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## Session 85PD: Considerations Under U.S. GAAP Targeted Improvements

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# 2018 SOA Life & Annuity Symposium

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**Session 085 – Considerations Under U.S. GAAP Targeted  
Improvements: Practical Implications and Impact Analysis**

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# **Session 85PD: Considerations Under U.S. GAAP Targeted Improvements – Traditional Contract Reserves & DAC**

Leonard Reback

# **Traditional Non-Participating Contract Reserves**

# Non-Participating Contract Reserves

- Under current US GAAP, reserve assumptions for non-participating traditional contracts (i.e., FAS 60 & FAS 97 limited pay contracts) are locked in at contract inception
  - This includes certain participating contracts that do not qualify for FAS 120 accounting approach (e.g., dividends do not follow the contribution principle)
- The assumptions include a provision for adverse deviation (PAD)
- The discount rate is locked in and based on expected investment returns
- A premium deficiency (or loss recognition) test is required

# Updating Non-Participating Contract Reserve Assumptions

- Under the proposed targeted improvements, cash flow assumptions would be updated at least annually.
- Assumption true-ups to actual experience could be performed either annually or quarterly
- Changes in projected cash flows resulting from the change in assumptions or true-up of inforce would retrospectively unlock the net premium ratio.
  - Similar to the retrospective unlocking used for DAC under FAS 97 universal life contracts
  - Net premium ratio is subject to a 100% cap at cohort level
  - This unlocking would offset some of the change in the present value of future cash flows
  - The remainder of the change in present value of future cash flows would result in a change in reserve on the balance sheet and would be reported through net income



# Updating Non-Participating Contract Reserve Assumptions *(continued)*

- Deferred profit liabilities on limited pay contracts would be unlocked similar to the net premium ratio
- PADs would no longer be permitted
- Premium deficiency testing would no longer be permitted for these contracts (except any VOBA would need to be tested for recoverability)
- Reserves floored at zero by cohort
- Certain maintenance expenses (ongoing level costs) no longer permitted to be included in reserves
  - Entities would have the option to lock in assumptions for expenses included in reserves
- Cohorts not defined explicitly, but may not include contracts issued more than a year apart

# Updating Non-Participating Contract Reserve Discount Rates

- Under the proposed targeted improvements, the discount rate would no longer be based on expected investment returns
- The discount rate would be based on “upper-medium grade fixed-income instrument yield”
  - Generally interpreted as single-A quality in the US
- The discount rate would be updated each reporting period
- Changes in discount rates would be reported through other comprehensive income (OCI), not net income
  - This better matches the accounting treatment of available-for-sale assets
  - Net income would be determined based on the locked in rate at issue
- Net premium ratio is not impacted by discount rate changes
  - Net premium ratio is always calculated based on the locked in rate at issue

# Non-Participating Contract Reserves

## Implications

- A portion of any change in cash flows will impact the reserve
  - For a future cash flow change, proportion of PV of future cash flow change impacting reserves will increase as contract ages
  - But PV of future cash flows change may decrease as contracts get closer to maturity
  - For a current period experience update, portion impacting reserves will decrease as contract ages; portion impacting net income will increase as contract ages
- Although the discount rate through OCI will better match AFS securities, the match will be imperfect, even if perfectly duration matched
  - Net premium ratio will make the reported reserve “duration” shorter than the duration on a gross premium basis
  - Not all assets are AFS securities
  - No offset for assets backing UL, investment contracts, par WL or surplus

# Retrospective Unlocking Example

Assumptions:

6 year contract

No expenses

Claims do not impact terminations

Initial interest rate = 0%

# Retrospective Unlocking Example

## ORIGINAL PROJECTION

| Year              | Benefits | Gross Premiums  | Net Premiums | EOY FPB Liability |
|-------------------|----------|-----------------|--------------|-------------------|
| 1                 | 9        | 20              | 17           | 8.2               |
| 2                 | 12       | 18              | 15           | 11.7              |
| 3                 | 13       | 17              | 15           | 13.3              |
| 4                 | 15       | 16              | 14           | 12.1              |
| 5                 | 17       | 15              | 13           | 8.0               |
| 6                 | 20       | 14              | 12           | 0.0               |
| PV @ Issue        | 86       | 100             | 86           |                   |
| Net Premium Ratio |          | $86/100 = 86\%$ |              |                   |

# Retrospective Unlocking Example

## BENEFIT EXPERIENCE DEVIATION IN YEAR 2 NO CHANGE TO PROJECTED CASH FLOWS

| Year              | Prior Benefits | Prior Gross Premiums | Prior Net Premiums | Prior EOY Liability | Revised Benefits | Revised Gross Premiums | Revised Net Premiums | Revised EOY Liability |
|-------------------|----------------|----------------------|--------------------|---------------------|------------------|------------------------|----------------------|-----------------------|
| 1                 | 9              | 20                   | 17                 | 8.2                 | 9                | 20                     | 18                   | 8.2                   |
| 2                 | 12             | 18                   | 15                 | 11.7                | 17               | 18                     | 16                   | 8.6                   |
| 3                 | 13             | 17                   | 15                 | 13.3                | 13               | 17                     | 15                   | 11.1                  |
| 4                 | 15             | 16                   | 14                 | 12.1                | 15               | 16                     | 15                   | 10.6                  |
| 5                 | 17             | 15                   | 13                 | 8.0                 | 17               | 15                     | 14                   | 7.3                   |
| 6                 | 20             | 14                   | 12                 | 0.0                 | 20               | 14                     | 13                   | 0.0                   |
| PV @ Issue        | 86             | 100                  | 86                 |                     | 91               | 100                    | 91                   |                       |
| Net Premium Ratio |                | 86/100 = 86%         |                    |                     |                  | 91/100 = 91%           |                      |                       |

# Retrospective Unlocking Example

## UPDATE BENEFIT ASSUMPTIONS IN YEAR 3 NO EXPERIENCE DEVIATION

| Year              | Prior Benefits | Prior Gross Premiums | Prior Net Premiums | Prior EOY Liability | Revised Benefits | Revised Gross Premiums | Revised Net Premiums | Revised EOY Liability |
|-------------------|----------------|----------------------|--------------------|---------------------|------------------|------------------------|----------------------|-----------------------|
| 1                 | 9              | 20                   | 18                 | 8.2                 | 9                | 20                     | 19                   | 8.2                   |
| 2                 | 17             | 18                   | 16                 | 8.6                 | 17               | 18                     | 17                   | 8.6                   |
| 3                 | 13             | 17                   | 15                 | 11.1                | 13               | 17                     | 16                   | 13.8                  |
| 4                 | 15             | 16                   | 15                 | 10.6                | 17               | 16                     | 15                   | 12.2                  |
| 5                 | 17             | 15                   | 14                 | 7.3                 | 19               | 15                     | 14                   | 7.6                   |
| 6                 | 20             | 14                   | 13                 | 0.0                 | 21               | 14                     | 13                   | 0.0                   |
| PV @ Issue        | 91             | 100                  | 91                 |                     | 96               | 100                    | 96                   |                       |
| Net Premium Ratio | 91/100 = 91%   |                      |                    |                     | 96/100 = 96%     |                        |                      |                       |

# Retrospective Unlocking Example

REVISE DISCOUNT RATE TO 2% IN YEAR 3  
ALONG WITH ASSUMPTION UPDATE

| Year              | Benefits | Gross Premiums | Net Premiums | EOY Liability @0% | Benefits | Gross Premiums | Net Premiums | EOY Liability @2% |
|-------------------|----------|----------------|--------------|-------------------|----------|----------------|--------------|-------------------|
| 1                 | 9        | 20             | 19           | 8.2               | 9        | 20             | 19           | 8.2               |
| 2                 | 17       | 18             | 17           | 8.6               | 17       | 18             | 17           | 8.6               |
| 3                 | 13       | 17             | 16           | 13.8              | 13       | 17             | 16           | 12.3              |
| 4                 | 17       | 16             | 15           | 12.2              | 17       | 16             | 15           | 11.2              |
| 5                 | 19       | 15             | 14           | 7.6               | 19       | 15             | 14           | 7.1               |
| 6                 | 21       | 14             | 13           | 0.0               | 21       | 14             | 13           | 0.0               |
| PV@0%             | 96       | 100            | 96           |                   | 96       | 100            | 96           |                   |
| PV@2%             |          |                |              |                   | 89       | 92             | 88           |                   |
| Net Premium Ratio |          | 96/100 = 96%   |              |                   |          | 96/100 = 96%   |              |                   |



Net premium ratio always uses discount rate from issue. At end of year 3, modified duration using GP is 6.25 but 5.56 using NP. Reserve change of 11% consistent with NP calculation.



# Retrospective Unlocking Example with DPL

ORIGINAL PROJECTION WITH 0% DISCOUNT RATE  
STRAIGHT LINE DPL AMORTIZATION USED FOR ILLUSTRATION

| Year       | Benefits | Gross Premiums | EOY FPB Liability | EOY DPL           | EOY Total Liability |
|------------|----------|----------------|-------------------|-------------------|---------------------|
| 1          | 9        | 100            | 77.0              | $14 * 5/6 = 11.7$ | 88.7                |
| 2          | 12       | 0              | 65.0              | $14 * 4/6 = 9.3$  | 74.3                |
| 3          | 13       | 0              | 52.0              | $14 * 3/6 = 7.0$  | 59.0                |
| 4          | 15       | 0              | 37.0              | $14 * 2/6 = 4.7$  | 41.7                |
| 5          | 17       | 0              | 20.0              | $14 * 1/6 = 2.3$  | 22.3                |
| 6          | 20       | 0              | 0.0               | 0.0               | 0.0                 |
| PV @ Issue | 86       | 100            |                   |                   |                     |
| Day 1 DPL  |          | $100-86=14$    |                   |                   |                     |

# Retrospective Unlocking Example with DPL

EXPERIENCE DEVIATION IN YEAR 2  
NO CHANGE TO PROJECTED CASH FLOWS

| Year       | Original Benefits | Original Gross Premiums | Original EOY FPB | Original EOY DPL | Original EOY Liability | Revised Benefits | Revised Gross Premiums | Revised EOY FPB | Revised EOY DPL | Revised EOY Liability |
|------------|-------------------|-------------------------|------------------|------------------|------------------------|------------------|------------------------|-----------------|-----------------|-----------------------|
| 1          | 9                 | 100                     | 77.0             | 11.7             | 88.7                   | 9                | 100                    | 77.0            | 11.7            | 88.7                  |
| 2          | 12                | 0                       | 65.0             | 9.3              | 74.3                   | 17               | 0                      | 65.0            | 6.0             | 71.0                  |
| 3          | 13                | 0                       | 52.0             | 7.0              | 59.0                   | 13               | 0                      | 52.0            | 4.5             | 56.5                  |
| 4          | 15                | 0                       | 37.0             | 4.7              | 41.7                   | 15               | 0                      | 37.0            | 3.0             | 40.0                  |
| 5          | 17                | 0                       | 20.0             | 2.3              | 22.3                   | 17               | 0                      | 20.0            | 1.5             | 21.5                  |
| 6          | 20                | 0                       | 0.0              | 0.0              | 0.0                    | 20               | 0                      | 0.0             | 0.0             | 0.0                   |
| PV @ Issue | 86                | 100                     |                  |                  |                        | 91               | 100                    |                 |                 |                       |
| Day 1 DPL  |                   | 100-86=14               |                  |                  |                        |                  | 100-91=9               |                 |                 |                       |

# **DAC and Similar Items**

# DAC Simplification

- Under current US GAAP, DAC and certain other balances (e.g., deferred sales inducements, unearned revenue) are amortized under a variety of methods
  - FAS 60 uses proportion of premiums using locked in assumptions
  - FAS 97 universal life-type contracts usually uses a proportion of gross profits using retrospectively unlocked assumptions
  - Some universal life-type contracts use an alternative basis
  - FAS 120 par contracts use a proportion of gross margins using retrospectively unlocked assumptions
  - Certain investment contracts use an effective yield approach

# DAC Simplification

- Under the proposed targeted improvements, amortization of DAC and similar balances would be simplified and more standardized
- Effective yield amortization for certain investment contracts remains
- VOBA and reinsurance receivables may be permitted to optionally retain existing amortization approaches
- All other contracts would amortize DAC and similar items either using a straight-line basis contract-by-contract or on a grouped basis that approximates straight-line for individual contracts
  - Expected decrements would need to be reflected

# DAC Simplification

- Retrospective unlocking would be eliminated
  - Current period amortization would only be updated proportionally in the event of actual decrements to the amortization basis exceeding expected
  - Changes to future assumptions would impact DAC amortization prospectively
  - E.g., if we expect inforce to run off faster than originally expected, we will revise the future amortization pattern to correspond to the new pattern, but no impact to current period DAC balance
- Shadow DAC (and many other shadow items) would be eliminated

