

# ACHS LIFE PBR: IT'S HERE, NOW WHAT?

NOVEMBER 19, 2019

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# Agenda

 **Background and key findings**

 **Analysis to date**

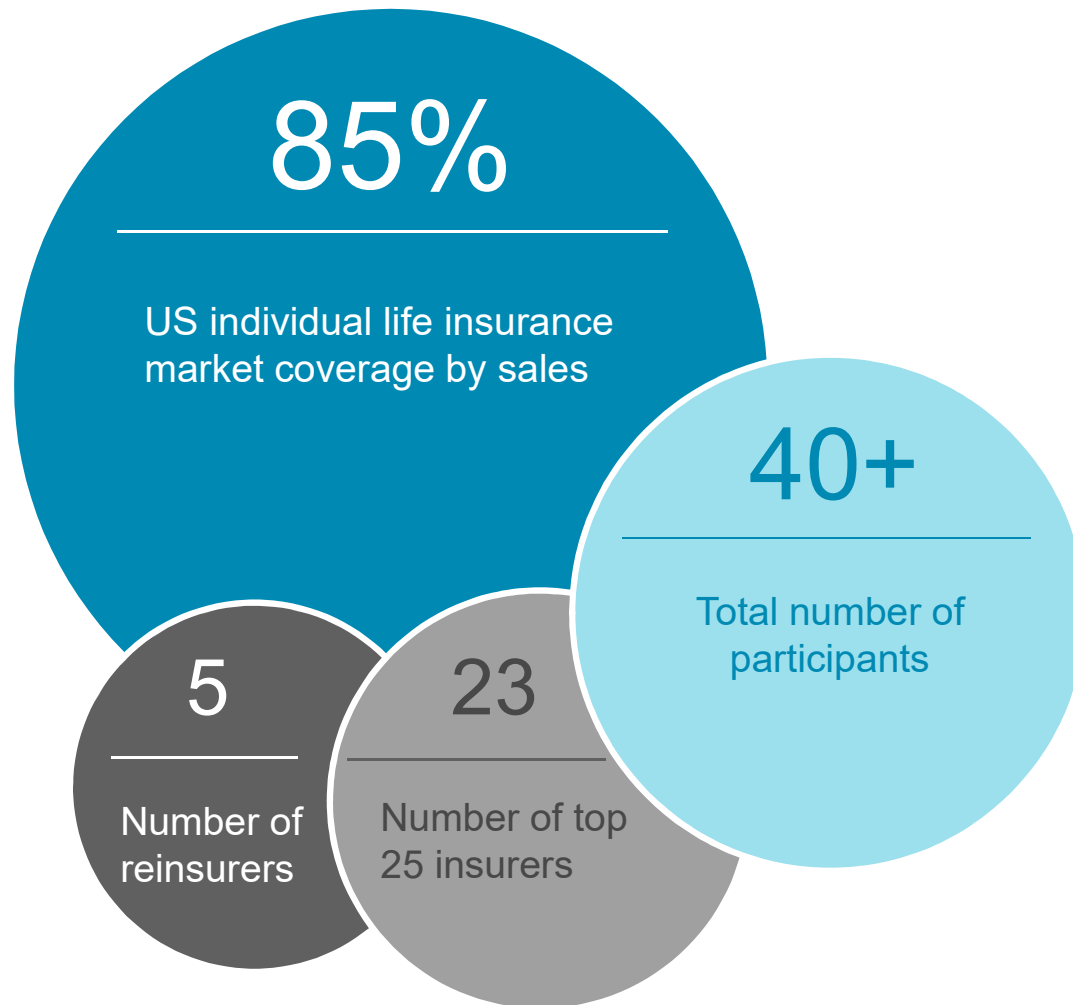
 **Assumptions and margins**

 **Emerging topics**



## Background

This presentation contains select results from a survey that Oliver Wyman conducted in 2019 related to PBR implementation plans and emerging topics



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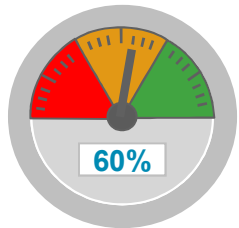
Respondents were asked to describe their practices as of December 31, 2018

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## All products

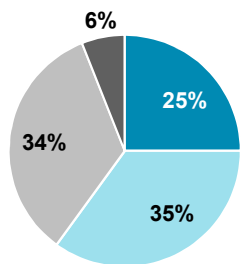
PBR has been analyzed on more than half of survey participants' products and implementations are heavily back-loaded



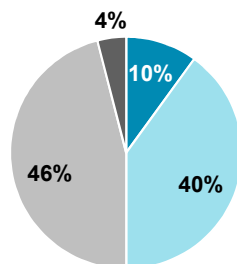
# 60%

Life writers have analyzed the impact of PBR on more than half their products

**Impact on reserves**  
% of Life products



**Impact on profitability**  
% of Life products



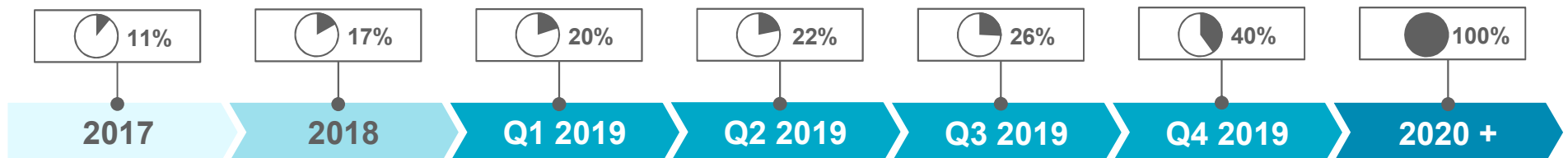
- Large Decrease (-)
- Small Decrease (-)
- No impact
- Small Increase (+)
- Large Increase (+)

