



Casualty Loss Reserve Seminar
September 18-20, 2016

Bermuda Economic Balance Sheet

BMA Economic Balance Sheet

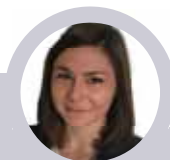


Alejandra Nolibos

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MODERATOR

Alejandra leads Willis Towers Watson's professional excellence team for North America financial reporting, with focus on statutory issues. As a consultant, Alejandra leads and serves as advisor on complex engagements involving national and global organizations.



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Ashley is a consultant with Willis Towers Watson specializing primarily in property casualty claims reserving for Bermuda based captives, insurers, and reinsurers.



Stuart Hayes

Arch Re

PANELIST

Stu joined Arch in October 2014 to help further risk management efforts around the ACGL group of companies. He has almost two decades of actuarial and risk management experience in a combination of company and consulting environments.

BMA Economic Balance Sheet

AGENDA

- Focus on
 - Background
 - Technical Provision
- Through
 - Results of our survey of Bermuda carriers on the topic
 - A company actuary's experience

BMA Economic Balance Sheet: Background

Background

- Consistent and reliable valuation basis for regulatory reporting
- Be more in line with international standards, including Solvency II
- Fundamental principle: assets and liabilities should be valued on a consistent economic basis
 - Attempt to eliminate accounting mismatches
 - Provide a more accurate picture of insurer's solvency position

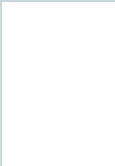
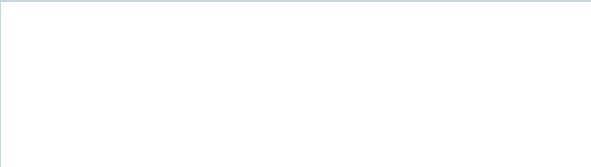
BMA Economic Balance Sheet: Background

- **Timeline:**

	Best Efforts	Live
Class 3A	April 2017	April 2018
Class 3B, 4	April 2016	April 2017
Group	May 2016	May 2017

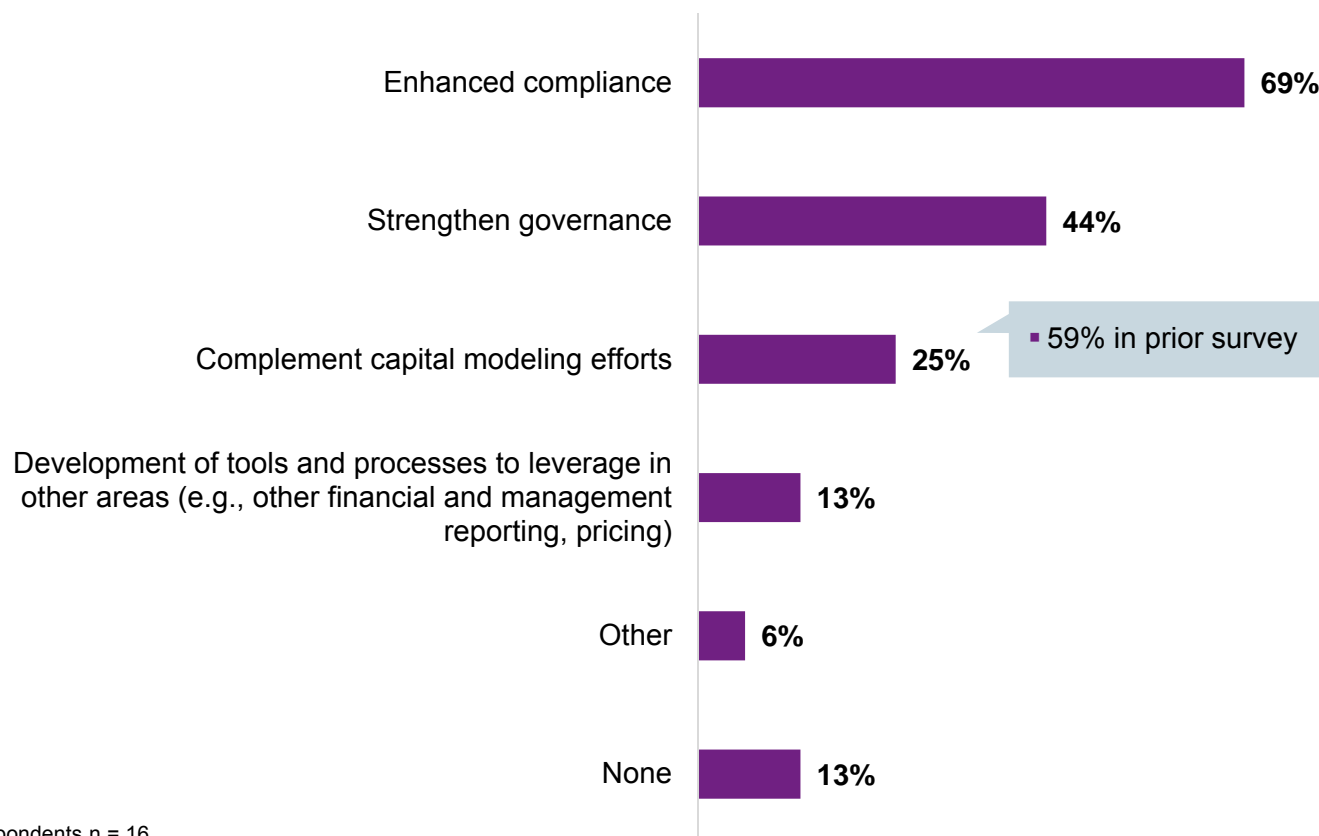
- **Best Efforts:** intended to be a dry run of EBS submission including the EBS technical provision
- **Live:** no longer required to submit an opinion based on statutory financial return (SFR)
- **Opinion will be based on the EBS**
 - Required legal entity LRSO based on the EBS and Group Opinion based on the EBS on a consolidated basis
 - Reliance of the Group Actuary can be placed on the legal entity LRSO and legal entity based in other jurisdictions may have reliance on any relevant actuarial assessment of the technical provision in that jurisdiction