# DAC Simplification

- DAC (and similar balances) would no longer accrete interest
- DAC (and similar balances) would no longer be subject to impairment tests (e.g., recoverability, premium deficiency, loss recognition)
- Renewal acquisition costs or ongoing front-end fees would no longer be amortized prior to incurring the costs
- VOBA is an exception
  - Targeted improvements do not require a change to VOBA amortization methodology, although change to the new DAC method may be permitted
  - VOBA is still subject to loss recognition testing

# DAC Simplification

## Implications

- All else equal, elimination of interest accretion will accelerate amortization
- All else equal, prohibition against amortizing costs (or fees in the case of URL) before they are incurred will decelerate amortization
- Revised amortization bases may accelerate or decelerate amortization
- Elimination of retrospective unlocking should make amortization patterns smoother and more predictable, and eliminates DAC write-ups
- True ups due to actual deviations from expected in amount of inforce are asymmetric
- Single premium contracts will have DAC
- Timing of unwind of reserves and DPL will not necessarily match DAC unwind
- DAC amortization divorced from profitability



# DAC Example

Assumptions:

6 year contract

5% interest rate

Premium proportional to inforce amount, which is deemed to approximate straight-line by contract

FAS 60 accounting under current GAAP

Under base case, 80 of deferrable expenses in year 1

# DAC Example

## BASE CASE

CURRENT GAAP

TARGETED IMPROVEMENTS

| Year        | Premium | Capitalization | Amortization | Interest | DAC  | Inforce | Capitalization | Amortization | Interest | DAC  |
|-------------|---------|----------------|--------------|----------|------|---------|----------------|--------------|----------|------|
| 1           | 100     | 80             | -19.6        | 3.0      | 63.4 | 10000   | 80             | -17.8        | 0.0      | 62.2 |
| 2           | 90      | 0              | -17.7        | 2.3      | 48.0 | 9000    | 0              | -16.0        | 0.0      | 46.2 |
| 3           | 80      | 0              | -15.7        | 1.6      | 33.9 | 8000    | 0              | -14.2        | 0.0      | 32.0 |
| 4           | 70      | 0              | -13.7        | 1.0      | 21.1 | 7000    | 0              | -12.4        | 0.0      | 19.6 |
| 5           | 60      | 0              | -11.8        | 0.5      | 9.8  | 6000    | 0              | -10.7        | 0.0      | 8.9  |
| 6           | 50      | 0              | -9.8         | 0.0      | 0.0  | 5000    | 0              | -8.9         | 0.0      | 0.0  |
| PV @ Issue  | 407.3   | 80             |              |          |      | 45000   | 80             |              |          |      |
| Amort Ratio | 19.6%   |                |              |          |      | 0.178%  |                |              |          |      |

# DAC Example

## ASSUME BOTH 1<sup>st</sup> YEAR AND RENEWAL COSTS

### CURRENT GAAP

### TARGETED IMPROVEMENTS

| Year          | Premium | Capitalization | Amortization | Interest | DAC  | Inforce | Capitalization      | Amortization | Interest | DAC  |
|---------------|---------|----------------|--------------|----------|------|---------|---------------------|--------------|----------|------|
| 1             | 100     | 50             | -19.3        | 1.5      | 32.2 | 10000   | 50                  | -11.1        | 0.0      | 38.9 |
| 2             | 90      | 30             | -17.4        | 2.2      | 47.1 | 9000    | 30                  | -17.7        | 0.0      | 51.1 |
| 3             | 80      | 0              | -15.4        | 1.6      | 33.3 | 8000    | 0                   | -15.7        | 0.0      | 35.4 |
| 4             | 70      | 0              | -13.5        | 1.0      | 20.8 | 7000    | 0                   | -13.8        | 0.0      | 21.6 |
| 5             | 60      | 0              | -11.6        | 0.5      | 9.6  | 6000    | 0                   | -11.8        | 0.0      | 9.8  |
| 6             | 50      | 0              | -9.6         | 0.0      | 0.0  | 5000    | 0                   | -9.8         | 0.0      | 0.0  |
| PV @ Issue    | 407.3   | 78.6           |              |          |      | 45000   | 50.0                |              |          |      |
| Amort Ratio   | 19.6%   |                |              |          |      | 0.111%  |                     |              |          |      |
| PV @ Year 2   |         |                |              |          |      | 35000   | 68.9 =<br>38.9 + 30 |              |          |      |
| Revised Ratio |         |                |              |          |      | 0.197%  |                     |              |          |      |

# DAC Example

## ASSUME -5% INFORCE TRUE UP IN YEAR 3

TGT IMPROVEMENTS (ORIG ASSUMPTIONS)

TGT IMPROVEMENTS (REVISED ASSUMPTIONS)

| Year          | Premium | Cap  | Amort | Interest | True Up    | DAC         | Inforce       | Cap         | Amort        | Interest | True Up     | DAC         |
|---------------|---------|------|-------|----------|------------|-------------|---------------|-------------|--------------|----------|-------------|-------------|
| 1             | 10000   | 80   | -17.8 | 0.0      | 0.0        | 62.2        | 10000         | 80          | -17.8        | 0.0      | 0.0         | 62.2        |
| 2             | 9000    | 0    | -16.0 | 0.0      | 0.0        | 46.2        | 9000          | 0           | -16.0        | 0.0      | 0.0         | 46.2        |
| 3             | 8000    | 0    | -14.2 | 0.0      | <b>0.0</b> | <b>32.0</b> | 8000          | 0           | -14.2        | 0.0      | <b>-1.6</b> | <b>30.4</b> |
| 4             | 7000    | 0    | -12.4 | 0.0      | 0.0        | 19.6        | 6650          | 0           | <b>-11.8</b> | 0.0      | 0.0         | 18.6        |
| 5             | 6000    | 0    | -10.7 | 0.0      | 0.0        | 8.9         | 5700          | 0           | <b>-10.3</b> | 0.0      | 0.0         | 8.4         |
| 6             | 5000    | 0    | -8.9  | 0.0      | 0.0        | 0.0         | 4750          | 0           | <b>-8.4</b>  | 0.0      | 0.0         | 0.0         |
| PV @ Issue    | 45000   | 80.0 |       |          |            |             | 45000         | 80.0        |              |          |             |             |
| Amort Ratio   | 0.178%  |      |       |          |            |             | 0.178%        |             |              |          |             |             |
| PV @ Year 3   |         |      |       |          |            |             | 17100         | <b>30.4</b> |              |          |             |             |
| Revised Ratio |         |      |       |          |            |             | <b>0.178%</b> |             |              |          |             |             |

# DAC Example

## ASSUME +5% INFORCE TRUE UP IN YEAR 3

TGT IMPROVEMENTS (ORIG ASSUMPTIONS)

TGT IMPROVEMENTS (REVISED ASSUMPTIONS)

| Year          | Premium | Cap  | Amort | Interest | True Up    | DAC         | Inforce       | Cap         | Amort        | Interest | True Up    | DAC         |
|---------------|---------|------|-------|----------|------------|-------------|---------------|-------------|--------------|----------|------------|-------------|
| 1             | 10000   | 80   | -17.8 | 0.0      | 0.0        | 62.2        | 10000         | 80          | -17.8        | 0.0      | 0.0        | 62.2        |
| 2             | 9000    | 0    | -16.0 | 0.0      | 0.0        | 46.2        | 9000          | 0           | -16.0        | 0.0      | 0.0        | 46.2        |
| 3             | 8000    | 0    | -14.2 | 0.0      | <b>0.0</b> | <b>32.0</b> | 8000          | 0           | -14.2        | 0.0      | <b>0.0</b> | <b>32.0</b> |
| 4             | 7000    | 0    | -12.4 | 0.0      | 0.0        | 19.6        | 7350          | 0           | <b>-12.4</b> | 0.0      | 0.0        | 19.6        |
| 5             | 6000    | 0    | -10.7 | 0.0      | 0.0        | 8.9         | 6300          | 0           | <b>-10.7</b> | 0.0      | 0.0        | 8.9         |
| 6             | 5000    | 0    | -8.9  | 0.0      | 0.0        | 0.0         | 5250          | 0           | <b>-8.9</b>  | 0.0      | 0.0        | 0.0         |
| PV @ Issue    | 45000   | 80.0 |       |          |            |             | 45000         | 80.0        |              |          |            |             |
| Amort Ratio   | 0.178%  |      |       |          |            |             | 0.178%        |             |              |          |            |             |
| PV @ Year 3   |         |      |       |          |            |             | 18900         | <b>32.0</b> |              |          |            |             |
| Revised Ratio |         |      |       |          |            |             | <b>0.169%</b> |             |              |          |            |             |

# DAC Example

## ASSUME REVISED FUTURE PROJECTION IN YEAR 3

TGT IMPROVEMENTS (ORIG ASSUMPTIONS)

TGT IMPROVEMENTS (REVISED ASSUMPTIONS)

| Year          | Premium | Cap  | Amort | Interest | True Up | DAC  | Inforce | Cap  | Amort | Interest | True Up | DAC  |
|---------------|---------|------|-------|----------|---------|------|---------|------|-------|----------|---------|------|
| 1             | 10000   | 80   | -17.8 | 0.0      | 0.0     | 63.4 | 10000   | 80   | -17.8 | 0.0      | 0.0     | 62.2 |
| 2             | 9000    | 0    | -16.0 | 0.0      | 0.0     | 48.0 | 9000    | 0    | -16.0 | 0.0      | 0.0     | 46.2 |
| 3             | 8000    | 0    | -14.2 | 0.0      | 0.0     | 32.0 | 8000    | 0    | -14.2 | 0.0      | 0.0     | 32.0 |
| 4             | 7000    | 0    | -12.4 | 0.0      | 0.0     | 19.6 | 7000    | 0    | -10.7 | 0.0      | 0.0     | 21.3 |
| 5             | 6000    | 0    | -10.7 | 0.0      | 0.0     | 8.9  | 7000    | 0    | -10.7 | 0.0      | 0.0     | 10.7 |
| 6             | 5000    | 0    | -8.9  | 0.0      | 0.0     | 0.0  | 7000    | 0    | -10.7 | 0.0      | 0.0     | 0.0  |
| PV @ Issue    | 45000   | 80.0 |       |          |         |      | 45000   | 80.0 |       |          |         |      |
| Amort Ratio   | 0.178%  |      |       |          |         |      | 0.178%  |      |       |          |         |      |
| PV @ Year 3   |         |      |       |          |         |      | 21000   | 32.0 |       |          |         |      |
| Revised Ratio |         |      |       |          |         |      | 0.152%  |      |       |          |         |      |

# Other Measurement Items

# Minor Updates to UL and FAS 120 Contract Reserves

- Reserve calculations for universal life contracts and for participating contracts that apply FAS 120 valuation are not changing, except some conforming items
- FAS 120 terminal dividend liabilities would no longer accrue over EGMs
- The discount rate to determine the value of an SOP 03-1 annuitization benefit (i.e., the rate to discount annuity payments to compare with projected account balance at the time of annuitization) will be the “upper-medium grade fixed-income instrument yield”
- Loss recognition testing is retained for universal life and FAS 120 contracts, but DAC is excluded from the test
  - Since these contracts may have previously based loss recognition on DAC EGPs/EGMs, new processes may be needed
- Loss recognition is also retained for VOBA on FAS 60 and FAS 97 limited pay contracts



# Transition

# Transition

- Default transition for DAC and traditional reserves would be prospective
  - Balance immediately at transition date (earliest period presented) set equal to balance under current GAAP rules immediately before transition
  - Any amounts that had gone through OCI backed out (e.g., shadow DAC, shadow loss recognition)
  - Initial amortization ratio and net premium ratio backed in assuming the transition date is the issue date
  - Locked-in interest rate for net income on traditional reserves based on the discount rate used under current GAAP (i.e., FAS 60)
  - Subsequent retrospective unlocking performed back to transition date
- If limited payment contracts used an implicit DPL, it may be necessary to estimate a split between the base reserve and DPL

# Transition

- Retrospective transition would be permitted but subject to restrictions
- Must elect retrospective transition for all contracts (traditional reserves and DAC) newer than the oldest contracts elected, e.g.,
  - Cannot retrospectively transition 2014 issues but not 2016 issues
  - Cannot retrospectively transition 2013 (and later) traditional reserves but not 2013 (and later) UL DAC
  - Cannot retrospectively transition 2012 (and later) US business but not 2012 (and later) Japan business
- Must have all necessary actual information to retrospectively calculate reserves back to issue for all contracts elected
  - Estimates are not permitted



# Net Premium/ DAC Changes: Practical Implications

# Practical Implications

## Reserving: Traditional and Limited-Pay Products

**The reserve changes specified under targeted improvements will result in a net premium ratio that is calculated similarly to a k-factor under current GAAP**

- Where they do not already exist, best-estimate cash flow projection models will need to be developed for all “FAS 60” products, including LTC and DI
- Historical data, at the appropriate level of granularity, will need to be retained as it will be incorporated to the determination of net premium
- The mechanics of the net premium calculation may help smooth earnings volatility related to experience variances as the impact of such variances is spread into future years. However, it may increase volatility related to assumption changes as part of the impact is immediately recognized
- Insurers will need to implement processes to determine an appropriate discount rate that maximizes the use of observable market information and reflects the duration of the liabilities

The changes introduce additional complexity to the reserving process

# Practical Implications

## DAC: All Products

**DAC amortization will be straight-line at the contract level or an approximation of straight-line at the group level, and will be consistent for all products**

- Revamping the DAC process will require decisions related to data, amortization approach, and contract grouping
- For “FAS 60” products, premium deficiency testing, loss recognition testing, and shadow DAC processes will no longer be required as part of the reporting process
- The lack of interest accrual on DAC will result in changes to the overall balance sheet and will mean that profits are not expected to emerge as a level percentage of premium
- Insurance entities that amortize balances such as the value of business acquired, present value of future profits and costs of reinsurance consistent with DAC will need to assess whether amortizing these balances consistent with DAC remains appropriate.