**Exclusion testing**  
% of Life products

**50%** of products for which writers anticipate passing stochastic exclusion tests

**23%** of products for which writers anticipate passing deterministic exclusion tests

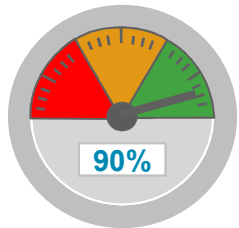
**% of Life products on PBR**  
Across all participants





## Term

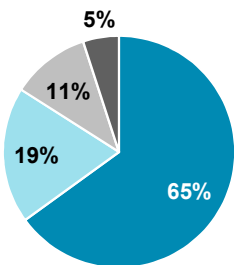
A large majority of writers have analyzed PBR on their Term products and tend to see large reserve decreases



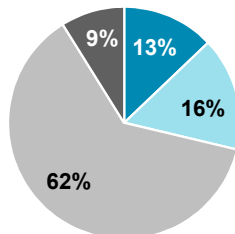
# 90%

of Term writers have analyzed the impact of PBR on their offerings

**Impact on reserves**  
% of Term writers



**Impact on profitability**  
% of Term writers

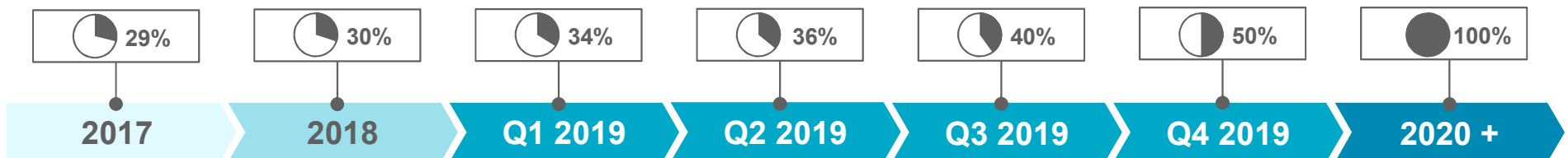


**Exclusion testing**  
% of Term writers

**85%** of writers anticipate passing stochastic exclusion tests

**0%** of writers anticipate passing deterministic exclusion tests

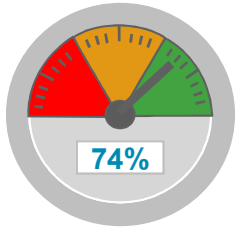
**% of Term products on PBR**  
Across all participants%





# Universal life with secondary guarantee (ULSG)

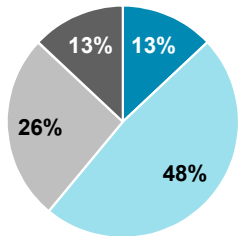
PBR readiness for ULSG is the second highest and most participants are seeing small changes in profitability under PBR



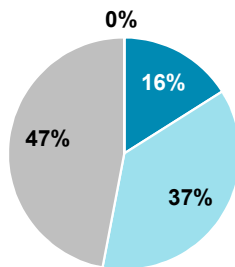
# 74%

of ULSG writers have analyzed the impact of PBR on their offerings

**Impact on reserves**  
% of ULSG writers



**Impact on profitability**  
% of ULSG writers



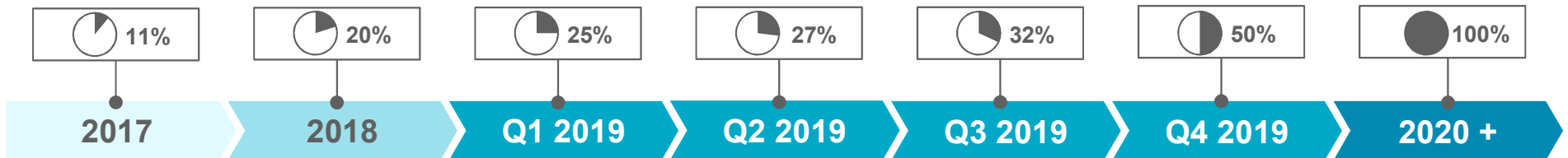
- Large Decrease (-)
- Small Decrease (-)
- No impact
- Small Increase (+)
- Large Increase (+)

**Exclusion testing**  
% of ULSG writers

**21%** of writers anticipate passing stochastic exclusion tests

**0%** of writers anticipate passing deterministic exclusion tests

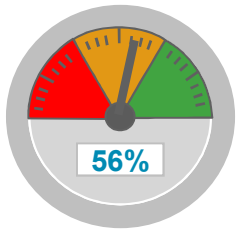
**% of ULSG products on PBR**  
Across all participants





