How Actuaries Can Make Your Life Easier

IAIR
Insurance Resolution Workshop
February 2019

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Who We Are & What We Do

Merlinos & Associates is a property, casualty, health, disability, and life actuarial consulting firm founded in 1988, currently serving clients in the U.S. and internationally.

With 50 actuarial professionals, we are one of the largest independent actuarial firms in the United States.

- ✓ 32 credentialed actuaries (FCAS, FSA, ACAS, ASA), 18 actuarial analysts.
- ✓ 26 P&C credentialed actuaries under one roof (the most in any consulting office in the U.S.)
- ✓ Top 10 actuarial consulting firm based on P&C loss reserves of the insurance companies for whom we provide a Statement of Actuarial Opinion

Agenda

- Reinsurance Commutations
- Complex Reinsurance Structures
- Proof of Claim Reserves
- Financial Projections and Assessments
- Risk Retention Groups
- Asbestos & Environmental Issues
- Signs of Impending Trouble

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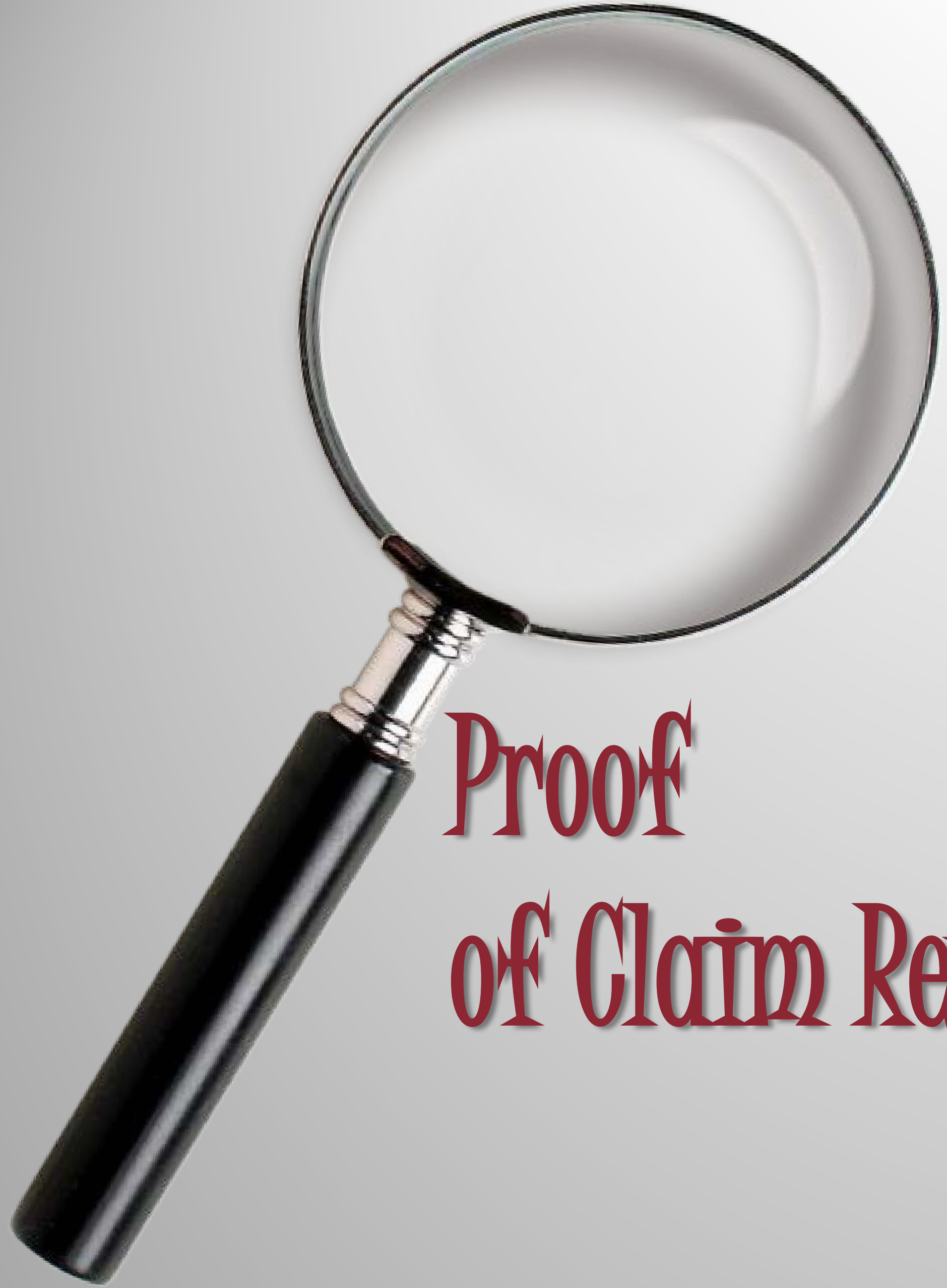
Reinsurance Commutations

