

**2019 Underwriting Issues & Innovation Seminar
July 28-30, 2019
Rosemont, IL**

1A: The Fundamentals of Pricing for Underwriters

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2019 Underwriting Issues & Innovation Seminar

Fundamental of Pricing for Underwriters

July 30th, 2019

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Overview

- 1) Perspective Matters (actuarial vs underwriting)
- 2) Pricing Basics
- 3) Underwriting Exceptions
- 4) What worries actuaries?
- 5) Working together

Overview

- 1) **Perspective Matters (actuarial vs underwriting)**
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It Starts with Perspective on Risk

- Actuaries: the general
 - The law of large numbers
 - Long tail
- Underwriters: the specific
 - Here and now

The Law of Large Numbers

- Focus on the big picture
- No need to be right every time but need to be right on average
- Random error is fine
- Know when you can average or not
- Face amount is important

A Long Time Horizon

- Mortality is a long tailed risk
- Understand the impact of deviations [scenario testing]

Underwriters: Here and Now

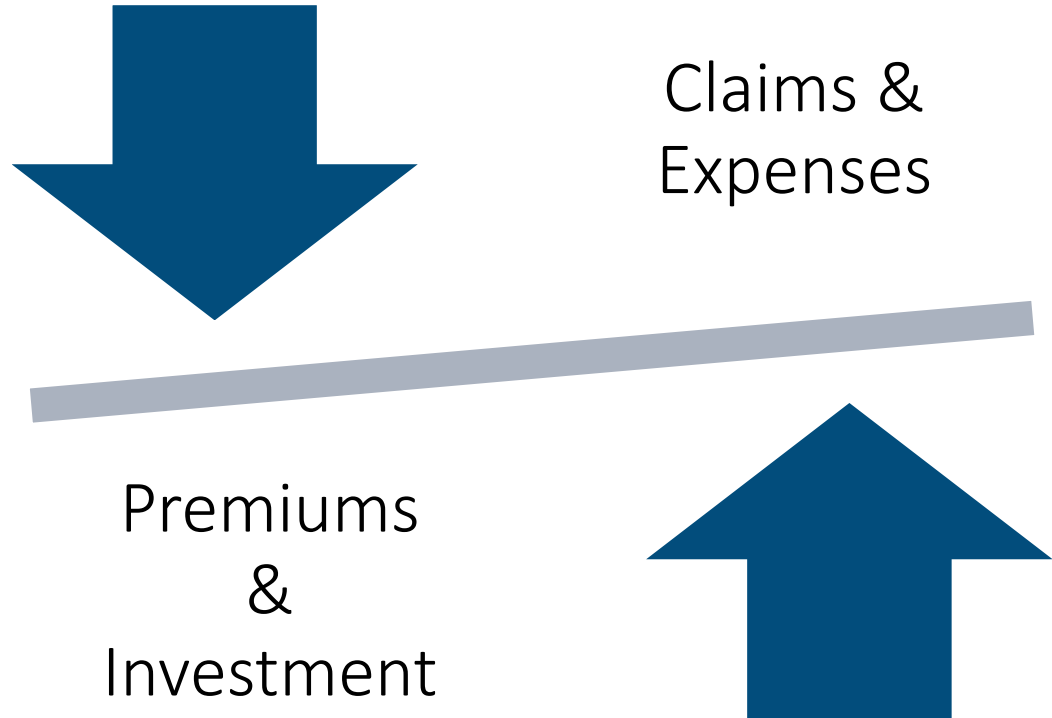
- How does this risk match the perfect risk?
- Speed vs. accuracy
- Face amount is important!!!
- Try this line on your boss: “I don’t need to be right every time, I just need to be right on average.”

Overview

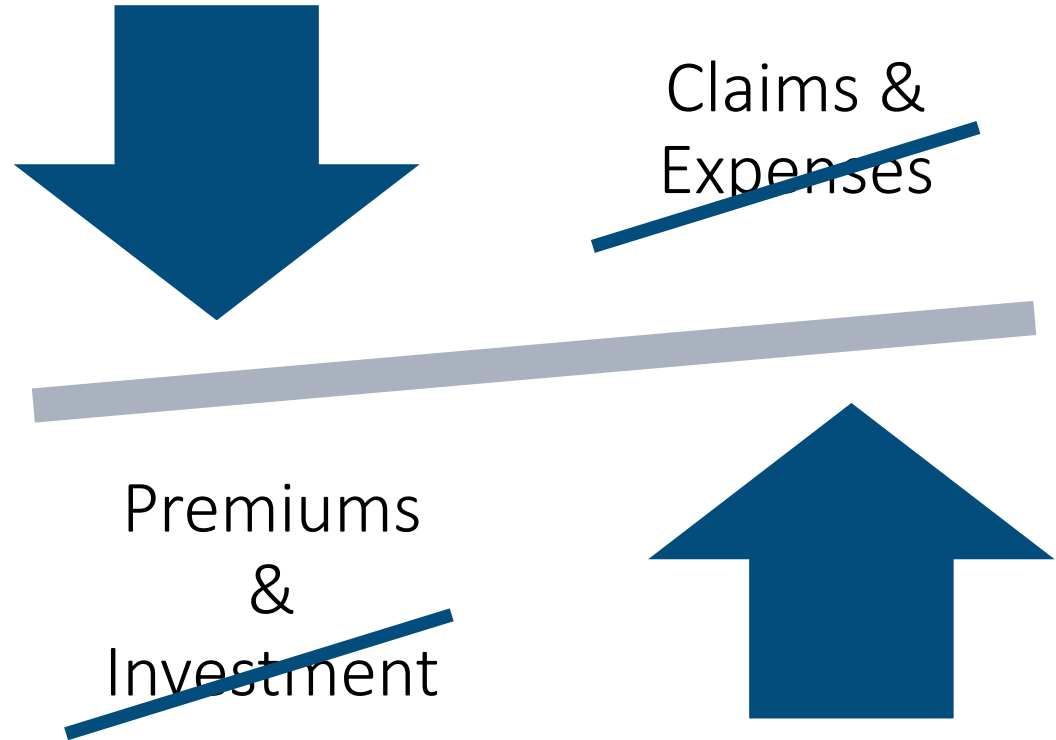
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Where Does Profit Come From?

