Identifying Troubled Companies Using Annual Statement Data

Commitment Beyond Numbers

PINNACLE
ACTUARIAL RESOURCES, INC.

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About the Presenters

- Associate of the Casualty Actuarial Society (CAS)
- Associate in Risk Management (ARM)
- B.A. Mathematics – Carthage College
- 19 years of experience, primarily in
- commercial lines
- Reserving studies for:
  - Insurance companies (SAO and financial exams)
  - Captive insurance companies
  - Self-insured entities
  - Public entities
- Funding recommendations for emerging coverages
- Experience reviewing industry financial statement data and associated trends
- Risk margin modeling

Gregory W. Fears Jr.
Consulting Actuary
Pinnacle Actuarial Resources, Inc.

About the Presenters

- Fellow of the CAS
- Graduate of Illinois State University
- 23 years of experience, primarily in commercial lines
- Reserving studies for:
    - Insurance companies (SAO and financial exams)
    - Captive insurance companies
    - Self-insured entities
- Extensive experience reviewing industry financial statement data and associated trends
- Experience in workers' compensation, liability lines, medical professional liability and commercial automobile

Erich A. Brandt
Senior Consulting Actuary
Pinnacle Actuarial Resources, Inc.

Agenda

- Why would a consumer care about solvency?
  - Not just an issue for regulators
- Causes of insolvency
- Real life examples

Who (besides regulators) cares about solvency?

Solvency is a Concern

- Regulators
- Rating agencies
- Investment community
- Policyholders
- General public
- Actuarial community (statements of actuarial opinion)
- Claimants

Causes of Insolvency?

Causes of Insolvency?

- Most common
  - Deficient loss reserves/inadequate pricing
  - Rapid growth
- Other causes
  - Catastrophic risk
  - Jurisdictional risk (State of California construction defect)
  - Diversification risk (medical professional liability companies)
  - Failure of reinsurer

Notes from Recent Insolvencies

- Company A
  - "Experienced an adverse loss reserve development pattern between 2017 and 2018"
  - "Consistently underestimating its actual losses and failing to establish adequate reserves for those losses"
- Company B
  - "Does not have admitted assets at least equal to all its liabilities together with the minimum surplus of $5 million required to be maintained"
  - "Does not have liquid assets to meet its next 90 days current obligations"

Source: www.insurancejournal.com

Notes from Recent Insolvencies

- Company C
  - "Pushed to insolvency by the Camp Fire wildfire sparked on November 8, 2018, and nearly destroyed Paradise, California, and surrounding towns"
- Company D
  - "Reported that it had discovered an accounting error related to its 2008 and 2011 catastrophic reinsurance treaties."
  - "Cost of fixing errors with an operation loss in the Q4 2013, forced the company officials to tell state regulators that it could no longer meet the state's surplus requirements"

Source: www.insurancejournal.com

Monitoring of Insolvency

- Schedule P of the annual statement and the statement of actuarial opinion (SAO) both contain detail on net reserves and direct reserves.

- Four categories in the National Association of Insurance Commissioners (NAIC) Insurance Regulatory Information System (IRIS)
  - Overall ratios – growth, surplus aid
  - Profitability – combined ratio
  - Liquidity tests
  - Reserve tests

Monitoring of Insolvency: IRIS Ratios

- Triggering several IRIS ratio exceptional values may cause regulatory scrutiny

IRIS Ratios		Unusual Values		2018		2017		2016	
Number	Description	Over	Under	Value	Result	Value	Result	Value	Result
1	Gross Premiums Written to Policyholders' Surplus	900%		1059%	Unusual	1133%	Unusual	968%	Unusual
2	Net Premiums Written to Policyholders' Surplus	300%		347%	Unusual	373%	Unusual	332%	Unusual
3	Change in Net Premiums Written	33%	-33%	-22%		4%		26%	
4	Surplus Aid to Policyholders' Surplus	15%		25%	Unusual	30%	Unusual	23%	Unusual
5	Two-Year Overall Operating Ratio	100%		110%	Unusual	103%	Unusual	97%	
6	Investment Yield	5.5%	2.0%	1.5%	Unusual	1.6%	Unusual	1.7%	Unusual
7	Gross Change in Policyholders' Surplus	50%	-10%	-29%	Unusual	3%		52%	Unusual
8	Change in Adjusted Policyholders' Surplus	25%	-10%	-28%	Unusual	-10%		1%	
9	Adjusted Liabilities to Liquid Assets	100%		207%	Unusual	89%		76%	
10	Gross Agents' Balances (in collection) to Policyholders' Surplus	40%		0%		6%		10%	
11	One-Year Reserve Development to Policyholders' Surplus	20%		68%	Unusual	19%		-7%	
12	Two-Year Reserve Development to Policyholders' Surplus	20%		82%	Unusual	16%		-5%	
13	Estimated Current Reserve Deficiency To Policyholders' Surplus	25%		91%	Unusual	-4%		27%	Unusual
				# Unusual	11	# Unusual	5	# Unusual	6

- There is valuable information in the annual statement that interested parties may use

