

Ultimate Mortality Implications of Lapse Assumptions

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Time Spent Analyzing

- **MORTALITY**
 - Lapse

Experience

- Mortality
- LAPSE

Tidbit of the presentation

Every 1% of face amount above issue age 70 can be as much as 5-10% of the overall mortality expectation.

5% of the distribution above age 70 can be more than a quarter of the total mortality expectation of a product.

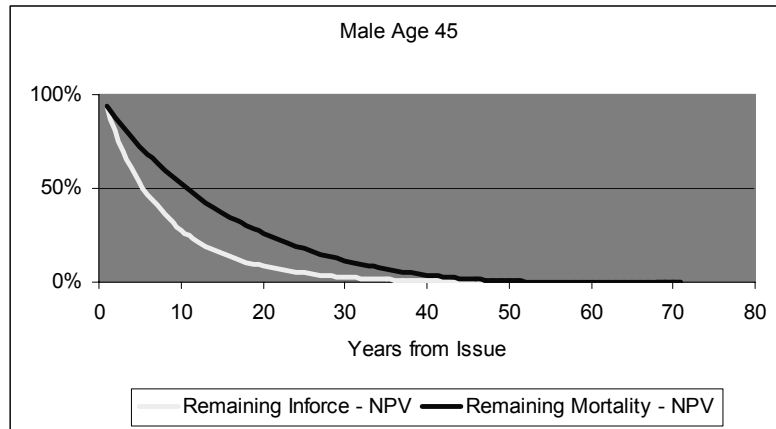
Inforce versus Mortality Runoff



What's the Point?

- Tendency to think one the inforce starts to diminish the “risk” goes with it
- In reality, mortality is obviously back-end weighted
- In 2024, someone will be explaining mortality results from 2004 issues!

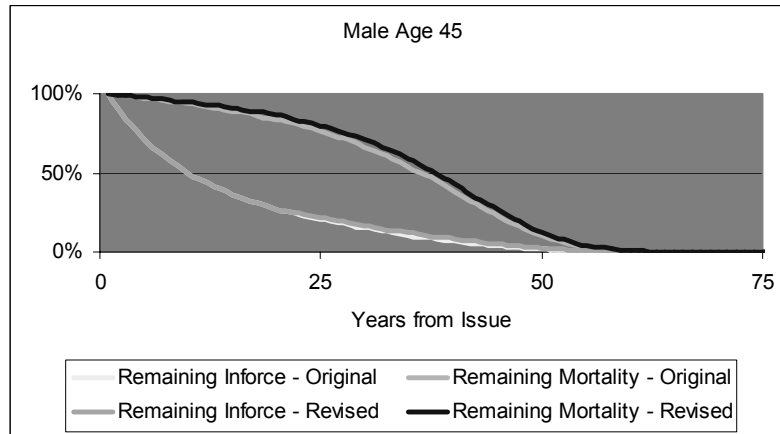
Inforce versus Mortality Runoff - NPV



Implications

- 50% of NPV of premium before duration 6
- 50% of NPV of mortality after duration 11
- Lifetime mortality....concept holds regardless of timeframe measured

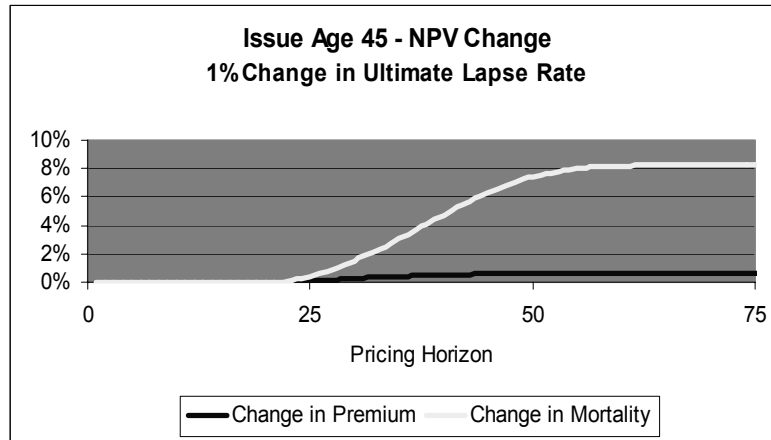
Inforce versus Mortality Runoff



Implication:

