


**Casualty Actuarial Society:
2018 Annual Meeting**

Actuaries RMAD:
Reviewing Disclosures in the
Statement of Actuarial Opinion


Commitment Beyond Numbers



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November 13, 2018



Outline of Presentation

- Antitrust notice
- Background on:
 - Greg Fears
 - Kevin Ahlgrim
- Risk of Material Adverse Deviation (RMAD) Background
- Risk of Material Adverse Deviation Research


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Antitrust Notice

- The Casualty Actuarial Society is committed to adhering strictly to the letter and spirit of the antitrust laws. Seminars conducted under the auspices of the CAS are designed solely to provide a forum for the expression of various points of view on topics described in the programs or agendas for such meetings.
- Under no circumstances shall CAS seminars be used as a means for competing companies or firms to reach any understanding – expressed or implied – that restricts competition or in any way impairs the ability of members to exercise independent business judgment regarding matters affecting competition.
- It is the responsibility of all seminar participants to be aware of antitrust regulations, to prevent any written or verbal discussions that appear to violate these laws, and to adhere in every respect to the CAS antitrust compliance policy.



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About the Presenters

- Associate of the Casualty Actuarial Society
- B.A., Mathematics – Carthage College 2000
- Associate in Risk Management (ARM)
- 17 years of experience, primarily in commercial lines
- Reserving studies for:
 - Insurance companies (SAO and financial exams)
 - Captive insurance companies; Self-insured entities
- Funding recommendations for emerging coverages
- Experience reviewing industry financial statement data and associated trends
- Risk margin modeling
- Funding & reserving for public entities

Gregory W. Fears Jr.
 Consulting Actuary
 Pinnacle Actuarial Resources



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About the Presenters

- Ph.D., Finance - University of Illinois
- M.S., Finance - University of Illinois
- B.S., Actuarial Science - University of Illinois
- Associate of the Society of Actuaries (ASA)
- Member of the American Academy of Actuaries (MAAA)
- Research interests include fixed income modeling, financial risk management of insurers, subrogation, and actuarial science
- Teaches courses in corporate risk management, analysis of statutory financial statements, and commercial property insurance

Kevin C. Ahgrim
 Associate Professor
 Illinois State University



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RMAD: Sources for Guidance

- American Academy of Actuaries SAO Practice Note
- NAIC Property and Casualty SAO Instructions
- American Academy of Actuaries Discussion Paper prepared by the Task Force on Materiality
- Actuarial Literature
 - For example: Materiality and ASOP No. 36: Considerations for the Practicing Actuary – CAS Committee on Valuation, Finance and Investments

PINNACLE 5


Relevant Comments Disclosures

- Materiality standard
- Major risk factors or considerations underlying the significant risks and uncertainties
- Risk of material adverse deviation
- Anticipated salvage and subrogation
- Discounting
- Voluntary and/or involuntary underwriting pools and associations
- A&E liabilities
- Retroactive, financial & uncollectable reinsurance
- IRIS ratios
- Changes in methods and assumptions
- Extended reporting endorsements
- Long duration contracts

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NAIC Statement of Actuarial Opinion (SAO)


- Risk of Material Adverse Deviation (RMAD)
 - Paragraph in the SAO which identifies:
 - Significant risks or uncertainties that could result in a material adverse deviation (in the actuary's opinion)
 - Threshold for the RMAD – amount in \$US
 - Standard for the threshold
 - Major risk factors or considerations underlying the significant risks and uncertainties

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RMAD Location and Requirements

- Statement of Actuarial Opinion (SAO)
 - Explanatory paragraph to describe major risk factors
 - 2013: "If such risk exists", include
 - 2014: include regardless of yes/no disclosure
 - 2015 - 2017: no significant changes
 - Do not include:
 - General, broad statements about risks and uncertainties due to economic changes, judicial decisions, regulatory actions, political or social forces
 - Exhaustive list of all potential sources of risks and uncertainties
 - Explicitly state whether or not the actuary reasonably believes there are significant risks and uncertainties that could result in material adverse deviation

*Source – 2013 - 2017 Practice Note on P&C SAOs by American Academy of Actuaries COP&R

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RMAD Location and 2017 Requirements (cont.)