2016 EBS Survey



Respondents focus on meeting regulatory compliance

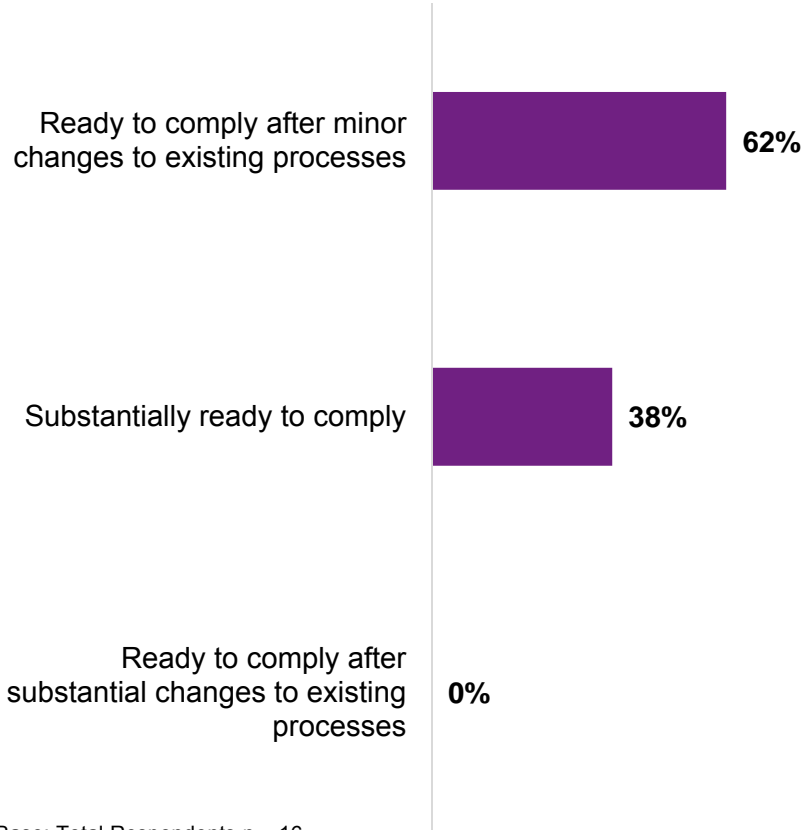
Q.1 Which of the following objectives has the development of your Economic Balance Sheet (EBS) helped to further?



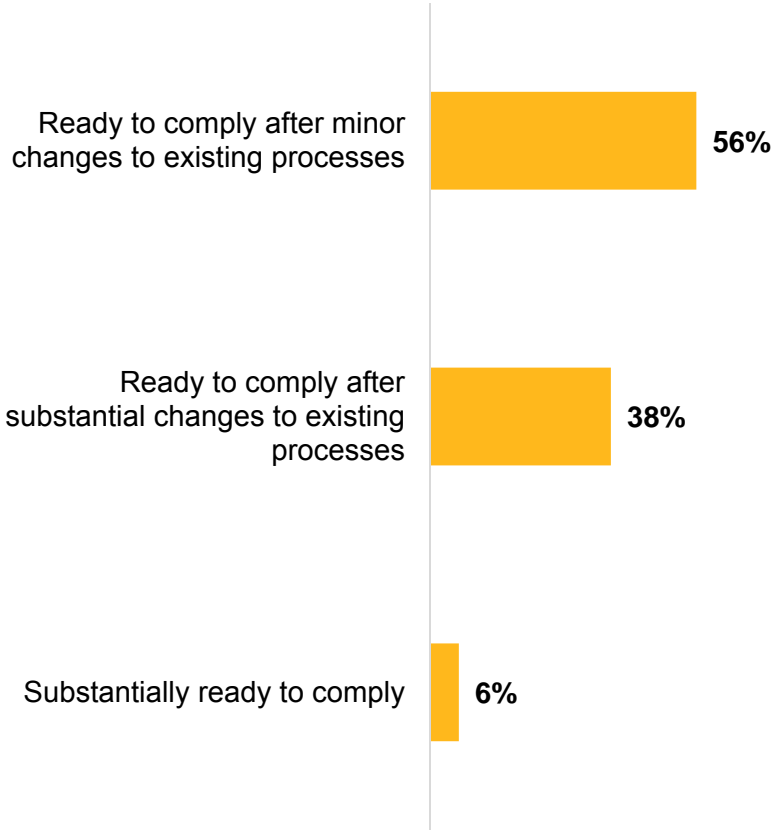
Base: Total Respondents n = 16.

Respondents jumped in percentage substantially ready to comply; however, small increase in respondents who think the industry is substantially ready to comply

Q.3 How ready is your organization for the full implementation of the EBS?

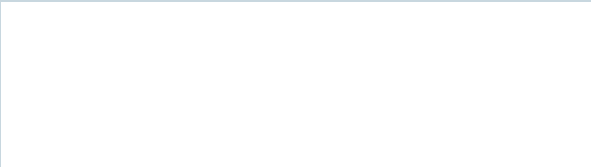


Q.4 How ready is the industry in general for the full implementation of the EBS?



Base: Total Respondents n = 16.

Technical Provision



Technical Provision

Comparison of EBS vs. GAAP

- No prudence in best estimate
- ENIDS provision
- Discounting
- Profit recognition at inception
- Provision for legal obligated business
- Future premiums

