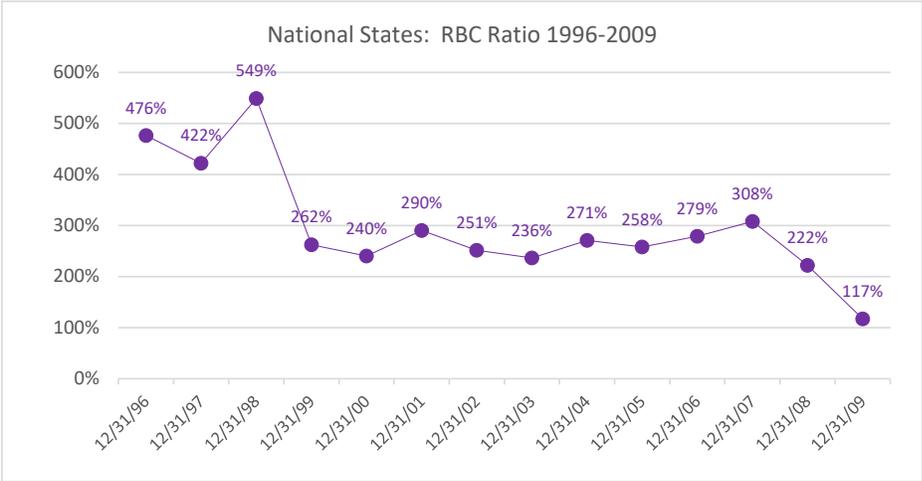


**Figure 5**  
NATIONAL STATES HISTORICAL CAPITAL AND SURPLUS



National States' risk-based capital (RBC) ratio showed periods of decline followed by consistency between the years ending 1999–2007. The decline in 1999 was driven by a significant increase in the Authorized Control Level RBC calculation. After year-end 2007 the decline was more significant (figure 6). The 2006 Notes to Financials include the following regarding their weak risk-based capital position: "Statutory strain associated with the growth of its life insurance and long term care products, adverse experience on the South Florida home health care block, and increased life claims have contributed to the deficits."

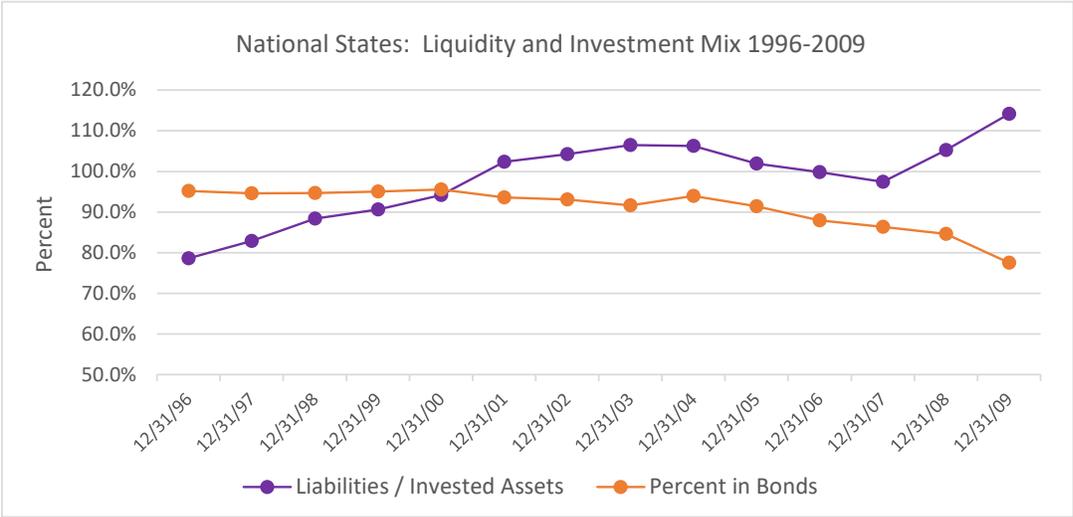
**Figure 6**  
**NATIONAL STATES HISTORICAL RISK-BASED CAPITAL RATIO**



National States' investment in bonds began decreasing after year-end 2004. The decrease was offset by an increase in contract loans. In their last few years of business, the bond investments shifted from predominantly U.S. government bonds to industrial bonds.

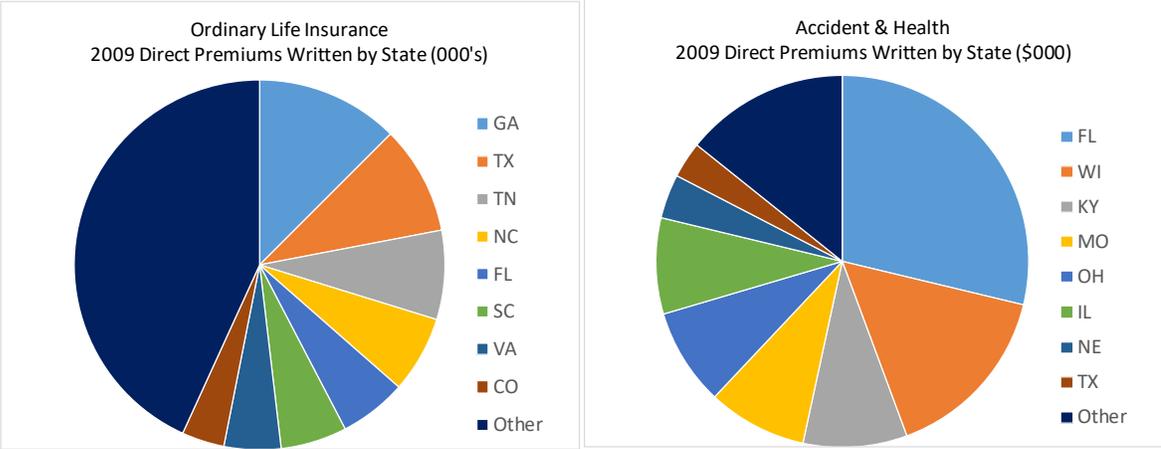
The liability to invested assets ratio increased gradually from year-end 1996 to 2003, then had a few years of decline, after which it increased again (figure 7). This is aligned with one of the root causes of National States' ultimate insolvency: poor experience and underpricing on the long-term care business caused reserves to grow faster than assets.

**Figure 7**  
**NATIONAL STATES HISTORICAL RESERVE LEVERAGE AND INVESTMENT MIX**



National States wrote Life and A&H premium in various states. Based on 2009 direct written premiums, its largest states were Georgia (12.5 percent) for Life and Florida (29 percent) for A&H (figure 8).

**Figure 8**  
**NATIONAL STATES 2009 PREMIUM MIX BY STATE**



**Florida Business**

The largest block of A&H business was written in Florida, and included LTC, home health care, and Medicare supplement. Loss ratios for Florida LTC appeared unfavorable as early as year-end 2006 and continued to increase to a high of 141 percent three years later. Loss ratios in aggregate for LTC were lower due to the offsetting effect of other states’ more favorable loss ratios (figure 9).

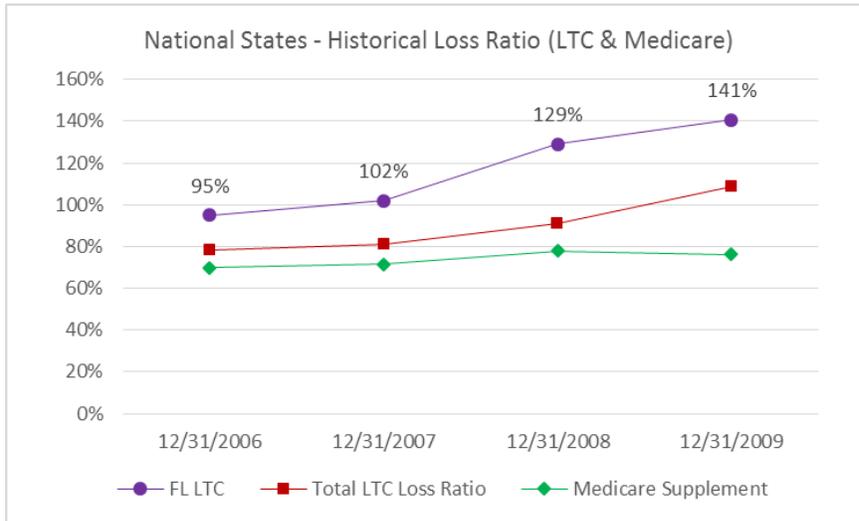
When it became clear that the LTC business was not performing as expected, National States filed for rate increases in all states, including a 38 percent increase in Florida. Florida denied the rate increases, and National States elected to litigate. National States prevailed initially, but Florida appealed. Ultimately, the appeals court upheld Florida’s position. While the rate increases approved by other states improved the Company’s outlook slightly, the impact, given the smaller blocks, was not enough for the Company to achieve profitability. If Florida had approved a rate increase, given the larger block of business, it would have positively affected profitability, but it is not certain that that in and of itself would have ultimately guaranteed solvency.