- A balancing act



The Reinsurer's Perspective



$$P^2 + P^2 = P^2$$

Proper Product Development

+

Prescient Pricing

=

Plentiful Profit

- Features?
- Comp?
- Underwriting?
- Claims?

- Who?
- How much?
- **For how long?**
- How risky?

Product Matters!

- Term vs Perm
- Term
 - Mostly mortality
 - Significant challenges: post level term and conversions
- Permanent
 - Significant investment return component

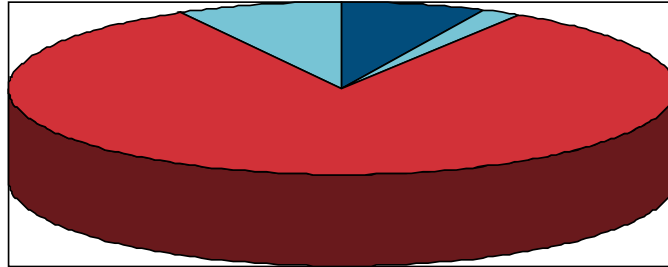
Actuarial Jargon: English Please

Excuse me, sir. Seeing as how the VP is such a VIP, shouldn't we keep the PC on the QT? 'Cause if it leaks to the VC he could end up MIA, and then we'd all be put on KP.

Pricing Return Metrics

- Profit Margin
- Internal Rate of Return (IRR or IRR Spread)
- Return on Equity (ROE)

Allocation of Term Life Premium

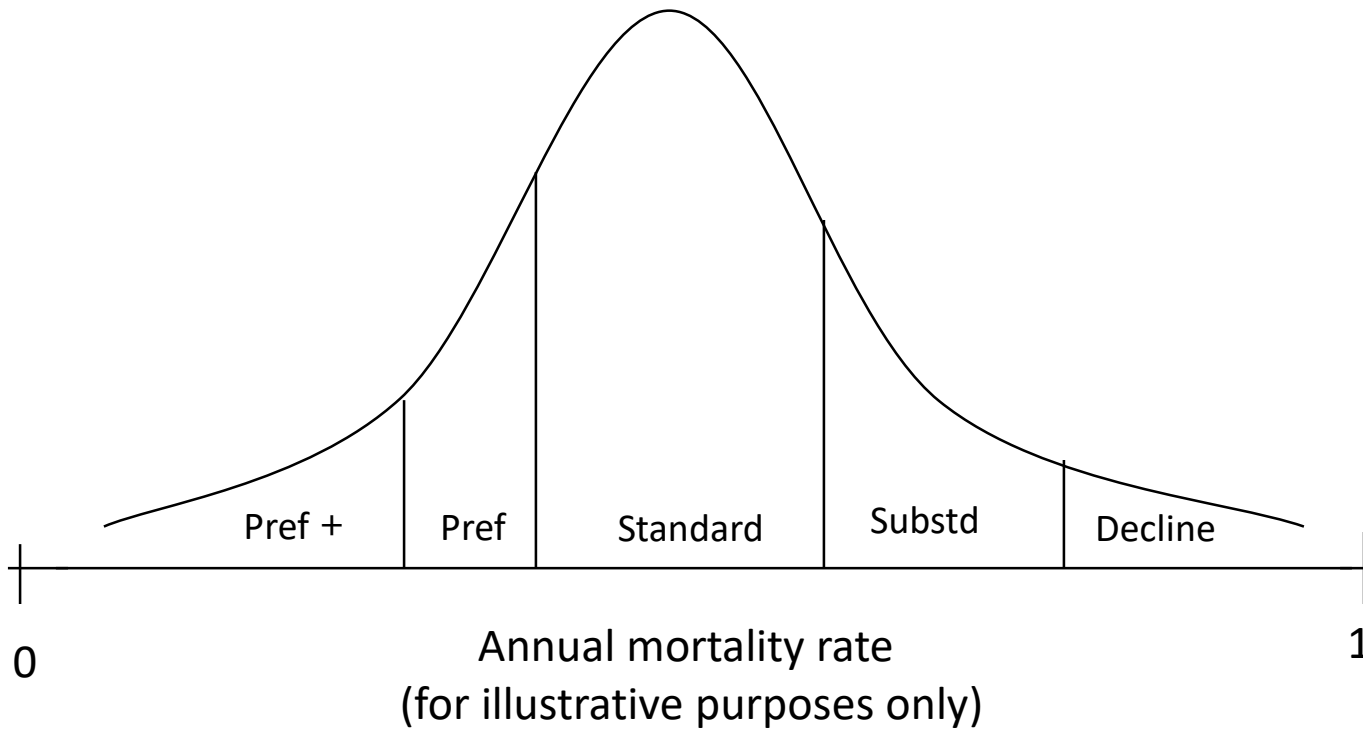


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General Population Mortality Distribution

Multiple Preferred UW Class Structure



Sample Underwriting Criteria

	<u>Pref +</u>	<u>Pref</u>	<u>Standard</u>
Cholesterol	< 210	< 240	< 300
Ratio	< 4.0	< 5.5	< 7.0
Max. Weight (6 ft.)	195	215	245

Underwriting Information

	Individuals A, B, and C			
	<u>A</u>	<u>B</u>	<u>C</u>	<u>Pref Criteria</u>
Cholesterol	238	245	175	< 240
Ratio	5.3	2.5	2.8	< 5.5
Max. Weight (6 ft.)	212	175	220	< 215
Preferred?	Yes	No	No	

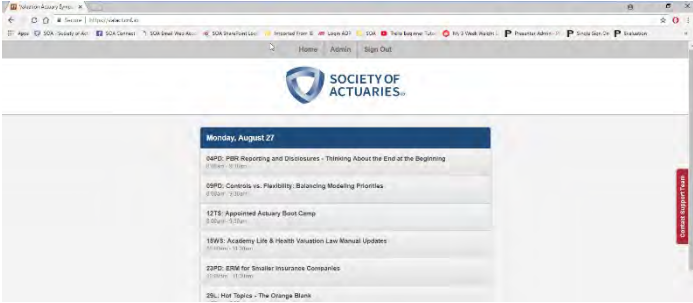
Preferred Underwriting Deviations

Applicant A meets all of the preferred underwriting criteria. Applicant B does not meet all of the criteria, but overall appears to be a better risk than applicant A.

