A Leading Global Investment Management Firm

Viewpoint

September 2024

RISK SOLUTIONS | WHITE PAPER

LDTI Market Risk Benefit Rollforward

by William Pauling, CFA

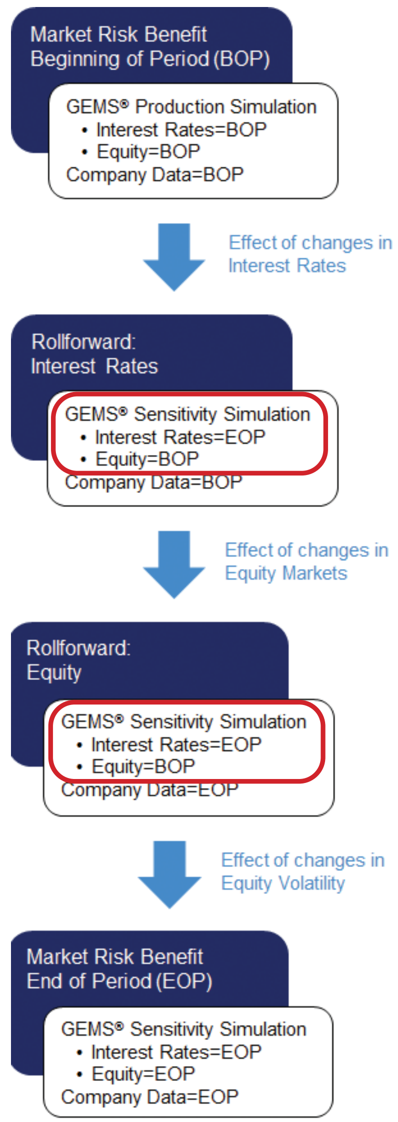
Background

Insurers face a new set of challenges introduced by the LDTI reporting requirements. One of these challenges is the requirement to produce a disaggregated rollforward of the market risk benefit (MRB).[1] The rollforward is required to be displayed on a year-to-date basis, although companies may elect to display additional periods for comparison purposes. While the rollforward is required, the attribution components are not mandated. The Financial Accounting Standards Board (FASB) suggests that the change in MRB be attributed to various factors, such as changes in interest rates, changes in equity market levels, and changes in equity market volatility. A list of attribution components could include, but is not limited to, the following items:

1. Issuances
2. Interest accrual
3. Attributed fees collected
4. Benefit payments
5. Effect of changes in interest rates
6. Effect of changes in equity markets
7. Effect of changes in equity index volatility
8. Actual policyholder behavior different from expected behavior
9. Effect of changes in future expected policyholder behavior
10. Effect of changes in other future expected assumptions
11. Effect of changes in the instrument-specific credit risk (when in a liability position)

While it is straightforward to estimate the impact of most of these components via the company data, some of the components require stochastic simulation.

Figure 1: LDTI Rollforward Attribution



©2024 Conning, Inc.

1 MRB is defined in paragraph 944-40-25-25C of the referenced FASB publication as "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."

Conning's Solution

Conning's clients use the GEMS® Economic Scenario Generator to create a stochastic simulation to value their MRBs at the beginning and end of each period. Conning has now developed an approach that allows those clients to produce a rollforward attribution using only one additional simulation, thus minimizing both the cost and time required for this analysis. This additional sensitivity simulation is used with their production simulation from the current period (quarter or year end) to construct an attribution report that conforms to the new requirements. Our approach focuses on the suggested attribution components of changes in interest rates, changes in equity market levels, and changes in equity volatility.

Valuation 1: Beginning of Period Simulation
This valuation uses the same simulation and company data from the prior reporting period to establish the starting point for the rollforward.

Valuation 2: Sensitivity Simulation
The red rectangles in **Figure 1** represent the single sensitivity simulation needed to isolate the impact of the change in interest rates. The sensitivity simulation starts with the Beginning of Period's simulation used in Valuation 1 and updates only the interest rate parameters to reflect the current rate environment. This simulation is then used two ways: with the company data as of the beginning of the current period and with the company data as of the end of the current period.

Valuation 2a
This combines the sensitivity simulation with the beginning of period company data, where the company data includes the beginning of period equity market level.

Valuation 2b
This combines the sensitivity simulation with the end of period company data, where the company data includes the end of period equity market level.

Valuation 3: End of Period Simulation
This reflects the simulation and company data from the end of the current period.