These changes simplify DAC amortization

# Practical Implications

## Disclosure and Transition

### Public companies will need to begin assessing the impact of targeted improvements prior to 2021

- New qualitative and quantitative disclosure requirements will involve updating the reporting packages for interim and annual financial statements
- As required by SAB 74, SEC registrants will need to present quantitative and qualitative information around the impact of targeted improvements in SEC filings prior to 2021
- For net premium and DAC changes, there is an option to apply the guidance retrospectively, with a cumulative adjustment to opening retained earnings
  - Required to use same contract issue year on an entity-wide basis for that issue year and all subsequent issue years
  - The availability of historical information may limit the use of retrospective application for all issue years

These requirements will accelerate companies' timelines for impact assessment



# Net Premium/ DAC Changes: Impact Analysis

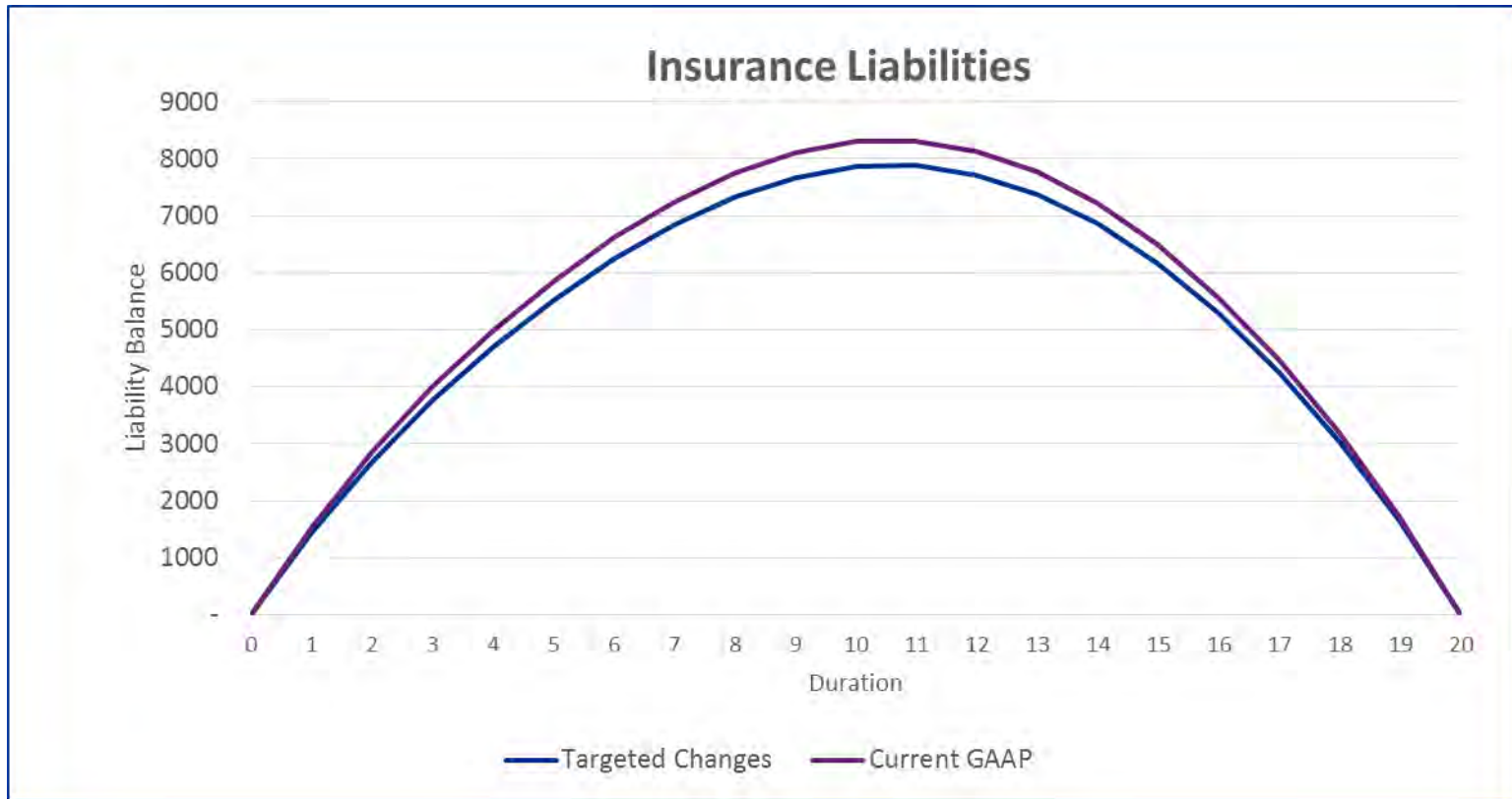


# Product Specifications

## 20-Year Level Term Product

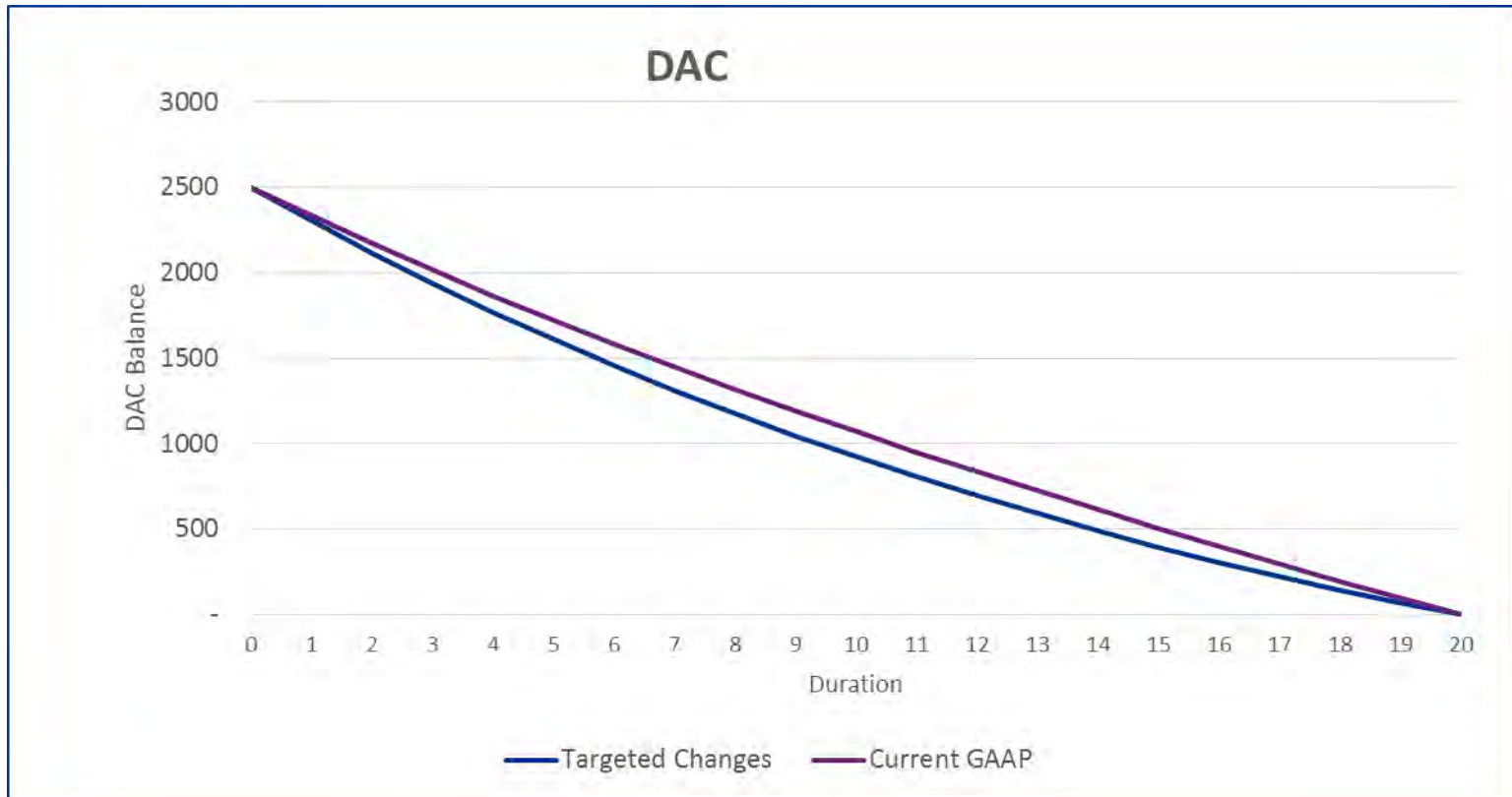
- Male, age 45, non-smoker
- Face amount of \$1,000,000, no cash value
- Base case:
  - Investment earnings rate = upper-medium grade fixed yield = 5.0%; investment income allocated based on net GAAP liability (GAAP reserve – DAC)
  - Flat lapse rate of 5% during the level term period, with full termination at the end of the level term period
  - Current GAAP PADs of 3% on mortality and 20 bps deducted from investment earnings rate
- Net income sensitivity cases:
  - Mortality doubled at years 5 and 15
  - Future mortality assumption increased by 10% at years 5 and 15
  - Deteriorating mortality experience leading to assumption change at year 10
  - Lapses increased to 20% at years 5 and 15
  - Future lapse assumption increased to 10% at years 5 and 15
  - Higher-than-expected early lapses leading to assumption change at year 5
  - Upper-medium grade fixed yield at 3.0% while investment earnings rate at 5.0%

