


**Casualty Actuarial Society:
2016 Spring Meeting**

RMAD Disclosures in the Statement of Actuarial Opinion:
An Analysis of the Evidence


Commitment Beyond Numbers



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Outline of Presentation


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


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About the Presenters

- Fellow of the Casualty Actuarial Society
- Graduate of Illinois State University
- 19 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
Consulting Actuary
Bloomington, IL



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 commercial property insurance, risk management, and analysis of statutory financial statements

Kevin C. Ahlgrim
Associate Professor
Illinois State University



About the Presenters

- Associate of the Casualty Actuarial Society
- B.A., Mathematics – Carthage College 2000
- Associate in Risk Management (ARM)
- 15 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

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History & 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

NAIC Statement of Actuarial Opinion (SAO)

- Risk of Material Adverse Deviation (RMAD)
 - Paragraph in the SAO which generally lists:
 - Are there 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

RMAD Location and Requirements

- Statement of Actuarial Opinion (SAO)
 - Relevant Comments Paragraphs
 - Risk of Material Adverse Deviation
 - Identify materiality standard and threshold
 - Explanatory paragraph to describe major risk factors
 - » 2013: "If such risk exists", include
 - » 2014: include regardless of yes/no disclosure
 - » 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

RMAD Location and 2014 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 – 2014 Practice Note on PBC SAOs by American Academy of Actuaries CDRFR

Materiality Standard

- Standard examples:
 - Percentage of surplus
 - Percentage of reserves
 - The amount of adverse deviation that would cause a drop in financial strength ratings
 - The amount of adverse deviation that would cause surplus to fall below minimum capital requirements
 - The amount of deviation that would cause RBC to fall to the next action level
 - Multiples of net retained risk
 - Reinsurance considerations, such as levels of ceded reserves compared to surplus or concerns about solvency or collectability of reinsurance
 - The upper limit of a company's reinsurance protection on reserve development, if any

*Source – 2014 Practice Note on PBC SAOs by American Academy of Actuaries CDRFR

Major Risk Factors or Considerations

- Major risk factors examples:
 - Asbestos and environmental losses
 - Construction defects
 - Catastrophic weather events
 - Exposure related to mortgage defaults
 - High excess layers
 - Impact of soft market conditions
 - Large deductible workers' compensation claims
 - Medical professional liability legislative issues
 - New products or new markets
 - Rapid growth in one or more lines of business or segments
 - Lack of data or unexpected and unexplained changes in data
 - Operational changes that are not objectively quantified
 - Sudden unexplained changes in frequency or severity of reported data for a line of business or segment
 - Changes in adequacy of known case reserves

*Source – 2014 Practice Note on PBC SAOs by American Academy of Actuaries CDRFR

Transition – RMAD Research

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

RMAD Disclosures

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RMAD Disclosures Research

- Research question: How are actuaries actually reporting on the Risk of Material Adverse Deviation (RMAD)?
- Methodology: Review 2013 Statements of Actuarial Opinion (SAOs)
- Initial focus on more “objective” measures
 - Use of approaches for selecting materiality threshold
 - RMAD disclosure (Y/N?)
 - Explanatory variables among insurers
 - (Discussion of risk factors)

Selection of SAOs for the Study

- Focus on individual insurers with at least \$20 million of Earned Premium in 2013
- 1,002 affiliated/unaffiliated companies (after excluding companies with missing SAOs)
- Illinois State University graduate students of actuarial science gathered information from 2013 SAOs

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Capturing "Objective" Data

- Information on the appointed actuary
 - Name
 - Appointment date
 - Consultant / Employee
 - Firm / geography
- RMAD disclosures in Exhibit B
 - #5: Materiality standard in \$US
 - #6: Are there significant risks that could result in material adverse deviation?: Yes / No / NA
- Other information
 - Description of basis for materiality threshold
 - Risk factors ("material" or not)

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Capturing Supplemental Data

- From 2014
 - Actual reserve development
 - Breach of selected materiality threshold
- Additional firm characteristics
 - Insurer size (assets, PHS)
 - Organizational type
 - Premiums by line of business