Should applicant B be eligible for a preferred rating also?

To Participate, visit underwriting.cnf.io in your browser

Type underwriting.cnf.io In Your Browser

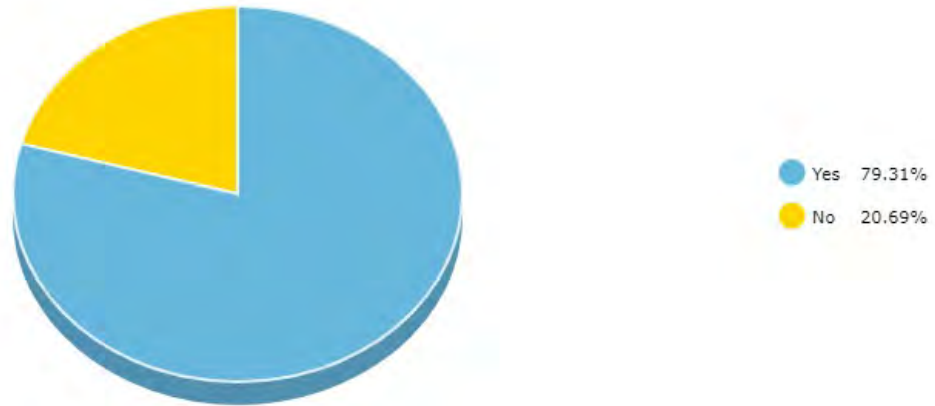


Choose your session

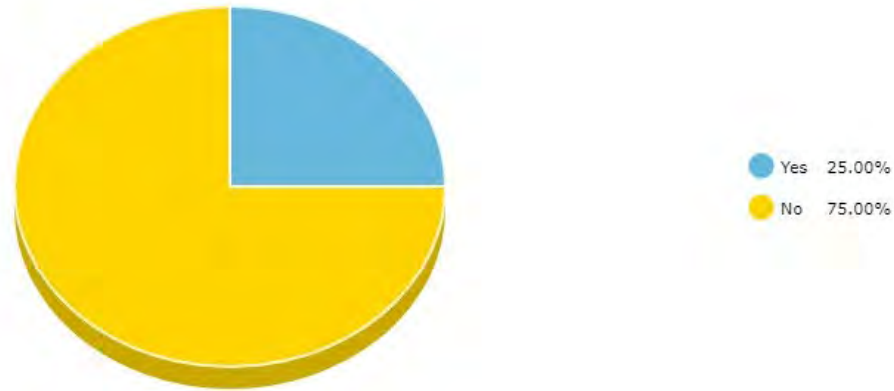


Respond to Polls when they appear

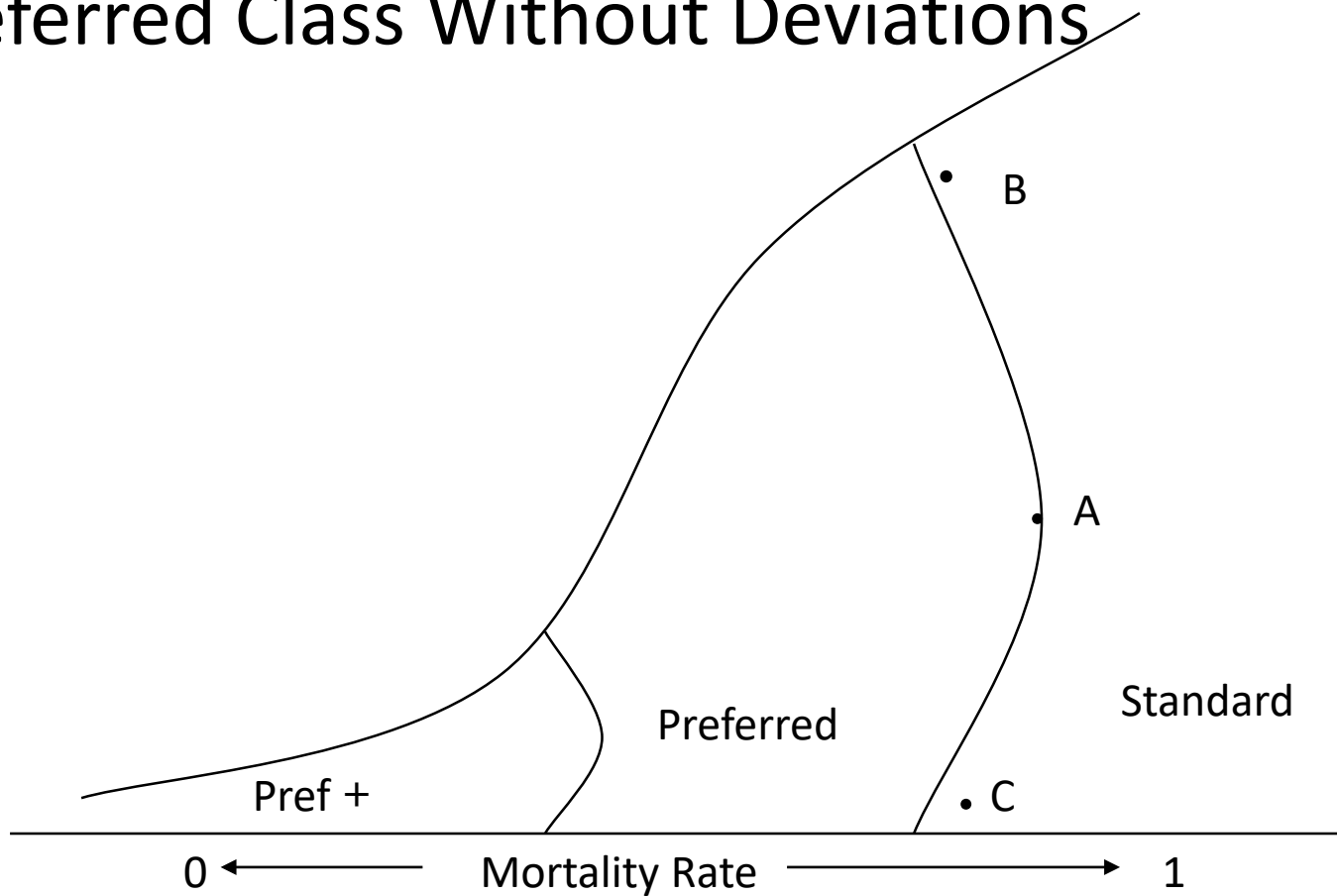
Poll: Would you make this exception?