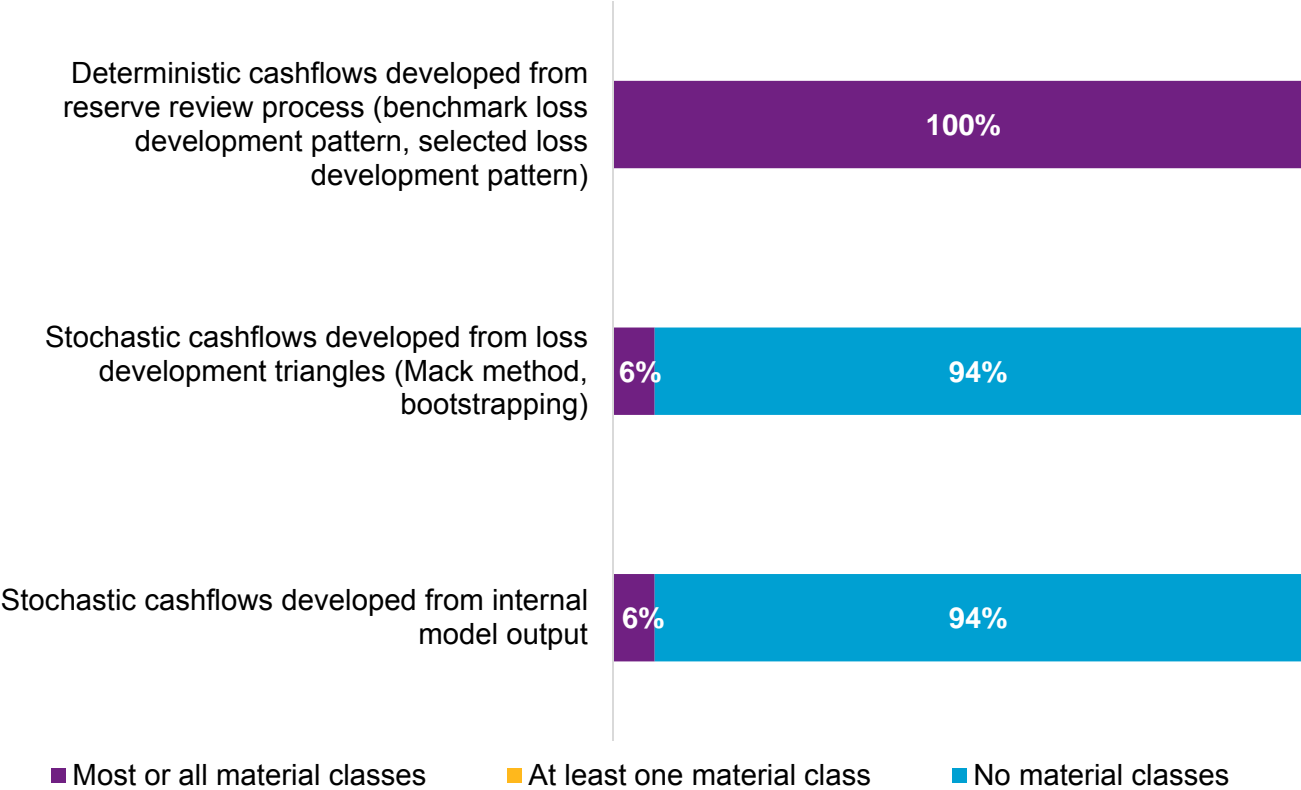
Technical Provision

Best Estimate as Probability-Weighed Average of Future Cashflows

- *“Insurance technical provisions would be valued based on best-estimate cash flows, adjusted to reflect the time value of money using a risk-free discount rate term structure”*
- *“...should correspond to the probability-weighted average of future cashflows...”*
 - *“this is an aim, not a requirement”*
 - Guidance states the best estimates do not need to be calculated using stochastic methodology, however the resulting best estimate should be in line with a stochastically determined best estimate
 - However, the guidance also states *“The best estimate should be the average of the discounted cashflows and not the discounted average of the cashflows, where this is different”*

A small percentage of respondents incorporated stochastic cashflows into their best estimate

Q.6 What approach will your company take to develop loss payment cashflows for material classes of business?



Base: Total Respondents n = 16.