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SAO Review: Appointed Actuary



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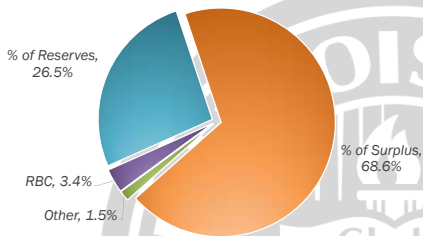
Choosing the Materiality Basis

- What is “material” for an insurer?
- Examples include
 - Percentage of surplus (e.g., 10%)
 - Percentage of reserves
 - RBC to next action level
 - Drop in financial strength ratings
 - (Others are mentioned earlier and in COPLFR practice note)

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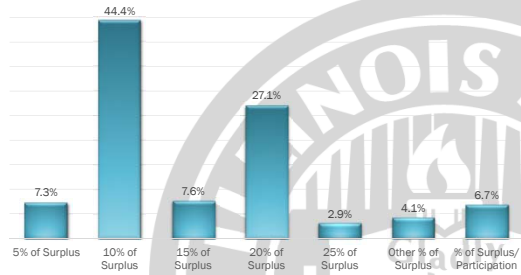
SAO Review: Basis for Threshold



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Materiality Threshold: % of Surplus



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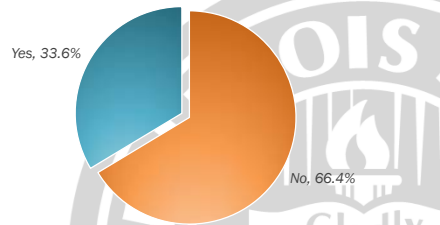
Materiality Threshold - % of Reserves



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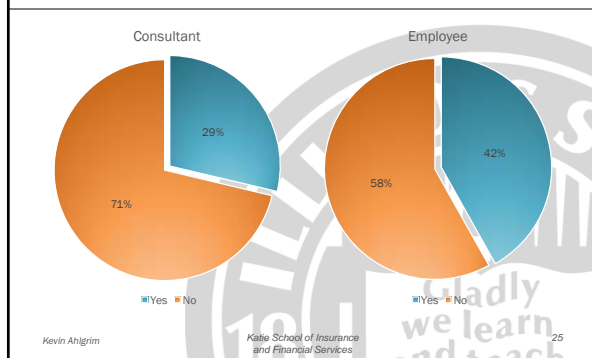
SAO Review: RMAD Disclosures

Is there a risk of material adverse deviation?

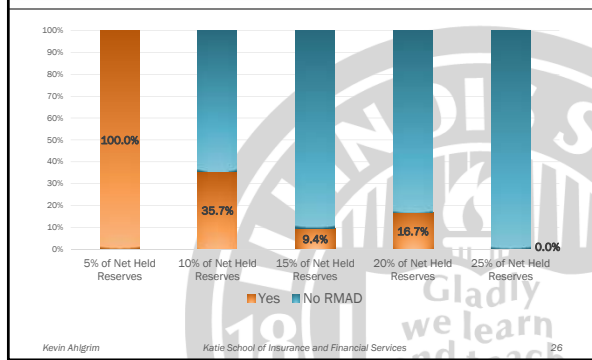


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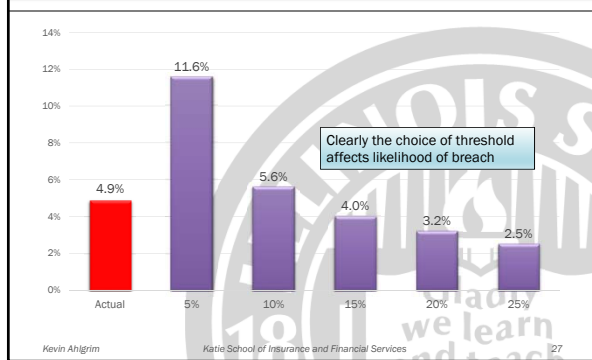
RMAD Disclosures by Actuary



