

Policyholder Behavior – Life Insurance

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Agenda

- Level premium term and the conversion option
- Term conversion experience study results and key observations
- PLT experience studies

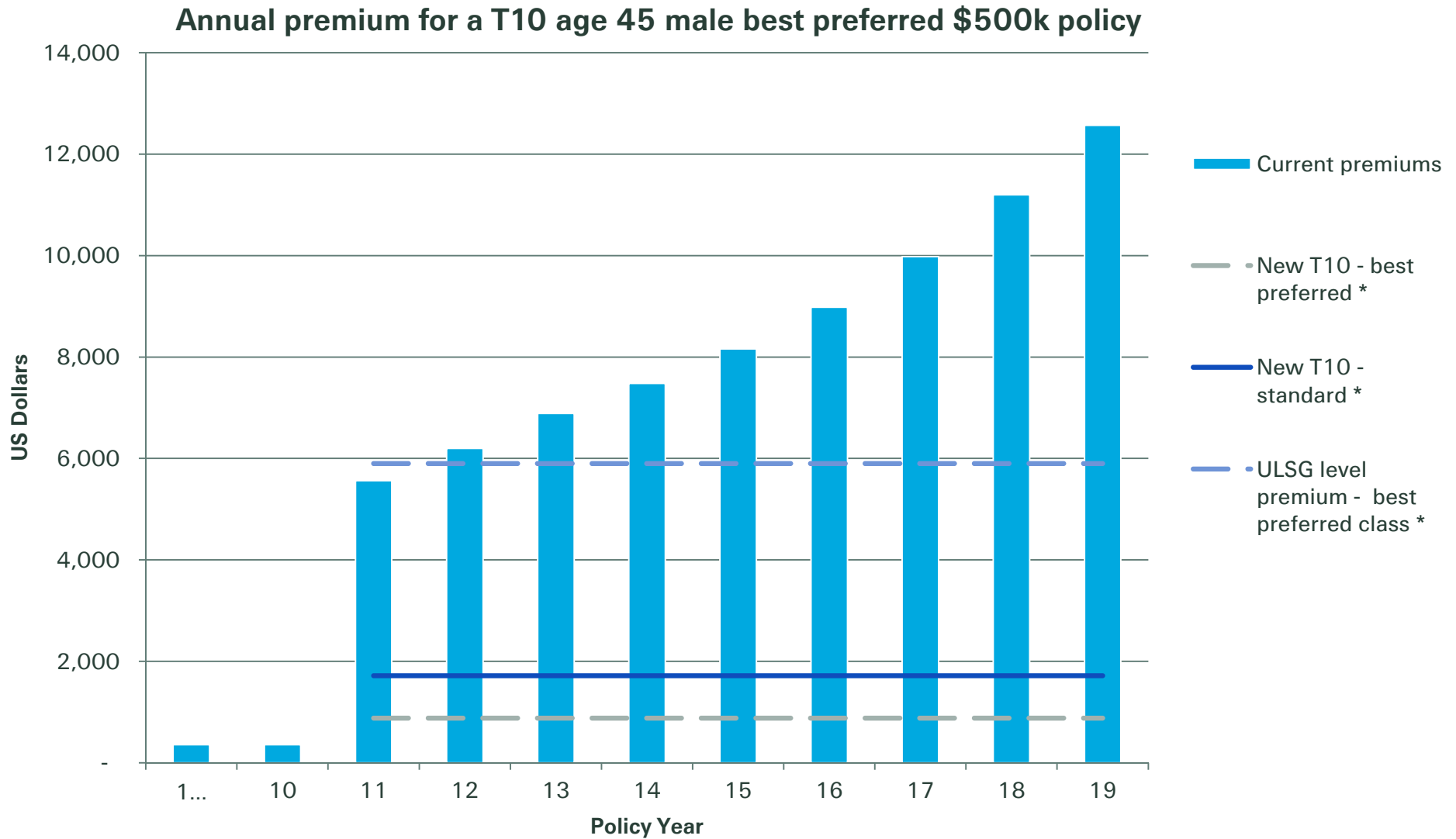
Studying policyholder behavior for term conversions

Discussion Items

- Level premium term and the conversion options
- Experience study results and key observations