- Liabilities often unknown decades after liquidation
- Receiver or liquidation bureau often negotiating with claimants, insureds, insurers, & reinsurers at the same time
- Helped liquidation bureau estimate gross/ceded reserves
- Allocated ceded reserves to reinsurance agreements
- Used to negotiate reinsurance commutations

Complex Reinsurance Structures

Large medical malpractice group became insolvent…

- ✓ Multiple companies ceded reserves within group, commutations used to conceal losses
- ✓ Fronting reinsurance agreement commuted due to "side agreement"
- ✓ Injured parties sued everybody
- ✓ Represented plaintiffs as expert witness



Proof of Claim Reviews

- ✓ One large insolvency made it to assumed reinsurance (class 5) claims
- ✓ **Most of remaining reserves were asbestos**
- ✓ Ceding companies often had inadequate support and minimal data
- ✓ **Created consistent methodology to review POCs**
- ✓ Ensure all companies treated equally

Financial Projections

- ✓ Regulators/receivers have needed help estimating reserves
- ✓ Multi-year financial projections needed
- ✓ Used to determine assessment / insured claim contributions

Case Study: Commercial Auto RRG

- ✓ Past assessments performed inappropriately and inequitably
- ✓ Poor historical data
- ✓ Litigation among participants

- ✓ Goal was to levy assessments on a one-time basis sufficient to pay RRG's liabilities in full

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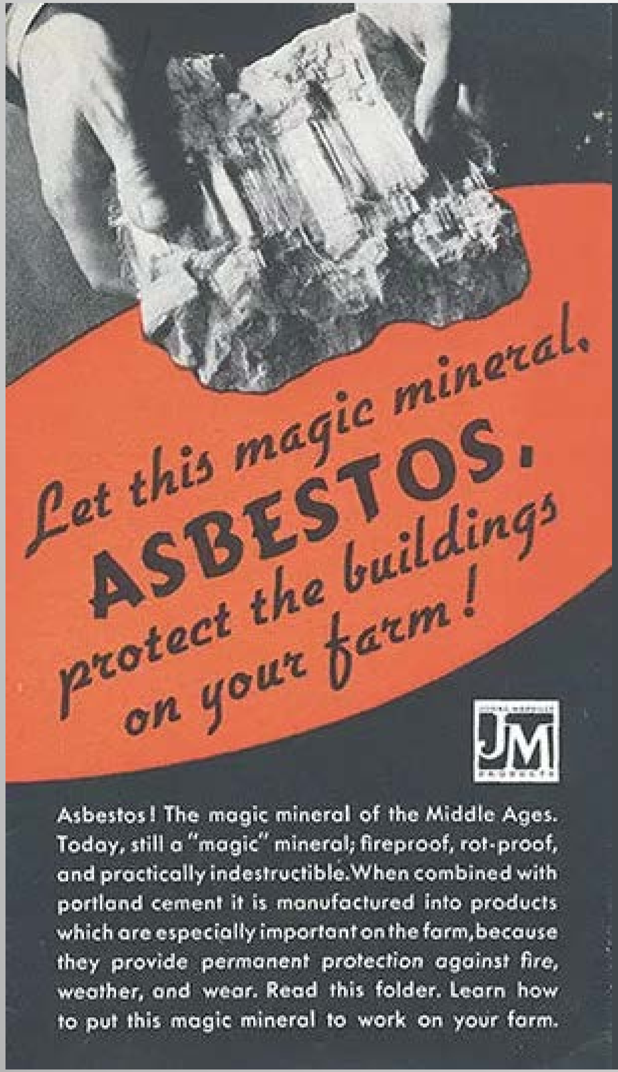