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Monitoring of Insolvency: IRIS Ratios

- If IRIS Ratio No. 4 is unusual, recalculate:
  - Ratios 1 and 2: Gross and net written premium
  - Ratio 7: Gross change in policyholder’s surplus (PHS)
  - Ratio 10: Gross agent’s balances to PHS
  - Ratio 13: Estimated current reserve deficiency to PHS

IRIS Ratios		Unusual Values		2018		2017		2016	
Number	Description	Over	Under	Value	Result	Value	Result	Value	Result
1	Gross Premiums Written to Policyholders' Surplus	900%		1412%	Unusual	1618%	Unusual	1257%	Unusual
2	Net Premiums Written to Policyholders' Surplus	300%		462%	Unusual	533%	Unusual	432%	Unusual
3	Change in Net Premiums Written	33%	-33%	-22%		4%		26%	
4	Surplus Aid to Policyholders' Surplus	15%		25%	Unusual	30%	Unusual	23%	Unusual
5	Two-Year Overall Operating Ratio	100%		110%	Unusual	103%	Unusual	97%	
6	Investment Yield	5.5%	2.0%	1.5%	Unusual	1.6%	Unusual	1.7%	Unusual
7	Gross Change in Policyholders' Surplus	50%	-10%	-39%	Unusual	4%		67%	Unusual
8	Change in Adjusted Policyholders' Surplus	25%	-10%	-28%	Unusual	-10%		1%	
9	Adjusted Liabilities to Liquid Assets	100%		207%	Unusual	89%		76%	
10	Gross Agents' Balances (in collection) to Policyholders' Surplus	40%		0%		8%		13%	
11	One-Year Reserve Development to Policyholders' Surplus	20%		68%	Unusual	19%		-7%	
12	Two-Year Reserve Development to Policyholders' Surplus	20%		82%	Unusual	16%		-5%	
13	Estimated Current Reserve Deficiency To Policyholders' Surplus	25%		121%	Unusual	-6%		35%	Unusual
				# Unusual	11	# Unusual	5	# Unusual	6

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Monitoring of Insolvency: Beyond IRIS

- Note that analysis of annual statement ratios and diagnostics is a tool to highlight areas of a company to research
- Rational explanations for unusual values are quite common…
  - Premium growth can be achieved with good rating plan and good underwriting
  - Companies can expand into new lines and states by proceeding wisely and hiring expertise
  - Historical events that affect profitability can be mitigated through reinsurance arrangements and rate increases

Real Life Examples

Beyond IRIS: Example 1

- Schedule F – Part 3 Lists Recoverables by Reinsurer
  - Cross-reference reinsurer list with current rating bureau information
  - Disclose in actuarial opinion if a material amount of recoverables are from reinsurers with less than desirable ratings
    - E.g., below ‘A’ rated
  - SAO instructions also mandate we review Schedule F for overdue reinsurance recoverables

Beyond IRIS: Example 1

- Schedule F – Part 3 Lists Recoverables by Reinsurer

all figures in 000s

		Known Case Reserves		IBNR Reserves		
Company	**Rating**	**Loss**	**LAE**	**Loss**	**LAE**	**Total**
Other U.S. Unaffiliated Insurers						
Reinsurer A	A+	250	-	250	50	550
Reinsurer B	A+	350	-	200		550
Reinsurer C	A+	-	-	-	-	-
Reinsurer D	A	100	-	-	-	100
Reinsurer E	A+	1,000	-	250	100	1,350
Reinsurer F	A	500	-	20	30	550
Other Non-U.S. Insurers						
Non US Reinsurer A	A	800	-	500	100	1,400
Non US Reinsurer B	A	200	-	250	25	475
Non US Reinsurer C	Not Rated	200	-	100	50	350
Subtotal		3,400	-	1,570	355	5,325
Surplus	15,000					35.5%
Not rated by Rating Agency		200	-	100	50	350
% not rated by Rating Agency						2.3%

- Reinsurance Recoverables are 35.5% of Surplus

Beyond IRIS: Example 2 – Diversification?

- Medical professional liability (MPL) writer
- Writings predominantly in State of Pennsylvania (PA) – the company's area of expertise

	2000 Written Prem	2000 Loss Ratio
NJ	14,097	34%
PA	42,843	44%

Beyond IRIS: Example 2 – Diversification

- Company expanded its geographic presence
  - Can be positive with good underwriting
  - Increased risk of poor underwriting and inadequate pricing
  - New business penalty/adverse selection
- Company grew strong in late 1990s
  - Time period had poor underwriting results
  - Large amount of adverse development realized in later accident years
  - Not an opportune time for growth

Beyond IRIS: Example 2 – Diversification

- Sample of calendar year 2000 data gives insight into differences between familiar regions of PA and some other regions

	2000 Written Prem	2000 Loss Ratio	2000 Market Share
NJ	14,097	34%	8%
PA	42,843	44%	24%
FL	15,786	157%	9%
IL	5,227	121%	3%
KS	4,500	131%	2%
MO	7,644	77%	4%
NH	6,387	113%	4%
TX	16,104	134%	9%
WV	1,808	105%	1%
Countrywide	180,705	90%	