## Whole Life (WL)

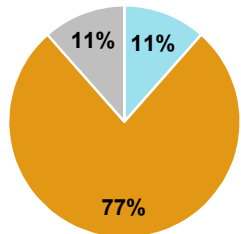
Adoption is delayed to Q4 2019 and beyond for a majority of WL writers and most expect to be exempt from modeled reserve requirements



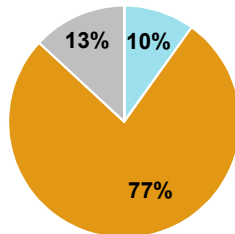
# 56%

of WL writers have analyzed the impact of PBR on their offerings

**Impact on reserves**  
% of WL writers



**Impact on profitability**  
% of WL writers



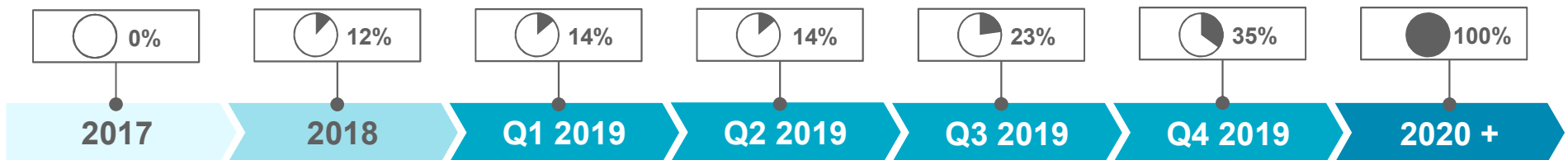
- Large Decrease (-)
- Small Decrease (-)
- No impact
- Small Increase (+)
- Large Increase (+)

**Exclusion testing**  
% of WL writers

**87%** of writers anticipate passing stochastic exclusion tests

**77%** of writers anticipate passing deterministic exclusion tests

**% of WL products on PBR**  
Across all participants





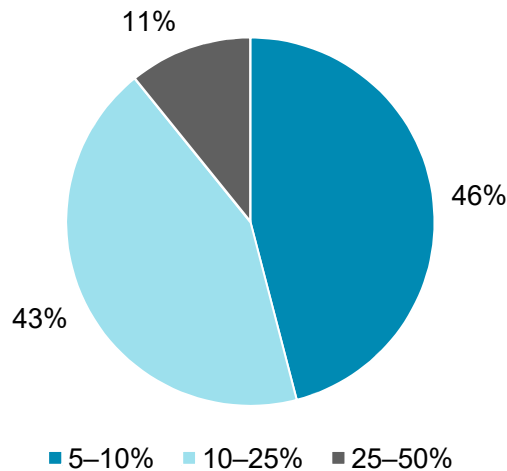
## Aggregate margin levels

Reserve margins are more than double what participants feel is an appropriate level for Term, ULSG, IUL, and VUL

