

# Results of 2019 Survey of Assumption Development and Governance Processes

Assumption Development and Governance Subgroup of Modeling Section

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# Assumption Development and Governance

## Subgroup of Modeling Section

Subgroup [webpage](#) and [self-service link](#) to join email listserv

Purpose – as valuation becomes increasingly dependent on assumptions and models grow in complexity, companies are under new pressures to provide solid governance around assumptions. As companies step up to these new demands, many are devoting additional resources to assumptions and looking for industry “best practices” regarding assumption management. This subgroup provides a venue for discussion around how assumptions are tested, approved, documented, stored, implemented, and used.

Format – periodic conference calls, webcasts, and section newsletter articles; email listserv; surveys of current practices and challenges to guide subgroup activities

# Agenda

- Acknowledgements
- Business context and purpose
- Review of survey results
- Discussion and ideas

# Acknowledgements



# Acknowledgements

## Subgroup leadership team

- Roy Ju
- Leonard Mangini
- Scott Maramo
- Timothy Paris
- Mary Simmons
- Richard Sutton
- Kathleen Topper-Swain

## Additional volunteers

- Marcy Baker
- Jennifer Frasier
- Robert Haneberg
- Stefanus Lie
- Shone Mousseiri
  
- Jessica Schuh, SOA

# Business Context and Purpose



# Business Context and Purpose

- Current range of practices across companies and product lines
- Pending regulatory changes (e.g. VM-20, VM-21, VM-23, GAAP LDTI) may prompt changes in practices
- Increasing assumption governance and documentation requirements
- Anonymous survey sent to members of Modeling Section and Assumptions Subgroup, results compiled during October 2019. 51 respondents.
- Questions covered approaches to assumption-related processes including governance and decision-making, controls, timing, staffing, and tools
- Purpose is to provide an overview of current practices and insight into potential changes

# Review of Survey Results





# Controls



1. What is the nature of process controls that your company uses for experience data analysis and assumption setting? Please select one response for each.

	Yes, we do this and it is a key control for SOX/MAR		Yes, we do this but it is not a key control for SOX/MAR		No, we do not do this fully or consistently for all products		Total
Reconciliation of experience study data	35%	18	53%	27	12%	6	51
Approval process has been followed for assumption development	55%	28	37%	19	8%	4	51
Approval process has been followed for model inputs	44%	22	34%	17	22%	11	50
Model calculations have been validated	43%	21	35%	17	22%	11	49
Model output has been validated	43%	21	41%	20	16%	8	49
Actual vs. Expected reconciliation	16%	8	70%	35	14%	7	50
Comparisons to other relevant segments or products	10%	5	56%	27	33%	16	48
Other	25%	1	0%	0	75%	3	4

# Timing



2. While practices may vary by product, what is the most frequent timing cycle that your company uses for experience data analysis and assumption reviews? Please select one response for each.

	Monthly		Quarterly		Annually		Less Frequent than Annually		Total
Assets and economic factors	4%	2	55%	26	40%	19	0%	0	47
Expenses	0%	0	11%	5	85%	40	4%	2	47
Liability decrements: non-elective (e.g. mortality, morbidity)	2%	1	8%	4	81%	39	8%	4	48
Liability decrements: elective (e.g. lapses, income utilization, conversion)	4%	2	6%	3	81%	39	8%	4	48

3. By January 2021, are you planning to increase the frequency of this cycle due to regulatory changes (e.g. GAAP Targeted Improvements, PBR)? Please select one response for each.

	Yes		No		Total
Assets and economic factors	27%	12	73%	33	45
Expenses	9%	4	91%	41	45
Liability decrements: non-elective (e.g. mortality, morbidity)	17%	8	83%	38	46
Liability decrements: elective (e.g. lapses, income utilization, conversion)	20%	9	80%	37	46

# Staffing



4. We would like to learn more about how your company approaches staffing and time allocation for experience data analysis for the products discussed earlier. Do you have a dedicated experience study team (including any outsourcers and consultants)?