- Statement of Actuarial Opinion (SAO)
 - Exhibit B: Disclosures
 - Risk of Material Adverse Deviation
 - #5: Materiality standard in \$US
 - #6: Are there significant risks that could result in material adverse deviation? Yes / No / NA

*Source – 2016 Practice Note on P&C SAOs by American Academy of Actuaries COP&R

PINNACLE 9

Discussion Question

- What information do you collect in regards to selecting a company's materiality threshold?
- Opinion writers, how do you get information on company-specific risk factors?
- Should this be different for groups with several affiliated companies?

PINNACLE 10

Discussion Question

- The Appointed Actuary is required to include a Relevant Comments paragraph on asbestos and environmental exposures. Are there other risk factors that merit their own Relevant Comments paragraph?

PINNACLE 11

Discussion Question

- With the your presentation to the board, do you present the RMAD information, and does this differ based on the make-up of the board of directors? Example: insurance professionals vs. other types of professionals
- How much time do you spend addressing the RMAD?

Specific RMAD Paragraph - Risk Factors

- “rapid growth in ... long haul trucking ... is highly leveraged, and does not have a stable history of experience,”
- “...uncertainty in auto reserving indications resulting from changes in claim handling practices in recent years including the implementation of a new claims handling system...”
- “Risks to the Company include the low frequency and high severity nature of some of its exposures; changes in the mix of business...”

Specific RMAD Paragraph - Risk Factors

- “Rate level adequacy ... Case incurred variability”
- “Significant changes in subrogation philosophies and claims handling, including increases in claim settlement rates and increases in the strength of case reserves.”
- “The major factors contributing to this risk are exposure to asbestos and environmental liabilities, and to a lesser extent, exposure to other mass torts.”

Specific RMAD Paragraph - Risk Factors

- "...exposure to catastrophic weather events and having a concentration of exposure in few states..."
- "...plaintiffs' expanding theories of liability, the risks inherent in major litigation, and inconsistent emerging legal doctrines."
 - In relation to asbestos claims
- "...changes in case reserving practices and the recent increase in claim frequency."

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Specific RMAD Paragraph - Risk Factors

- "...unexpected changes in loss emergence patterns in Auto Liability and General Liability..."
 - "...experience in Auto has been driven by an increase in the frequency of large claims as well as a concentration of business in New York..."
 - "...one contributor to the changes for the large General Liability program is the significant growth in exposure ... which appears to have affected claims handling procedures at the TPA."
 - Good example of risk factor combination
- "Loss development factors ... were based on industry triangles due to the lack of credibility of the Company's historical experience."
 - In relation to variability
- "...mold and construction defect/impaired building materials claims..."

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Major Risk Factors – Disclosure

RMAD Major Risk Factors*	SAO Year					
	2012	2013	2014	2015	2016	2017
Claims Department Changes (handling, settlement or reserving)	5	5	6	4	7	3
Long tail Coverage / Line of Business	3	4	2	1	13	2
Uncertainty	1	2	7	5	1	6
Other Mass Tort exposure	-	2	5	5	3	2
Asbestos exposure	-	3	6	5	1	-
Asbestos & Environmental (A&E)	4	2	1	-	5	2
New Line of Business (lack of historical experience)	-	1	2	2	5	4
Rapid growth	1	4	-	3	3	3
Change in Economy	1	1	6	2	2	1
Construction defect exposure	2	2	3	2	2	1
Inflation	-	-	3	5	3	1
Workers Compensation Insurance	2	4	2	1	2	1
Lack of historical experience	-	3	1	1	4	1
Court/judicial decision recent or pending	-	1	-	3	2	3
Environmental exposure	2	2	3	-	-	1
Asbestos/A&E/Environmental Combination	6	7	10	5	6	3
Total Risk Factors Listed	41	53	70	57	67	50

*Top 30 Groups with highest 1 year adverse development - Sch P, Part 2

PINNACLE 17

Transition – RMAD Research

- Research question: How are actuaries actually reporting on the Risk of Material Adverse Deviation (RMAD)?