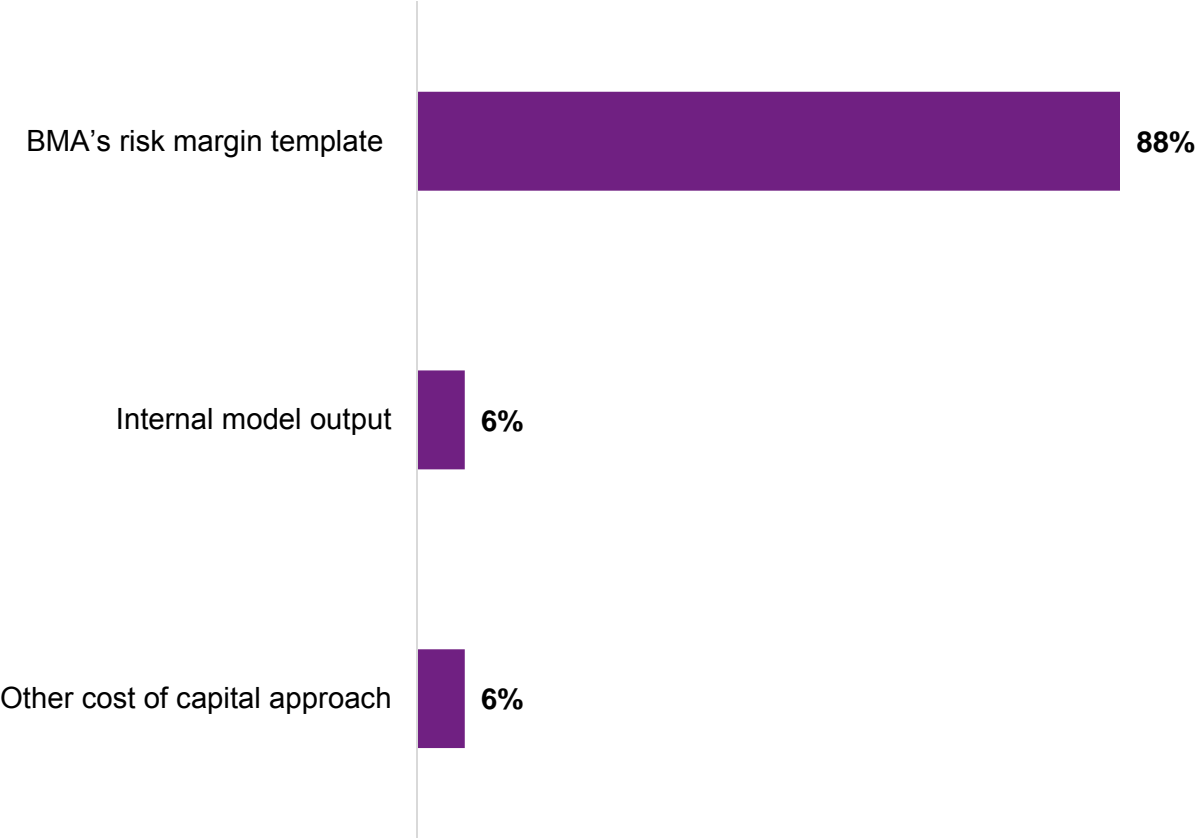
Technical Provision

Risk Margin

- Reflects the uncertainty associated with the probability-weighted cashflows
- Required aspects of the risk margin:
 - Greater uncertainty results in larger risk margin
 - Risks which are more material will result in larger risk margin
 - Longer tailed risks result in larger risk margin
 - Similar risks should have similar risk margins
- Risk margin calculation approach should incorporate:
 - Cost of capital of 6%
 - Bermuda regulatory capital requirements (using BSCR or approved internal model)
 - Run-off of the insurance liabilities discounted using risk-free discount curve
 - Insurance risk, counterparty risk, and operational risk
 - Credit for diversification benefits
- Calculation of the technical provision is required by legal entity and by group
 - Risk margin will not be additive

The majority of respondents utilized the risk margin template provided by the BMA

Q.5 What approach will your company take to develop the risk margin?



Base: Total Respondents n = 16.

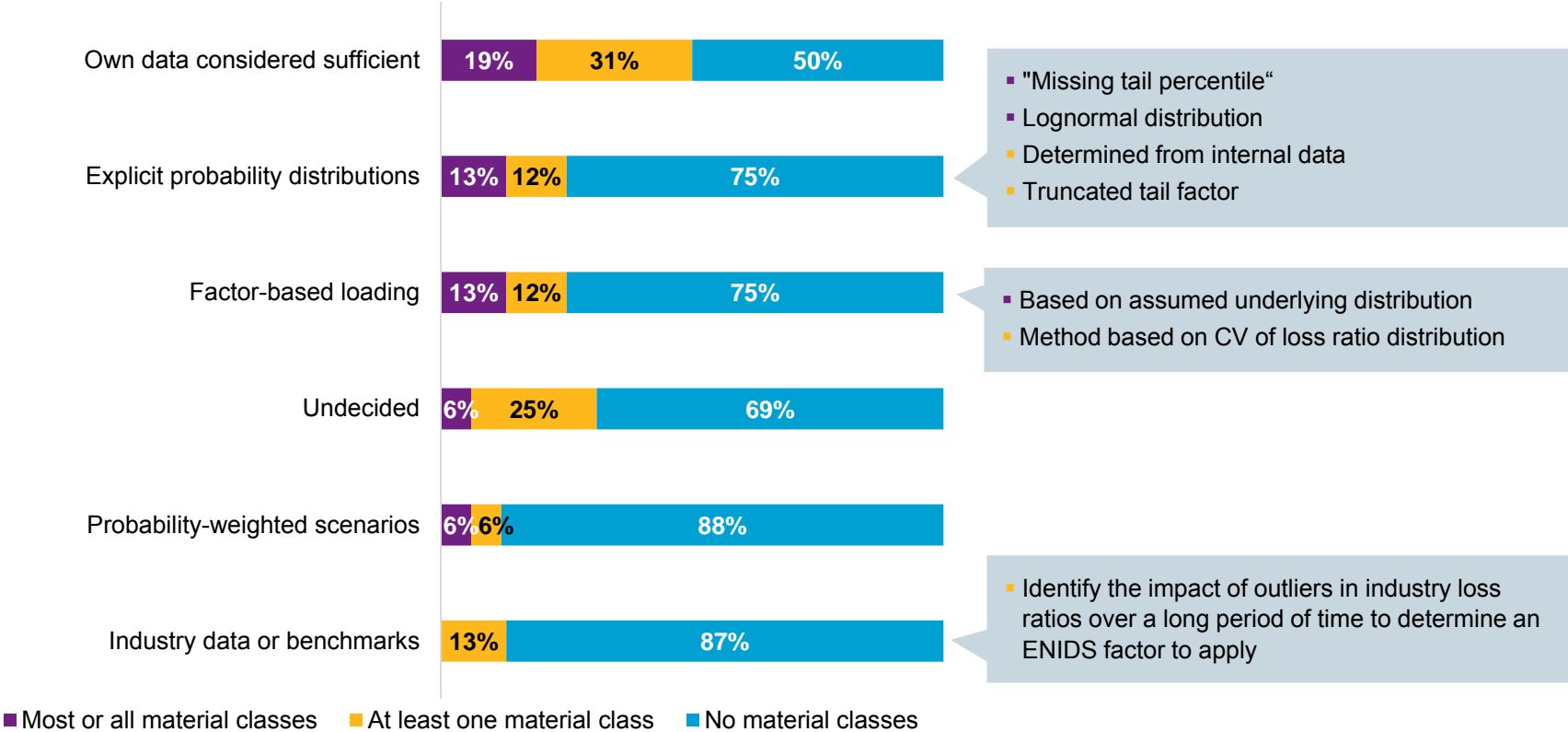
Technical Provision

ENIDS: Events Not in Data Set

- Judgmental assessment of tail risk
 - Since ENIDS should incorporate the full range of outcomes, we believe should include both the right and the left tail
 - Could the ENIDS provision be negative?
 - Insurer may conclude available historical claims data set sufficiently covers the full distribution of outcomes
- Projection of the missing tail per the BMA Consultation Paper:
 - Probability-weighted scenarios of specific events
 - Add explicit amount
 - Addition of outliers to reserving process
- Required to fully document the elements considered in the best estimate to avoid double counting or possibility of risks overlooked

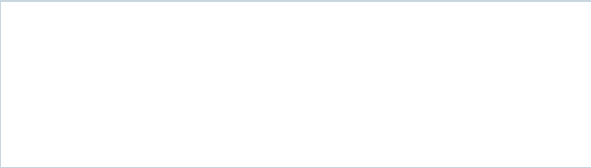
The write-in responses indicate the prevalence of ENIDS provisions based on assumptions about the truncated underlying loss distribution

Q.9 For how many of your material classes of business did you use the following approaches to reflect ENIDS in best estimates?



Base: Total Respondents n = 16.