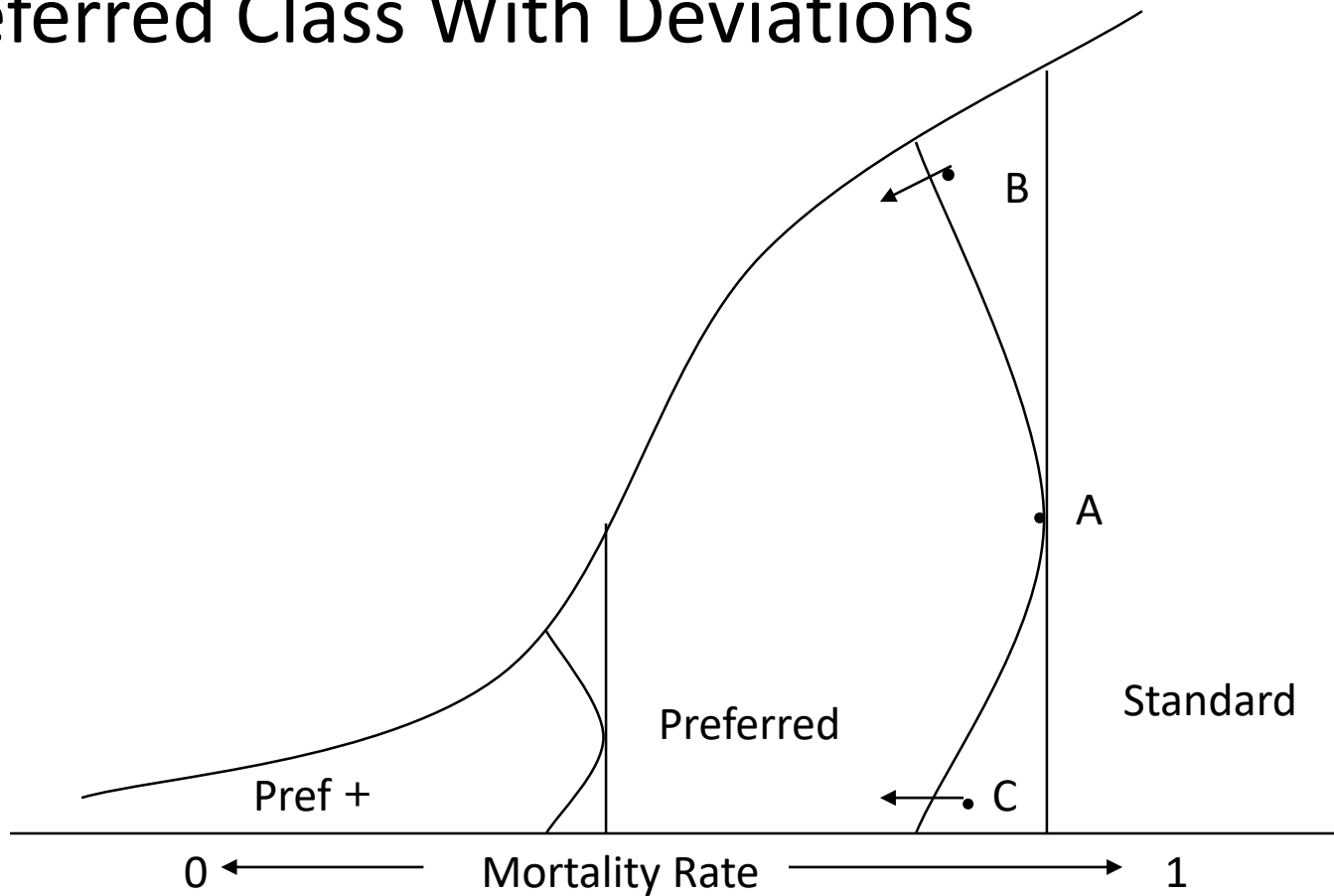
Poll: Will this "exception" have any material impact on the profitability of your product?