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RMAD Paragraph Observations - Basis

- Several companies list multiple options for the RMAD before specifying why they chose a particular measure
 - Selecting the lowest and highest threshold were both observed as well as selections within their range of options
- Focus on selecting a particular measure in relation to risk-based capital adequacy levels
 - Some actuaries listed options for their RMAD threshold and chose the minimum so long as it was less than the reduction that would lead to Company Action Level RBC
- Several companies included purpose and intended use
 - Narrative included for the purpose of solvency monitoring or regulatory review/oversight
 - Referenced ASOP No. 36

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Choosing an RMAD Threshold

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STATE
your business.

Kevin Ahlgrim

RMAD Disclosures Research

- Examination of actuarial profession reporting related to RMAD
- Methodology
 - Review 2015 Statements of Actuarial Opinion (SAOs)
 - Target companies with \$20 million of earned premium (approx. 1,100 affiliated/unaffiliated companies)

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Exhibit B Disclosures

- Initial focus of research on (objective) disclosures
 - #5: Materiality standard in \$US (and identification of basis)
 - #6: Are there significant risks that could result in material adverse deviation?: Yes / No / NA

Exhibit B: DISCLOSURES

5. Materiality Standard expressed in U.S. dollars (used to Answer Question #6) \$ _____

6. Are there significant risks that could result in Material Adverse Deviation? Yes [] No [] Not Applicable []

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Other Captured Data

- Supplemental insurer characteristics
 - Organizational type (e.g., stock vs. mutual)
 - Group membership
 - Key financials (PHS, direct/net premiums by LOB)
- (From 2016)
 - Actual reserve development (Schedule P - Part 2)
 - Comparison to materiality threshold (“breach”?)
- (Appointed actuary)
- (Risk factors)

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Part 1: Choosing the Materiality Basis

- Examples include
 - Percentage of surplus (e.g., 10%)
 - Percentage of reserves
 - RBC triggers (% to CAL / ACL)
 - Drop in financial strength ratings
 - (Others are mentioned in COPLFR practice note)

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Threshold Basis Selection

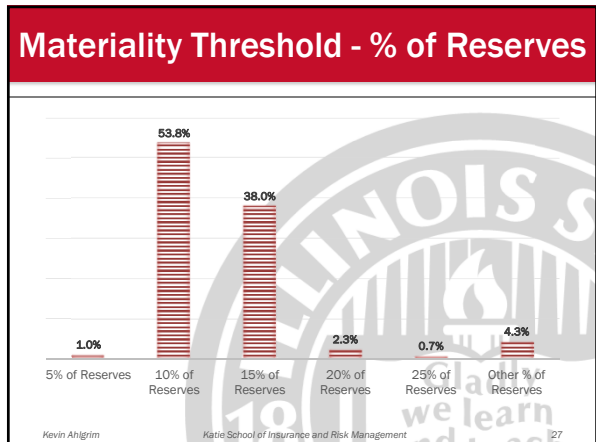
Basis	Percentage
% of surplus	68.6%
% of reserves	27.4%
RBC	3.5%
Other	0.4%

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Materiality Threshold: % of Surplus

Materiality Threshold	% of Surplus
5% of Surplus	6.8%
10% of Surplus	44.8%
15% of Surplus	8.0%
20% of Surplus	26.7%
25% of Surplus	2.6%
Other % of Surplus	4.6%
% of Surplus / Group part.	6.4%

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Research Question

- How does an actuary choose materiality threshold?
- Little guidance on choosing thresholds
- What factors are actuaries using?

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What is “Material”?

- Herbers (2002) reviews materiality from many perspectives
 - More general context (FASB, SEC)
 - More specific to SAOs
- American Academy of Actuaries Task Force on Materiality (2006):

“An omission, understatement or overstatement in a work product is material if it is likely to affect either the intended principal user’s decision-making or the intended principal user’s reasonable expectations.”

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Discussion Question

- Who is the “principal user” of SAOs?
- Does it vary for mutual vs. stock insurers?

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Discussion Question

- Two companies have significantly different RMAD thresholds in their SAOs. For example 5% of surplus versus 20% of surplus.
- Does this say more about differences in the companies or differences in the appointed actuaries?

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Factors Affecting Threshold Choice

The Candidates

<p>Regulatory Factors</p> <ul style="list-style-type: none"> • Line(s) of business • Financial condition / size • Historical loss development • Reserve leverage • Other inherent risks <ul style="list-style-type: none"> – Premium leverage – Growth – Investment risk 	<p>Risk Factors</p> <ul style="list-style-type: none"> • Long-tailed lines • A&E exposure <p>Other Factors</p> <ul style="list-style-type: none"> • Organizational form • Appointed actuary (C / E)
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Which Company Specific Factors Matter?