# Base Case: Liabilities



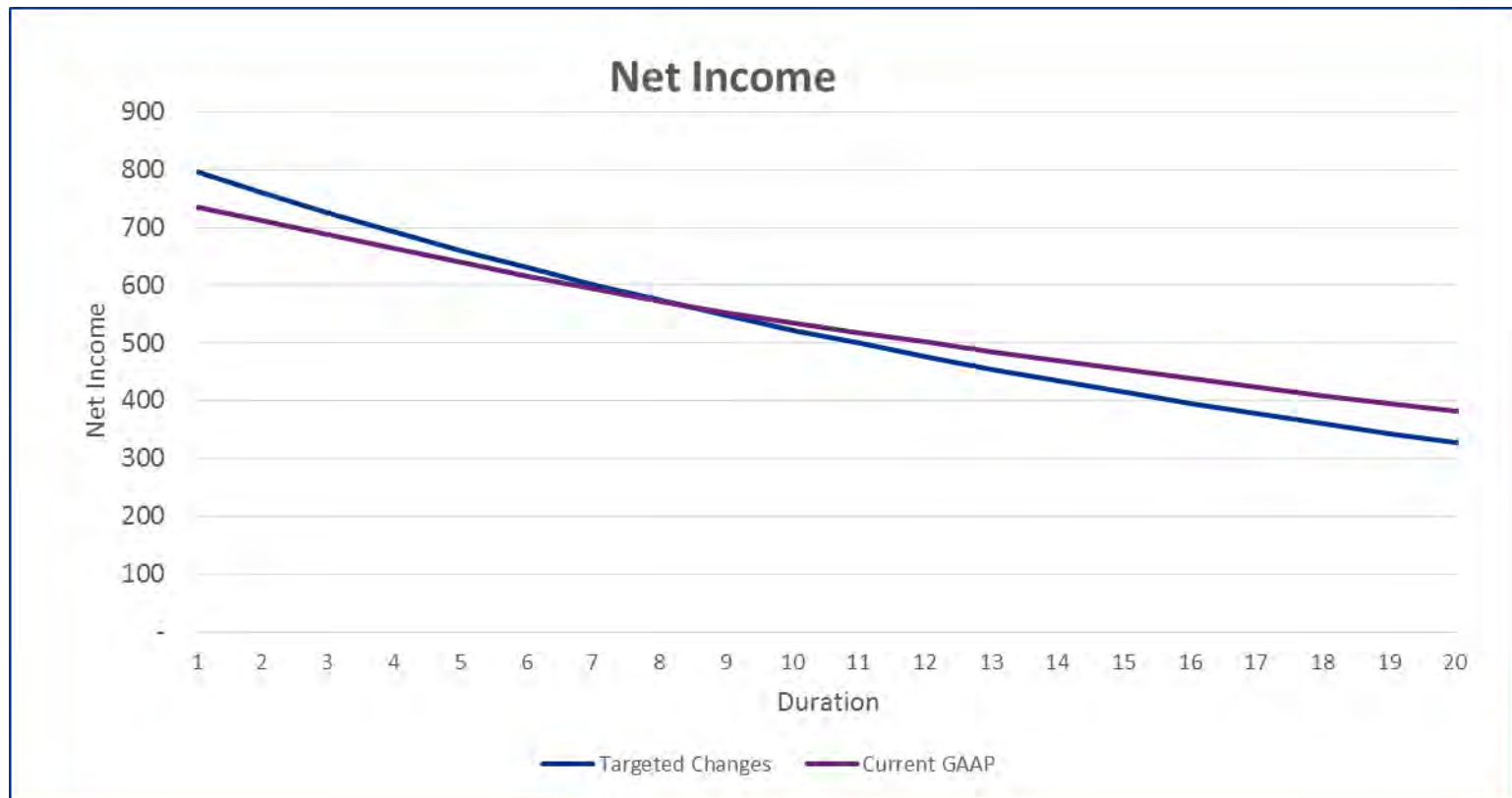
**Impact:** Insurance liabilities are lower throughout the projection period due to the inclusion of PAD in current GAAP

# Base Case: DAC



**Impact:** DAC is lower throughout the projection period because amortization has been tied to policy count and no interest is accrued

## Base Case: Net Income

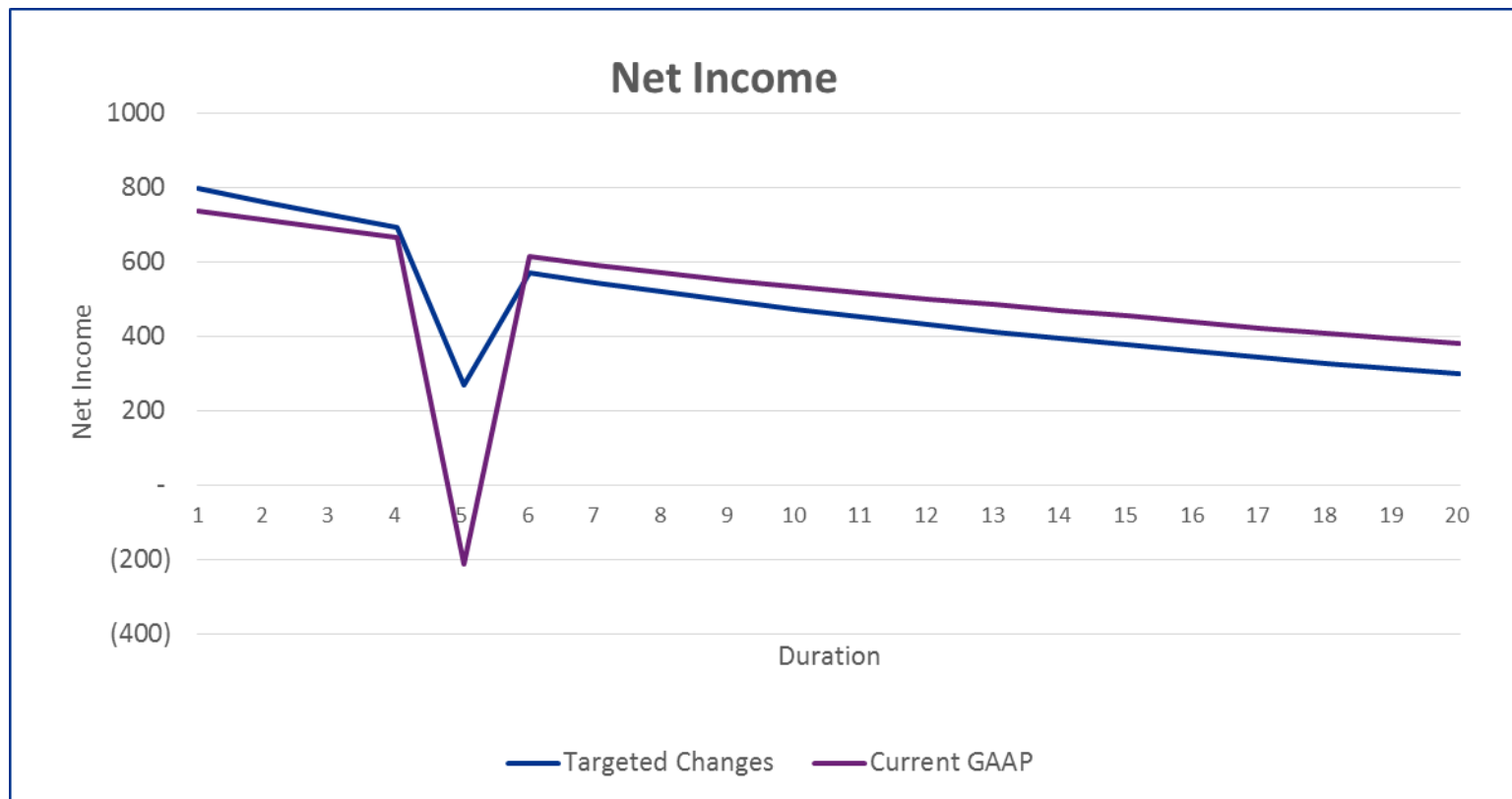


**Impact:**

1. Targeted improvements accelerate net income due to lack of PAD, which pushes income into later years under current GAAP
2. Since DAC does not accrue interest, earnings do not emerge as a level % of premium if investment income is allocated based on the net GAAP liability

## Insurance: targeted improvements to the accounting for long-duration contracts

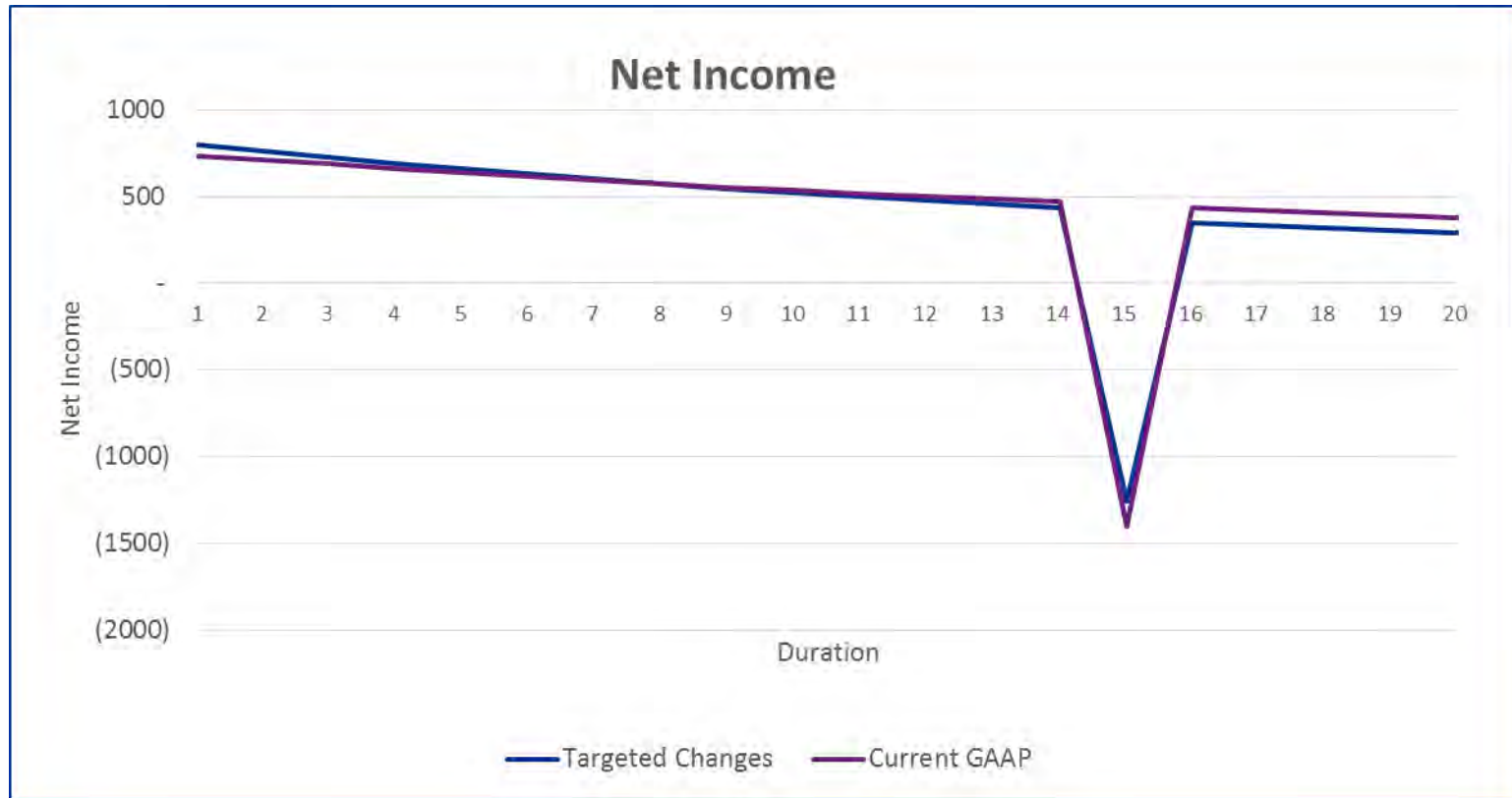
### Net Income Sensitivity Case: Mortality Experience Doubled at Year 5



**Impact:** For historical experience variances, the catch-up method for unlocking net premium may serve to absorb some of the current period impact by spreading it over future years

## Insurance: targeted improvements to the accounting for long-duration contracts

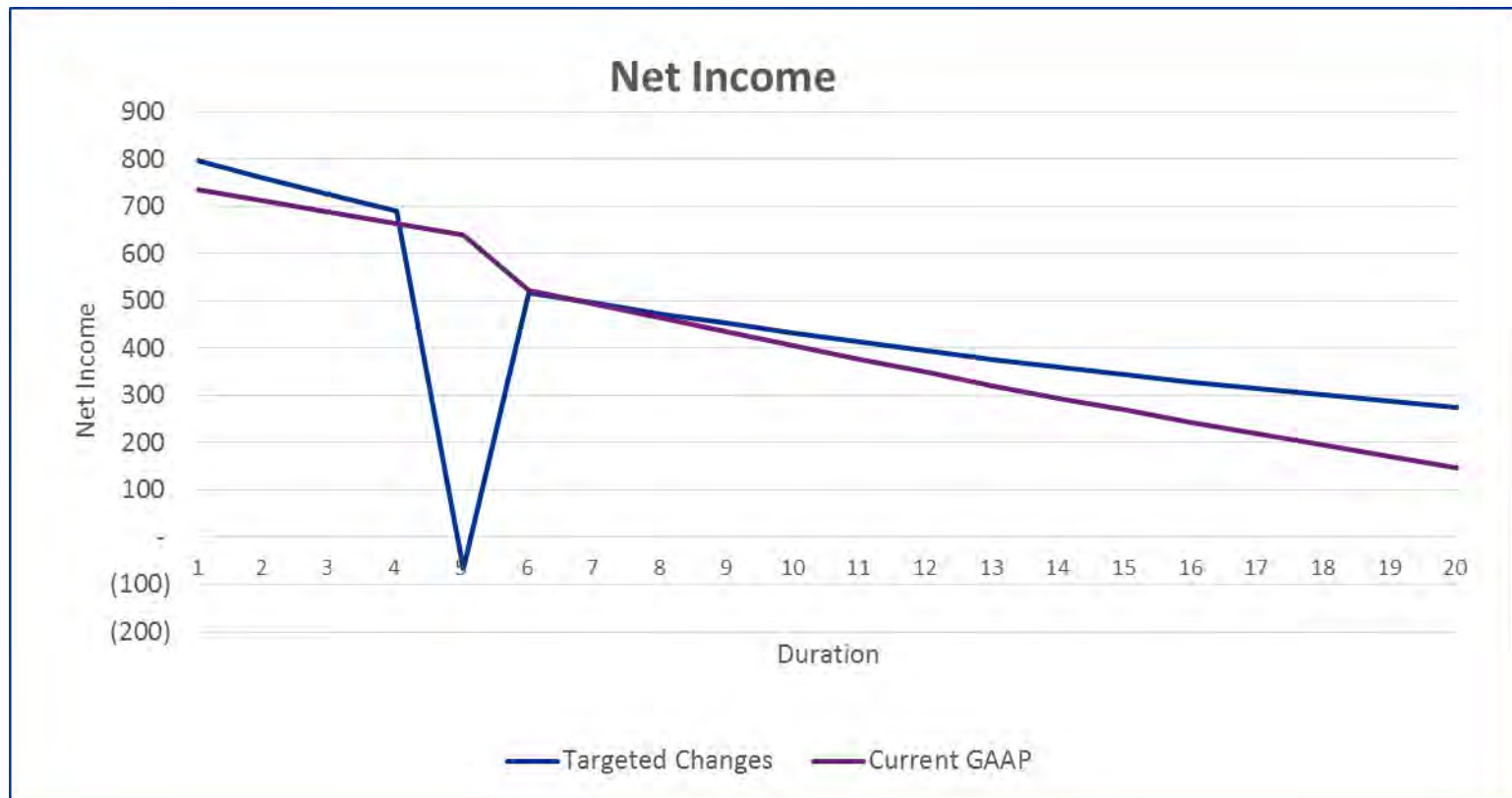
### Net Income Sensitivity Case: Mortality Experience Doubled at Year 15