The 2006 Notes to Financials note the following regarding Florida rate issues:

“The Company has received a favorable decision from an Administrative Law Judge (ALJ) in Florida recommending that the Office of Insurance Regulation (OIR) approve a 38% rate increase on the Company’s home health care business. The OIR rejected the Judge’s recommendation, however, and the Company has appealed the case to district court.” In 2007 the court did not uphold the ALJ’s recommendation as the Company had expected.

Aside from rate increases, the Company noted corrective actions including increases in reinsurance, discontinuing its graded-benefit life product and stand-alone home health product sales in South Florida.

**Figure 9**  
**YEAR-END 2006–2009 LOSS RATIO FOR LTC AND MEDICARE SUPPLEMENT**



**Florida LTC Environment**

By 2003, Florida was the second-largest LTC state based on total premium (figure 10). Given that Florida has the oldest population of any state, one might expect this. Accordingly, Florida regulators focused efforts on LTC oversight to a greater extent than many other states. An August 2005 report by the Florida Office of Insurance Regulation notes the following:

- In 2001, Florida lawmakers added mandatory liability coverage requirements for nursing homes, and implemented tort reforms to cap punitive damages and attorney’s fees to make liability insurance more affordable for providers.
- In 2002, the state legislature created a new Office of Long-Term Care Policy in the Department of Elder Affairs to evaluate and improve the state’s long-term care delivery systems.
- Florida law currently does not allow insurers to increase premiums due to age or medical conditions, and the marketing materials used by insurers often include statements indicating these limitations.

**Figure 10**  
**TOP TEN STATES FOR LTC PREMIUM—2003**

Source: Florida Office of Insurance Regulation August 2005 Report “PHASE I: Long-Term Care Insurance” (2003 NAIC Data; LTC Insurance Experience Report C)

Rank	State	Total Premium
# 1	California	\$4,354,046,048
# 2	<b>Florida</b>	<b>\$4,202,765,436</b>
# 3	New York	\$3,574,481,614
# 4	Illinois	\$2,444,742,253
# 5	Pennsylvania	\$2,328,228,708
# 6	Ohio	\$1,883,867,817
# 7	Texas	\$1,845,828,796
# 8	Washington	\$1,223,459,099
# 9	Michigan	\$1,171,715,545
# 10	Virginia	\$1,155,738,145

Based on 2004 market share, National States was the tenth-largest provider of LTC insurance in Florida (figure 11). This represents a 52 percent decrease in enrollment compared to 2000. A few insurers discontinued writing LTC in Florida, adding to the diminishing pool of providers in the state. The Florida market did not present an issue solely for National States; as of the writing of this report, Penn Treaty is in the midst of insolvency proceedings due to the poor performance of its long-term care block, a significant portion of which was based in Florida, and several of the other writers are suffering from long-term care business losses as well.

**Figure 11**  
TOP 10 FLORIDA LTC INSURANCE WRITERS BY MARKET SHARE—2004

Source: Florida Office of Insurance Regulation August 2005 Report “PHASE I: Long-Term Care Insurance”

Rank	Company	2004 Enrollment	2000 Enrollment	Change
# 1	General Electric	52,442	29,371	↑ 79 %
# 2	John Hancock Life	42,704	17,137	↑ 149 %
# 3	Bankers Life & Casualty	34,875	14,111	↑ 147 %
# 4	UNUM Life Insurance Co.	33,470	15,605	↑ 114 %
# 5	Conseco Senior Health*	31,276	33,058	↓ 5 %
# 6	Penn Treaty Network	27,458	34,636	↓ 21 %
# 7	Continental Casualty	27,080	20,649	↑ 31 %
# 8	Kanawha Insurance	11,119	5,893	↑ 89 %
# 9	Fortis Insurance*	10,979	13,102	↓ 16 %
# 10	National States Ins.	7,562	15,811	↓ 52 %

\*These companies have discontinued writing LTC policies in Florida.

LTC insurance already has the challenges of adverse selection, health care cost inflation, and limited risk pooling, and these are magnified in the state of Florida, where the overall age of the population is high. According to a 2010 U.S. Census report, Florida ranked highest among states in the percent of population over the age of 65, at 17.3 percent of the population compared to the U.S. average of 13.0 percent. Further, five of the top 10 highest median age counties in the U.S. are in Florida.

### Missouri Department of Insurance

Based on discussions with a former employee of the Missouri Department of Insurance, Financial Institutions, and Professional Registration (DIFP), the researchers understand that the DIFP identified a reserve shortfall for National States prior to its insolvency, and encouraged the Company to increase its reserves. Had this occurred, the Company might have entered rehabilitation earlier than was ultimately the case.

Shortly before the 2010 Rehabilitation Order, the DIFP reviewed an independent actuary’s analysis, and concluded that the Company would need a significant amount of additional capital to remain solvent. This led to the Company’s Rehabilitation Order in April 2010.

## Company Ratings-

The Company's history of rating by agency is shown below:

**Figure 12**  
NATIONAL STATES RATING AGENCY HISTORY (SNL FINANCIAL)

Credit Ratings Details			
	S&P	Fitch Ratings	AM Best
<input checked="" type="checkbox"/> Financial Strength	Remove 2/28/2003	Remove 3/23/2009	Remove 6/25/2012
	BBpi Affirm 2/27/2003	BBq Affirm 6/27/2008	F Downgrade 3/7/2011
	BBpi SNL Start 4/11/2000	BBq Upgrade 7/31/2007	E 4/7/2010
	-	Bq Affirm 8/22/2006	Remove 12/2/2009
	-	Bq SNL Start 8/15/2005	C++ (ON) Downgrade 2/27/2009
	-	-	B- (OS) Affirm 1/18/2008

Ratings Watch Action Legend: (WP) Watch Positive, (WN) Watch Negative, (WU) Watch Uncertain, (WR) Watch Removed, (OP) Outlook Positive, (ON) Outlook Negative, (OS) Outlook Stable, (OD) Outlook Developing.