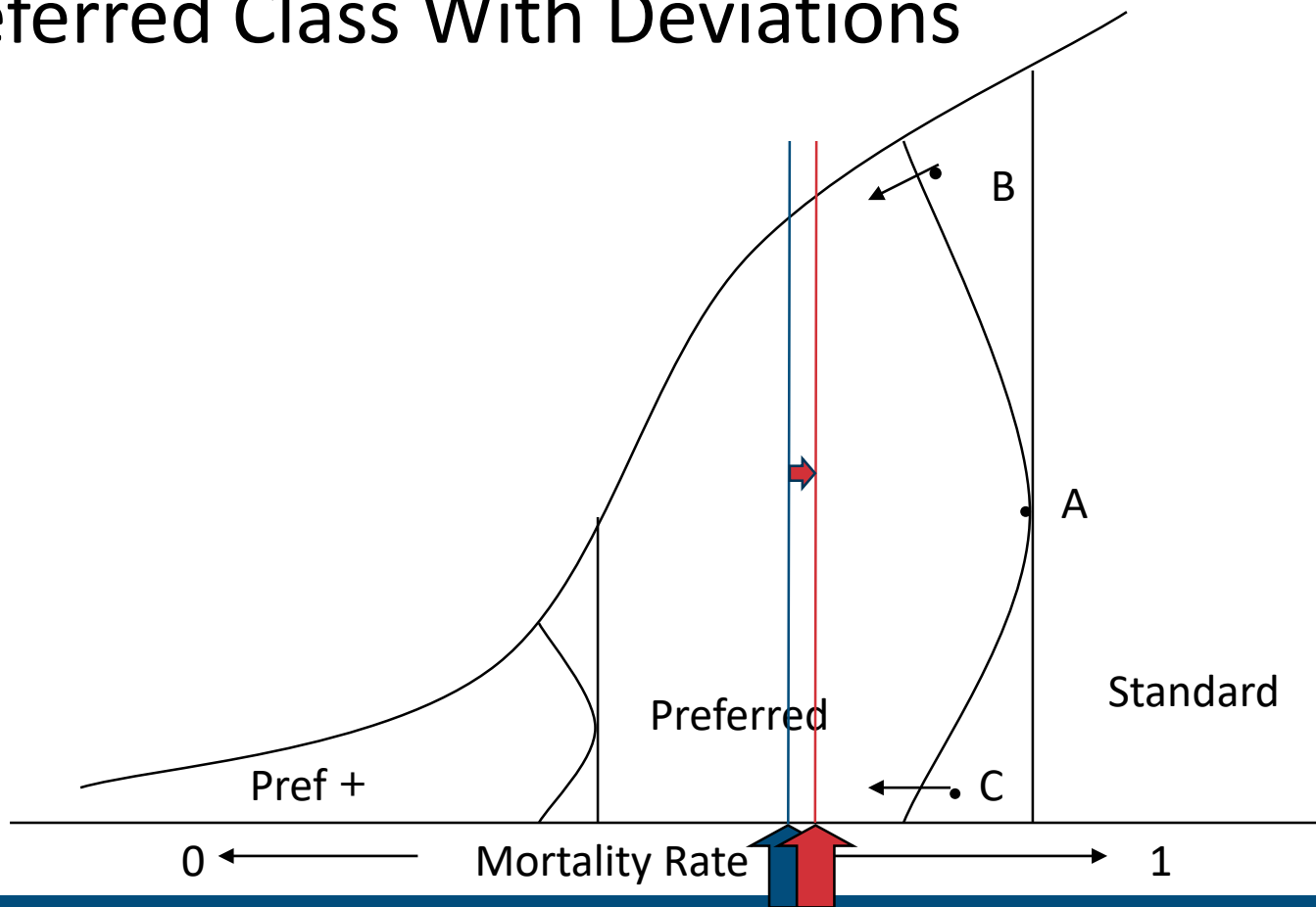
Preferred Class Without Deviations



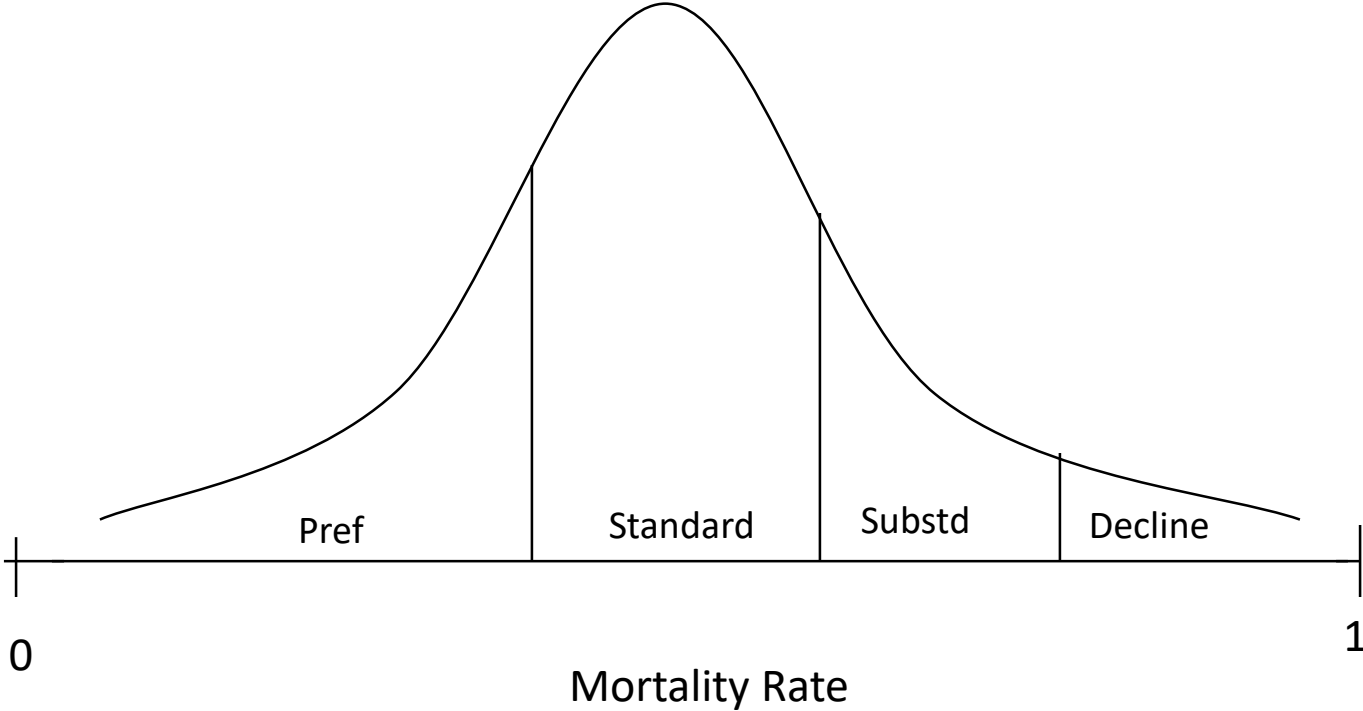
Preferred Class With Deviations



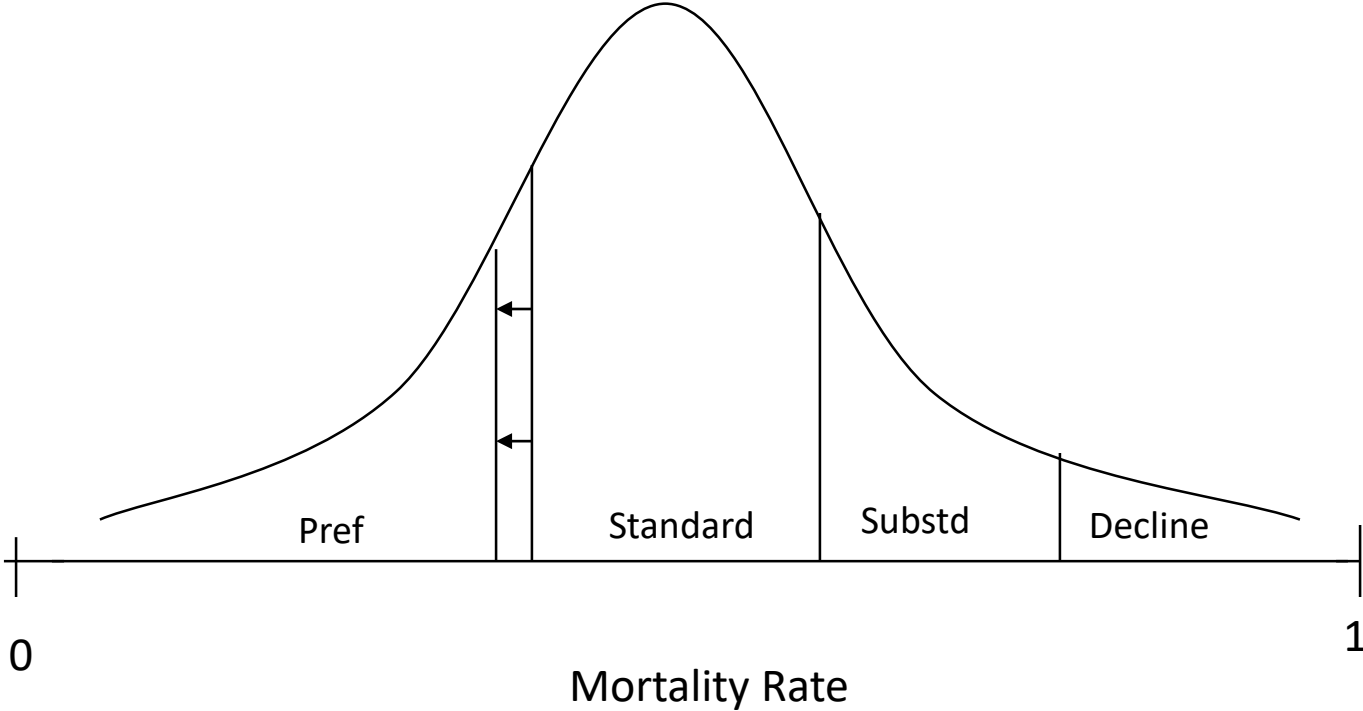
Preferred Class With Deviations



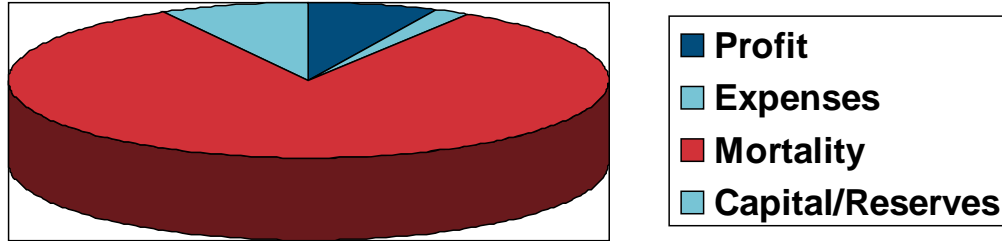