Company Actuary



Current / Expected BMA Requirements

Item	Req. Now	Req. @ YE 2016
GAAP Financial Statements (Audited)	X	X
Statutory Financial Statements (Audited)	X	
Economic Balance Sheet (EBS) (Unaudited)		X
Bermuda Solvency Capital Requirement (BSCR) (Unaudited)	X	X
Group/Commercial Insurer's Solvency Self Assessment (GSSA/CISSA)*	X	X
Financial Condition Report (FCR)**		X

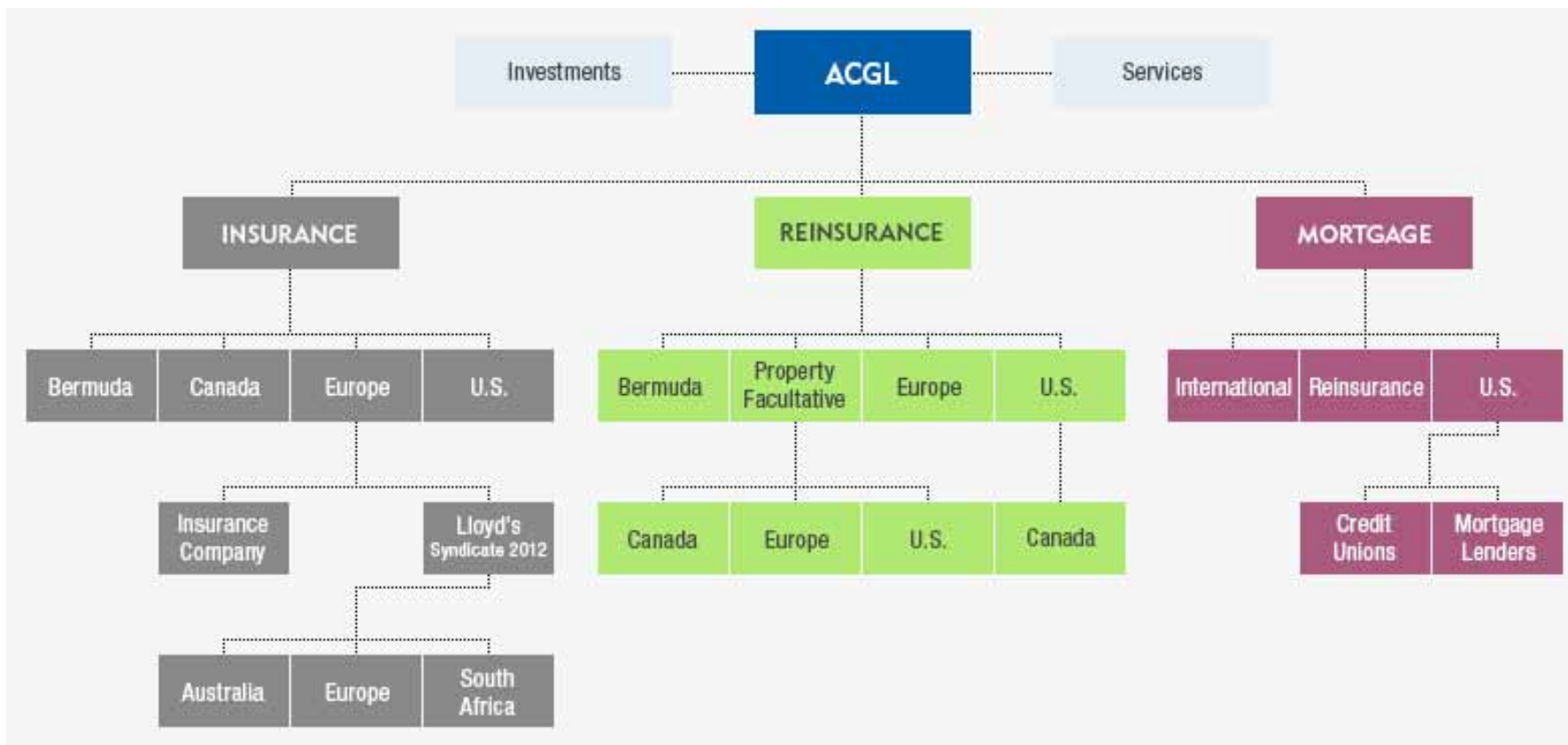
*free-form narrative reporting with few if any figures

**scripted narrative reporting supported by figures underlying BSCR/EBS

Arch Capital – Corporate Overview

- Bermuda-based class of 2001
- Specialty line platforms in insurance, reinsurance and mortgage
- Diversified geographically and by line of business
- Focus on underwriting
- Talent-intensive not people-intensive
- Thorough risk assessment of underlying exposures
- Financial highlights
 - \$7.6b in capital as of 6/30/2016
 - \$4.7b in gross written premium for 12 months ending 6/30/2016
 - \$3.5b in net written premium for 12 months ending 6/30/2016
 - NWP mix was 59% insurance, 30% reinsurance, 11% mortgage

Arch Capital – Corporate Overview



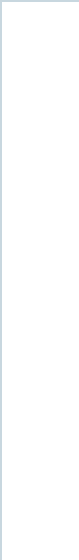
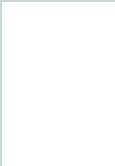
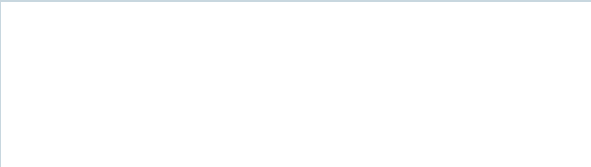
Risk Management Structure

- Decentralized organization
- Operating units operate independently with oversight from group
- Group Risk Management function has following responsibilities:
 - Assist in maintaining the ERM framework including the governance structure;
 - Monitor and support the completion of ERM initiatives;
 - Provide risk aggregation and modeling;
 - Support the Actuarial/Risk functions within the Operating Entities;
 - Facilitate the setting and monitoring of risk appetite by the ACGL Board and Operating Entity Boards; and
 - Develop and deliver risk management reports to the ACGL Board and Committees