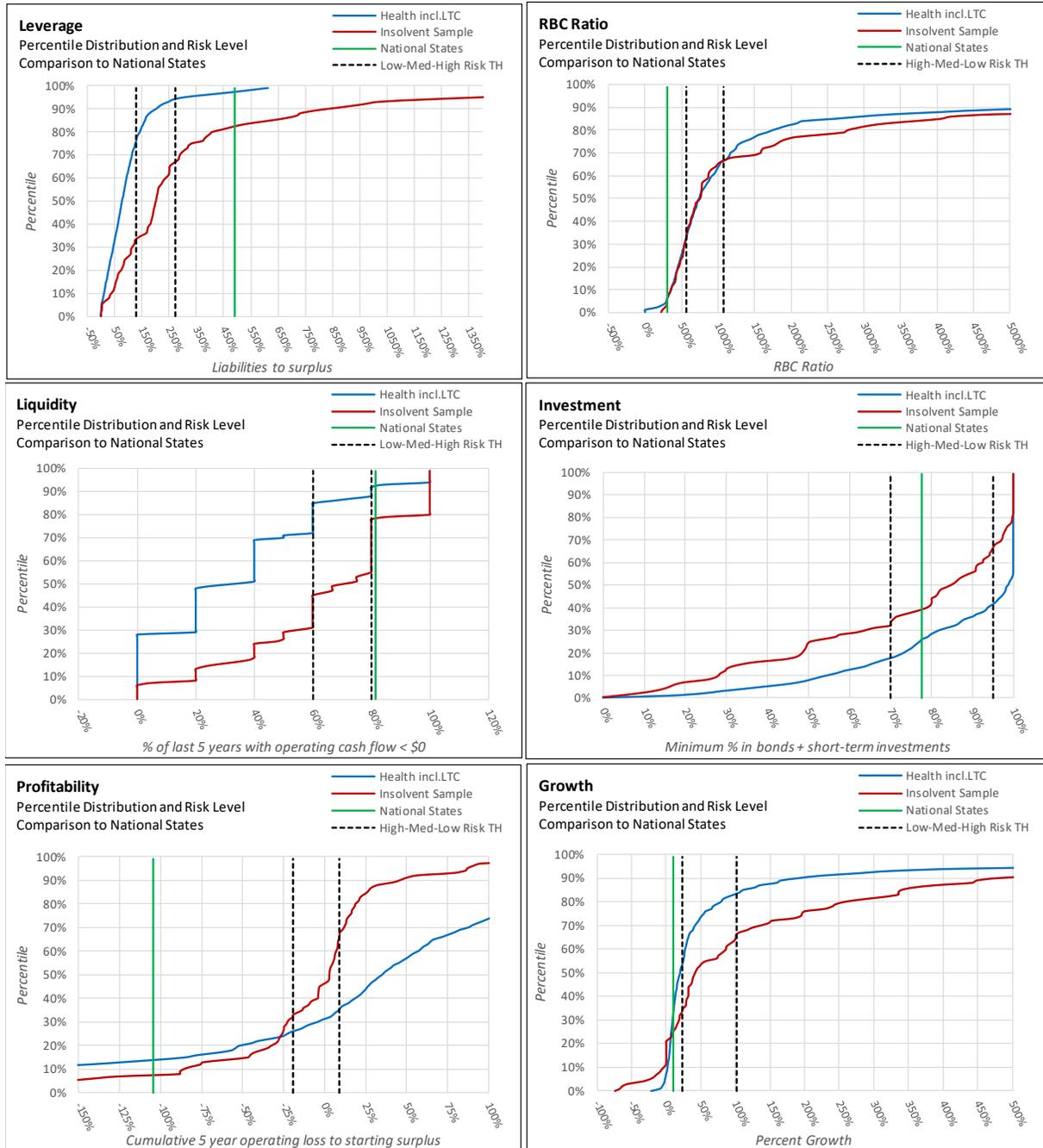
In January 2008, A. M. Best revised its outlook for financial strength rating (FSR) from negative to stable. They quoted the following actions: “[I]ncreasing the amount of reinsurance on its life products to offset new business strain on its capital; implementing rate increases on its senior health business; and discounting its graded benefit life products segment. These actions, combined with a lower incurred life and health benefits and a lower number of in-force policies, have resulted in profitable operations over the past two years.”

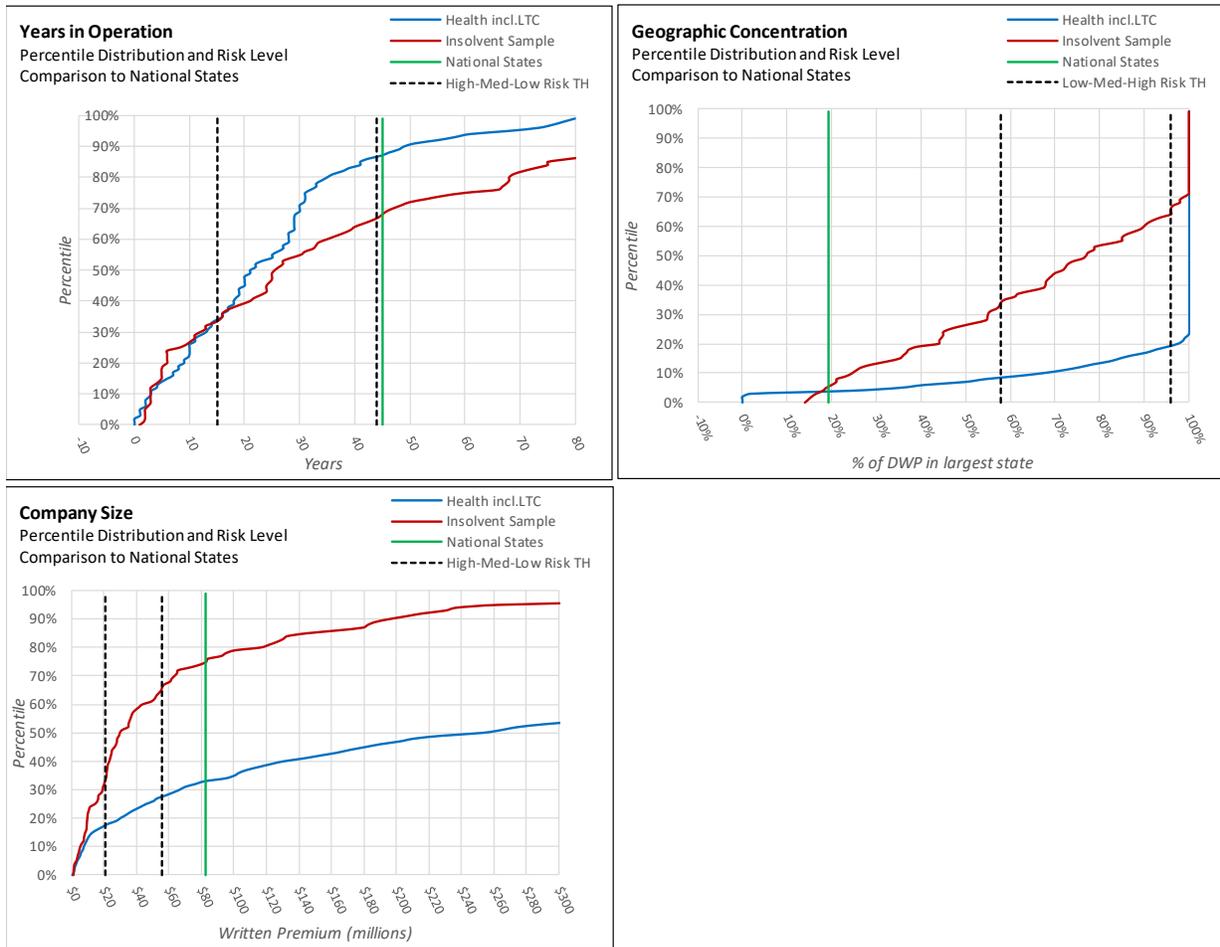
However, A. M. Best further noted that “National States will continue to be challenged in the managing run-off of the South Florida home health care block and trying to grow its Medicare supplement business.”

Section II—Phase I Comparison

Based on the data available prior to insolvency, we summarized National States’ risk profile and compared it to the analysis performed in Phase I. The following charts include a percentile distribution from the insolvent and health industry samples as well as the risk thresholds (“TH”) determined in Phase 1 and the Company data point. Low, medium, and high risk thresholds are denoted by the dotted line. The legend further indicates directional order.

Figure 13  
NATIONAL STATES RISK PROFILE AND PHASE I COMPARISON





\*National States' metrics based on last five years in operation 2005–2009; industry sample based on 2011–2015; insolvent sample based on last five years in operation by company.

The following is a summary of observations related to figure 13:

- Overall, during Phase 1, the most indicative risk factors for the health cohort appeared to be premium growth, profitability, liquidity, leverage, and RBC ratio.
- When compared to the insolvent sample and the industry sample (health, including LTC cohort) in the charts above, National States ranked higher risk in most financial indicators except growth.
- Leverage, RBC ratio, profitability, and liquidity all fell in the high-risk range for National States, suggesting that these may have been strong leading indicators.
- Investment fell within the medium risk range for National States. This suggests that investment risk may not have been a strong leading indicator to the same extent as leverage, RBC ratio, profitability, and liquidity.
- Contrary to the higher risk factors above, National States' number of years in operation, company size, and geographic concentration puts them in a lower risk range. These factors were found to be weaker than the financial factors in the Phase I research with regard to the insolvency indication in our Phase 1 study. In addition, our measurement of geographic concentration is focused on the overall number of states in which the company writes business, and does not take into account the potential for a substantial portion of business in one particular state where rate increases are challenging.