Term example

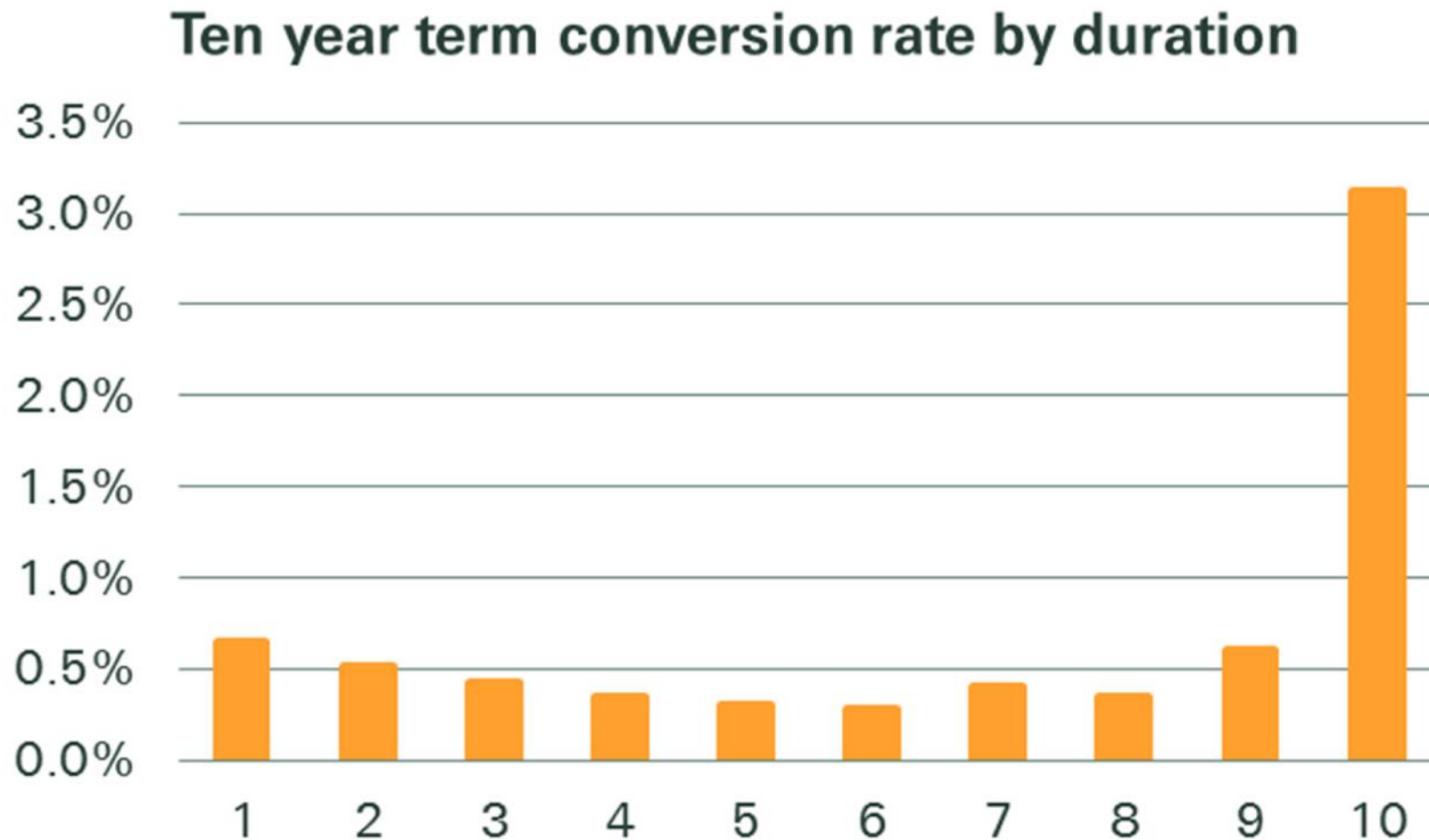
Options at the end of the level premium period