**Impact:** In the later years, the absorption of current period variances becomes much more muted as there are fewer future years to spread the variance over

## Insurance: targeted improvements to the accounting for long-duration contracts

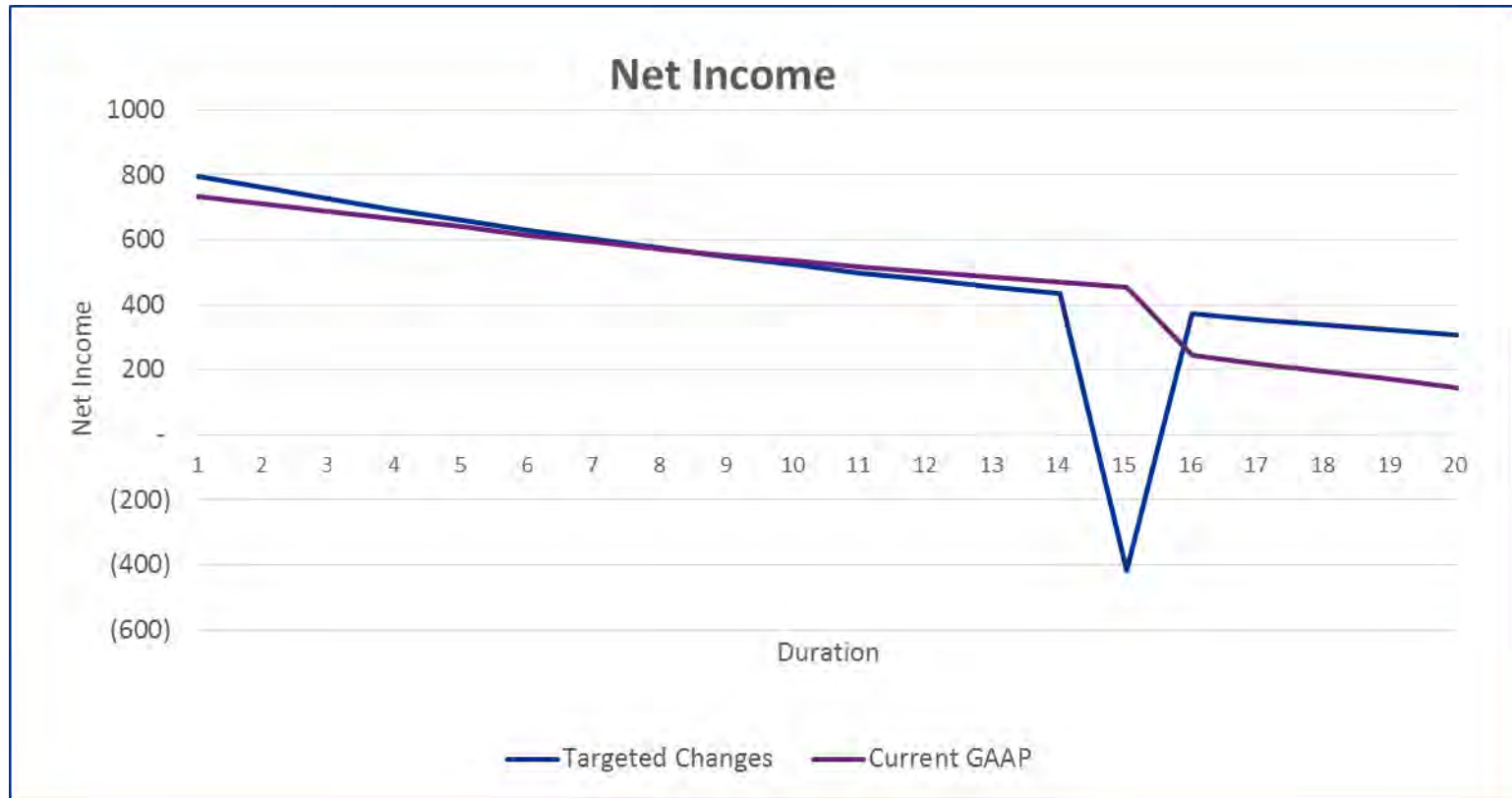
Net Income Sensitivity Case: Mortality Assumption Increased 10% at Year 5



**Impact:** Assumption changes result in an immediate impact to current period earnings under targeted improvements due to an increase in the net premium ratio

## Insurance: targeted improvements to the accounting for long-duration contracts

Net Income Sensitivity Case: Mortality Assumption Increased 10% at Year 15

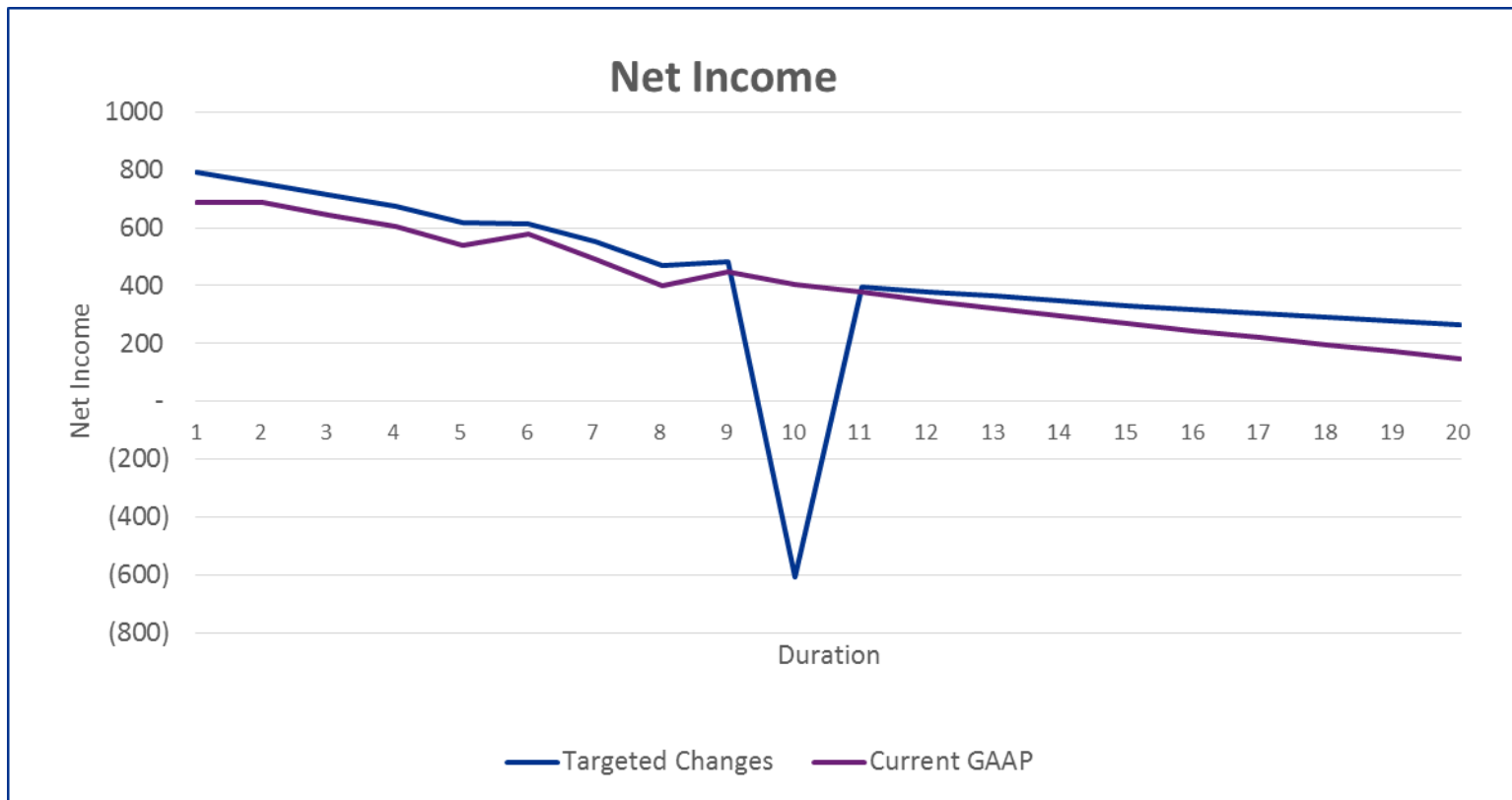


**Impact:** While the assumption update impact is somewhat more muted in the later years, due to the increasing slope of mortality there is still noticeable volatility



## Insurance: targeted improvements to the accounting for long-duration contracts

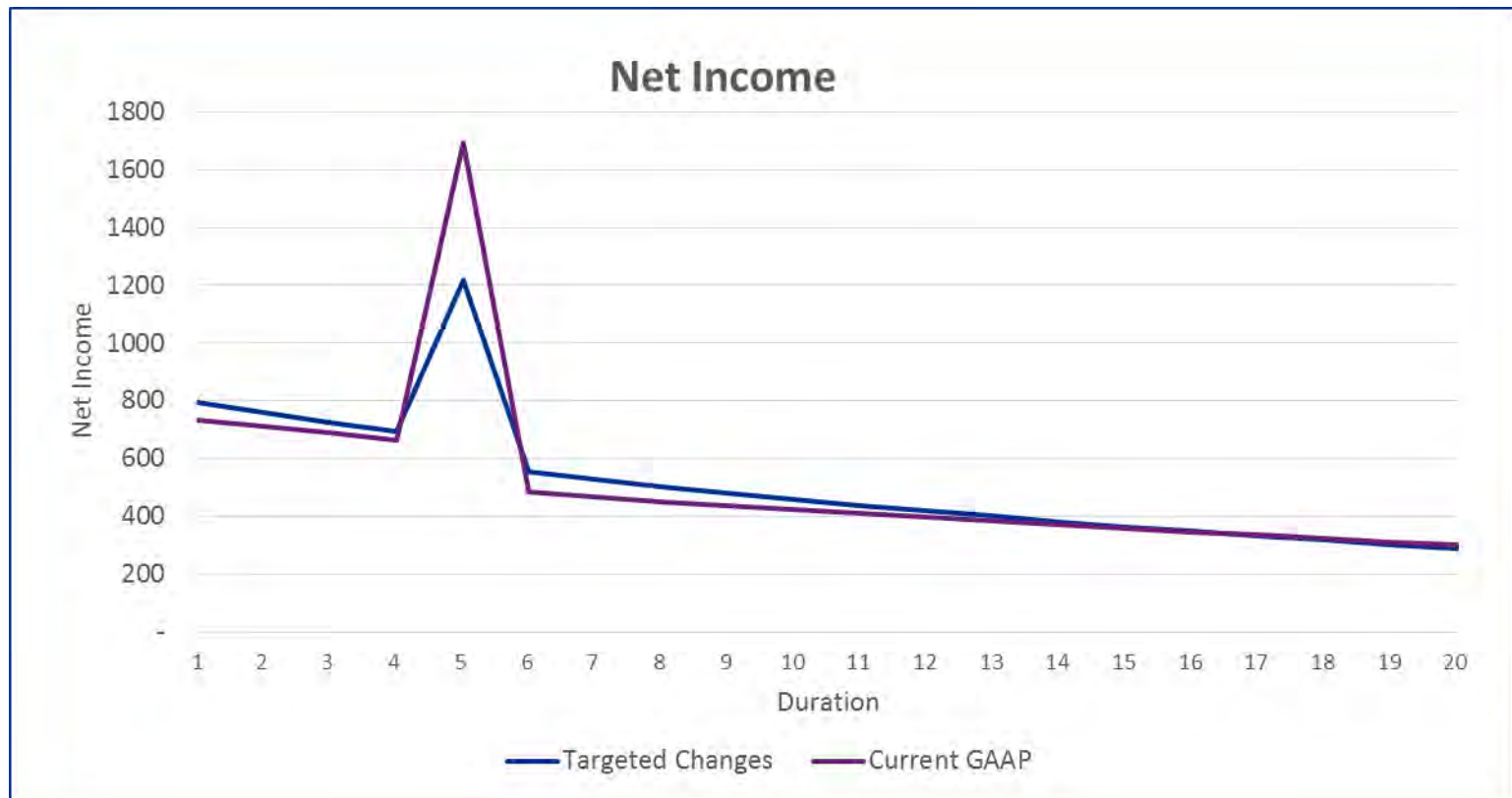
Net Income Sensitivity Case: Deteriorating Mortality Experience Leading to Assumption Change at Year 10