### Section III—Analysis of Key Findings

Some of the key regulatory activities that now exist (or are under development) that may help identify issues such as those that were present in the National States' insolvency are as follows:

- d) **Risk-Focused Examination (RFE)**—The movement to a risk-focused examination may help in situations like that of National States. Risk-focused examination became an accreditation standard in 2010. Under a risk-focused examination, the focus is on the overall risk profile, including prospective risk, rather than primarily on the accuracy of the financials. For example, a detailed review of pricing might have identified inadequacies earlier. Further, ensuring the examination actuary is involved in a review of pricing and risk management may facilitate earlier intervention. As previously noted, however, our understanding is that the DIFP did identify reserve issues with the Company prior to its rehabilitation and subsequent liquidation in 2010.
- e) **Regulatory Stance on Rate Increases**—In this instance, the Florida insurance department did not approve rate increases, thereby limiting the ability of National States to modify its pricing upon determining that inadequacies existed. According to the opining actuary, the rate increases were actuarially justified, and in the case of the Medicare supplement, an increase in benefits was federally mandated. Regulators are often confronted with competing priorities of this nature; if the priority is to protect the consumer from rate increases, the risk of insurer insolvency increases. Conversely, allowing rate increases may contribute to a decrease in the risk of insurer insolvency at the expense of higher costs to consumers. In addition, the multi-state review of rate adequacy can result in significantly negative financial results in a small number of states. This was addressed in part by the Interstate Insurance Product Regulation Compact (“the Compact”), a multi-state agreement that creates a national public authority to receive, review, and make regulatory decisions on insurance product filings according to national uniform standards that the participating states develop and adopt. The Compact covers individual and group products for life insurance, annuities, disability income, and long-term care insurance. The Compact came into being in March 2004. The compact's governing body, the commission, was created in May 2006, after the required number of states—26, or states representing 40 percent of premium volume nationwide—joined the Compact. While this development has improved uniformity of rate review, not all states are members (for example, Florida is not), and some do not participate with respect to LTC filings.
- f) **Reserve Increase Requirements**—Along with the introduction of risk-focused examinations is an increased focus on prospective risk. Regarding reserves for long duration business, there is increased scrutiny of the appointed actuary's assessment of reserve adequacy, and the assumptions regarding future management actions such as rate increases. It is possible that improvements that have been made, and continue to evolve, in this area would have resulted in earlier identification of reserve inadequacy. The actuary's role in this review process is critical, since significant judgment is applied in setting assumptions for assessing reserve adequacy.
- g) **Requirements for Corporate Governance**—National States' ownership and management structure may have lent itself to conflicts of interest. The owner, who was president and CEO, also served as the Company's retained attorney. The nine-member board of directors was comprised of four National States executives, plus the owner of National States' largest distributor, a family member, and a chairman who was the CEO of Royal Banks of Missouri, which was owned in part by National States' CEO. Further, the Company wrote business through independent general agents, with the owner of the agency that contributed the largest sales being a director and stockholder of National States. Lastly, the Company's real estate management was provided by a family member-owned business. Stricter oversight on corporate governance may have had an impact on business decisions and thereby changed the course of the road to impairment. Some of the more recent corporate governance standards adopted by the NAIC, for example the annual corporate governance disclosure requirements and the enhancements associated with group supervision (Insurance Holding Company System Regulatory Act and Insurance Holding Company System Model Regulation with Reporting Forms and Instructions), may have helped identify these issues.

- h) **NAIC Filing Requirements for LTC on Stand-Alone Basis**—In the aggregate, the LTC deficiencies were being offset by other A&H lines, and as a result, the Company was not required to record a premium deficiency reserve (PDR). This is another area in which increased focus on prospective risk, and increased involvement of actuaries in the examination process, may have helped to identify issues. Evaluation of the PDR, and the grouping of business for purposes of determining the need for one, is commonly reviewed as part of the risk-focused examination process.
- i) **Opinion Rate Increase Qualifier**—The final Statement of Actuarial Opinion (SAO) in 2009, signed by the company actuary, included a critique of Florida’s actions (rate increase denial). The basis for the opinion included an assumption of a significant rate change in Florida during the following year as a requirement for the continued sufficiency of reserves. Prior SAOs did not make specific mention of the rate increase assumption as a contributing factor to the reserve sufficiency. Based on the subsequent deficiency and wording in the 2009 SAO, an assumed rate increase may have been built in at each historical evaluation. If so, this assumption, at least for Florida, never came to fruition. Perhaps this assumption could have been put to question earlier than 2009. Improvements in actuarial standards of practice (ASOP) since 2009 may have helped address this issue. In particular, ASOP 41, Actuarial Communications, effective for communications issued on or after May 1, 2011 requires that *“the actuary should state the actuarial findings, and identify the methods, procedures, assumptions, and data used by the actuary with sufficient clarity that another actuary qualified in the same practice area could make an objective appraisal of the reasonableness of the actuary’s work as presented in the actuarial report.”* It also requires that, for assumptions not prescribed by law, the actuary either take responsibility for the reasonableness of the assumption or disclose that the assumption is unreasonable (or that reasonability cannot be ascertained).
- j) **Changes in Opining Actuary**—At year-end 2000, National States used a third-party actuary to furnish its SAO. Beginning at year-end 2001 and into 2009 (the last full year of operation), the chief actuary prepared an internal SAO. The appointed chief actuary was the former Milliman actuary. For these ten years (and perhaps longer), the same actuary provided the SAO. This potentially suggests consideration of whether periodic changes in the individual providing the SAO may prove beneficial to earlier recognition of potential insolvency risk.
- k) **Morbidity Risk in Capital**—Starting in 2005, the NAIC implemented revisions to the RBC formula for LTC business. Prior to 2005, the RBC charges were based on premium only, with factors consistent with those used for disability business. In 2005, a new methodology was introduced with a higher factor on premiums, along with a factor based on claims and loss ratio levels. This improvement would have largely increased industry pricing of the business, though pricing changes made by National States at that time may have come too late. The formula still does not fully capture the combined impact of morbidity, interest rate, and longevity risk for long-term care products.
- l) **Follow-up to Examinations**—Issues with company operations were highlighted as early as 2003.
- **2007 Financial Examination**
    - There is a comment from the prior examination (2004) that RBC in the 2004 Annual Statement was overstated due to misclassification of FL home health care policies.
    - There is a subsequent event in the 2007 report on losses taken by the company in 2008, primarily on FL home health care LTC business, resulting in a \$4.2 million decrease in surplus.
    - National States notes in a letter to the MO DOI that it does not believe it needs a premium deficiency reserve. “The gross premium valuations indicated the shortfall associated with Florida Home Health Care business is offset by sufficiencies in the other A&H lines.”
  - **2003 Market Conduct Examination**—Florida Office of Insurance Regulation conducted a market conduct exam dated December 1, 2003, and cited multiple violations (listed below). A subsequent review of the actions taken in response to these allegations was not found.

- Failed to ensure that its agents did not misrepresent the benefits, advantages, conditions or terms of any insurance policy;
- Failed to ensure that agents did not make representation on behalf of insureds on insurance applications;
- Failed to record cancellations accurately and promptly return unearned premium;
- Collected excess premiums;
- Made material misrepresentations with the intent of effecting settlement on less-favorable terms.

It is unclear whether the examination involved a review of rating practices. If an actuarial review of rating practices were undertaken, either as part of the market conduct examination or as part of the financial examination (though admittedly the financial examinations did not use a risk-focused approach at the time), such review may have uncovered the pricing issues sooner.

In summary, it appears that the key drivers of National States' insolvency were the concentration in long-term care business, inadequate pricing of the business, and inability to achieve rate increases, potentially compounded by a relatively weak corporate governance structure.

There are some key areas related to the issues at National States in which increased actuarial involvement may have supported earlier identification of some of these challenges:

- Increased involvement of actuaries in the surveillance process. Some of the key issues, such as the underpricing and the aggressive rate increase assumptions used in the reserve adequacy analysis, would likely be identified and evaluated by an actuary in today's risk-focused surveillance process, which did not exist at the time of the insolvency.
- Improved practices and disclosures regarding the assumptions used in assessing reserve adequacy. Since the issues occurred at National States, we have had several enhancements in ASOPs, including ASOP 41, as well as additional guidance for actuaries through educational materials, such as a revised practice note regarding asset adequacy analysis practices.
- Increased coordination and consistency of actuarial requirements across states. This has been addressed in part through the creation of the Interstate Compact, and further activity is underway through the Senior Issues Task Force and the Long-Term Care Valuation Subgroup, including items such as:
  - Additional disclosures to consumers;
  - Additional requirements for rate filings;
  - Experience tracking;
  - Additional requirements for testing adequacy of LTC reserves.