Source: *Complife – 10th best rate 6-5-13

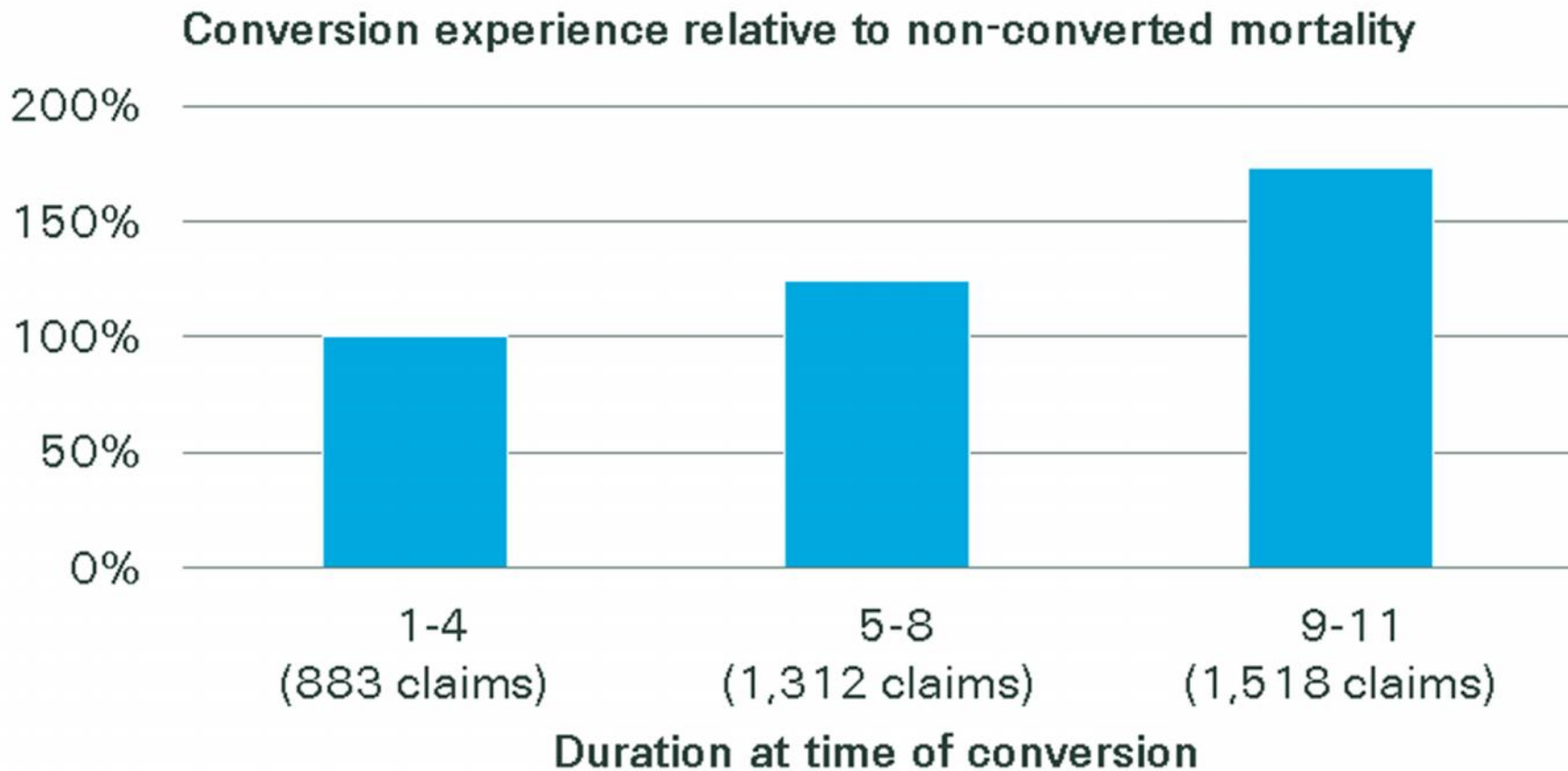
Term conversion experience

Conversion rate spikes at the end of level period



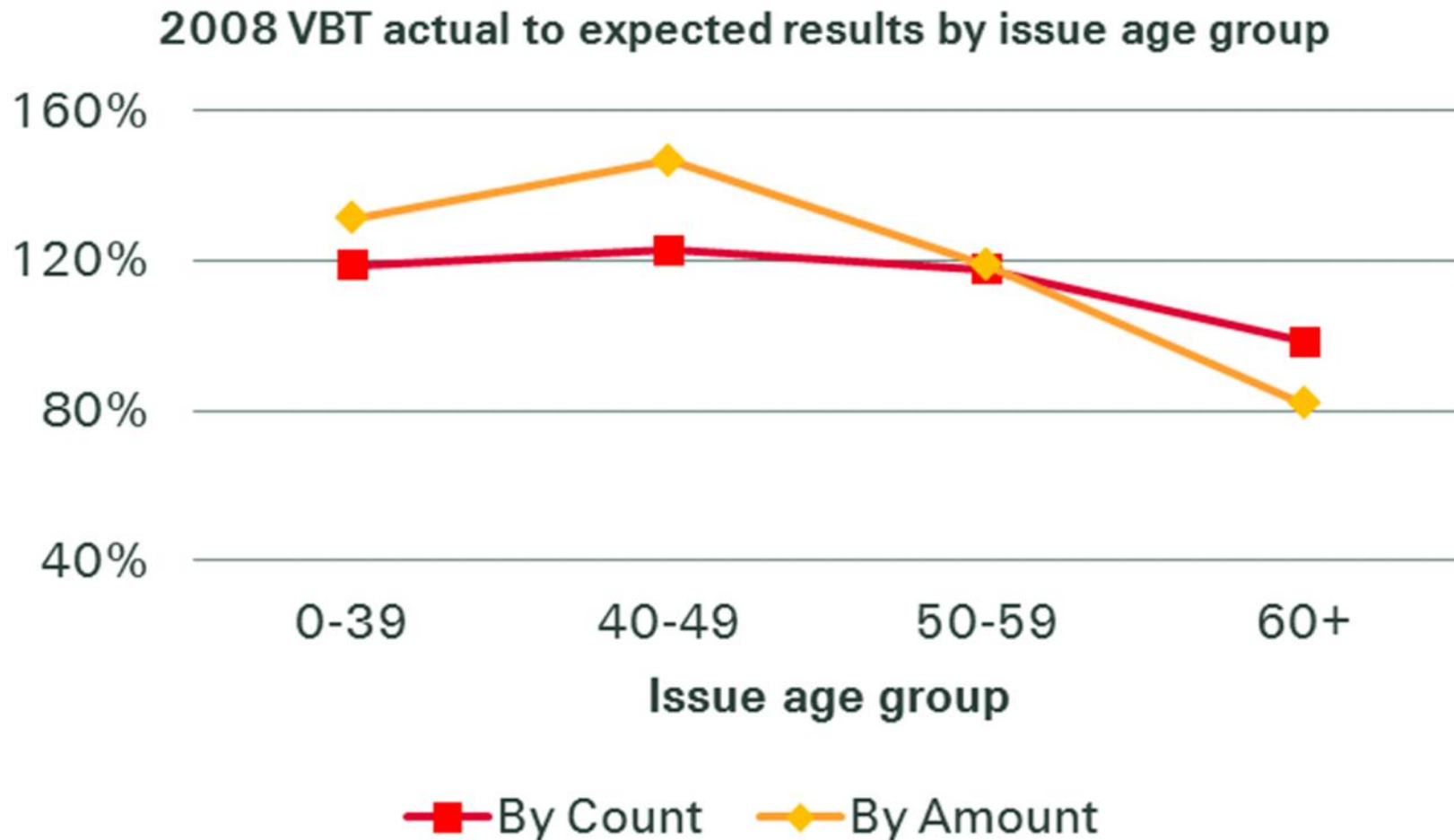
Term conversion experience

Anti-selection increases by duration of conversion



Term conversion experience

Less anti-selection at older ages due to age limits