Example 3: Schedule P – Reserve Development

- Schedule P – Reserve Development
  - IRIS does one- and two-year "Held Ultimate Losses" development tests
  - Pinnacle has created a process to project current reported losses to ultimate based upon the past
    - Does not rely on company's estimate of incurred but not reported (IBNR) claims
    - While not close to full-blown reserve analysis, may indicate lines in which scrutiny should be given

Reserving: Annual Statement Analysis – Example 3

- Schedule P – Analysis of Losses and Loss Adjustment Expenses
  - Shows data by line, with historical accident year evaluations
  - Splits occurrence and claims-made forms for liability lines
- Reserving basics
  - Take company's reported losses. Use historical data to project to ultimate
  - Do company's financials budget enough money for its unpaid losses?
  - More details on reserving coming in the later presentation

Reserving: Annual Statement Analysis – Example 3

- Estimated MPL claims made reserves indicated an additional reserve shortfall of almost $60 million on a group basis
  - Bulk of shortfall is in the most recent two accident years

Medical Professional Liability Claims-Made
Entire Group

Accident Year	Incurred Losses & ALAE	Selected Ultimate Losses & ALAE	Indicated IBNR	Held IBNR	Indicated Redundancy Defficiency
1992	32,568	33,188	620	0	(620)
1993	31,414	32,198	784	58	(726)
1994	31,669	33,093	1,424	191	(1,233)
1995	30,816	32,598	1,782	570	(1,212)
1996	46,118	48,207	2,089	983	(1,106)
1997	40,050	43,314	3,264	1,138	(2,126)
1998	42,177	47,670	5,493	3,499	(1,994)
1999	46,697	56,693	9,996	6,014	(3,982)
2000	46,188	70,298	24,110	11,674	(12,436)
2001	44,945	99,189	54,244	20,637	(33,607)
Total	392,642	496,449	103,807	44,764	(59,043)

Reserving: Annual Statement Analysis – Example 3

- Similarly, MPL occurrence reserves indicated an additional reserve shortfall of over $32 million on a group basis
  - Shortfall is spread from 1995 through 2001

Medical Professional Liability Occurrence
Entire Group

Accident Year	Incurred Losses & ALAE	Selected Ultimate Losses & ALAE	Indicated IBNR	Held IBNR	Indicated Redundancy Defficiency
1992	637	696	59	0	(59)
1993	1,201	1,329	128	12	(116)
1994	633	721	88	0	(88)
1995	4,477	5,647	1,170	0	(1,170)
1996	6,471	9,201	2,730	41	(2,689)
1997	8,319	11,212	2,893	36	(2,857)
1998	9,668	18,826	9,158	541	(8,617)
1999	9,616	18,965	9,349	186	(9,163)
2000	1,261	4,948	3,687	310	(3,377)
2001	368	6,147	5,779	1,754	(4,025)
Total	67,703	77,692	35,041	2,880	(32,161)

Reserving: Annual Statement Analysis – Example 3

- Subsidiary #1 writes professional liability, mostly claims-made
  - Slight deficiencies indicated but insignificant compared to the company's $5 million of surplus

Other Liability
Subsidiary #1

	Claims Made		Indicated	Occurrence		Indicated
Accident Year	Indicated IBNR	Held IBNR	Redundancy Defficiency	Indicated IBNR	Held IBNR	Redundancy Defficiency
1992	0	0	0	0	0	0
1993	0	0	(0)	0	0	0
1994	14	0	(14)	0	0	0
1995	28	0	(28)	(1)	0	1
1996	91	14	(77)	5	0	(5)
1997	157	23	(134)	6	30	24
1998	(20)	340	360	19	2	(17)
1999	187	469	282	17	14	(3)
2000	504	426	(78)	202	30	(172)
2001	1,081	588	(493)	47	49	2
Total	2,042	1,860	(182)	295	125	(170)

Advantages of Schedule P Analysis

- Schedule P is publicly available information filed with the state
- Schedule P breaks down a company's loss reserves into several lines of business
  - A simple reserve analysis may reveal troubled lines within a company
- Electronic data makes it easy to analyze a groups loss reserves in addition to each subsidiary

Pitfalls: Cautions with Schedule P Data

- Schedule P is re-stated for loss portfolio transfers or novations that occurred in the past calendar year
- Schedule P does not break down other liability by subline
- Schedule P does not break down lines by state
  - Very significant for workers' compensation
  - Very significant for liability lines with state-specific components
- Limitations on A&O reserves
- Much easier to do a net analysis than a direct analysis

What’s the “Big Deal” About Net and Direct Ratios?

- Most companies have several layers of reinsurance
- Primary insurer is liable for all outstanding obligations in the event a reinsurer fails
- Reserves and premium growth are looked at on a “direct and assumed” and a “net” of reinsurance basis

Conclusions

1. Insurers fail for a variety of reasons
2. A good regulatory system will have several different types of metrics to test a company for areas to investigate
3. These metrics combined with knowledge of the company may help identify troubled insurers

Thank You For Your Attention

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