- Did I really change anything?
- Reducing ultimate (21+) lapse rate from 5% to 4%
 - Increased NPV of premium by less than 1%
 - Increased NPV of mortality by 8%

Effect on Premium and Mortality



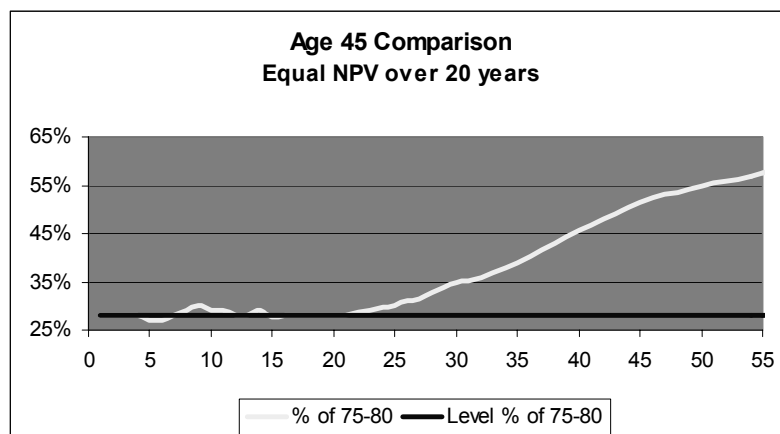
Ultimate Impacts

- Regardless of the pricing horizon, the later durations matter
- How many people are around
- What mortality expectations will they have

Pricing Horizon vs. Product Life

- Level percentage expectations
- Two Perspectives:
 - Flat % of 75-80 table forever
 - Basically flat for 20 years and then increasing

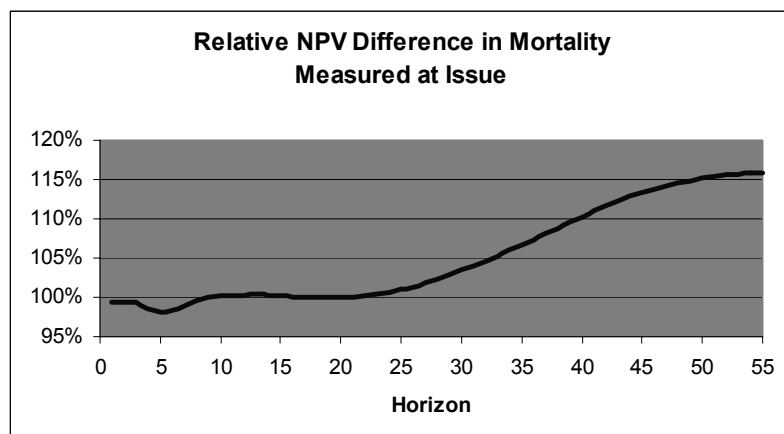
Level vs. Increasing Rate of 75-80 Table



Implication:

- Flat % is about \$100/1000 at attained age 100
- Even twice that could be argued as “light”

Level vs. Increasing Rate of 75-80 Table



Implication

- Lifetime horizon is a 15% NPV difference in mortality
 - More than ½ a table on each and every risk!
- 30-35 year horizon is approximately 5% difference

Actual Ultimate Assumption

- Lapse or mortality – it's a material assumption

Flat percentages

There is simply no indication to believe that a flat percentage of any table is sustainable.

What we do.....

- We make assumptions
 - Sometimes concrete data
 - Sometimes not.....we make a bet
- Understand the game you're playing and the bet made.
- Scenario test your assumptions....which ones are really sensitive and material.

Ultimately

- Appreciate the sensitivities and where to spend your time