PLT experience studies

Discussion Items

- Shock lapse
- Mortality anti-selection

Comprehensive research, credible results

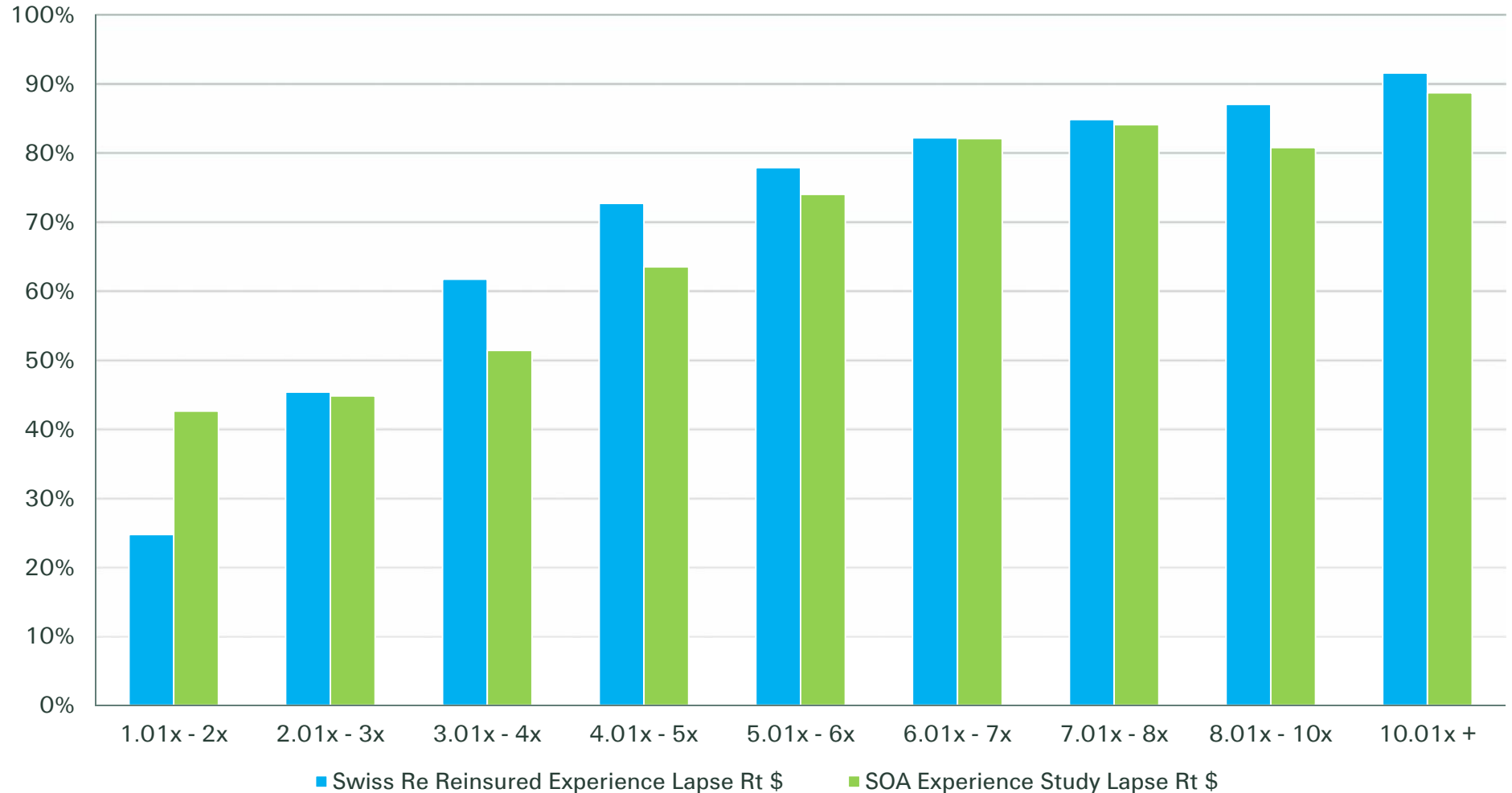
- Our analysis centers around 3 different studies
 - Swiss Re industry study
 - Swiss Re reinsurance study
 - SOA study
- Analysis focused on areas where we have premium information
- Summary PLT studies statistics (T10 only):