Single Preferred Class UW Structure Numerical Example



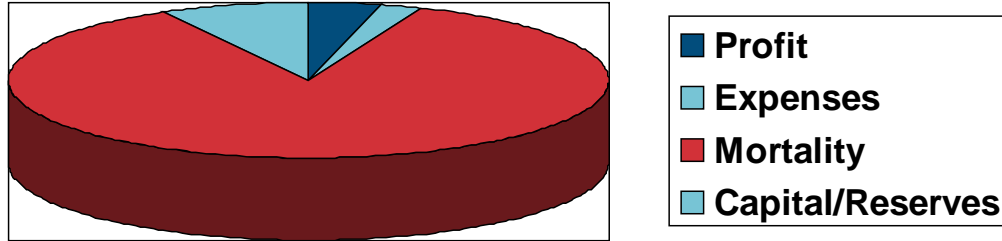
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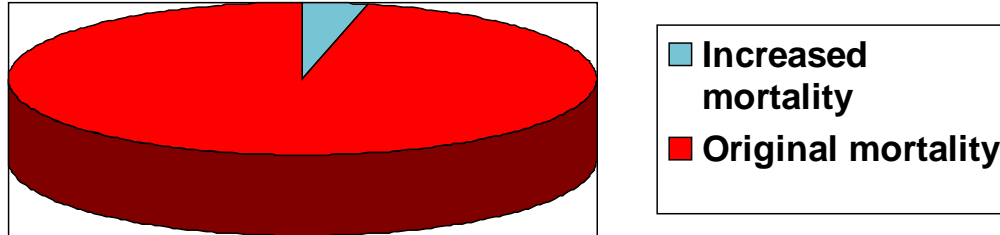
Allocation of Term Premium Per Pricing



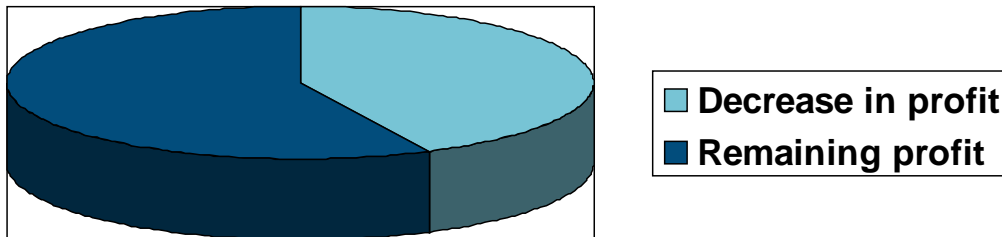
Allocation of Term Premium after Exceptions