**Impact:** The volatility arising from deteriorating mortality experience in durations 1-9 is dampened under targeted improvements as it is spread into future years. By contrast, the volatility from the subsequent assumption change is magnified

## Insurance: targeted improvements to the accounting for long-duration contracts

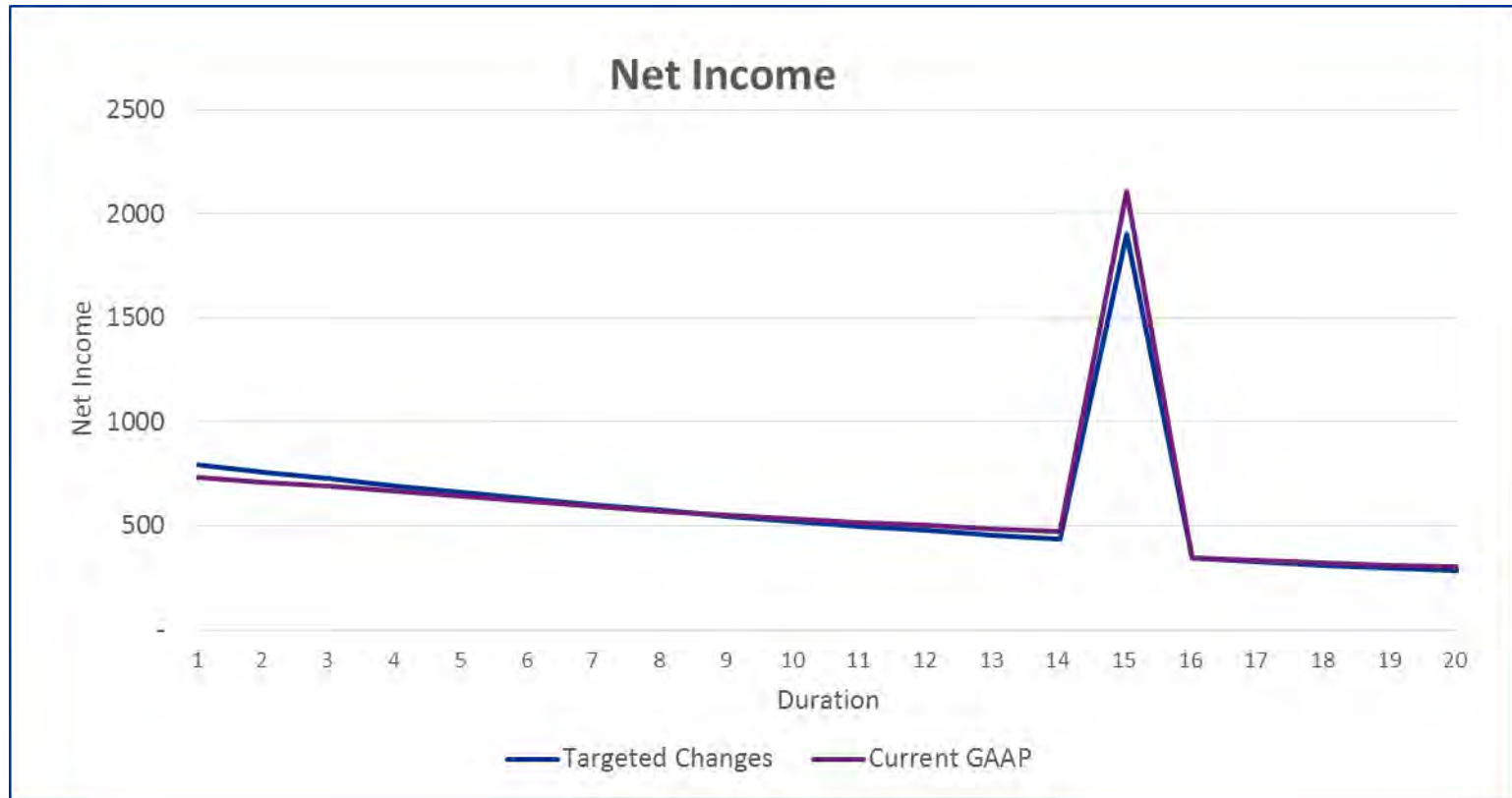
### Net Income Sensitivity Case: Lapse Experience Increased to 20% at Year 5



**Impact:** A similar variance-absorbing effect can be seen for lapse variances, which increase profitability for this term product due to relatively low assumed acquisition expenses

## Insurance: targeted improvements to the accounting for long-duration contracts

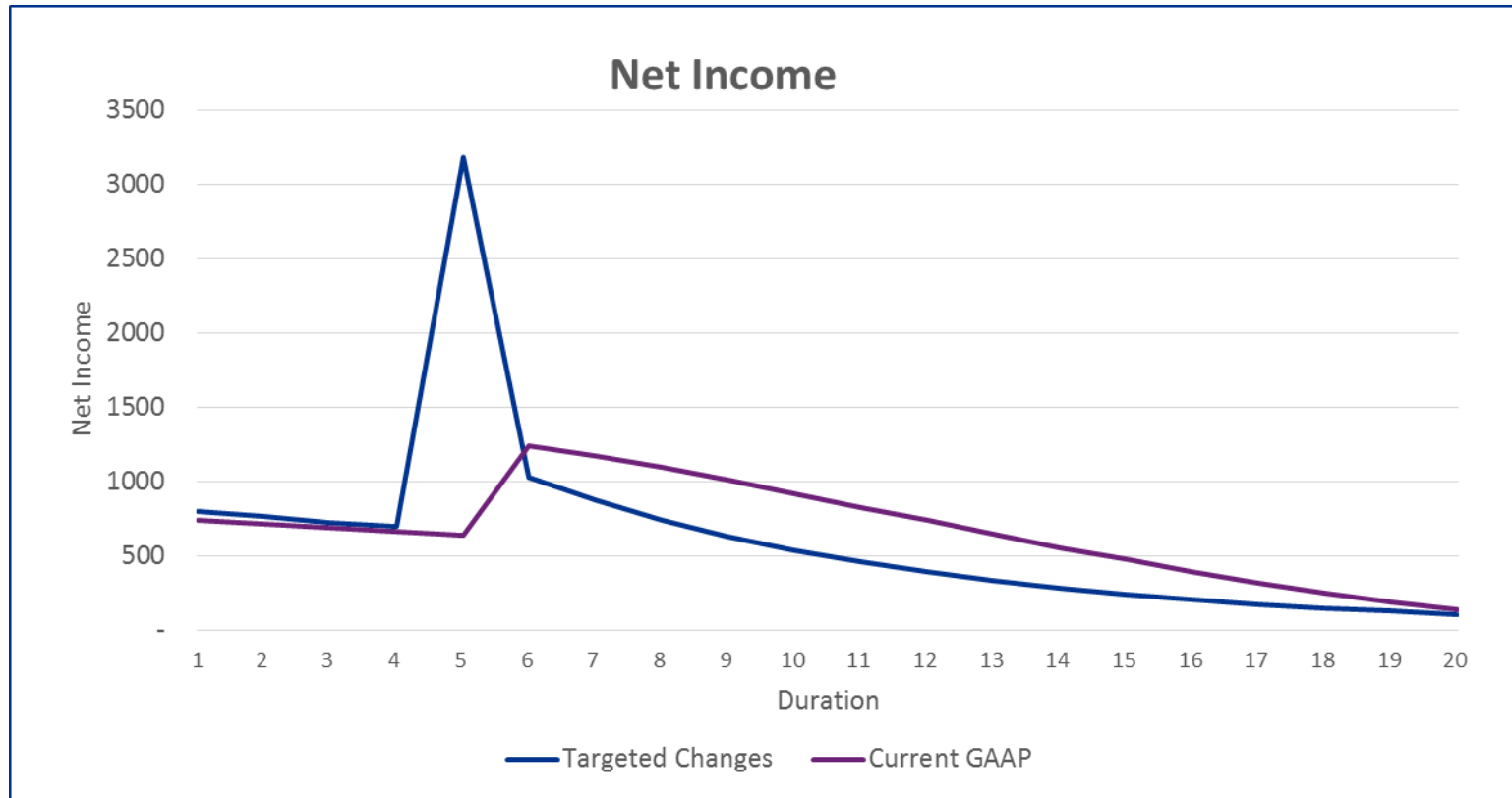
### Net Income Sensitivity Case: Lapse Experience Increased to 20% at Year 15



**Impact:** Similar to mortality, the absorption of current period variances becomes much more muted in later years

## Insurance: targeted improvements to the accounting for long-duration contracts

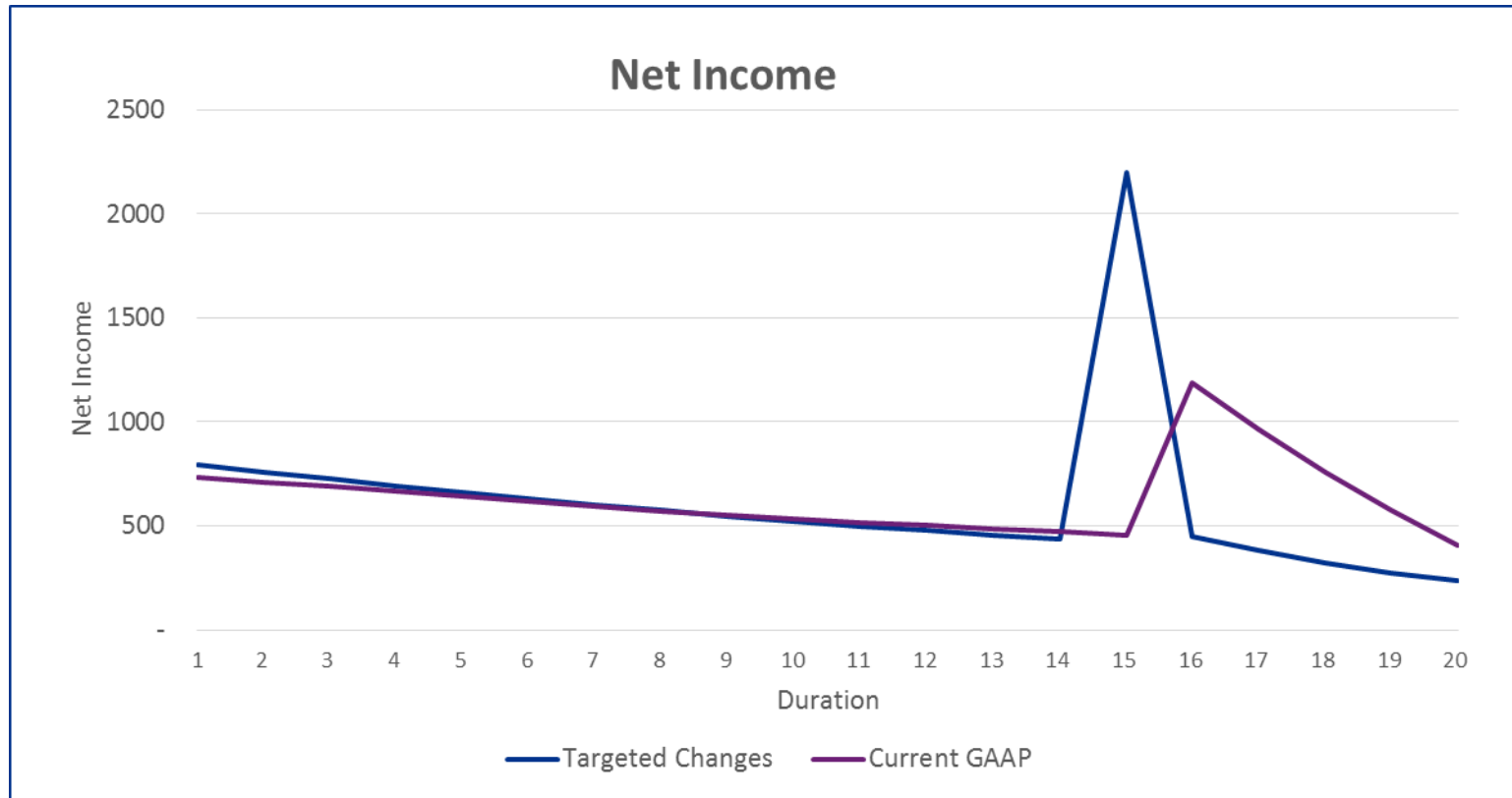
### Net Income Sensitivity Case: Lapse Assumption Increased 10% at Year 5