| | <u>Swiss Re industry study</u> | <u>Swiss Re reinsurance study</u> | <u>SOA study</u> |
|----------------|------------------------------------|---------------------------------------|------------------|
| Companies | 8 | 31 | 10 |
| Issue years | 1990-2002 | 1990-2002 | 1989-1999 |
| Exposure years | 1995-2012 | 2007-9/2012 | 2000-2008 |
| PLT claims | 2,246 | 1,914 | 382 |
| Dur 10+ lapses | 360,357 | 421,405 | 87,544 |

Lapse experience

Lapse rates correlate with premium jumps

T10 shock lapse rate by premium jump ratio

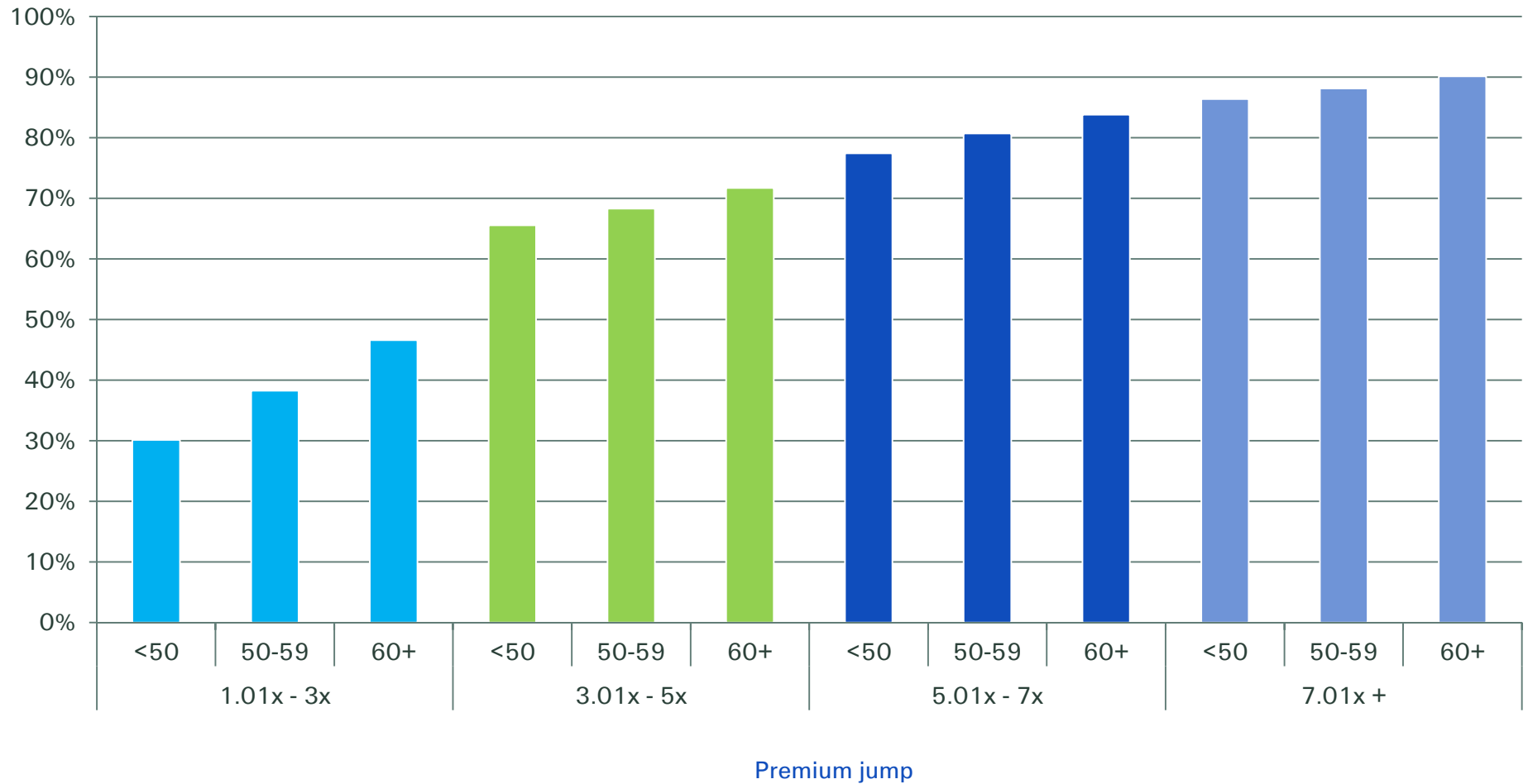


Sources: 2010 SOA and Swiss Re 's Reinsurance studies

Lapse experience

Lapses vary by age for a given premium jump

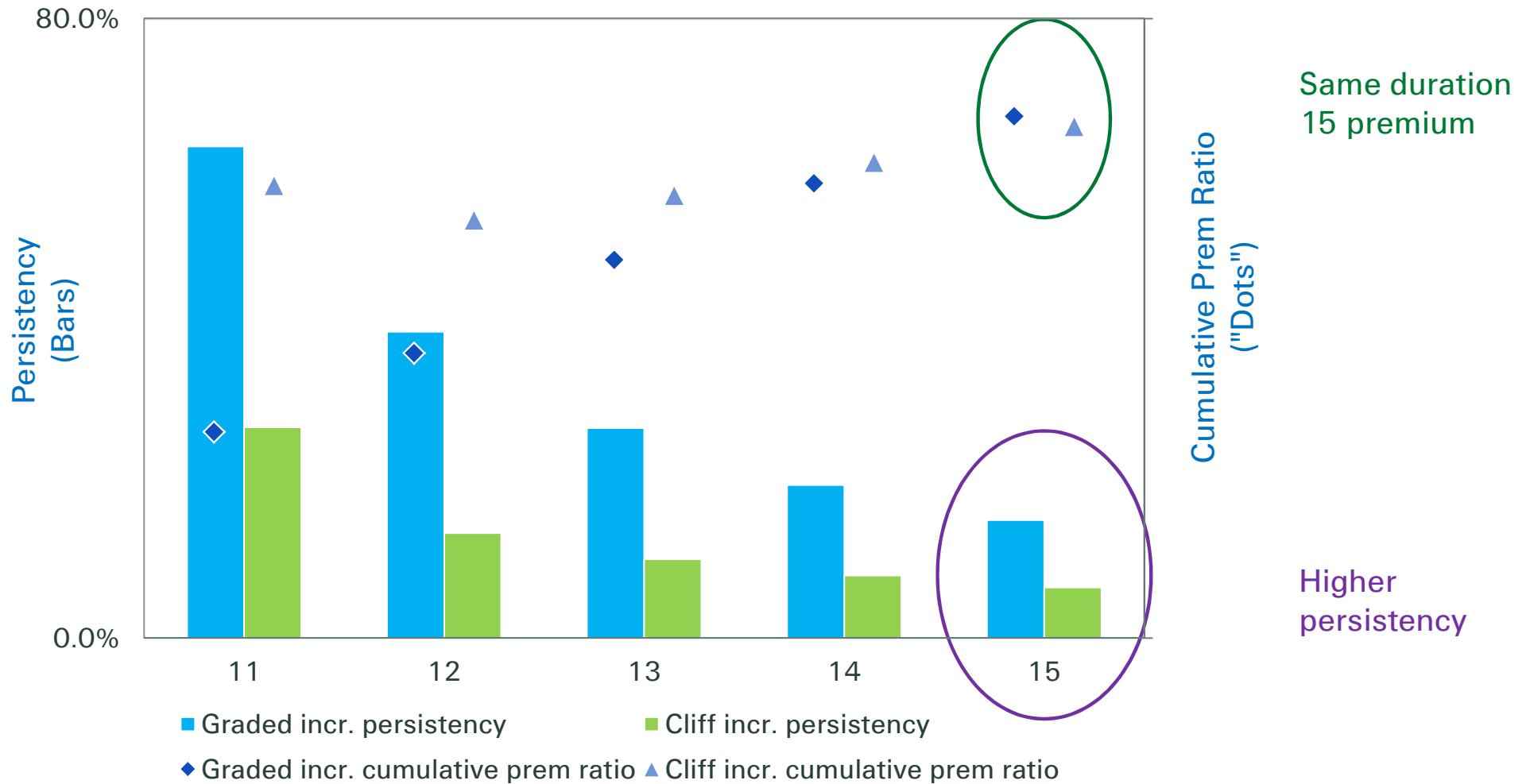
T10 shock lapse rate by premium jump and attained age