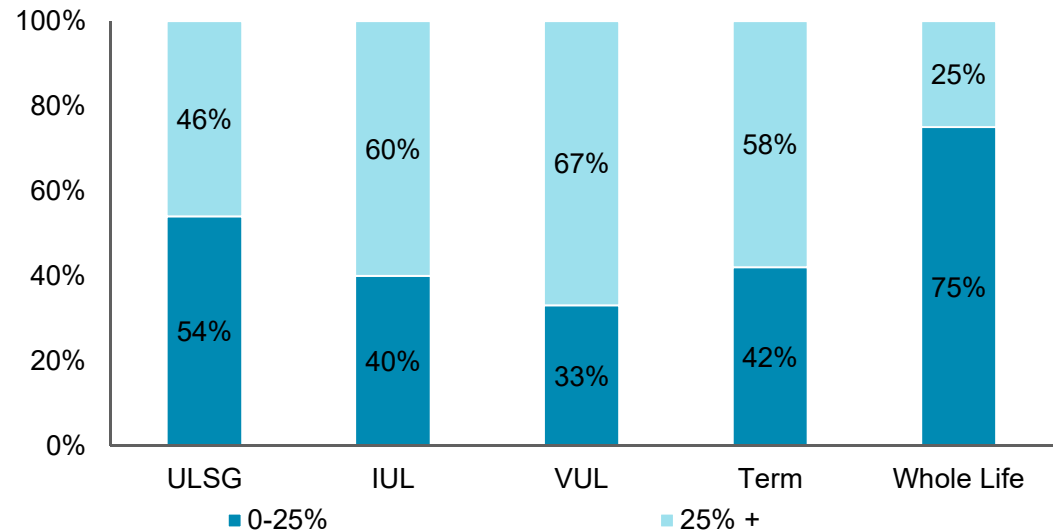
# 89%

of participants think an appropriate level of aggregate margin is less than 25%

Appropriate level of aggregate margin



Actual level of aggregate margin



Note: ULSG includes IUL SG and VUL SG

Observed margins in excess of 25% are common across all product types



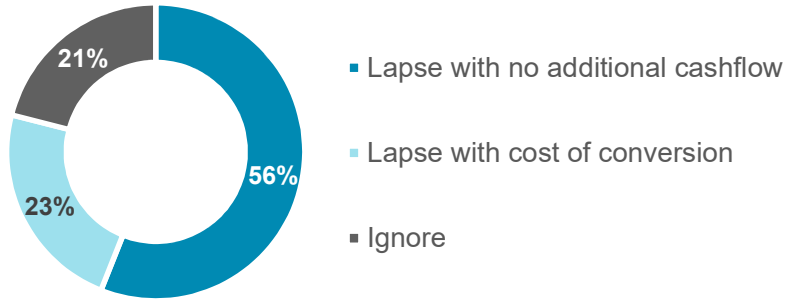


# Conversions

## A wide range of practice exists for the incorporation of conversion options into PBR

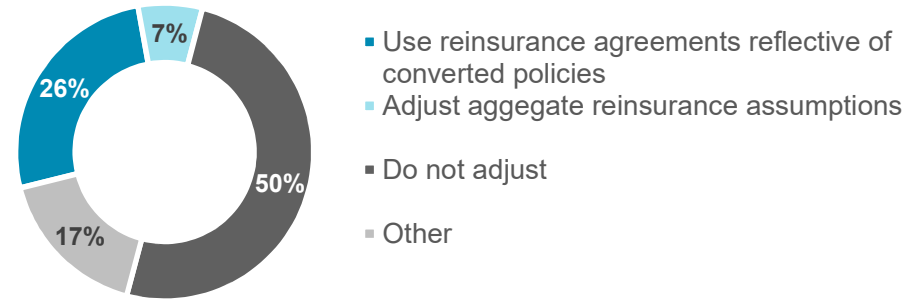
### Methodology: Term reserves

Which of the following best describes your approach to recognizing Term conversions in your Term reserves (DR and if applicable, SR)?



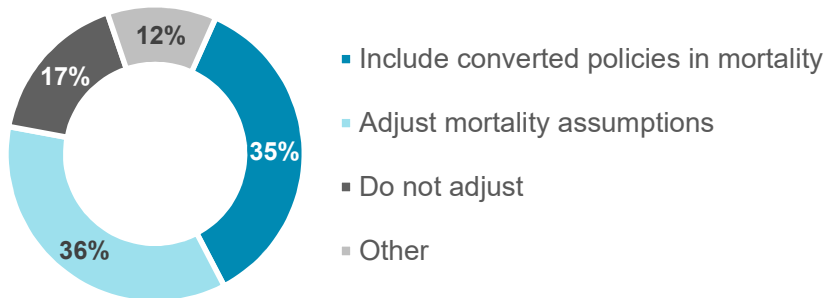
### Methodology: Permanent reserves

Which of the following are you doing to reflect conversions in your permanent product reserves (DR and if applicable, SR)?



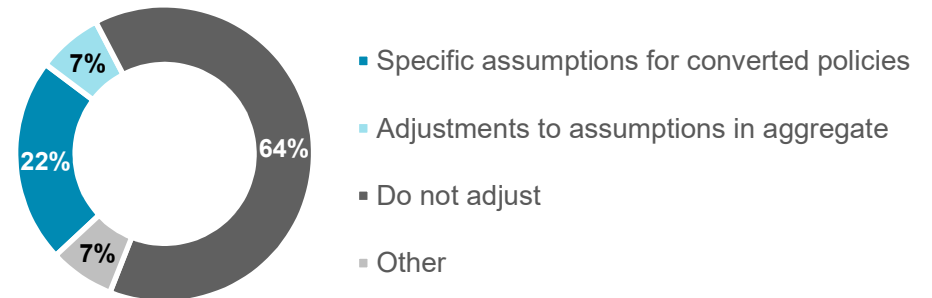
### Assumptions: Mortality

How are conversions treated with respect to mortality?



### Assumptions: Other updates for conversions

Are other adjustments made to assumptions to account for conversions?



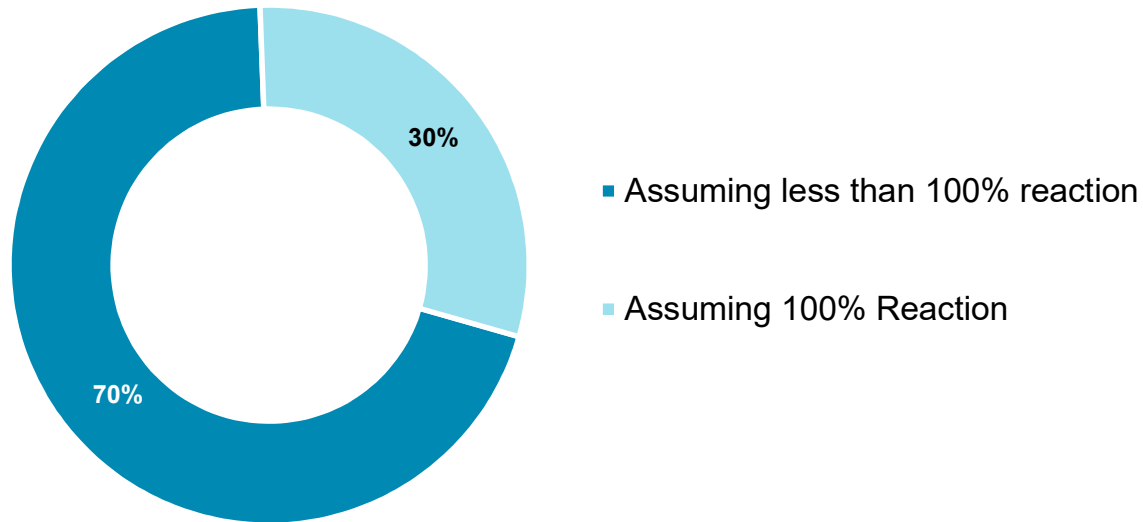


## Reinsurance

PBR has necessitated robust modeling of reinsurance and may have an impact on reinsurance treaties