General Thoughts on Economic Balance Sheet

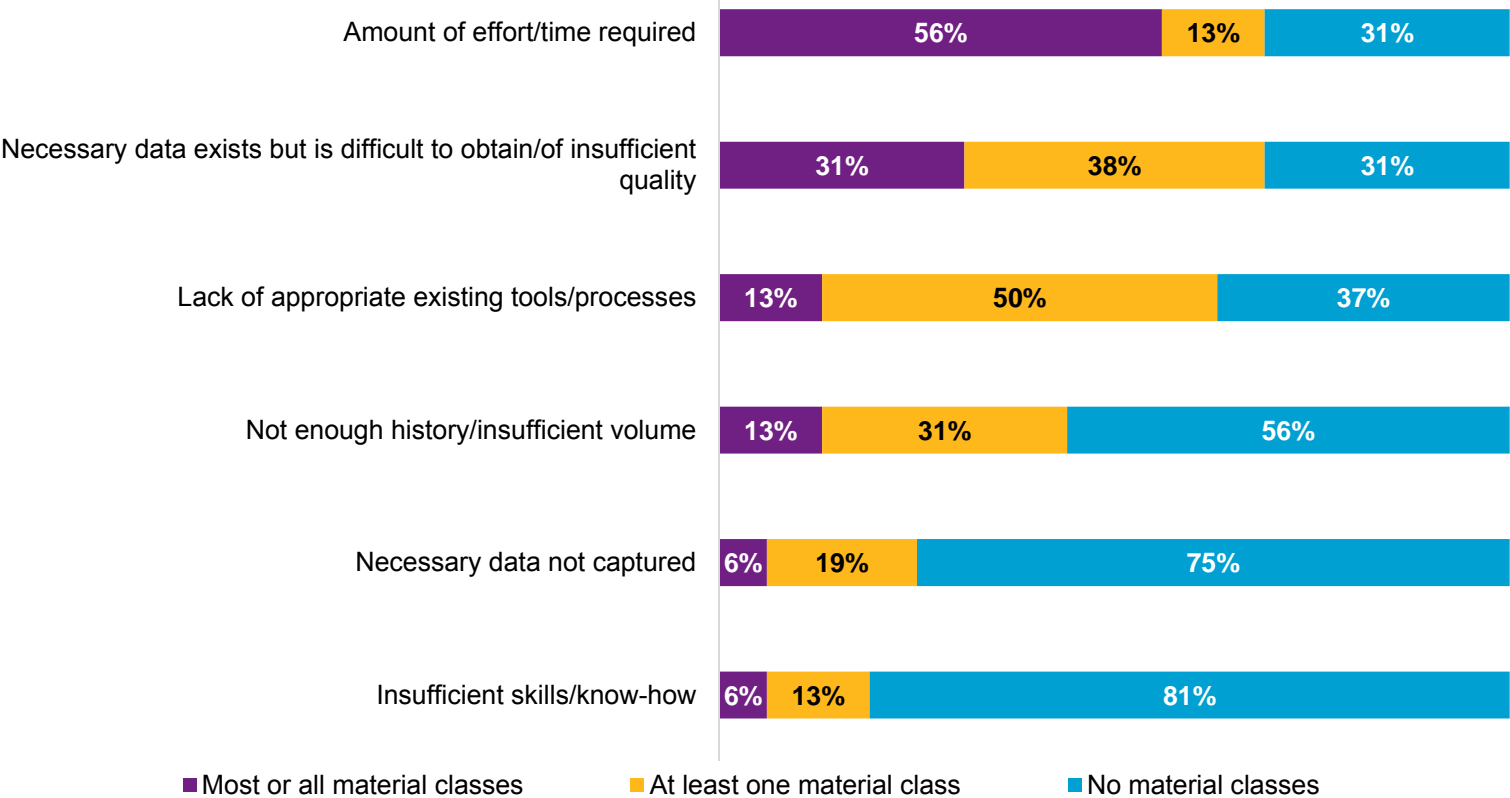
- ACGL is used to reporting group results to the BMA, and subject to Solvency II reporting in our European entities, but Group-level EBS introduces many issues
 - Cash-basis valuation
 - Technical provisions (claims and premium) vs. GAAP-basis loss and UPR reserves
 - Events Not In Data (ENID)
 - Bound But Not Incepted (BBNI) business
- Arch is able to leverage existing processes and teams
 - Technical provision templates from prior SII and EC modeling work
 - Group/ARL risk, actuarial and finance support
 - Business unit risk, actuarial and finance teams
- But, many practical challenges remain
 - Decentralized structure leads to unique challenges
 - Group-wide application of “SII” concepts not universally understood
 - Resource constraints – people and systems – will be a challenge but also create opportunities to enhance existing processes, teams and technology

Technical Provision Challenges



While they have the know-how, respondents identify time and effort required as the most significant practical challenge