Increased Mortality from Class Shift



Decreased Profitability from Class Shift

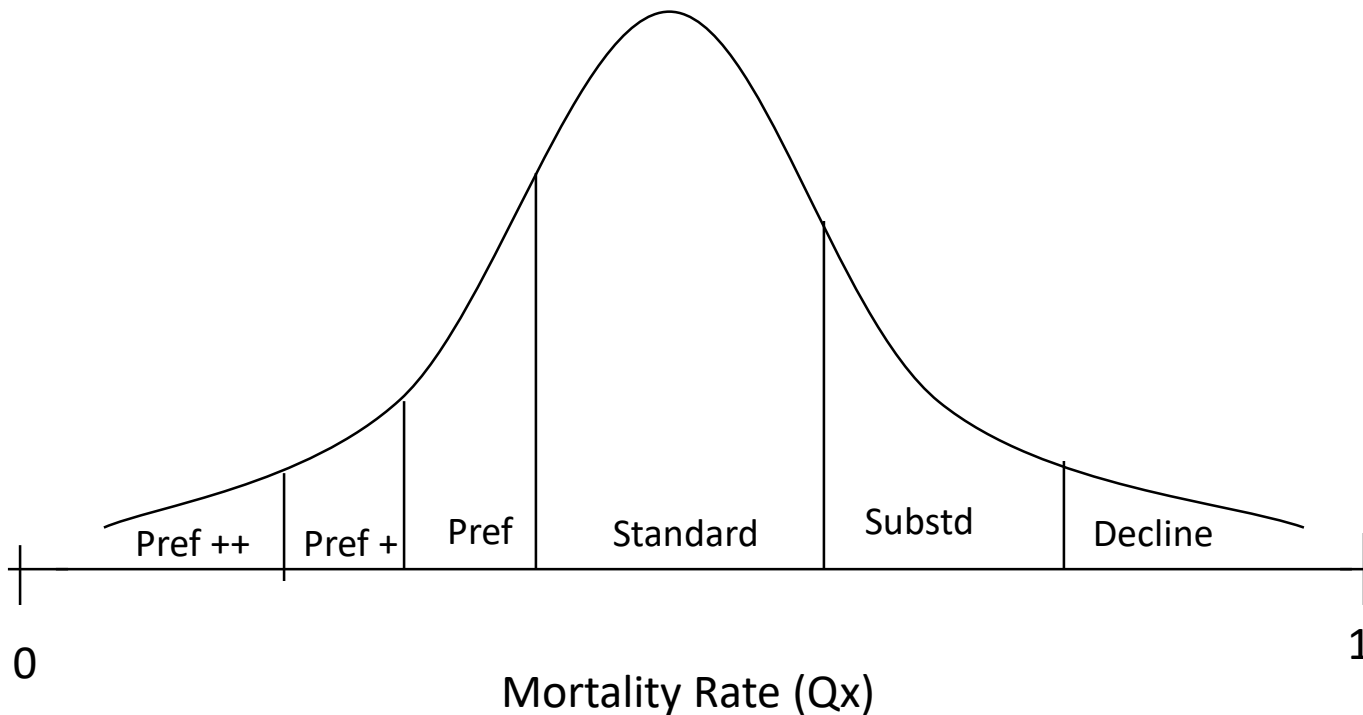


Preferred Underwriting Deviations

The shifting of risks from one underwriting class to a better class will have an impact on mortality.

Keep in mind that a given percentage increase in mortality will have a much greater effect on profitability.

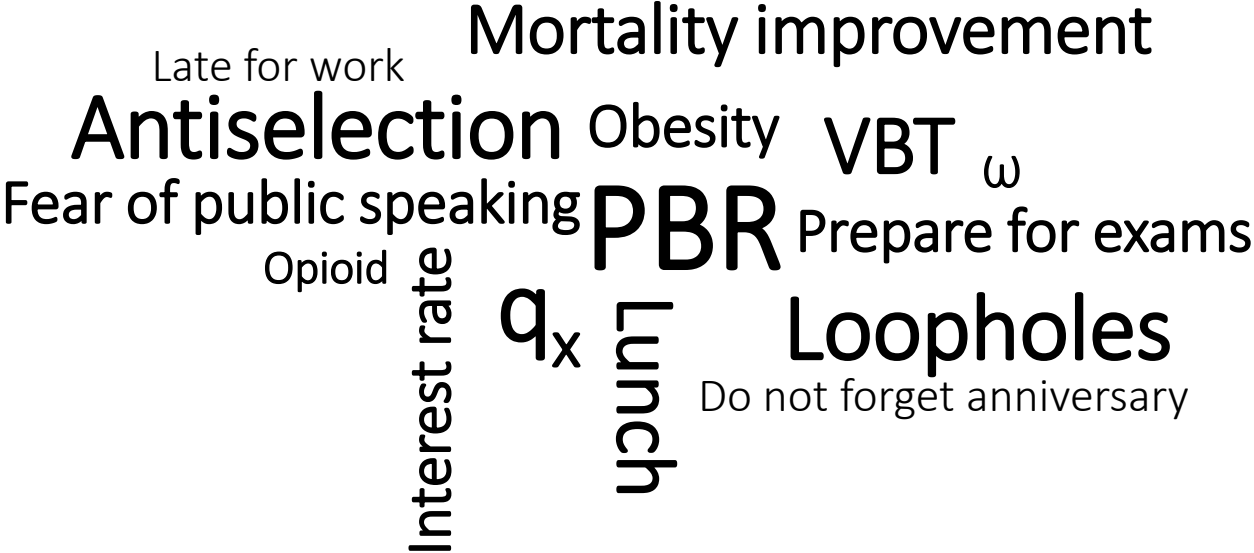
Multiple Preferred UW Class Structure Numerical Example