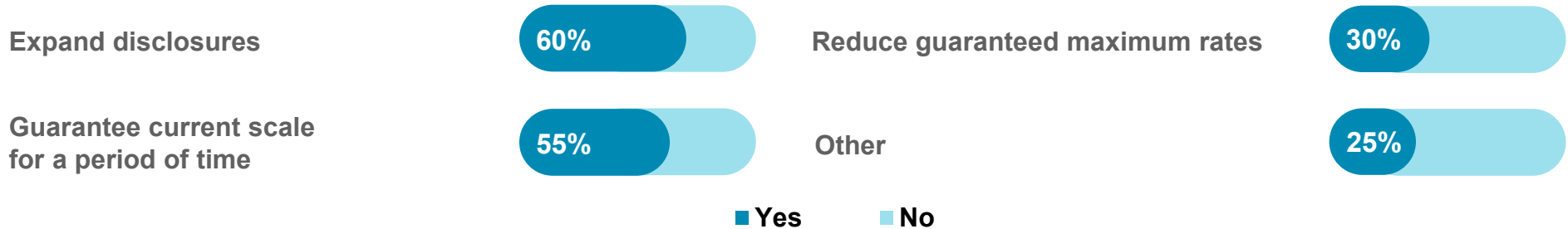
### YRT modeling approach

Nearly three-quarters of companies are assuming less than 100% reaction to adverse mortality under PBR



### Potential changes to reinsurance arrangements

Close to a third of companies anticipate making changes to their reinsurance agreements because of PBR, with the prevalence of various changes summarized below (as a percent of those that anticipate making changes)





# Reinsurance

## June 2019 LATF decision on non-guaranteed reinsurance

<b>APF number</b>	APF 2019-39
<b>Applicability</b>	Business issued in 2020 and beyond; optional to business on PBR in 2017-19
<b>Modeling of reinsurance</b>	Not required
<b>Reserve credit for reinsurance</b>	$\frac{1}{2} C_x$
<b>Solution</b>	Temporary

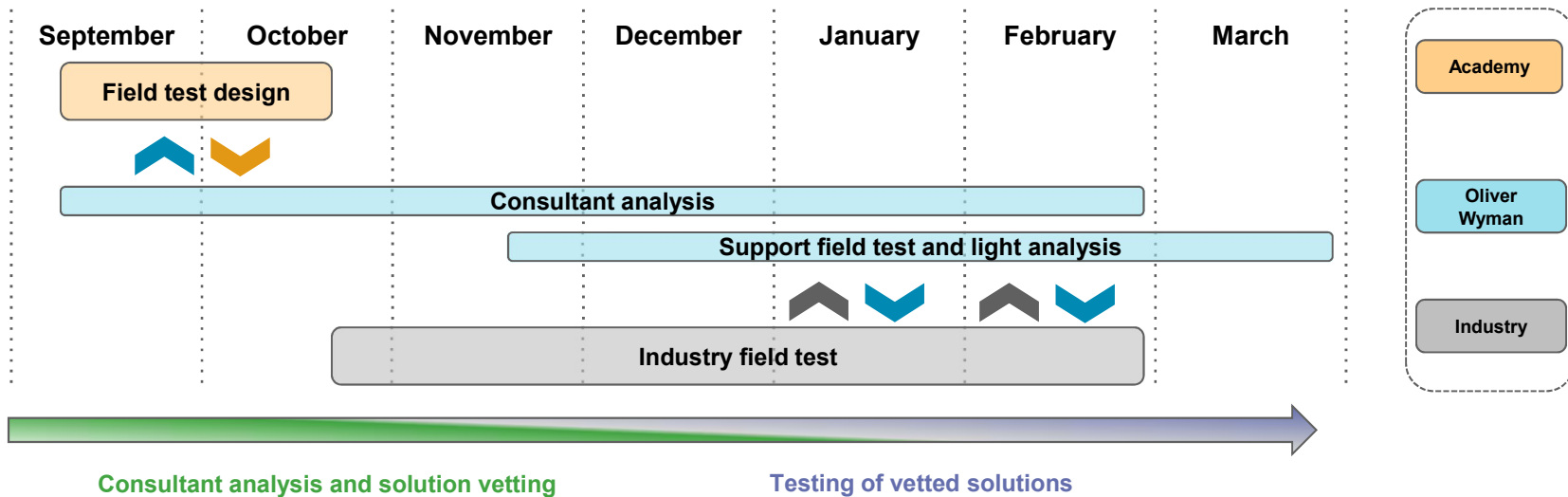


Link to APF: [https://naic.org/documents/cmte\\_a\\_latf\\_exposure\\_apf\\_2019-39\\_revised.docx](https://naic.org/documents/cmte_a_latf_exposure_apf_2019-39_revised.docx)