Source: Swiss Re's Reinsurance study

Post level term Persistence is path dependent

Post level term persistency by duration

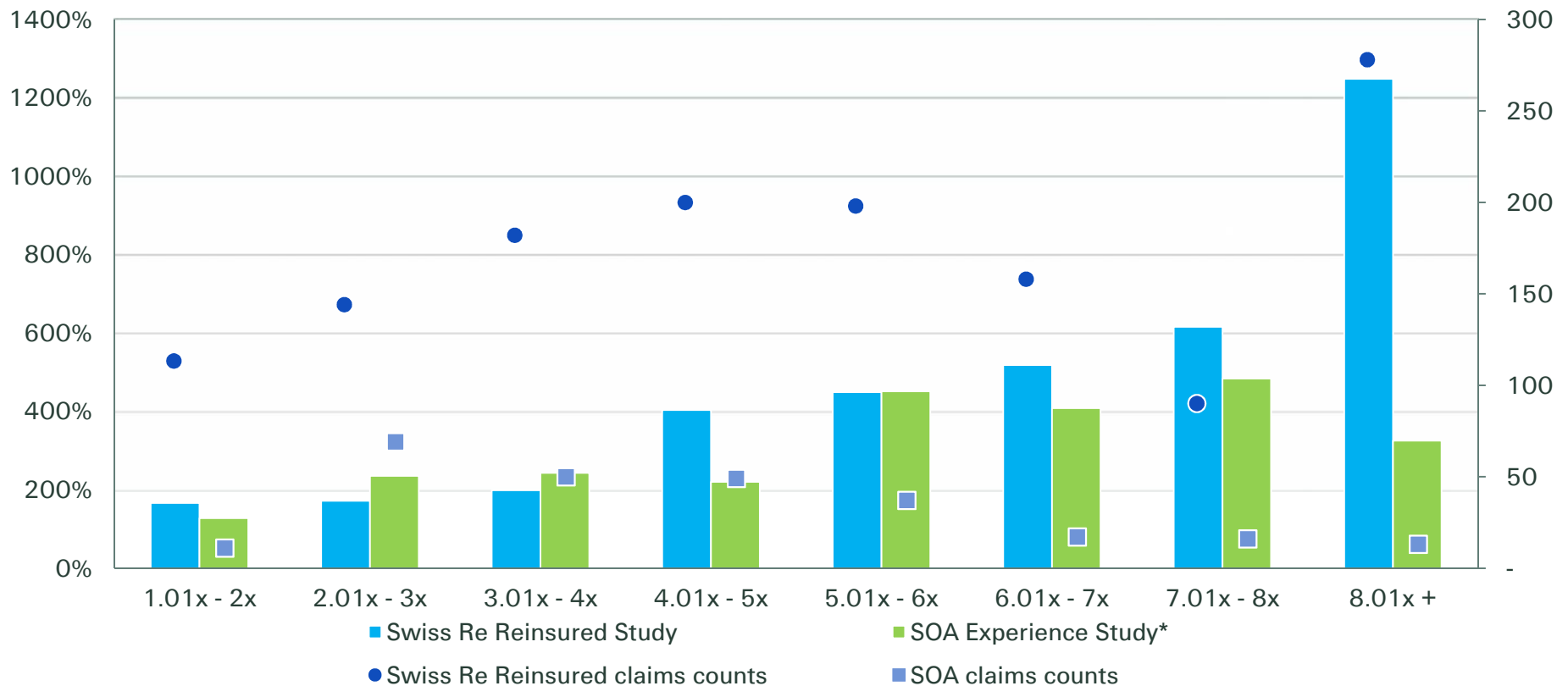


Source: Swiss Re 's Reinsurance study

Mortality experience

Mortality increases with larger premium jumps

Post Level Mortality (Dur 11-12) as % of Swiss Re's Base Tables



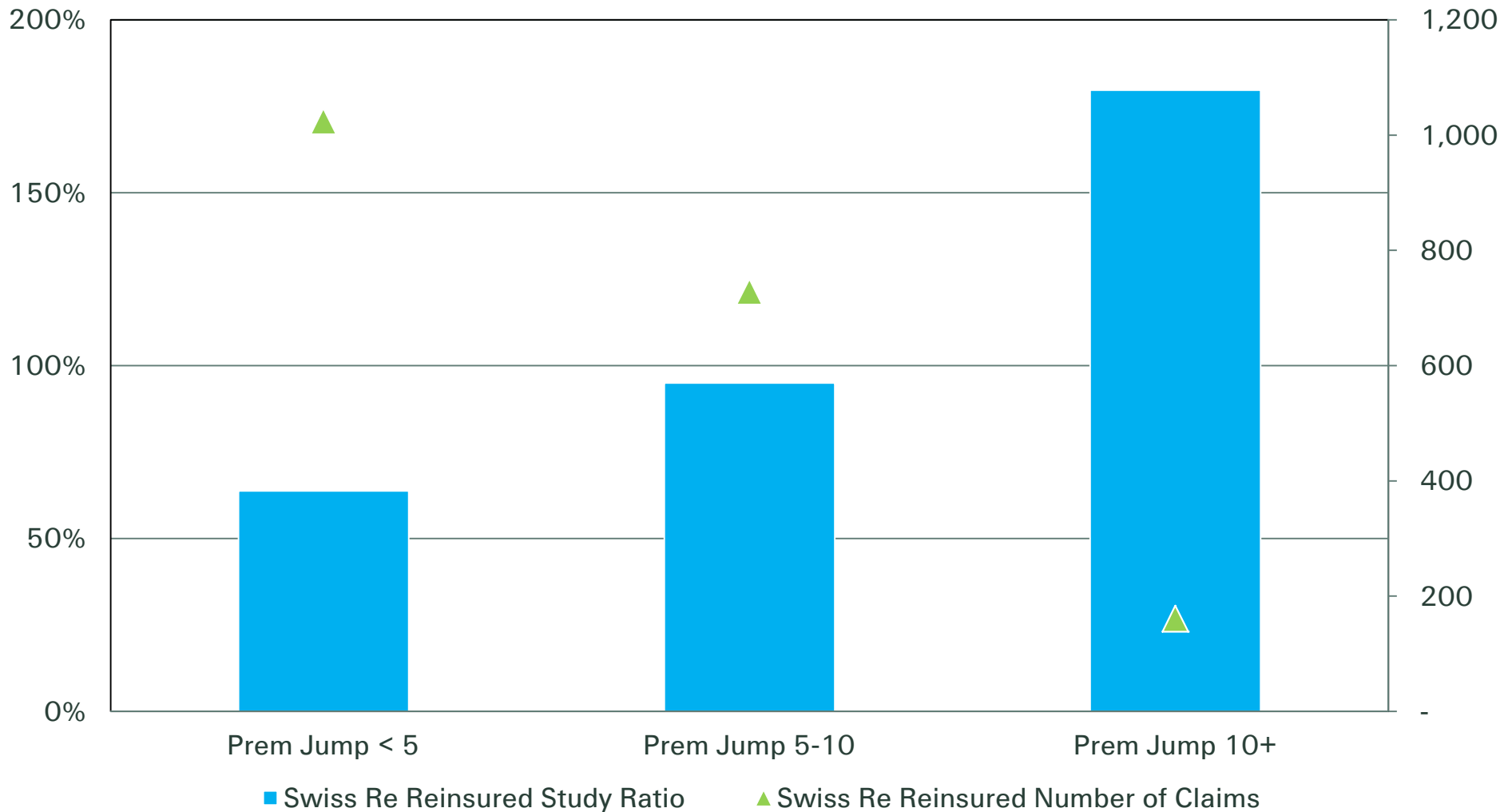
* SOA by amount results were estimated based on results by band – Swiss Re Qs were also estimated off other studies

- Mortality patterns largely follow results seen in the lapse analysis (higher lapses = higher mortality)
- Given the limited number of claims there is significant volatility, however there is a clear trend
- Level period mortality = 100% of Swiss Re's Base Table

Sources: 2010 SOA study and Swiss Re's Reinsurance studies

Post level term Loss ratio increases by premium jump

Ratio of Death Benefits to Direct Premiums



Source: Swiss Re 's Reinsurance study

Management considerations and conclusions

Key takeaways

Anti-selection increases by duration of conversion

A significant cost of the conversion option is driven by end of level period conversions

Shock lapse and mortality correlate to the size of premium jump

Cliff increases don't seem to work well for anyone

Thank you

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