## Appendix G – Property and Casualty Case Study

### Red Rock Insurance Company (“Red Rock” or “the Company”) formerly BancInsure, Inc.

**March 13, 2014:** Status—Hazardous Financial Condition

**August 21, 2014:** Status—Liquidation

#### Root Causes of Insolvency

- Poor underwriting results related to workers’ compensation (WC) and professional liability
- Limited diversification—niche business model catering to community banks and financial institutions
- Economic downturn and resulting bank failures of 2008–2011, resulting in poor investment results and underwriting losses related to professional liability coverage
- Capital investment intended to allow Company to recover from financial distress ultimately non-admitted
- Significant growth in workers compensation business

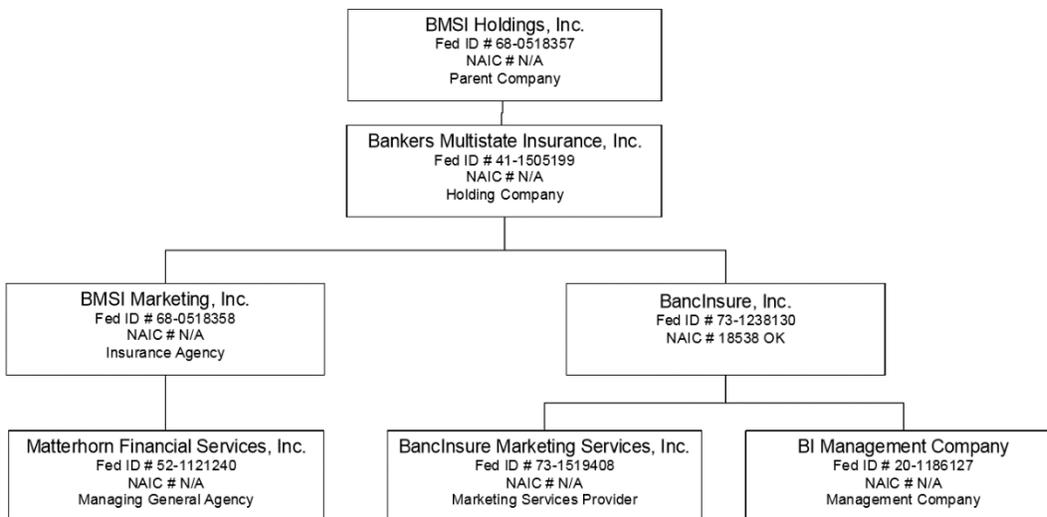
### Section I—Background

#### Company Summary

Incorporated in 1985, BancInsure, Inc. (“BancInsure” or “the Company”) was a multi-line property and casualty insurance carrier domiciled in Oklahoma and licensed to write in 49 states. The Company was a wholly owned subsidiary of Bankers Multistate Insurance, Inc. (figure 1). BancInsure was initially formed to address the lack of affordable insurance coverage available to the banking industry, namely directors’ and officers’ (D&O) coverage and fidelity bonds. While under the BancInsure name, the Company provided a variety of insurance products to community banks and financial institutions nationwide.

**Figure 1**

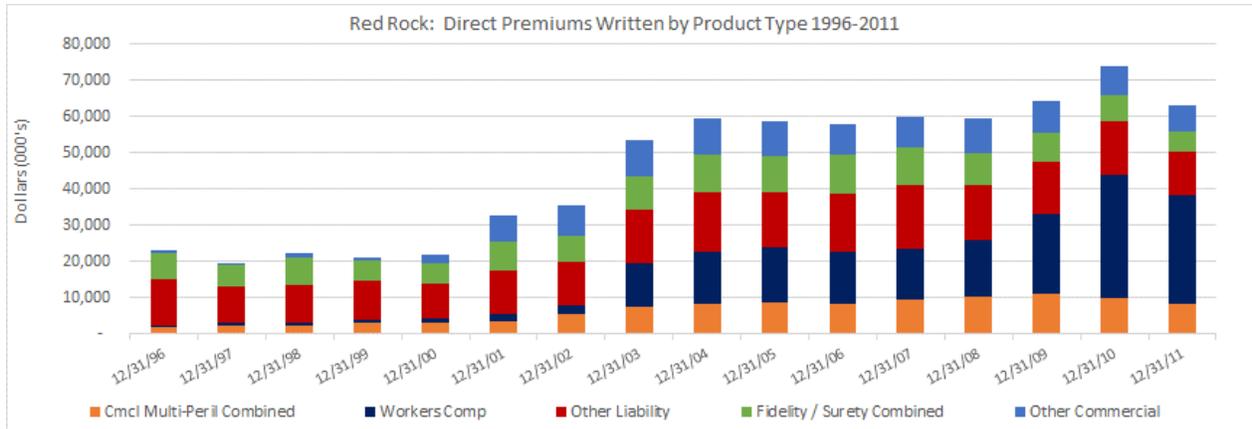
**RED ROCK (BANCINSURE) ORGANIZATIONAL CHART**



The insurance products offered by BancInsure included financial institution bonds, D&O liability, workers’ compensation (WC), and other property and casualty coverages. Prior to 2011, BancInsure wrote annual premiums ranging between \$47 and \$76 million within this niche industry segment. Premium growth was significant between 2000 and 2004 and then stabilized after 2004. In its last few years of operations, BancInsure’s largest line of business was WC (figure 2). Relative to the overall property and casualty industry, BancInsure’s market share was small, though for certain states and lines of business, such as Oklahoma WC, the Company was a significant writer during its peak years.

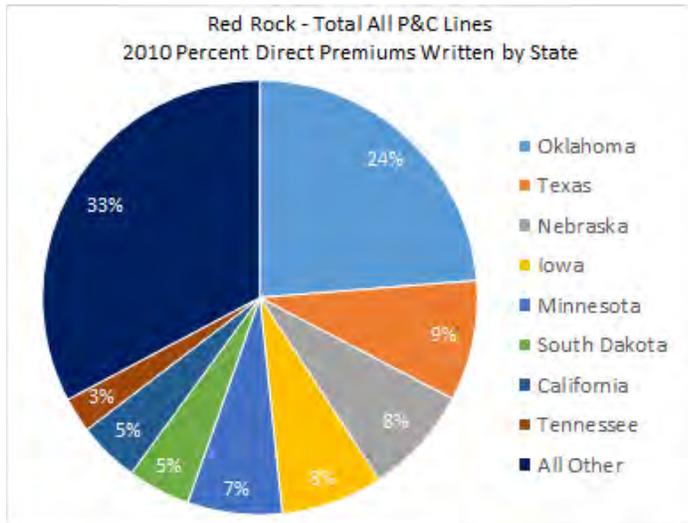
BancInsure’s largest state, based on 2010 direct premium, was Oklahoma, followed by Texas and Nebraska. BancInsure’s geographical mix of business was well-diversified (figure 3).

**Figure 2**  
RED ROCK (BANCINSURE) HISTORICAL PREMIUM AND PRODUCT MIX



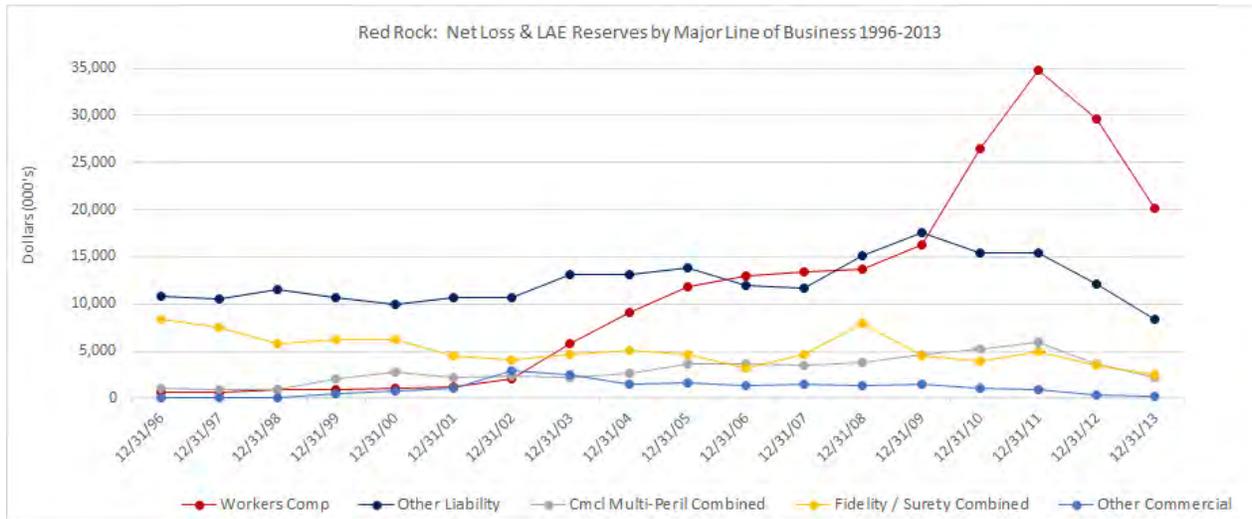
Note: “Cmcl Multi-Peril Combined” in chart above refers to Commercial Multi-Peril Casualty and Property