- For each pair of the following insurers, is there a difference in the materiality of adverse loss development? Would this affect threshold?
- Assume all other factors are equal
 - Premiums written
 - Use of reinsurance
 - Lines of business
 - Asset distribution
 - Etc.

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Candidate #1: Line of Business

Is “material” adverse loss development the same for all types of insurers?

\$5 million of adverse development

Reserves = \$20 million

PHS = \$50 million

- A. Personal auto focus
- B. Medical malpractice focus

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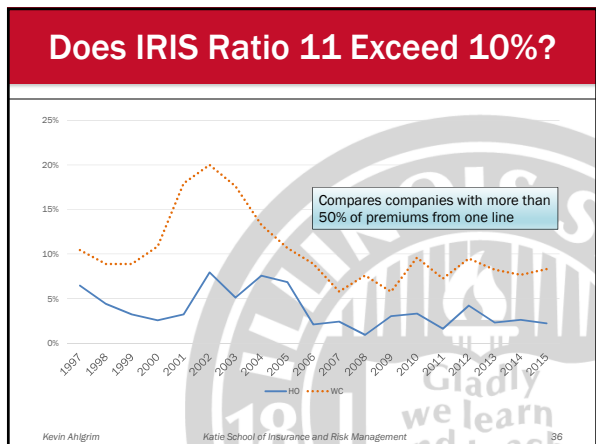
10 Year Industry Loss Development



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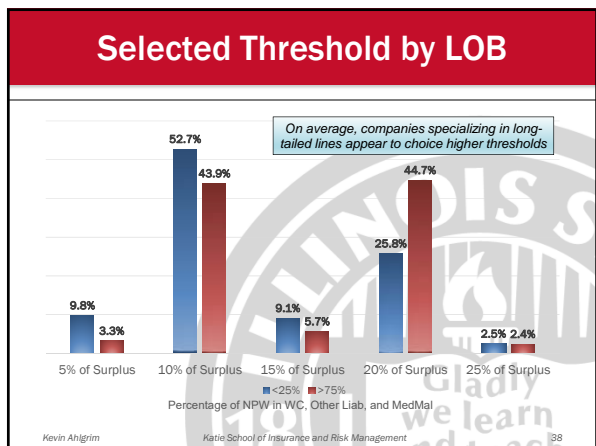
PHS Protection For Risky Lines

- Risky lines are supported by more surplus

For companies with over 50% in a single line of business

Line of Business	IRIS 2 (NWP / PHS)
HO / FO	1.07
Personal Auto	1.59
Work Comp	0.81
MPL	0.41

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Selected Threshold by LOB (p.2)

Threshold	HO/FO	Personal Auto	Work Comp	MPL
5% of Surplus	11.6%	6.6%	3.2%	0.0%
10% of Surplus	37.9%	34.6%	36.8%	17.4%
15% of Surplus	8.4%	6.6%	2.1%	8.7%
20% of Surplus	22.1%	14.9%	25.3%	50.0%
25% of Surplus	0.0%	1.3%	2.1%	2.2%
# of Insurers	95	228	95	46

Data source: AM Best

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Candidate #2: Insurer Size

Is "material" adverse loss development the same for all insurers?

\$1 million of adverse development

Reserves = \$20 million

C. \$10 million of PHS

D. \$80 million of PHS

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Selected Threshold by Size (PHS)

Threshold	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
5% of Surplus	9.0%	7.2%	9.0%	5.4%
10% of Surplus	55.7%	51.5%	50.3%	44.6%
15% of Surplus	8.4%	8.4%	7.2%	12.7%
20% of Surplus	23.4%	30.5%	29.9%	34.9%
25% of Surplus	3.6%	2.4%	3.6%	2.4%