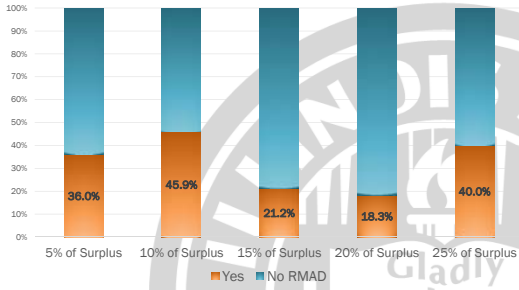
Does Threshold Affect RMAD? Pt. 1



Modeled Breaches: % of Surplus



Does Threshold Affect RMAD? Pt. 2



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Breaches by Threshold Selection



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Were Breaches Predicted?

RMAD Disclosure?			
	Yes	No	Total
Breach	34	15	49
No Breach	303	650	953
1,002 Companies			

15 insurers said "No RMAD" but still breached their threshold (2.2%)

10 of these insurers still said "No RMAD" in 2014 SAO

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Changes in RMAD

		2013 RMAD	
		Yes	No
2014 RMAD	Yes	296	25
	No	32	628
	(N/A)	(9)	(12)

57 insurers switched RMAD disclosure

- 9.5% switched to "No"
- 3.8% switched to "Yes"

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What Determines Threshold/RMAD?

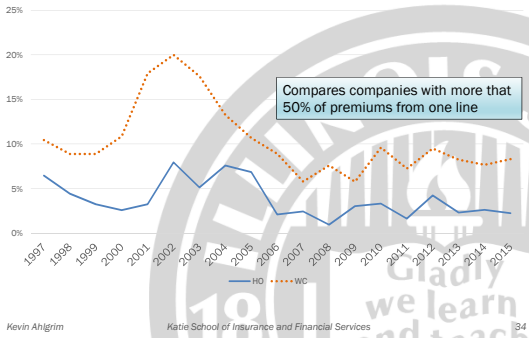
- (Volatility) of lines of business
 - Diversification?
- Insurer size – Surplus, Assets, Premiums
- Financial strength
- Risk tolerance of organization
- Management selection within actuary's range of reserve estimates
- Other factors?

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10 Year Industry Loss Development

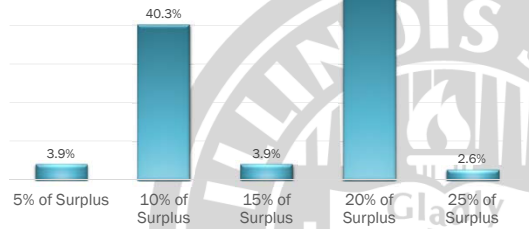
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Does IRIS Ratio 11 Exceed 10%?



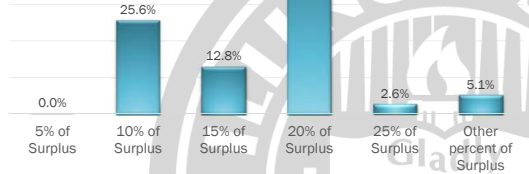
Selected Threshold – WC Insurers

Of the companies with at least 50% of direct premiums written from Workers Compensation




Selected Threshold – Med Prof Liab

Of the companies with at least 50% of DPW from Medical Professional Liability



Reviewing the 2013 SAOs
Presentation to CAS Spring Meeting


Commitment Beyond Numbers



Presentation by:
 Erich A. Brandt, FCAS, MAAA
 May 18, 2016


Learning Objectives

- Discussion of major risk factors mentioned in the 2013 SAOs and how they were documented
- Observations regarding specific opinions for companies who experienced adverse reserve development in CY 2014


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Major Risk Factors

“The actuary should include an explanatory paragraph to describe the major factors, combination of factors or particular conditions underlying the risks and uncertainties the actuary considers relevant. The explanatory paragraph should not include general, broad statements about risks and uncertainties due to economic changes, judicial decisions, regulatory actions, political or social forces, etc., nor is the actuary required to include an exhaustive list of all potential sources of risks and uncertainties.”