**Figure 3**  
RED ROCK (BANCINSURE) 2010 PREMIUM MIX BY STATE

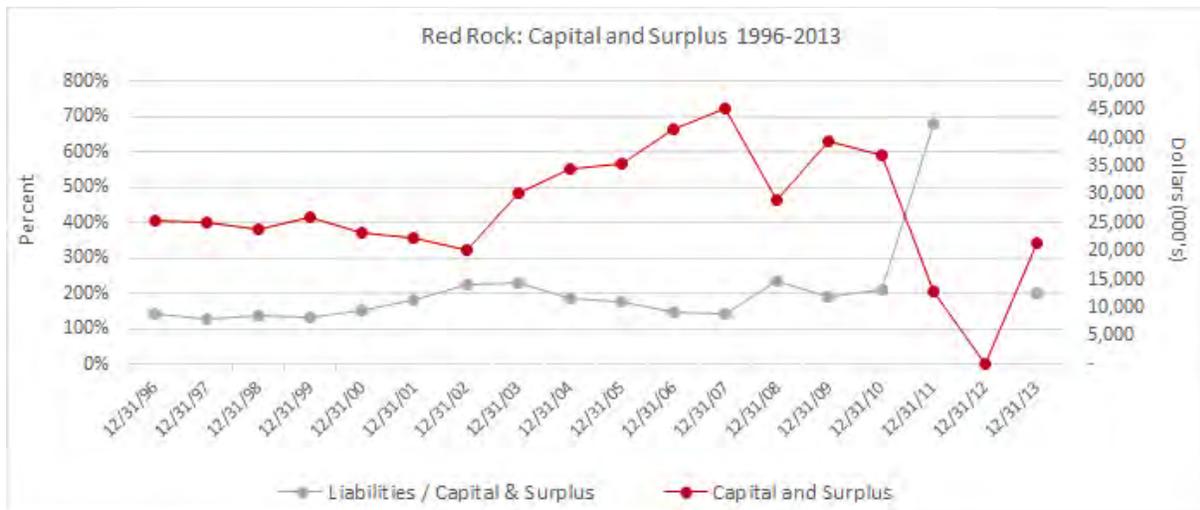


Beginning in 2003, BancInsure began increasing its WC premium volume and likewise loss reserves. WC reserve increases were relatively consistent with premium growth until 2010, when the loss ratio deteriorated and reserves spiked (figure 4).

**Figure 4**  
RED ROCK (BANCINSURE) HISTORICAL RESERVES



**Figure 5**  
RED ROCK (BANCINSURE) HISTORICAL CAPITAL AND SURPLUS



2008 marked the Company’s initial impact on capital and surplus from the financial market downturn and recession. According to a report by the United States Government Accountability Office, “during the time between 2008 and 2011—a period of economic downturn in the United States—414 insured U.S. banks failed. Of these, 85 percent were considered small banks.” BancInsure’s financial performance and surplus deteriorated during this period as a result of investment losses as well as underwriting losses related to the professional liability coverage provided to banks.

In 2009, the Company received a \$7.5 million capital contribution. In 2010, surplus declined by \$2.2 million due to continued financial institution claims, a property catastrophe loss, and deteriorating workers’ compensation loss ratios.

**Figure 6**  
**US GOVERNMENT ACCOUNTABILITY REPORT – NUMBER OF BANK FAILURES 2008-2011**



A message addressing financial concerns was issued by BancInsure’s chairman and CEO during 2009: “There is no denying that 2008 witnessed a perfect storm in the financial services sector that devastated banks and insurance carriers. BancInsure was not spared by the crisis, incurring a Net Loss of (\$7.179M), down from 2007 Profits of \$3.089M. Statutory Capital and Surplus declined by 35.8% in 2008 to \$29 million.”

In 2008, the Company implemented the following actions, according to the same statement from their chairman and CEO:

- Creation of Chief Underwriting Officer
- New Director of Professional Lines Underwriting
- Review of entire book of professional lines business with focus on quality and profitability

By year-end 2010, BancInsure’s financial statements continued to highlight a positive outlook of diversification efforts and sustained profitability. However, BancInsure’s surplus decreased significantly, from \$37M to \$13M, over the course of 2011. This 66 percent reduction in surplus reflected in part an 18 percent increase in Loss and LAE Reserves. A historical view of some of the Company’s key operating figures from 2007 through 2013 shows a clear variance in financial health between 2010 and 2011.

Period Ended, (\$000's)	12/31/07	12/31/08	12/31/09	12/31/10	12/31/11	12/31/12	12/31/13
Total Loss and LAE Reserves	36,738	43,251	45,813	52,862	62,455	50,040	33,712
Capital and Surplus	45,090	28,961	39,338	37,104	12,796	223	21,507
Net Premiums Written	47,384	46,481	50,674	60,592	50,147	(7,040)	(3,731)
Combined Ratio	101.47	128.95	118.21	119.19	146.72	NM	NM
Risk Based Capital Ratio	706.75	381.16	527.04	467.08	150.13	4.57	333.93
Reserves / C&S	81%	149%	116%	142%	488%	22486%	157%

Note: “C&S” in the table above refers to Capital and Surplus

The Company experienced approximately \$15M of adverse loss development on prior accident years during 2011, nearly half of which was attributable to WC. Professional liability lines of business also experienced adverse development. In addition, the Company’s underwriting expense ratio was in excess of 40 percent, higher than industry norms. When coupled with its recorded accident year 2011 net loss and loss adjustment expense ratio of 78.5 percent as of December 31, 2011, this made current year business unprofitable as well. Finally, the Company wrote off its net deferred tax asset as of December 31, 2011 as a result of its re-evaluation of potential future net income. This caused an approximate \$4M reduction in statutory surplus between year-end 2010 and 2011.

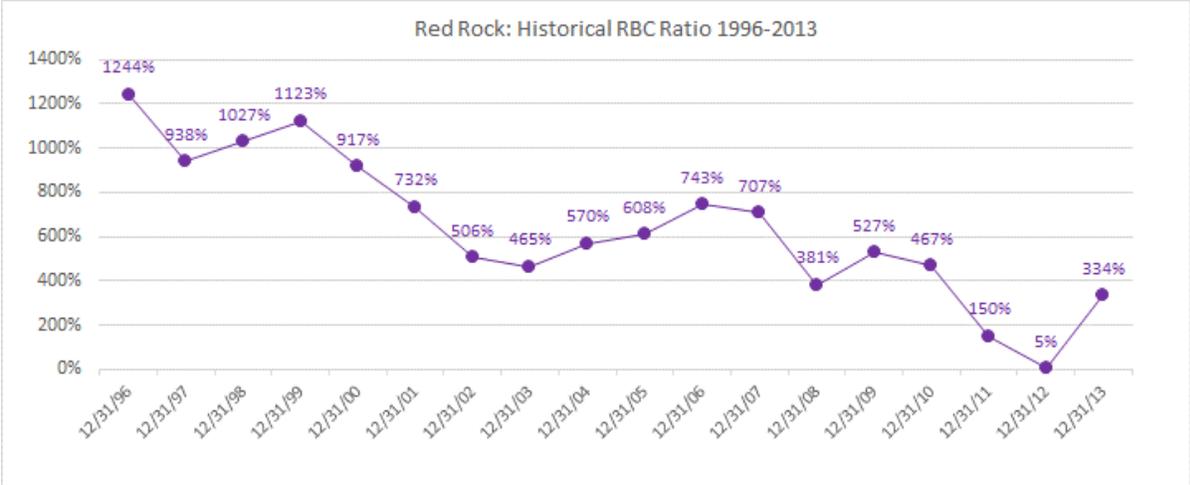
A review of BancInsure’s historical combined ratios shows increasingly poor results after 2007, with ratios far exceeding 100 percent (figure 7).