## Reinsurance

A field test is underway with a goal of allowing regulators to make a decision in time for inclusion in the 2021 Valuation Manual



### Consultant analysis and solution vetting

- Field test participants will prepare their models for the field test while Oliver Wyman performs deep analysis across a range of products and reinsurer-action scenarios to provide regulators with representative results which inform the impacts from potential solutions on an apples-to-apples basis
- The industry field test will commence; initially the focus will be on model preparation and testing of simple solutions with a goal of identifying model challenges and testing the integrity and range variability in the results of Oliver Wyman's analysis



### Testing of vetted solutions

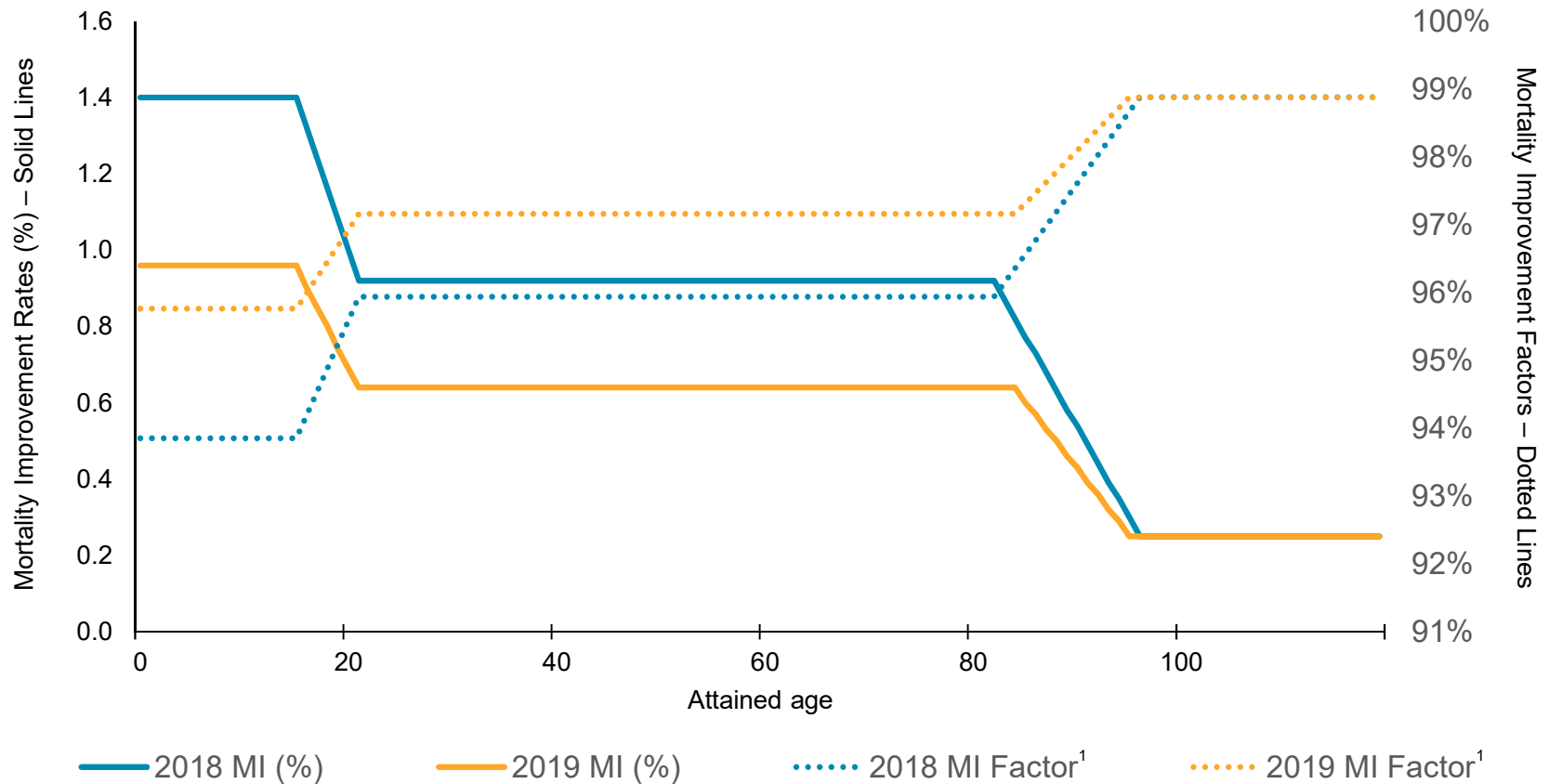
- Field test participants will produce results for the various solutions, while Oliver Wyman assists with the interpretation and collection of results. The results of this test will give regulators additional comfort with the Consultant analysis by extending the range of results for optionality and variation not previously captured.