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Major Risk Factors–Data Concerns

- We had students input up to 5 risk factors per company
- We used drop down boxes to help out with consistency
- Several companies had more than 5 risk factors
- Some risk factors seemed to be present with other risk factors:
 - Companies seldom have a single risk factor related to A&E Reserves
 - These companies often mention other risk factors such as long tailed exposure, high limits or lack of historical experience
 - While not always expressly said, it could be implied that some of these are “combinations of risk factors” alluded to in the COPLFR note

Major Risk Factors or Considerations

- Major risk factors examples:
 - Asbestos and environmental losses
 - Construction defects
 - Catastrophic weather events
 - Exposure related to mortgage defaults
 - High excess layers
 - Impact of soft market conditions
 - Large deductible workers’ compensation claims
 - Medical professional liability legislative issues
 - New products or new markets
 - Rapid growth in one or more lines of business or segments
 - Lack of data or unexpected and unexplained changes in data
 - Operational changes that are not objectively quantified
 - Sudden unexplained changes in frequency or severity of reported data for a line of business or segment
 - Changes in adequacy of known case reserves

Source – 2014 Practice Note on P&C SAOs by American Academy of Actuaries COPLFR

2013 SAOs: RMD Major Risk Factors	% Referenced
Workers Compensation Insurance	7.95%
Asbestos & Environmental (A&E)	6.67%
Long Tail Coverage / Line of Business	6.18%
Uncertainty	6.06%
Other Mass Tort exposure	5.57%
Excess Casualty or Liability Exposure	4.34%
Significant detail on judicial decision recent or pending	4.34%
Change in Economy	4.28%
Construction defect exposure	3.79%
Professional Liability Including Medical Professional Liability	3.73%
Lack of historical experience	3.55%
Rapid growth	3.55%
Claims Department Changes (handling, settlement or reserving)	3.12%
Environmental exposure	2.51%
Reinsurance Collectability	2.51%
Asbestos exposure	2.45%
Change in Regulation	2.14%
Change in company operations	2.08%
Not well diversified (concentrated in a single state)	1.83%
Adverse Development	1.71%
Runoff	1.53%
New markets with new insurance products	1.47%
Third Party Administrator (TPA)	1.28%
Mortgage guaranty	1.22%
New Line of Business (lack of historical experience)	1.22%
Range of reserves vs. materiality	1.22%
Change in retention levels	1.10%
Not well diversified (concentrated in single line)	1.04%
Underwriting Pools & Associations	0.98%
Excess Coverage	0.92%

11.62%

More "Unique" Risk Factors

- Lead paint exposure from residential property
- Strong influence of salvage and subrogation recoveries
- Cost of resolving bad faith claims
- Chinese drywall
- Small volume of business underwritten
 - Minimum size in our study would distort the occurrence of this factor
 - What other risk factors may be more common as we examine companies with smaller premium writings? Limits insured? State/line concentration (single state monoline)?

Major Risk Factors—Example FL PIP

- Case #1 – SAO mentions change in FL PIP law that allows closed claims to be reopened with attorney involvement if limits had not previously been reached
- SAO mentions that while impact of law change is uncertain, claim costs are increasing due to:
 - Additional loss adjustment expense
 - Limitations of situations where insurer can deny coverage for failure to appear at an exam under oath
 - Insurers no longer able to apply Medicare fee schedule to medical expenses
- Combination of PIP factors and retained limits creates a special risk factor combination
- RMAD section is roughly 1 page long

Major Risk Factors—Example FL PIP

- Case #2 – SAO mentions deliberate changes to FL PIP claims handling process
- SAO cites specific legislation/legal cases related to:
 - Limitations of situations where insurer can deny coverage for failure to appear for examination under oath
 - Insurers can't limit reimbursement to statutory fee schedule unless they first amend their PIP policies to expressly elect to do so
 - Amendments to the Florida No-Fault Motor Vehicle Insurance Act
- RMAD section is 5.5 pages long

Major Risk Factors—Example Reserve Range

- The paragraph below is from the Regulation Guidance for 2015:
 - “When considering significant risks and concluding if RMAD exists, the Appointed Actuary should consider the materiality standard in relation to the range of reasonable estimates and the carried reserves. For example, RMAD should likely exist when the sum of the materiality standard plus the carried reserves is within the range of reasonable estimates. Regardless, the actuary should support the conclusion.”
- Is the reverse true? If materiality standard + carried reserves exceeds the reasonable range of estimates, is there no longer an RMAD?