**Figure 7**  
RED ROCK (BANCINSURE) HISTORICAL COMBINED RATIO



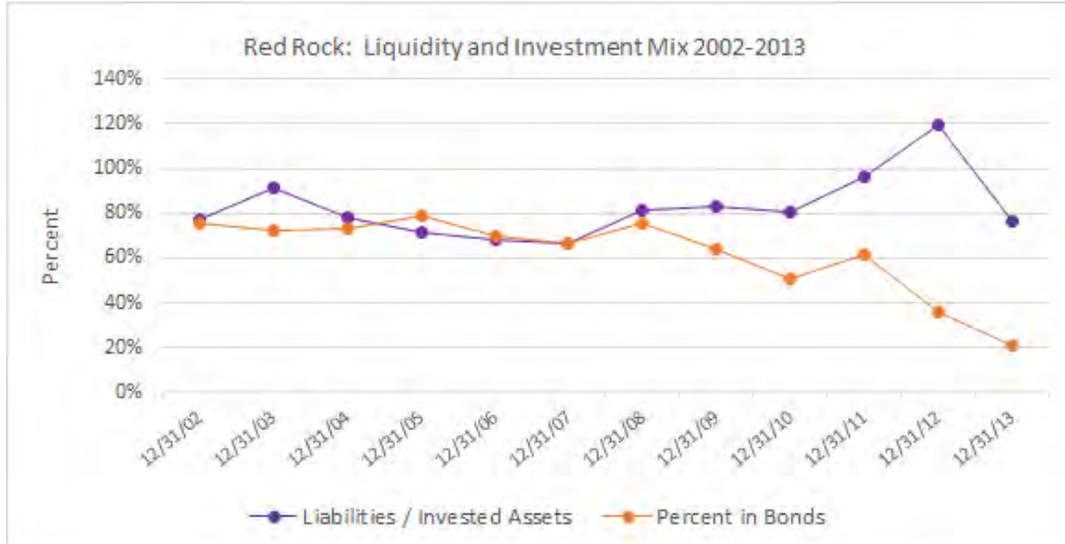
BancInsure’s risk-based capital (RBC) ratio was healthy in the 1990s, and then began to decrease slowly until year-end 2003, when it began to recover to a high of 743 percent by year-end 2006. After 2006, there were fluctuations in RBC ratio, though the general trend was downward. By year-end 2011, with an RBC ratio of 150 percent the company was required to file a capital plan with the Oklahoma Insurance Department.

**Figure 8**  
RED ROCK (BANCINSURE) HISTORICAL RBC RATIO



From an invested asset standpoint, the Company’s percent investment in bonds began to decrease after 2007 (figure 9). Further, consistent with the aforementioned deterioration in surplus, the ratio of liabilities to assets began to spike in 2011.

**Figure 9**  
**RED ROCK (BANCINSURE) HISTORICAL RESERVE LEVERAGE AND INVESTMENT MIX**



According to the Company's 2011 management discussion and analysis (MD&A), results of operations were noted as follows:

"During 2011, BancInsure experienced worsening in certain lines of business focused on financial institutions and experienced significant worsening in one workers' compensation program. These factors coupled with the weather-related catastrophe losses led to the net losses that worsened as the year progressed and culminated with the unexpected actuarial results as of December that resulted in large IBNR increases. Exacerbating the worsening loss ratio was the shrinking premium volume due to the lower A. M. Best rating. The Company experienced the worst case scenario which meant the company would be challenged to find profits in the future years."

Also from the 2011 MD&A:

"As a result, BancInsure's Board of Directors and management endeavored to divest of market share in search of gains and a new insurance carrier for the Company's valued customers."

### ***Company Ratings-***

The Company's history of rating by agency is shown below:

**Figure 10**  
**RED ROCK (BANCINSURE) RATING AGENCY HISTORY (SNL FINANCIAL)**

Credit Ratings Details				
	S&P	Fitch Ratings	AM Best	Demotech
<input checked="" type="checkbox"/> Financial Strength	Remove 9/30/2003	Remove 3/23/2009	F Downgrade 11/16/2016	Remove 8/2/2014
	BBB (WR) 9/8/2003	BBBq Affirm 7/31/2008	E 1/14/2015	A Initiate 6/30/2014
	BBB (WN) 7/15/2003	BBBq Affirm 7/19/2007	Remove 3/22/2012	-
	BBB (WR) Downgrade 1/15/2003	BBBq Affirm 8/15/2006	B (ON) Downgrade 1/13/2012	-
	A- (WN) 11/8/2002	BBBq SNL Start	B++ (ON) Downgrade 8/2/2011	-
	A- Downgrade 11/21/2001	-	A- (ON) Affirm 5/14/2010	-

Ratings Watch Action Legend: (WP) Watch Positive, (WN) Watch Negative, (WU) Watch Uncertain, (WR) Watch Removed, (OP) Outlook Positive, (ON) Outlook Negative, (OS) Outlook Stable, (OD) Outlook Developing.

While most of its business was dependent upon an A- rating or better, the 2011 downgrade by A. M. Best, along with the unfavorable experience, initiated divestiture of segments of its business to other insurers. On February 14, 2012, AmTrust Financial Services, Inc. purchased the renewal rights to BancInsure's in-force insurance policies.

BancInsure became subject to administrative proceedings by the Oklahoma Insurance Department in 2012 when the department concluded that the Company was in a hazardous financial condition as defined by law. The formal order was served January 11, 2013.

The proceedings were put on hold in late 2012 when Foster Jennings, Inc. (a NY-based financial services holding company) offered to acquire BancInsure from BMSI Holdings Inc. Foster Jennings' purchase price of \$1 was coupled with a promise to make a significant capital investment.

The purchase came with the announcement that the newly named Red Rock Insurance Company would re-enter the insurance marketplace with a new business strategy focusing on non-financial customers.

The Oklahoma Insurance Department continued involvement and oversight after the conditional purchase agreement with Foster Jennings.

Subsequent to the capital infusion, the assets were determined to be unacceptable by the Oklahoma Insurance Department. According to Oklahoma Insurance Commissioner John Doak, "After several failed attempts to satisfy the insurance department's capital requirements, a formal determination was made that the company was in hazardous financial condition." The Oklahoma Insurance Department "imposed supervision and ultimately filed for and obtained an order of receivership and liquidation."

Section II—Phase I Comparison

Based on the data available prior to insolvency, we summarized Red Rock’s risk profile and compared it to the analysis performed in Phase I. The following charts include a percentile distribution from the insolvent and WC industry samples as well as the risk thresholds (“TH”) determined in Phase 1 and the Company data point. Low, medium, and high risk thresholds are denoted by the dotted line. The legend further indicates directional order.