**Impact:** Similar to mortality, lapse assumption changes result in an immediate impact to current period earnings under targeted improvements due to a decrease in the net premium ratio

## Insurance: targeted improvements to the accounting for long-duration contracts

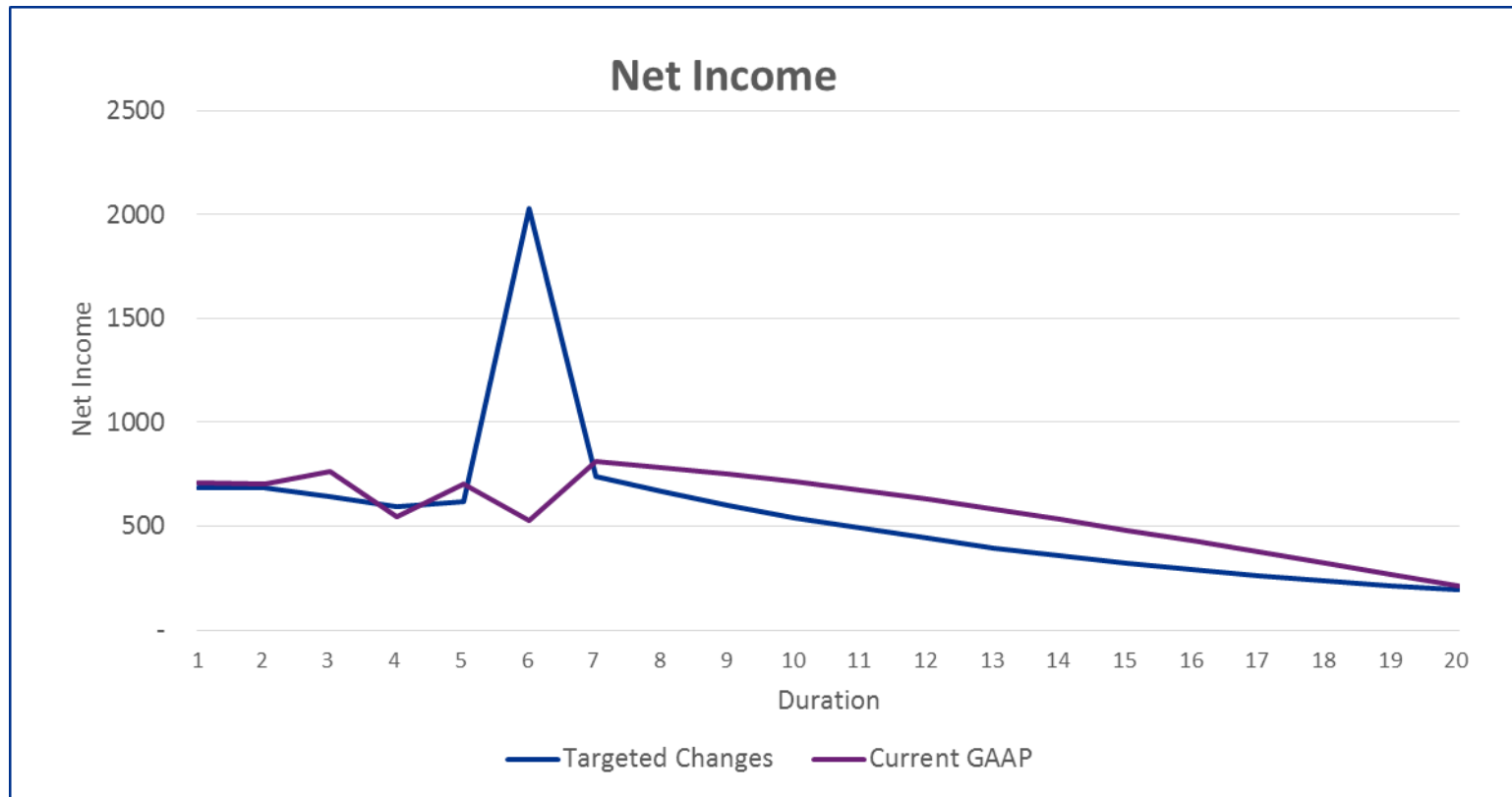
### Net Income Sensitivity Case: Lapse Assumption Increased 10% at Year 15



**Impact:** Again the assumption update impact is somewhat more muted in the later years, but due to the increasing slope of mortality there is still noticeable volatility

## Insurance: targeted improvements to the accounting for long-duration contracts

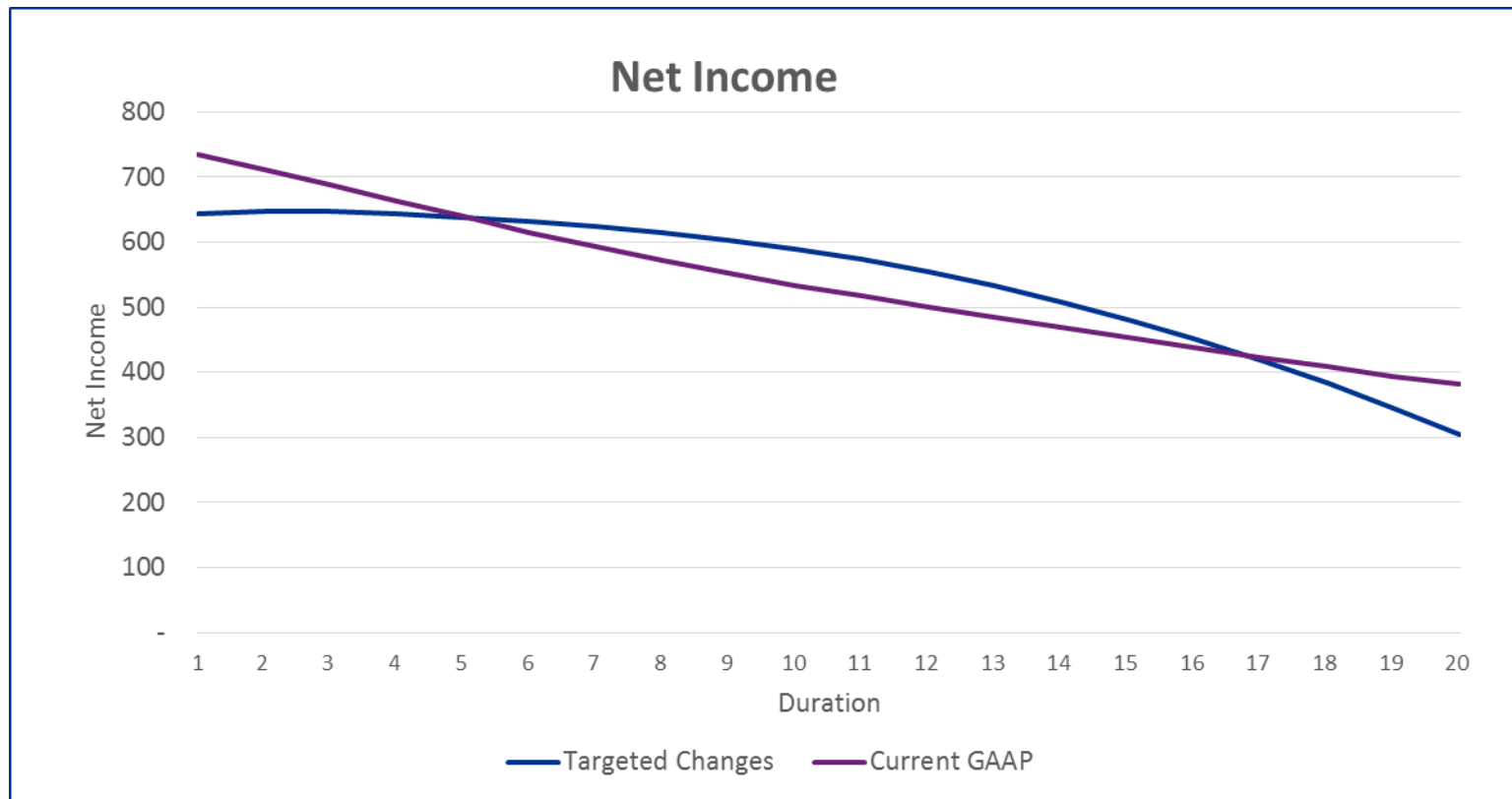
Net Income Sensitivity Case: Higher-than-Expected Early Lapses Leading to Assumption Change at Year 5



**Impact:** Similar to mortality, the volatility arising from higher-than-expected early lapses is dampened under targeted improvements as it is spread into future years. By contrast, the volatility from the subsequent assumption change is magnified

## Insurance: targeted improvements to the accounting for long-duration contracts

Net Income Sensitivity Case: Upper-Medium Grade Fixed Yield at 3.0%



**Impact:** A mismatch between the investment earnings rate and the rate used to discount the GAAP liabilities impacts the pattern of net income – here the steeper reserve increases in early years are offset by higher investment income and releases in mid-years, followed by current GAAP overtaking due to release of PAD

# Market risk benefits

Dylan Strother, FSA, MAAA

August 2018





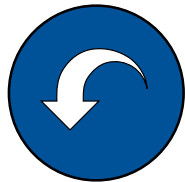
A **new accounting classification** for certain benefits offered within deposit contracts with other than nominal market risk, especially guaranteed minimum benefits on annuities



Recognition and measurement is at **fair value**



Changes in the liability due to the **change in an entity's own credit risk** are reflected in other comprehensive income





Transition is **retrospective** for all market risk benefits




# FASB believes that the benefits of targeted improvements for market risk benefits are greater than the costs and complexities


## Benefits

 One measurement model


 Maximize use of observable market inputs

 Greater visibility to extent capital market risk is hedged

## Initial Costs

 Reconfigure system and process

 Staff education

 Initial costs to implement the calculations retrospectively

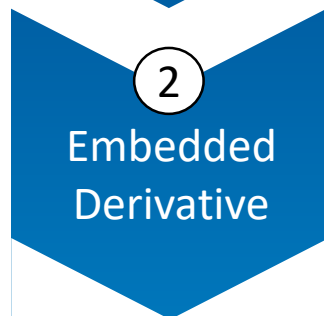


# Market risk benefits are inserted into the accounting classification at the top of the hierarchy

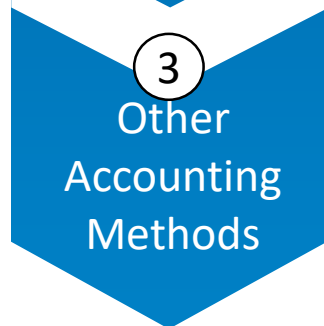
58



Meets the definition of market risk benefit  
Apply ASC 944 for MRB, fair value  
Portion of change in liability due to own credit risk goes through OCI



Benefit is not a market risk benefit, but is an embedded derivative  
Apply ASC 815, fair value  
Change in liability goes through net income