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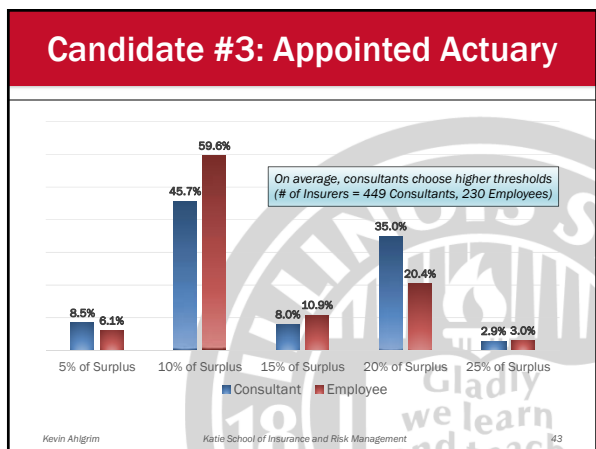
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Selected Threshold by Size (Assets)

Threshold	1 st Quartile	2 nd Quartile	3 rd Quartile	4 th Quartile
5% of Surplus	11.4%	5.4%	9.0%	4.8%
10% of Surplus	57.5%	50.9%	47.9%	45.8%
15% of Surplus	8.4%	9.6%	6.0%	12.7%
20% of Surplus	20.4%	31.1%	32.9%	34.3%
25% of Surplus	2.4%	3.0%	4.2%	2.4%

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Discussion Question: Consultants vs. Employees

Personal Auto Focus

Threshold	Consultant	Employee
5% of Surplus	9.3%	11.3%
10% of Surplus	36.0%	73.2%
15% of Surplus	16.0%	4.2%
20% of Surplus	34.7%	11.3%
25% of Surplus	4.0%	0.0%
# of Insurers	75	71

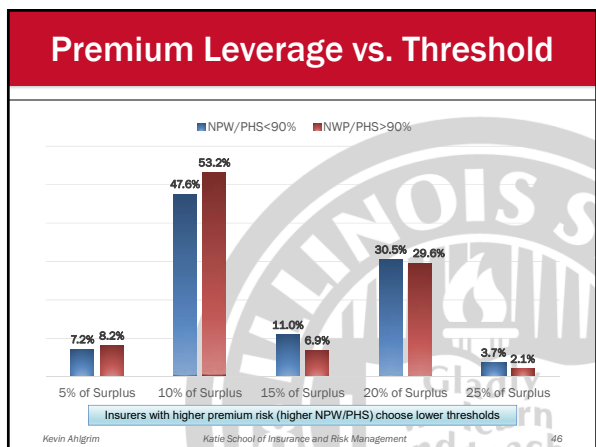
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Other Risk Factors

Is “material” adverse loss development the same for all insurers?

Reserves = \$20 million
 PHS = \$50 million
 E. No A&E exposure
 F. Significant A&E exposure

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Other Risk Factors (p.2)

Reserves = \$20 million
 PHS = \$100 million

Actuarial Opinion Summary Range of Estimates
 G. \$10-45 million
 H. \$17-24 million

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Specific RMAD Paragraph Disclosures – Yes/No RMAD

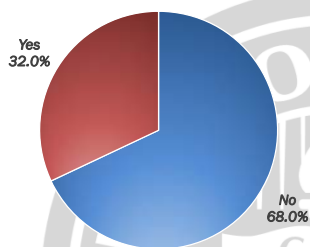
- “the difference in the Company’s carried reserves and the higher end of my range of reasonable unpaid claim estimates is less than my materiality standard”
- “The carried reserves plus the materiality standard is also within the range of reasonable estimates.”
- “there is a risk of material adverse deviation from the carried gross reserves. ... there is not a risk of material adverse deviation from the carried net reserves.”
- “the probability of adverse development of this magnitude is greater than remote.”
- “uncertainty of variability in the reserves,”
- “stable book of business, strong capital position, low leverage ratio, and demonstration of historically adequate reserves,”