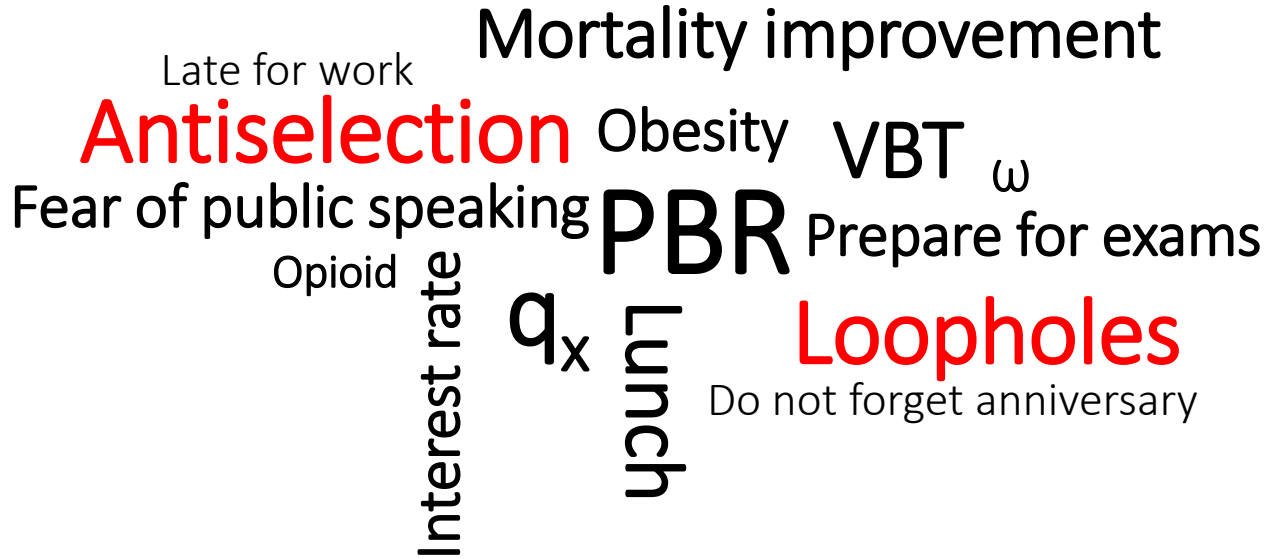
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What Worries Actuaries?



What Worries Actuaries?



...Also Worries Underwriters

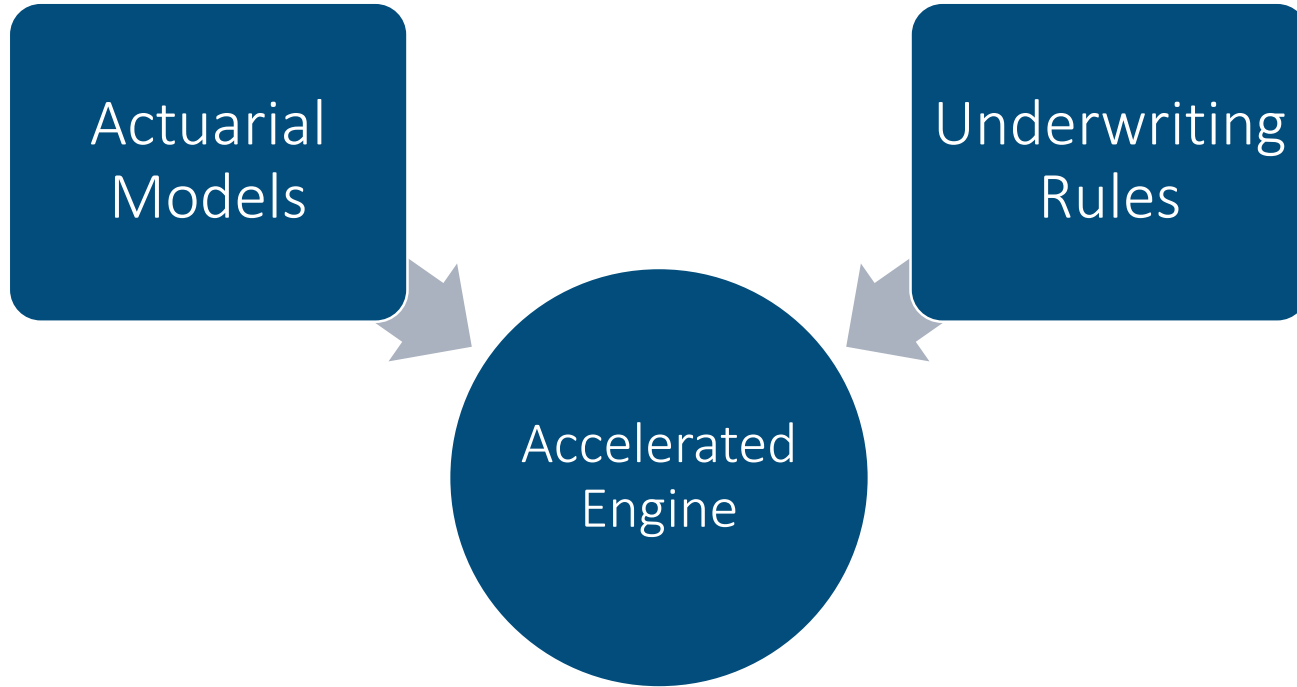
- Antiselection
- Design loopholes

Create communication pipelines
to share your experience

Overview

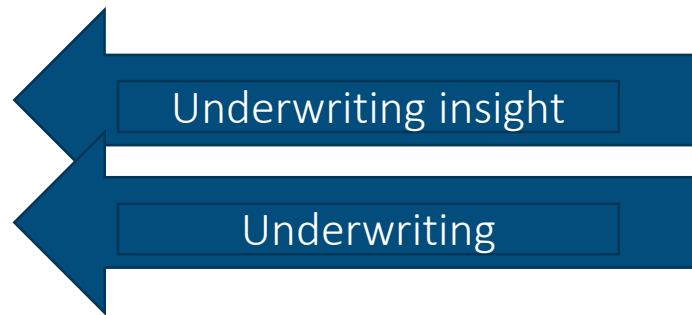
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A Brave New World: Accelerated Underwriting



The Feedback Loop

- No feedback loop, no AU
- Monitor metrics
- Evaluate random holdouts
- Act



Closing Comments

- **Perspective** matters
- Smaller mortality **changes** have more **material** impact on margins
- Working **together** produces the best results



Questions?

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