The four MRB valuations are then used in the rollforward attribution. In practice, the MRB under valuation 1 will have already been calculated for the prior reporting period. Each period, only three new MRB valuations need to be performed for 2a, 2b and 3.

Pro Tip

In GEMS® Economic Scenario Generator, the initial equity index level does not impact the equity return projection. This is because the software directly models the change in equity levels, or equity returns. As a result, an additional simulation is not required to assess the impact of changes in the initial equity level. Instead, this variable can be adjusted as part of the company data.

Figure 2: MRB Valuation Steps

Valuation	Simulation	Company Data	Equity Market Level
1	Production: Beginning of Period	Beginning of Period	Beginning of Period
2a	Sensitivity	Beginning of Period	Beginning of Period
2b	Sensitivity	End of Period	End of Period
3	Production: Beginning of Period	End of Period	End of Period

The effect of changes in interest rates, equity markets, and equity volatility are determined by comparing the MRB valuations as described in **Figure 3**. In this way, the change in MRB is attributed to each of the three effects.

Figure 3: MRB Rollforward

Effect of Changes in...	Calculation
Interest rates	valuation 2a - valuation 1
Equity markets	valuation 2b - valuation 2a
Equity volatility	valuation 3 - valuation 2b

Summary

Conning has developed a solution to help clients perform the MRB rollforward analysis required under the new LDTI accounting standard. Our approach disaggregates the change in MRB into three components—changes in interest rates, changes in equity markets, and changes in equity volatility. Only one additional simulation is needed to perform the analysis needed to attribute changes in the MRB reserve, minimizing both the cost and time necessary to perform the additional analysis.

References

"FASB Long-Duration Targeted Improvements—A Discussion of Enhanced Disclosures," American Academy of Actuaries, March 2023.

Accounting Standard Update 2018-12, Financial Services—Insurance (Topic 944), Targeted Improvements to the Accounting for Long-Duration Contracts, Financial Accounting Standards Board, August 2018.

Further Reading

Please visit https://www.conning.com/software-and-services/ldti for more information about Conning's award-winning* LDTI solution for insurers.

*LDTI Solution of the Year, InsuranceERM Americas Awards 2024. For more information and disclosures regarding our industry recognition, please visit https://www.conning.com/about-us/industry-recognition. Awards, rankings, and other forms of recognition are not a guarantee of Conning's future performance. Awards may not be representative of any one client's experience.

About Conning

Conning (www.conning.com) is a leading investment management firm with a long history of serving the insurance industry. Conning supports institutional investors, including insurers and pension plans, with investment solutions, risk modeling software, and industry research. Conning's risk management software platform provides deeper insights for decision-making, regulatory and rating agency compliance, strategic asset allocation, and capital management. Founded in 1912, Conning has investment centers in Asia, Europe and North America.

©2024 Conning, Inc. This document and the software described within are copyrighted with all rights reserved. No part of this document may be distributed, reproduced, transcribed, transmitted, stored in an electronic retrieval system, or translated into any language in any form by any means without the prior written permission of Conning & Affiliates. Conning & Affiliates do not make any warranties, express or implied, in this document. In no event shall Conning & Affiliates be liable for damages of any kind arising out of the use of this document or the information contained within it. This document is not intended to be complete, and we do not guarantee its accuracy. Any opinion expressed in this document is subject to change at any time without notice. This document contains information that is confidential or proprietary to Conning & Affiliates. By accepting this document you agree that: (1) if there is any pre-existing contract containing disclosure and use restrictions between your company and any Conning & Affiliates company, you and your company will use the information in this document in reliance on and subject to the terms of any such pre-existing contract; or (2) if there is no contractual relationship between you and your company and any Conning & Affiliates company, you and your company agree to protect the information in this document and not to reproduce, disclose or use the information in any way, except as may be required by law. ADVISE®, FIRM®, GEMS®, CONNING CLIMATE RISK ANALYZER® and CONNING ALLOCATION OPTIMIZER® are registered trademarks of Conning, Inc. in the U.S. Copyright 1990–2024 Conning, Inc. All rights reserved. ADVISE®, FIRM®, GEMS®, CONNING CLIMATE RISK ANALYZER® and CONNING ALLOCATION OPTIMIZER® are proprietary software published and owned by Conning, Inc. This document is for informational purposes only and should not be interpreted as an offer to sell, or a solicitation or recommendation of an offer to buy any security, product or service, or retain Conning & Affiliates for investment advisory services. This document is not intended to be nor should it be used as investment advice. COD00000390