Major Risk Factors—Example Reserve Range

- Details on the construction of a range of reasonable reserves should be provided in the actuarial report
- The range and/or point estimate also appears in the AOS
- Materiality standard + carried reserves exceeding the reasonable range of estimates was often cited as a reason for concluding that no significant risk of material adverse deviation exists
 - The statement above needs additional support—would assume that the range of reserves is meant to “contain” any claims attributed to the risk factors

Some Observations from Specific Opinions

“As far as the laws of mathematics refer to reality, they are not certain; and as far as they are certain, they do not refer to reality.”

– Albert Einstein

Risk of Material Adverse Deviation

- We reviewed 1,002 SAO's that companies filed at year-end 2013
- 50 had indications that the RMAD threshold may have been breached in calendar year 2014
- Observations from those SAO's that exceeded their threshold

Risk of Material Adverse Deviation

Challenges in reviewing SAOs and comparing them to annual statement data:

- 1 year loss and DCC development comes from schedule P but an adjustment must be made for A&O development
- Some companies may use a formula to allocate A&O reserves to accident years—this may create a situation that looks like adverse development
- Some companies choose a \$0 RMAD threshold—these companies will set off any flag we choose so they must be reviewed case by case
- During the course of a calendar year, a company may initiate reinsurance agreements that would affect net reserves as held in their prior annual statement

Case 1: Affirmative RMAD Statement in Each of Their 2013 and 2014 SAOs

- The majority of the 50 observations were in this scenario
- Commonly list several risk factors
 - Language is often identical between years
- At least one actuary did a retrospective test of the RMAD threshold and found a breach

Case 1: Affirmative RMAD Statement in Each of Their 2013 and 2014 SAOs

- Overall, actuaries signing these opinions seem to be prepared with RMAD language that is well documented
- Thresholds used seemed to be 5 – 10% of surplus although a few were higher
- Threshold used was generally the same between years

Case 2: Changed to an Affirmative RMAD Statement Between Their 2013 and 2014 SAO

- Three observations
- In each case, the opining actuary had amended their risk factors accordingly:
 - Growth and new programs
 - Uncollectable reinsurance
 - Late claims, low levels of surplus

Case 3: Changed to a Non Affirmative RMAD Statement Between Their 2013 and 2014 SAO

- Several observations based on a single group
- Based upon distressed company being acquired and ceding its reserves to its parent
- Actuary mentions risk factor of “inter-company reinsurance arrangements” but mentions the strength of the parent to justify the lack of affirmative RMAD
- Does the RMAD paragraph apply to net or gross reserves? How does one distinguish?

Items that Could Provide More Insight

- IRIS paragraph—NAIC wants *Relevant Comment* on the factors that led to unusual values
 - Several of the opinions I reviewed did have unusual IRIS values
 - Several companies have used RMAD thresholds based on surplus levels of 20% or greater
- More detail on risk factors as time elapses?
 - Easily seen as RMAD section of COPLFR practice note gets more detailed
- Make sure to review last year’s language when creating a new SAO

Case 4: Non-affirmative RMAD Statement in Each of Their 2013 and 2014 SAOs

- Ten observations
- Best to examine these on a case-by-case basis
 - IRIS ratio language, if needed
 - Comparison of the 2013 SAO and 2014 SAO
 - Reviewed 2015 info, if available, to help complete the story