P&C industry has recognized adverse development every year

Difficult to estimate, exposure lasting longer than expected

A&E reserves often a significant share of reserves for companies in liquidation

Through financial examination work, we have reviewed large share of industry reserves

Industry benchmarks often work better than creative actuarial solutions

Signs of Impending Trouble

- Terms of Quota Share Reinsurance
- Large Decline in Booked Loss Ratio
- Persistent Adverse Loss Development

- Ceding a large percentage of premium
- Sliding scale commission
- Loss corridor
- Aggregate or loss ratio caps
- Risk not shared by reinsurer

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SLIDING SCALE COMMISSIONS

Are Companies Actually Ceding Any Risk?

Company Under Regulatory Scrutiny

Loss Sensitive Reinsurance Treaty	
Gross Premium	100,000,000
Surplus	16,000,000
QS Ceding %	60%
Reinsurer’s Margin	6%
NWP / Surplus	250%
Commission = 100% - Loss Ratio - 6% Reinsurer’s Margin *subject to a 22% minimum commission*	
Gross Expense Ratio	38%

Economic Benefit: Scenario Testing

Gross Premium:	100,000,000
Surplus:	16,000,000
Reinsurer's Margin:	6% (3,600,000)
QS%:	60%

Loss Ratio	Ceding Commission	Gross Underwriting Loss	Net Underwriting Loss	Resulting Surplus	Reinsurer Profit
62%	32%	-	(3,600,000)	12,400,000	3,600,000
70%	24%	(8,000,000)	(11,600,000)	4,400,000	3,600,000
72%	22%	(10,000,000)	(13,600,000)	2,400,000	3,600,000
75%	22%	(13,000,000)	(14,800,000)	1,200,000	1,800,000
78%	22%	(16,000,000)	(16,000,000)	-	-
80%	22%	(18,000,000)	(16,800,000)	(800,000)	(1,200,000)

Is this a QS treaty or an Aggregate Excess Loss treaty?

Gross Premium	100,000,000
Surplus	16,000,000
QS %	60%
Reinsurer's Margin	6%
NWP / Surplus	250%
Commission = 100% - Loss Ratio - 6% Reinsurer's Margin *subject to a 22% minimum Commission*	
Gross Expense Ratio	38%

Form Over Substance

Surplus:	16,000,000	Commission:	0%
Premium:	100,000,000	% Participation:	60%
LR Att Pt:	72%	Premium:	3,600,000

Direct Loss Ratio	*XOL Ceded Losses*	*Direct Expenses*	*Net XOL Underwriting Loss*	*Resulting Surplus*	*Reinsurer Profit*
70%	-	38,000,000	(11,600,000)	4,400,000	3,600,000
72%	-	38,000,000	(13,600,000)	2,400,000	3,600,000
75%	1,800,000	38,000,000	(14,800,000)	1,200,000	1,800,000
78%	3,600,000	38,000,000	(16,000,000)	-	-
80%	4,800,000	38,000,000	(16,800,000)	(800,000)	(1,200,000)

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Which is the more important ratio?

$$\frac{\text{Quota Share NWP}}{\text{Surplus Ratio}} = 2.50$$

$$\frac{\text{Aggregate XOL NWP}}{\text{Surplus Ratio}} = 6.03$$

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Quota Share Scenario Summary

Treaty provides zero (0) benefit

Risk transfer is not a binary issue in reality

When reviewing NWP-to-Surplus ratio, watch for

SLIDING SCALE COMMISSIONS

Sharp Decline

in "Loss Ratio"

- ✓ Ultimately, all losses recognized
- ✓ Easier to manipulate recent accident year loss ratio
- ✓ Significant  in loss ratio in recent years can be a 

Repeated historical adverse development often a sign of future adverse development

- Sometimes caused by management booking below actuarial estimates
- **Pressure often applied to actuaries**
- Can be caused by unreasonable assumptions or adjustments to standard actuarial methods

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Not Much Historical Data

Actuary used unsubstantiated assumptions because he could not use “typical” methods

What can we use instead?

- Calendar year payments comparison to case reserves
- **Review current age of population and case reserve practices**
- Survival ratio approach
- **Decrement approach**

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