# Mortality

Prescribed industry mortality improvement rates have been reduced up to age 95, resulting in higher PBR mortality rates

Male



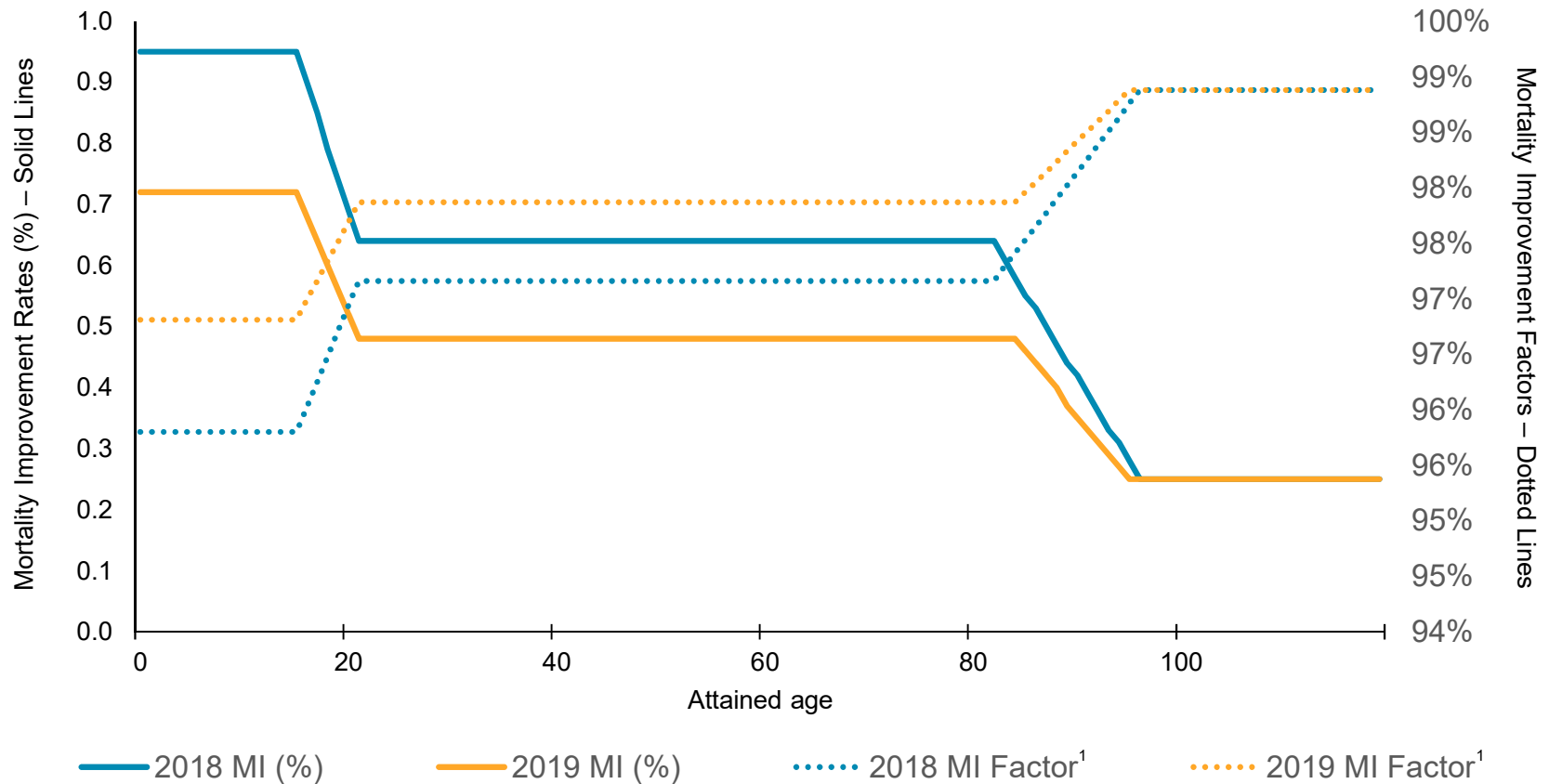
<sup>1</sup> Mortality improvement factors reflect historic improvement from the “as of” date of the 2015 VBT tables to 12/31/2019



# Mortality

Prescribed industry mortality improvement rates have been reduced up to age 95, resulting in higher PBR mortality rates

Female



<sup>1</sup> Mortality improvement factors reflect historic improvement from the “as of” date of the 2015 VBT tables to 12/31/2019



# Mortality

The mortality assumption uses prescribed margins and incorporates grading to an industry table for durations at which credible data no longer exists

## PBR Mortality Assumption

	Applicable Duration*	Assumption Structure
<b>1. 100% Experience Phase</b>	Duration < Sufficient data period + maximum years before grading start	<div style="display: flex; align-items: center; gap: 10px;"> <div style="border: 1px solid black; padding: 5px; background-color: #f0f0f0;">Experience Best Estimate</div> <span>⊗</span> <div style="border: 1px solid black; padding: 5px; background-color: #f0f0f0;">(1 + Experience Margin**)</div> </div>
<b>2. Grading to Industry Phase</b>	Duration between 1) and 2)	Linearly Grade from 100% of Company (1) to 100% of Industry (2)
<b>3. 100% Industry Phase</b>	Duration > Sufficient data period + maximum end point for grading	<div style="display: flex; align-items: center; gap: 10px;"> <div style="border: 1px solid black; padding: 5px; background-color: #f0f0f0;">2015 VBT</div> <span>⊗</span> <div style="border: 1px solid black; padding: 5px; background-color: #f0f0f0;">(1 + Industry Margin)</div> </div>

\*Sufficient data period and other grading parameters are a function of the credibility of the underlying experience