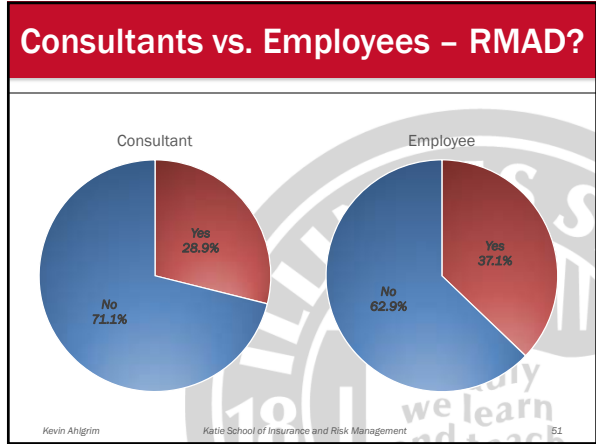
Threshold Choice – Regression Results

Dependent variable = Materiality standard = % of PHS

Variable	Coefficient (Std Err)	Significance
Intercept	4.1207 (2.4201)	*
LogAssets	0.5550 (0.1738)	***
OrgForm (Stock = 1)	1.5813 (0.5285)	***
Consult = 1	2.4136 (0.4893)	***
%Longtail	0.0172 (0.0063)	***
IRIS2	-0.0050 (0.0030)	*
%Stock	-0.0380 (0.0169)	**

Part 2: Is There an RMAD?

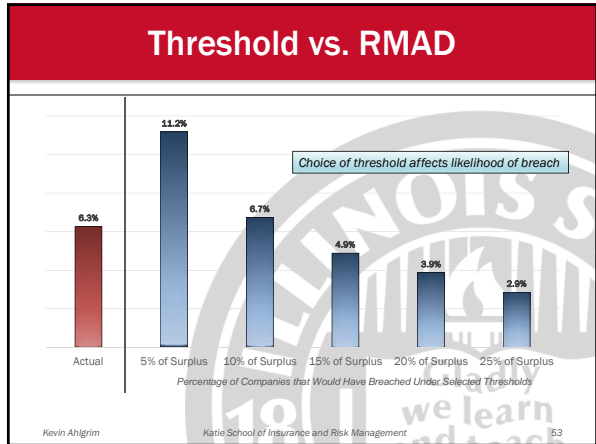


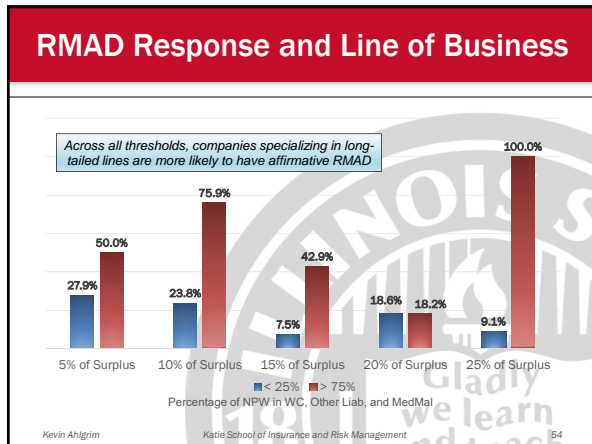


Discussion Question

- Is an affirmative RMAD a “bad” thing?

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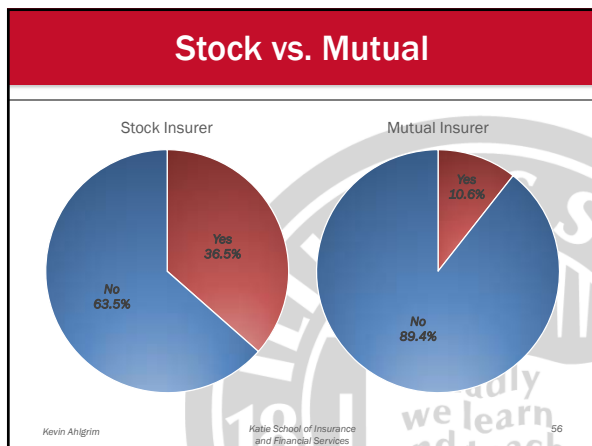




RMAD vs. Line of Business

RMAD?	HO/FO	Personal Auto	Work Comp	MPL
Yes	15.8%	15.4%	44.2%	37.0%
No	84.2%	84.6%	55.8%	63.0%
# of Insurers	95	228	95	46

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Summary of Research

- Little guidance is provided on choosing a materiality threshold
- Evidence suggests that actuaries are considering
 - Their employment status
 - Other risks
 - > Line of business
 - > Premium leverage
 - Organizational form

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Conclusion

- Risk of Material Adverse Deviation (RMAD) Background
- Risk of Material Adverse Deviation Research


- Questions?

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Thank You for Your Time and Attention

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