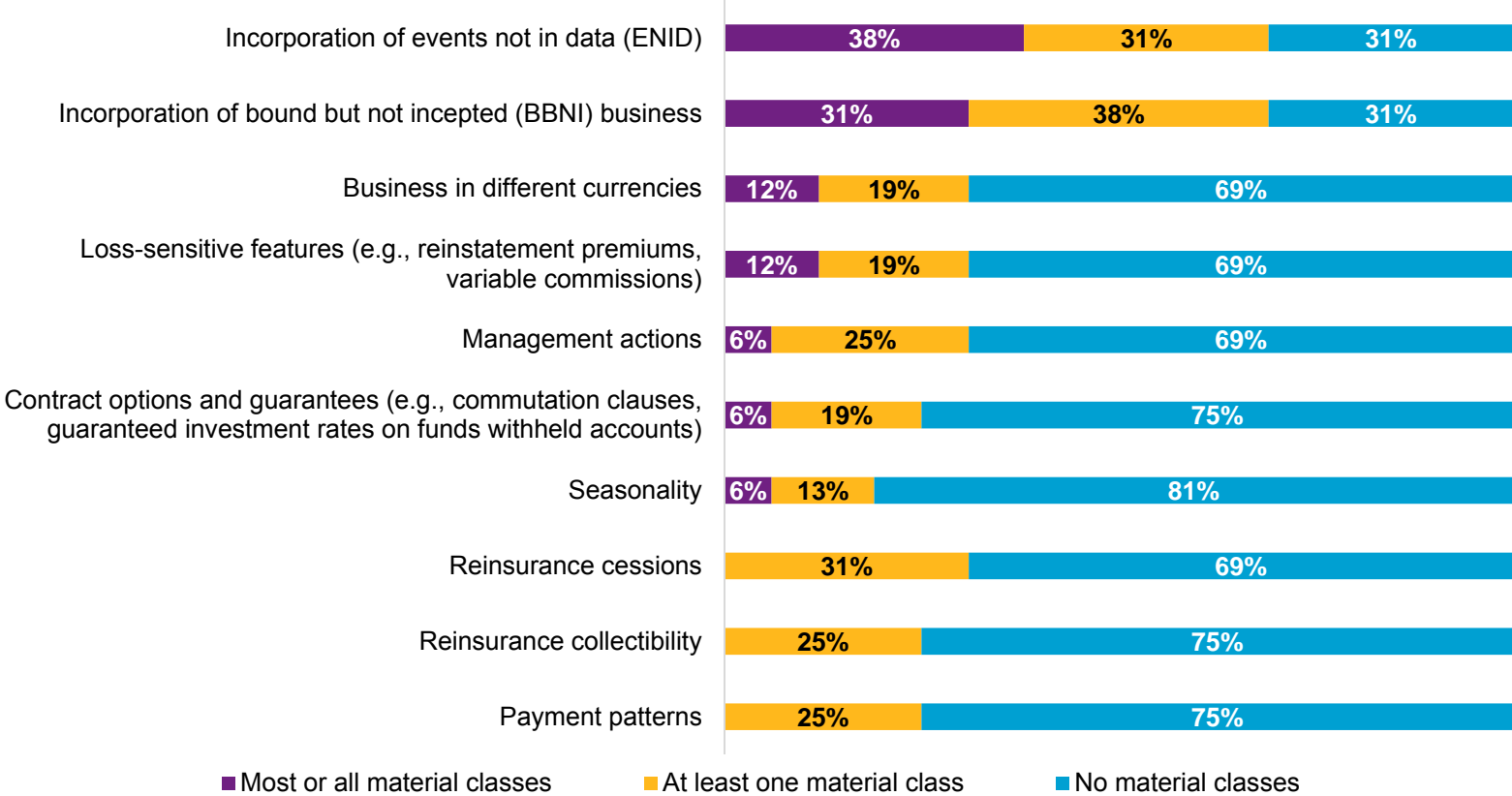
Q.8 For how many of your material classes of business did you encounter each of the following practical challenges in the determination of your technical provisions?



Base: Total Respondents n = 16.

ENIDS continue to present the most significant challenges to respondents

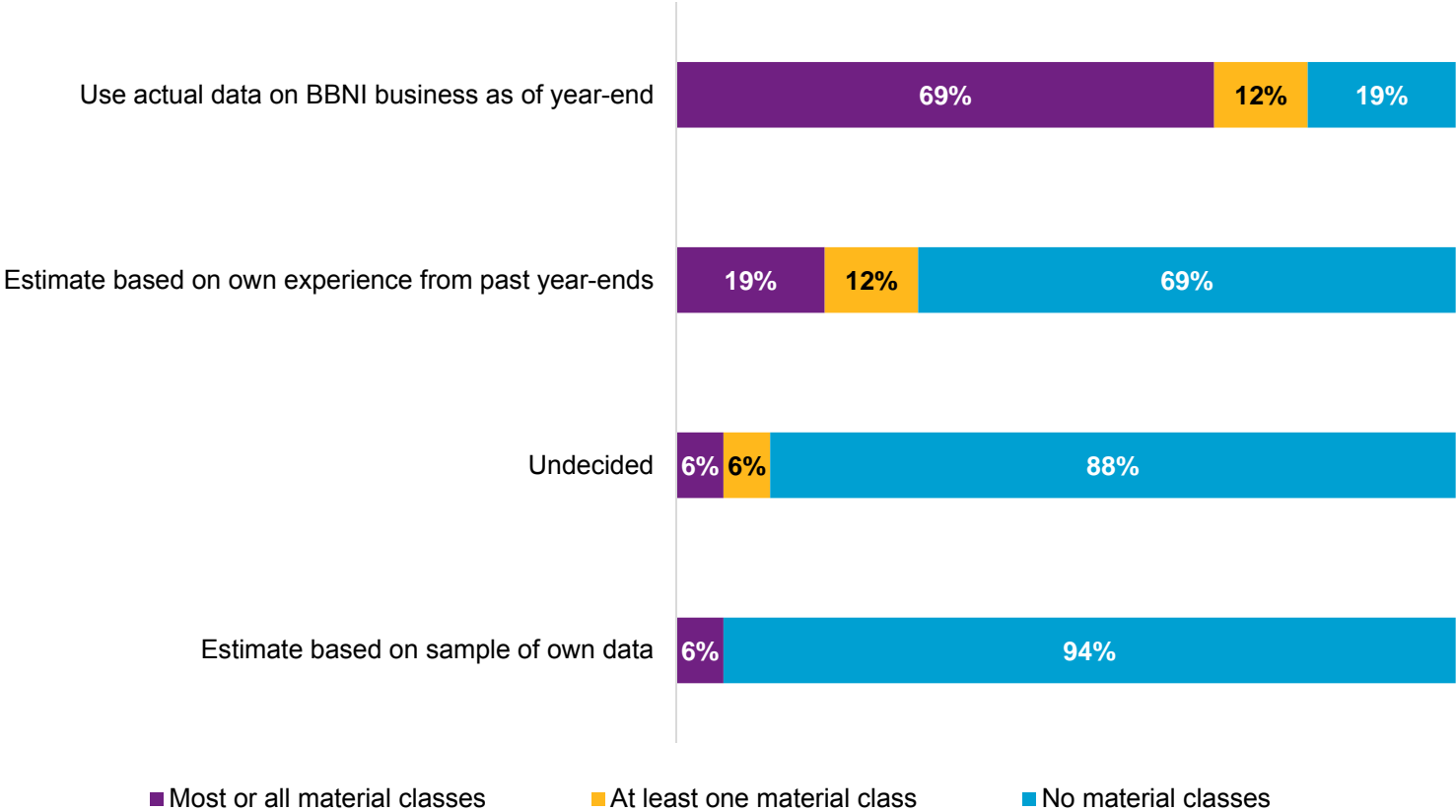
Q.7 For how many of your material classes of business did you encounter significant challenges regarding each of the following items in the determination of your technical provisions?