Figure 11  
RED ROCK (BANCINSURE) RISK PROFILE AND PHASE I COMPARISON

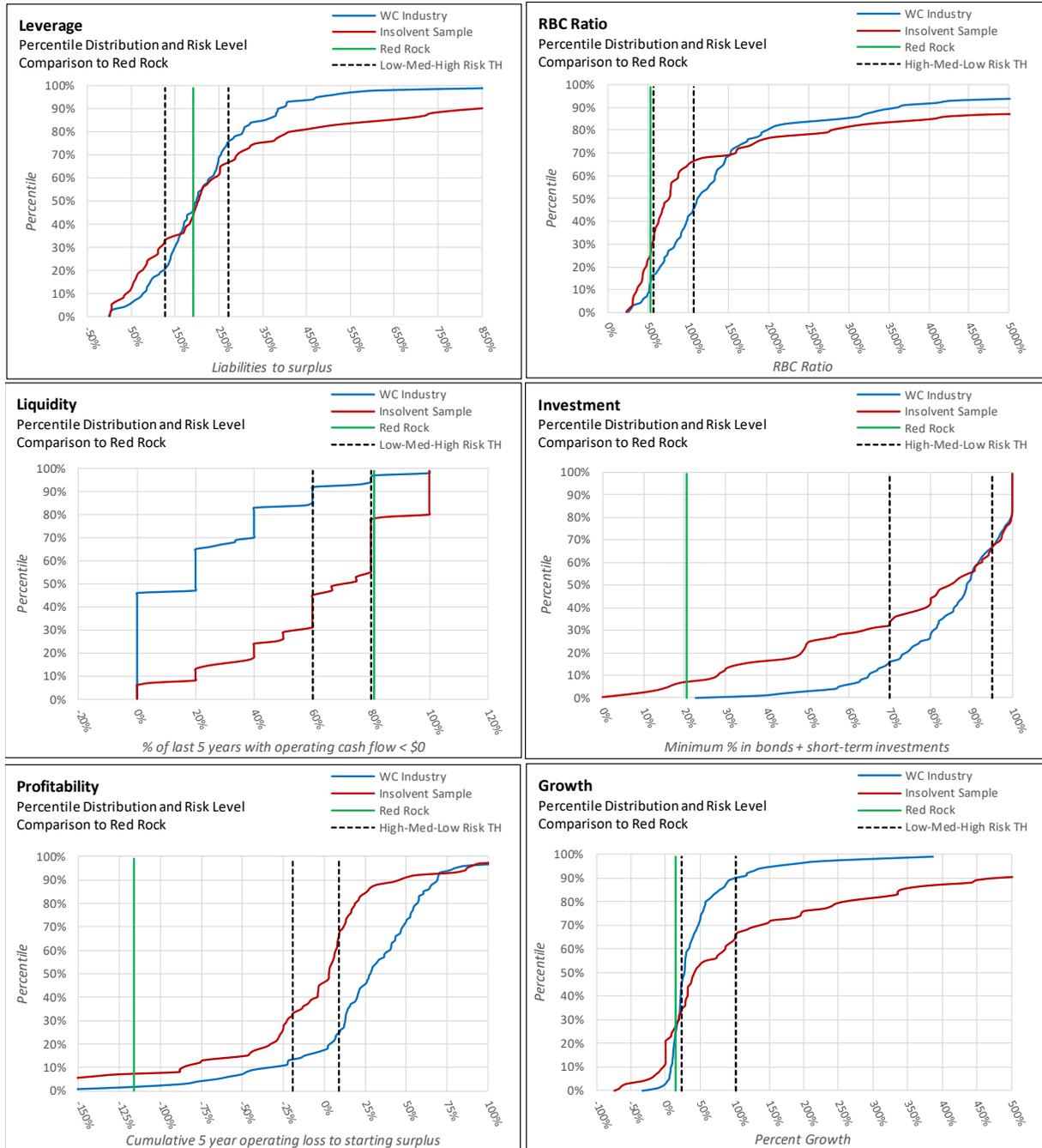
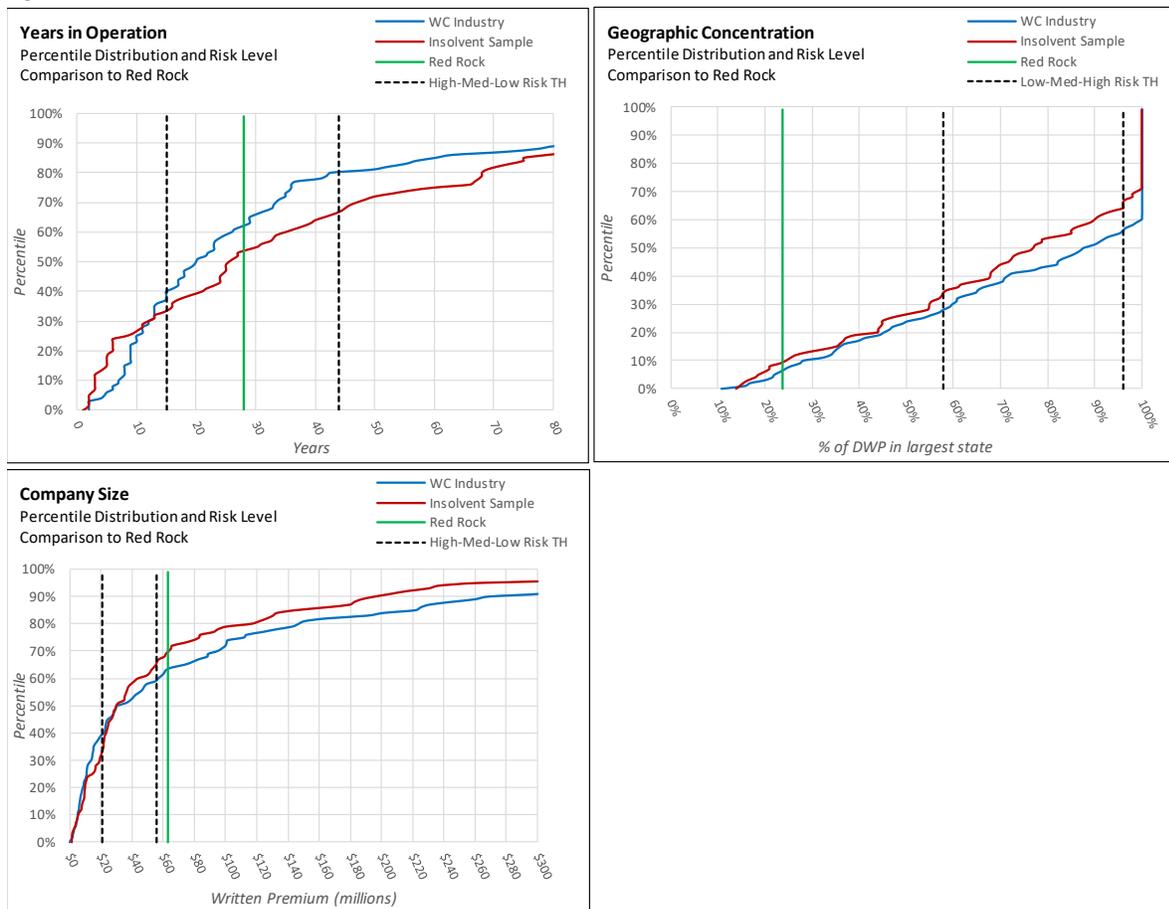


Figure 11 (cont.)



The following is a summary of observations related to figure 13:

- Overall, from the results of the Phase 1 research, the most indicative risk factors for the WC cohort appeared to be Premium Growth, Profitability, Liquidity, Investment, and Leverage.
- When compared to the insolvent sample and the industry sample (WC cohort) in the charts above, Red Rock ranked within a higher risk threshold for all financial risk factors except premium growth and leverage.
- Red Rock showed very high risk in profitability, liquidity, and investment, falling above the 90<sup>th</sup> percentile in each shows high risk indications for the Profitability, Investment, and RBC risk factors. This may suggest that these three factors were leading indicators prior Red Rock's insolvency.
- Red Rock also ranked on the cusp of medium-to-high in liquidity risk. For liquidity, there is a greater disparity between the industry and insolvent sample. While Red Rock is higher than the industry, it fell in line with the insolvent sample. This suggests that indicators of liquidity risk may have been less of a leading indicator for Red Rock's insolvency.
- The Company's diverse geographic concentration puts it in a low-risk percentile for this factor. However, the diverse state mix is likely superseded by its narrow niche market.
- With relatively moderate premium growth, Red Rock falls in the low- (close-to-medium) range for this factor. However, many years prior to the Company's insolvency (beginning in 2003), the Company significantly increased its WC premium volume, moving away from its previous focus areas of D&O and fidelity coverage. While the growth factor alone was not indicative of high risk, the line of business (WC) which drove the growth may have greater implications given its long-tailed nature.

### Section III—Analysis of Key Findings

Some of the key observations from the Red Rock insolvency are as follows:

- m) **WC Premium Growth** —Premium growth, specifically within WC, may have contributed to the downward course of events that led to Red Rock’s insolvency. Red Rock noted in its filings that unexpected WC losses could be attributed to individual programs.
- n) **MGA’s/Program Managers** - Underwriting business through unaffiliated program managers can create significant risks, as was the case for this company.
- o) **Ongoing Profitability and Liquidity Concerns**—The Company was unprofitable every year from 2008 to 2012. Cash flow was negative in 2008, 2009, 2011, and 2012.

Various concerns were highlighted by the Appointed Actuary in the Risk of Material Adverse Deviation section of the 2010 and 2011 Statements of Actuarial Opinion (SAO).

Risk factors noted in the 2010 SAO included: (1) the exposure to large, fortuitous losses within its policy limits; (2) the sensitivity of the Company’s results to general economic conditions. The 2011 SAO included (1) above, as well as (2) the recent expansion in the workers’ compensation line; (3) the sensitivity of the Company’s results to general economic conditions; (4) changes in claims handling; (5) the Company’s ceded reserves-to-surplus ratio; and (6) the relative position of the carried reserves. Also noted in the 2011 SAO, a reduction to the Company’s capital by the materiality standard selected in the SAO would shift the Company’s risk-based capital position from “Company Action Level” to “Regulatory Action Level.”

The 2011 SAO included additional detail on each of the risk factors noted above. The extent of detail provided is a potential signal of the magnitude of difficulties faced by the Company. Regulators and actuaries may wish to consider whether actuarial standards should encourage such an approach for companies that could be in a financially hazardous condition, whether or not this is evident from the financial statement. If the Appointed Actuary determines that loss reserves are potentially understated by a material amount, even if that amount is reasonable, such disclosures could assist regulators in identifying companies at risk earlier than they otherwise might from the financial statements alone.