\*\*Experience margin is a function of credibility of experience (Limited Fluctuation or Bühlmann) and attained age

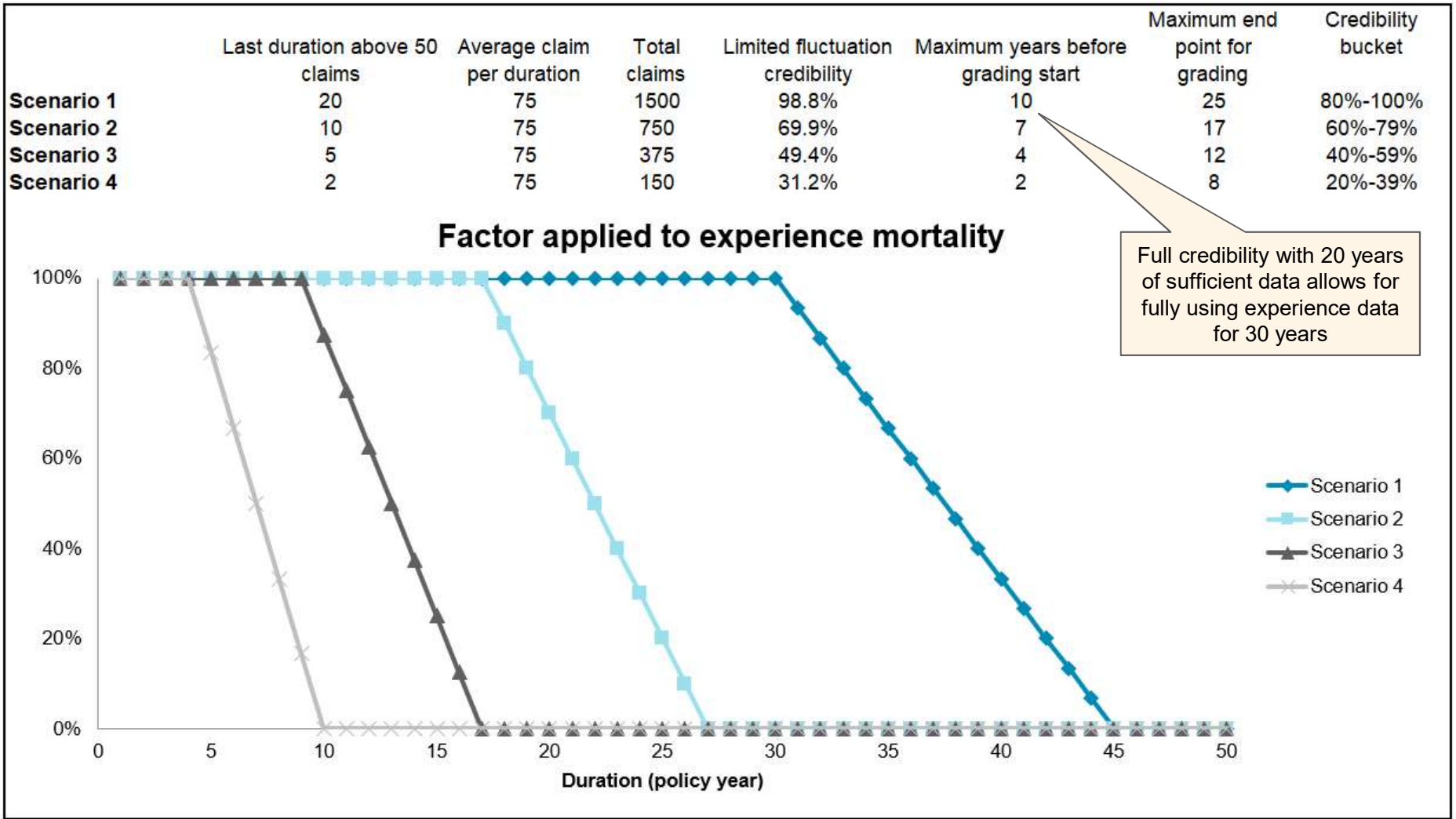
Examples of grading are provided on the next slide for varying levels of credibility



# Mortality

The grading to the industry table is a source of margin which is minimized at higher credibility levels and longer sufficient data periods

## Grading Factors (Experience)







## Key takeaways

The industry is in the final stretch of the phase-in period and regulators continue to weigh in on areas where significant discretion exists



### Analysis to date



- PBR implementations are heavily back-loaded, with 75% of participants' products moving to PBR in Q3 2019 and later
- Less than 20% of participants' products were on PBR at the end of 2018 with delayed implementation more prevalent for accumulation oriented products (WL, UL, IUL, VUL)

### Assumptions and margins



- Reserve margins are more than double what participants believe to be an appropriate level for Term, ULSG, IUL, and VUL
- Before the LATF decision, a third of the surveyed companies anticipated making changes to reinsurance agreements as a result of PBR. In general, participants had trended toward more conservative modeling approaches compared to our prior years survey.

### Emerging topics



- The recent temporary prescription on non-guaranteed YRT rates sets a precedent of regulatory intervention where significant discretion exists
- VM-20 allows for changes that will impact prudent estimate assumptions, even in cases where the underlying company experience has not changed