Base: Total Respondents n = 16.

Three quarters of respondents have used real data on BBNI business in the determination of the technical provision

Q.10 For how many of your material classes of business did you use the following approaches to reflect BBNI business in best estimates?



Base: Total Respondents n = 16.

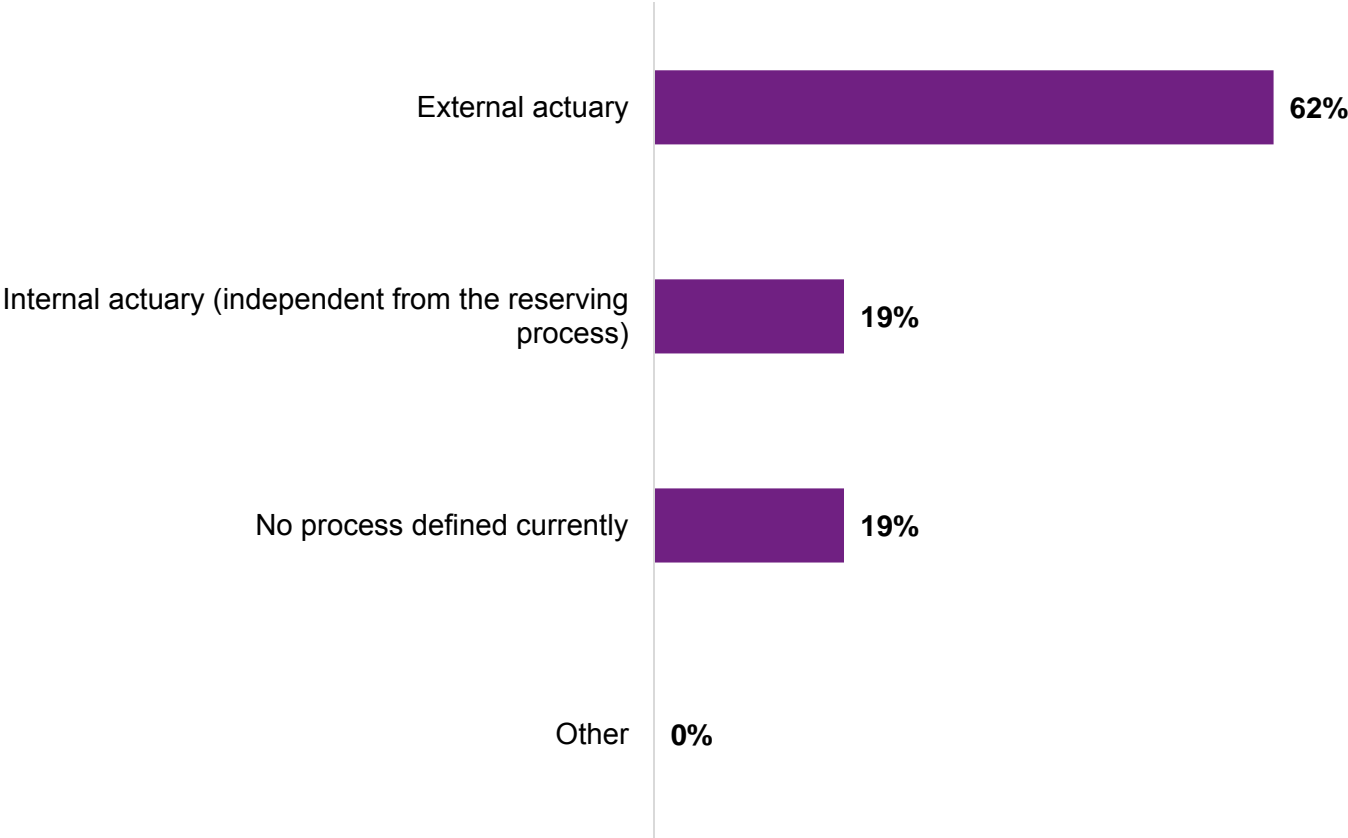
Technical Provision

Governance

- EBS will not be subject to an audit requirement
 - Will be the responsibility of management
 - Parts of the EBS will be based on the GAAP balance sheet, which is subject to audit
 - Technical Provision will be subject to approved actuarial opinion (replacing the SFR opinion)
- *“Insurers should validate the calculation of technical provision at least once every financial year, or whenever there are indications that the data, assumptions or methods used in the calculation of the technical provision are no longer appropriate”*
- Validation should be performed by someone
 - Sufficiently qualified with regard to knowledge and experience of the insurer’s business
 - Independent from the reserving process
 - Experience carrying out the validation process

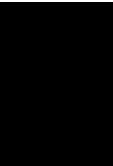
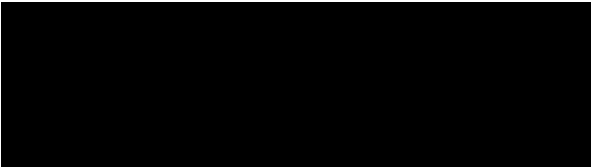
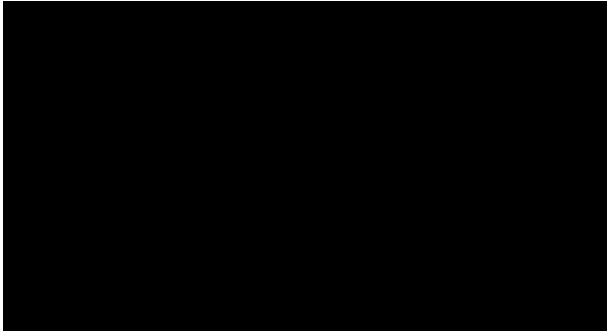
Most respondents will rely on an external actuary to validate the EBS technical provision

Q.11 What approach will your company take to validate the EBS technical provision?



Base: Total Respondents n = 16.

Questions?



Thank you