Case 4: Non-affirmative RMAD Statement in Each of Their 2013 and 2014 SAOs

- Example #1 - Actuary acknowledged increase in frequency and severity and noted that case reserves had been increased
 - Threshold was set in both years as a 10% of reserves
 - No RMAD in each year
- Example #2 - Low RMAD threshold based upon 5% of surplus and reserves was used in 2013 and 2014
 - Mentions construction defect as a major source of potential adverse development
 - 1 year development in CY 2015 was well below the RMAD
 - 2015 RMAD paragraph is now using 10% of surplus

Case 4: Non-affirmative RMAD Statement in Each of Their 2013 and 2014 SAOs

- Example #3 - Selected threshold is 20% of surplus in each year
 - Company had a critical value for the 1 year reserve development to surplus IRIS ratio
 - 2014 IRIS commentary reserve strengthening due to increased frequency and severity in several business segments
 - 2014 SAO adds size of company’s reserves relative to surplus as a risk factor
 - Using a large % of Surplus RMAD threshold in consecutive years creates an intrinsically lower threshold in 2014 assuming that the extra development during CY 2014 came out of surplus

Case 4: Non-affirmative RMAD Statement in Each of Their 2013 and 2014 SAOs

- Example #4 - Well capitalized company, exceeded RMAD based on 10% of reserves but number was 4.1% of surplus
 - Previous 2 calendar years had negative 1 year development
 - Conclusion: Annual statement and IRIS show 1 year dev. as % of surplus—wouldn’t raise any red flags
- Example #5 - 20% of surplus RMAD in 2013 and 2014
 - No RMAD was chosen in 2013 because booked reserves + RMAD exceeded the actuary’s high estimate of reserves
 - Company had a critical value for the 1 year reserve development to surplus IRIS ratio in CY 2013—commentary mentioned geographic expansion
 - IRIS 1 year ratio was over 20% in 2014 and 2015, risk of material adverse deviation at 20% of surplus was affirmed by the actuary for the 2015 SAO

Case 4: Non-affirmative RMAD Statement in Each of Their 2013 and 2014 SAOs

- Example #6 - 2013 had no RMAD and a threshold of 10% of surplus
 - Company experienced development well above IRIS ratio critical value
 - Commentary mentioned that line of business (Financial Guarantee) can distort the results of 1 year development
 - Booked reserves are discounted, IRIS test 1 is not discounted
 - Accounting treatment on claims identified as not having open case at prior year end
 - 2014 SAO threshold now 15% of surplus

Conclusions from Review of Companies that May Have Exceeded Threshold

- Several companies appear to have an intrinsic risk of material adverse deviation
 - Large limits underwritten
 - Substantial liability or WC exposure
- The materiality threshold used in this group of companies varies wildly
- Materiality thresholds based on surplus are easier to compare internally to the 1 year development on schedule P and the AOS
 - Consider A&O from one year to another

Conclusions from Review of Companies that May Have Exceeded Threshold

- Materiality thresholds based on reserves don't have a direct counterpart in the following annual statement, must compare dollar amounts
 - A company can have a relatively "low" 1 Year development IRIS ratio and still breach a reserve-based threshold
- 1 year development in terms of dollars may be impacted by the regulatory structure around certain lines of business
- Only 1 of the opinions I read mentioned that a company exceed their threshold in the prior year
- IRIS language in the SAO is quite useful in this analysis

Conclusions from Review of Companies that May Have Exceeded Threshold

Some interpretations of the risk of material adverse deviation relate to the actuary's range of reasonable reserves

- Does this depend on the SAO's intended audience?
- Is the RMAD language asking about where booked reserves are within a range of reserves or specific risk factors that could cause adverse development—that is, a much wider range of possible outcomes?

A Word on Surplus-Based Thresholds

- All things being equal, if the threshold is a % of surplus
 - \$ amount of the threshold fluctuates based on the company's change in surplus in a given year
 - One could make the argument that the % used as a threshold could change over time
- Poorly performing company
 - If no RMAD is issued and the company has adverse development above the threshold, consider issuing an affirmative RMAD if the same % of surplus threshold is used
 - Otherwise the opinion could be saying there isn't a significant risk of material adverse deviation on a lower \$ threshold assuming surplus was impacted



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Thank You for Your Time and Attention

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