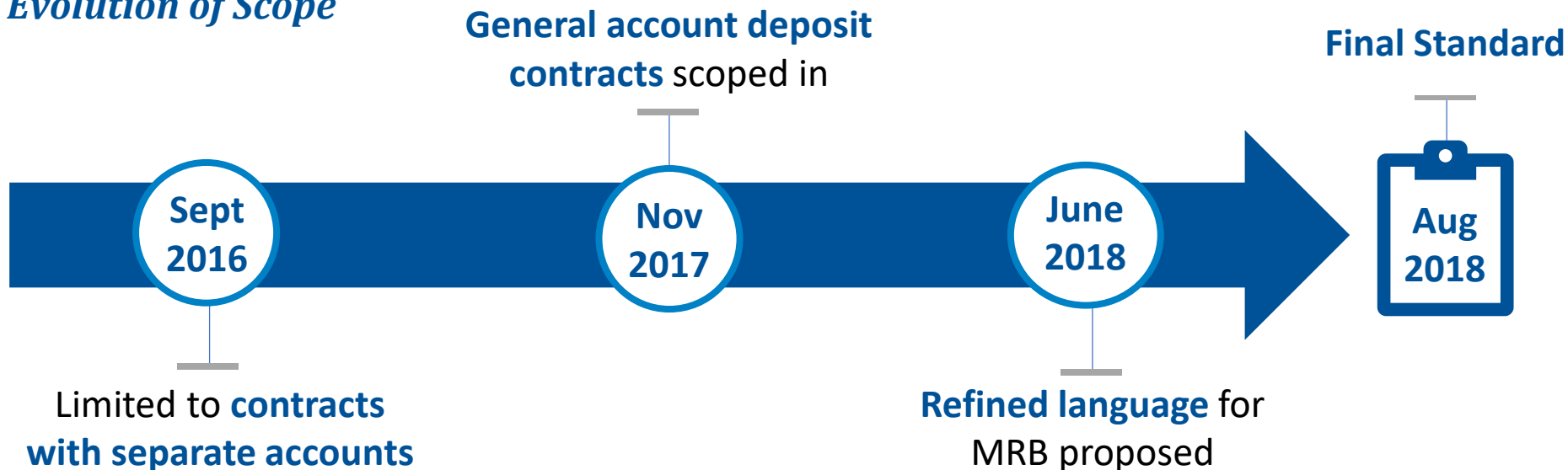
Benefit is not a market risk benefit, and is not an embedded derivative  
Determine if ASC 944 for Death and Other Insurance Benefits is applicable a.k.a. (SOP03-1)  
Change in liability goes through net income

The scope for MRB has been refined and key words in the final standard are **protection/shortfall** and **nominal**

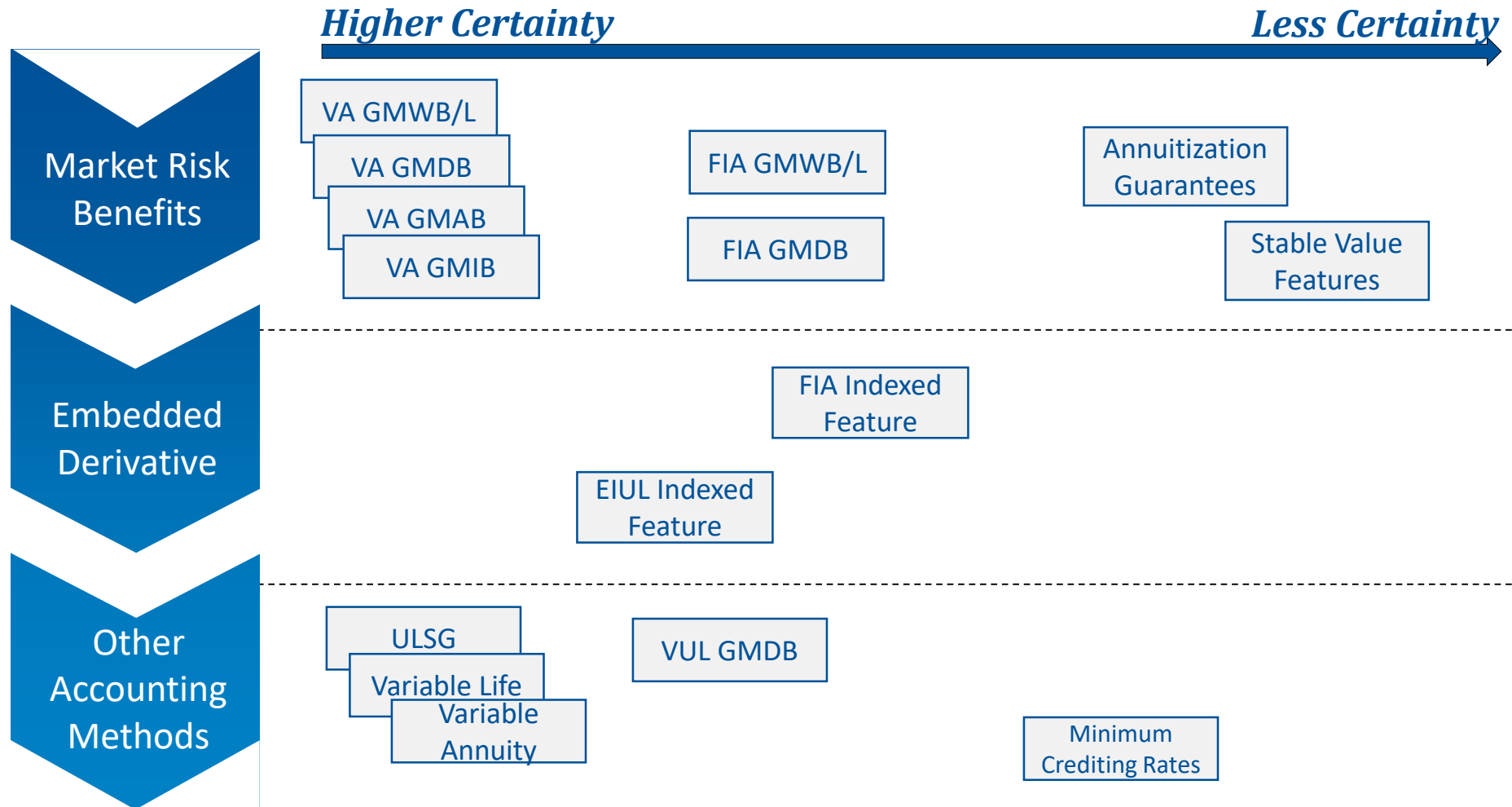
### What is a Market Risk Benefit?

A contract or contract feature that both provides **protection** to the contract holder **from other-than-nominal capital market risk** and **exposes the insurance entity to other-than-nominal capital market risk** should be recognized as a **market risk benefit**.

### Evolution of Scope



# Interpretation of the definition for market risk benefits could lead to uncertainty among the industry until the dust settles



# Concepts and methods to measure insurance liabilities at fair value exist under current GAAP framework today

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## Familiar Concepts

- Income Approach
- Risk Neutral Valuation / Budget Method
- Market Participant Assumptions
- Zero gain/loss at issue

## Familiar Methodology

- **Attributed Fee** methodology
- **Host Contract** methodology
- **Fair Value Option?** (old “FAS159”)

# Transition will require significant work for all types of contracts impacted

The transition requirements for market risk benefits are **retrospective**, meaning...

## For contracts NOT already following a fair value framework...

- Perform cashflow projections as of contract inception, **allowing “hindsight”**, to obtain necessary retrospective information
- At the transition date, **adjust retained earnings** for the difference in carrying value and transition value under new guidance (and AOCI, see below)
- Consider whether the contract contains **other benefits already measured at fair value**
- Plus... items below


## For contracts already following a fair value framework...

- Establish method to **quantify the cumulative change in instrument specific credit risk** for AOCI
- Change in **presentation format and process** for increased reporting and disclosure requirements

 **Interpretation** - What is your company's interpretation of market risk benefit?

 **Systems** – do you have desired scenario generators and system modeling capabilities?

 **Calculation** – what fair value methodology will you use?

 **Compound Market Risk Benefit** - how do you value more than one MRB together?

 **Unit of account** – what level of granularity is the calculation done?

 **Assumptions** – do you need to develop new assumption sets for market risk benefits?



# GMXB that are fair valued today generally use a prospective reserve method, GMXB under SOP03-1 use a retrospective method

## At Issue – Original Assumptions

| (1)<br>Year | (2)<br>Rider<br>Charges | (3)<br>Excess Claims | (4)<br>Retrospective<br>Reserve (SOP03-1) | (5)<br>Prospective Reserve<br>(MRB FV) | (6)<br>Change in Reserve | (7)<br>Income |
|-------------|-------------------------|----------------------|---|--|--------------------------|---------------|
| 1           | 50                      | 20                   | 20  | 20                                     | 20                       | 10            |
| 2           | 50                      | 30                   | 30  | 30                                     | 10                       | 10            |
| 3           | 50                      | 40                   | 30  | 30                                     | 0                        | 10            |
| 4           | 50                      | 50                   | 20  | 20                                     | -10                      | 10            |
| 5           | 50                      | 60                   | 0   | 0                                      | -20                      | 10            |
|             | <b>250</b>              | <b>200</b>           | <b>80%</b>                                | <b>80%</b>                             |                          | <b>50</b>     |

Attributed Fee % (locked in at issue) = 80% = PV Excess Claims / PV Rider Charges

Reserve(t) = PV of future excess claims – AF% \* PV of future rider charges

Benefit Ratio for SOP03-1 (always recalculated as of issue) = PV Excess Claims / PV Rider Charges = 80%

Reserve(t) = Benefit Ratio \* Cumulative Rider Charges – Cumulative Excess Claims

# Updates to future assumptions impact the pattern of reserve for both reserve regimes

Year 1 actual experience is equal to expected

## Updated assumptions in Year 2+, reserves recast as of issue date

| (1)<br>Year | (2)<br>Rider Charges | (3)<br>Excess Claims | (4)<br>Retrospective Reserve (SOP03-1) | (5)<br>Change in Reserve (Retrospective SOP03-1) | (6)<br>Prospective Reserve (MRB FV) | (7)<br>Change in Reserve (Prospective MRB FV) |
|-------------|----------------------|----------------------|--|--|-------------------------------------|---|
| 1           | 50                   | 20                   | 27.2                                   | 27.2   | 56                                  | 56  |
| 2           | 50                   | 36                   | 38.4                                   | 11.2   | 60                                  | 4   |
| 3           | 50                   | 48                   | 37.6                                   | -0.8   | 52                                  | -8  |
| 4           | 50                   | 60                   | 24.8                                   | -12.8  | 32                                  | -20   |
| 5           | 50                   | 72                   | 0                                      | -24.8  | 0                                   | -32   |
|             | <b>250</b>           | <b>236</b>           | <b>94%</b>                             |  | <b>80%</b>                          |   |

Increase to claims projection due to assumption change

# For benefits transitioning from a retrospective approach to prospective approach, the reserve story changes

## Unlocking Analysis

| (1)<br>Year | (2)<br>Rider<br>Charges | (3)<br>Excess<br>Claims | (4)<br>Retrospective<br>Reserve<br>(SOP03-1) | (5)<br>Δ<br>Retrospective<br>Reserve | (6)<br>Prospective<br>Reserve<br>(MRB FV) | (7)<br>Δ<br>Prospective<br>Reserve | (8)<br>Income<br>(Retrospective) | (9)<br>Income<br>(Prospective) |
|-------------|-------------------------|-------------------------|--|--------------------------------------|---|------------------------------------|----------------------------------|--------------------------------|
| 1           | 50                      | 20                      | 20   | 20                                   | 20  | 20                                 | 10                               | 10                             |
| 2           | 50                      | 36                      | 38.4   | 18.4                                 | 60  | 40                                 | -4.4                             | -26                            |
| 3           | 50                      | 48                      | 37.6   | -0.8                                 | 52  | -8                                 | 2.8                              | 10                             |
| 4           | 50                      | 60                      | 24.8   | -12.8                                | 32  | -20                                | 2.8                              | 10                             |
| 5           | 50                      | 72                      | 0  | -24.8                                | 0   | -32                                | 2.8                              | 10                             |
|             | <b>250</b>              | <b>236</b>              |  |                                      |   |                                    | <b>14</b>                        | <b>14</b>                      |

Total claims are 36 higher than the original projection, total profits are 36 lower

The impact to income of updating assumptions is not spread over the remainder of the contract with a prospective approach



# Disclosures

# Disclosures

**Additional disaggregated disclosures for the liability for future policy benefits and DAC include rollforwards of opening and closing balances and information about significant inputs, judgments, assumptions and methods used in the measurement of the liabilities for future policy benefits and DAC.**

- Provides a principle for determining how to disaggregate the new disclosures to provide meaningful information without including a large amount of insignificant detail or aggregating items with significantly different characteristics
- Provides examples of disaggregation characteristics (e.g. type of coverage, etc.)
- Consider how information about the liability for future policy benefits or DAC has been disaggregated for other purposes when determining which categories would be the most relevant and useful
- Cannot aggregate amounts from different reportable segments

**Impact:** The standard significantly expands the disclosure requirements for long-duration contracts in the annual and interim financial statements

End of Slides