Yes		No		Total
65%	30	35%	16	46

5. How many full-time equivalent (40 hours/week) members are on the team (including any outsourcers and consultants)?

Range	%	Count
0	0%	0
1 - 2	18%	5
3 - 5	50%	14
6 - 10	14%	4
11 - 15	4%	1
16 - 20	4%	1
21 - 25	4%	1
26 - 119	0%	0
120 - 280	7%	2
Total	100%	28



6. What proportion of this team has an SOA credential (e.g. CERA, ASA, FSA)?

Range	%	Count
0-50%	21%	6
51-75%	55%	16
76-100%	24%	7
Total	100%	29

7. For the most frequent timing cycle you indicated above, how many work hours are spent on the following:

	0-10 hours		11-20 hours		21 or more hours		Total
Data scrubbing and validation	22%	10	27%	12	51%	23	45
Analysis, assumption development, and governance processes after data is scrubbed and validated	4%	2	22%	10	73%	33	45
Implementation of assumption changes	25%	11	34%	15	41%	18	44

# Tools and data storage



# 8. What experience data analysis tools does your company use? Please select all that apply.

	Count
Statistical analysis software (e.g. R, Python, SAS)	29
Visualization software (e.g. Tableau)	17
Vendor supplied insurance/actuarial software	14
Internally developed software other than spreadsheets	9
Internally developed spreadsheets	42
Other (Please share.)	4
Total	115

Other: Microsoft Access, SQL Server, Alteryx

9. We would like to learn more about your company's practices for assumptions storage. Does your company have a unique database or repository for assumptions?

Yes		No		Total
31%	14	69%	31	45

10. Does your company maintain an inventory of the assumptions stored above?

Yes		No		Total
100%	14	0%	0	14

## 11. How far back in time are assumptions stored?

Range	%	Count
1 year	0%	0
3 years	38%	5
5 years	8%	1
6+ years	54%	7
Total	100%	13

12. Do you have deviations from these standard practices (e.g. dynamic assumptions)?

Yes		No		Total
92%	12	8%	1	13



13. Do you store the rationale or experience study justifications along with each assumption?

Yes		No		Total
69%	9	31%	4	13

## 14. How do you store assumptions? Please select all that apply.

	Count
Internally developed software other than spreadsheets (e.g. database)	3
Internally developed spreadsheets	38
Vendor supplied insurance/actuarial software	14
Other (Please share.)	5
Total	60

Other: Shared drive (restricted access), Word docs, SharePoint, robust assumption write-up PDFs

# Governance and decision-making



15. We would like to learn more about the nature of the assumption governance process at your company. Do you have a written and formally approved assumption governance process?

Yes		No		Total
75%	33	25%	11	44

16. Does this process have separate and well-defined roles?

Yes		No		Total
88%	29	12%	4	33

17. Do you have a role/committee that is responsible for the approval of assumptions?

Yes		No		Total
84%	37	16%	7	44

## 18. What is the composition of the committee? Please select all that apply.

	Count
Pricing actuaries	25
Valuation actuaries	30
Experience study actuaries	26
Investment actuaries	9
Appointed actuary	29
Chief actuary	19
Chief financial officer	12
Chief risk officer	16
Other (Please share.)	7
Total	173

Other: Business Unit Presidents, Controller, Treasurer, CEO, COO, Chief Valuation Actuary, Actuaries from the offices of Chief Actuary, FP&A, Chief Accounting Officer

19. How does the committee make decisions? Please select the response that most closely corresponds.

	%	Count
Chairperson's decision, informed by committee discussion	22%	8
Majority voting	33%	12
Super-majority voting	8%	3
Unanimous agreement is required	25%	9
Other (Please share.)	11%	4
Total	100%	36

Other: No formal voting, majority voting except that CEO and Chief Actuary can veto, unanimous agreement in practice although majority vote is required, company and group chief actuary



20. Is this role/committee responsible for best estimate assumptions only, or best estimates and provisions for adverse deviation (PADs)?

	%	Count
Best estimate assumptions only	50%	18
Best estimates and provisions for adverse deviation (PADs)	50%	18
Total	100%	36

21. In addition to the assumption approval role/committee above, do you have a standing independent assumption oversight role/committee?

Yes		No		Total
31%	11	69%	25	36

# Potential changes



## 22. Please describe any assumption governance changes that you are planning due to regulatory changes.

	%	Count
No changes	23%	5
Currently evaluating	9%	2
More frequent assumption reviews	9%	2
Streamlining/reducing governance	5%	1
Formalizing/increasing governance	55%	12
Total	100%	22

23. Please describe any assumption governance changes that you are planning due to the implementation of predictive analytics or AI (Artificial Intelligence).

	%	Count
Not applicable	18%	3
No changes	29%	5
No changes yet	29%	5
Currently evaluating	12%	2
We are using these techniques but current governance is adequate	12%	2
Total	100%	17

Link to SOA survey results report

- Refer to [Modeling Section homepage](#)

# Discussion and Ideas

