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VA Reserve and Capital Reform: Overview and Update

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Variable annuities (VAs) remain one of the most significant businesses in the U.S. life insurance industry, with more than $2 trillion in industry assets under management. While originally designed as a vehicle for tax deferred accumulation, a sizable portion of the VA assets have riders attached to the policies that create exposures—in many instances material—to capital markets, behavioral and mortality risks. The regulations to guide the determination of the reserves and capital associated with these guarantees materially affect the balance sheet and capital management practices of VA manufacturers.

In 2015, in response to a proliferation of captive reinsurers designed to help companies manage VA risk and capital, the NAIC embarked on an initiative to explore potential reforms of the AG 43 and RBC C3 Phase II regulations that establish standards for setting VA reserves and capital. Oliver Wyman was engaged to conduct the study. On September 10, 2015, Oliver Wyman provided the NAIC with a preliminary report covering several sets of ideas for improvements to the current AG 43 and C3 Phase II frameworks.

In 2016, the NAIC commissioned a first quantitative impact study (QIS1) of AG 43 and C3 Phase II in the quest to further explore the ideas for framework improvements. QIS1 served two principal objectives:

- Validate hypotheses regarding the "root causes" of the challenges insurers face managing capital prudently under the standards, and
- Explore the efficacy and impact of potential alternatives to elements of the standards.

Fifteen companies participated in the QIS1 exercise which ran from February to July of 2016. The completion of the initial QIS in 2016 validated challenges of the current statutory framework and informed a series of recommended revisions to AG 43 and C3 Phase II. Oliver Wyman presented recommended revisions to the Variable Annuities Issues Working Group in August 2016, with a redlined version of the texts issued the next month.

Following a series of discussions with regulators, industry and Oliver Wyman, regulators commissioned a second quantitative impact study (QIS2) to verify the efficacy and parameterize the recommended revisions.

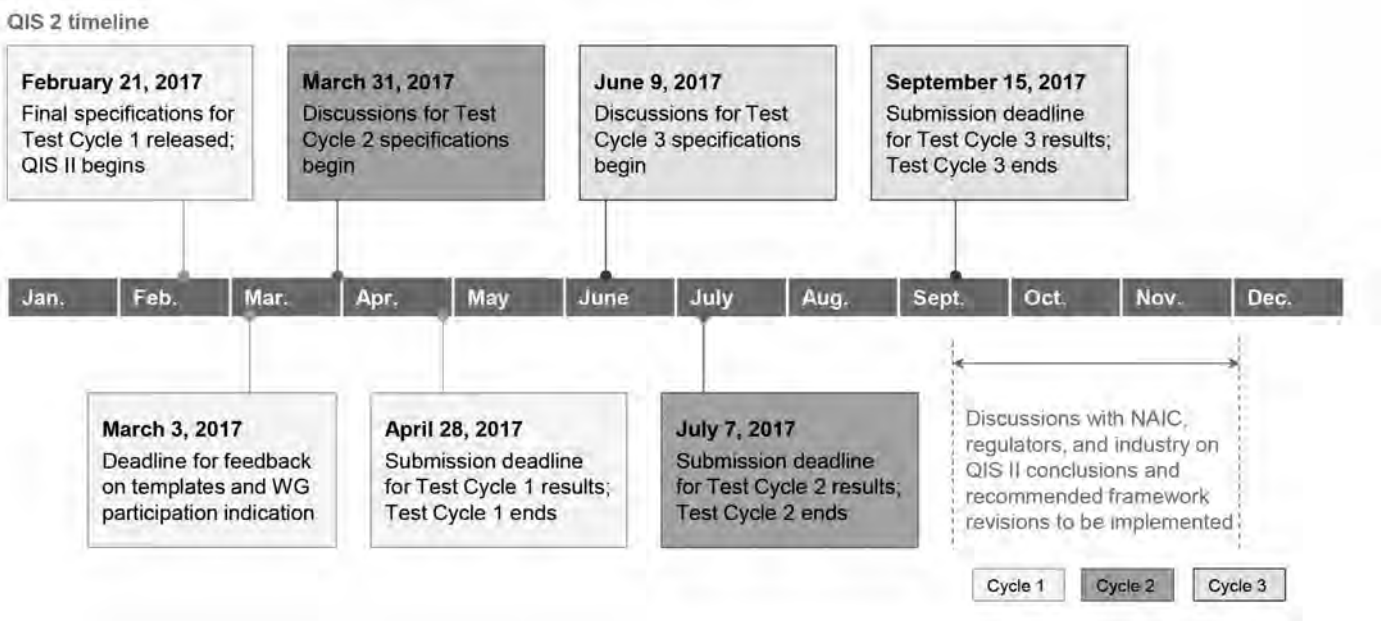
OVERVIEW OF QIS2

QIS2 shares many aspects of QIS1 with respect to the focus on empirical testing of the proposed revisions culminating in a set of recommended revisions to the framework. However, QIS2 differs from QIS1 in four principal ways:

- Full solution testing: All proposed framework revisions are analyzed in tandem; QIS1 tested many framework revisions in isolation from other potential revisions.
- Parameterization: While the recommendations following QIS1 elaborated a series of important structural revisions, several critical parameters were left "bracketed"—and noted further industry testing would be necessary to calibrate the parameters. QIS2 is designed to supply analysis to inform the parameterization.
- Research: The QIS1 recommendations identified several areas for which revisions require further primary research. Resources during QIS2 have been earmarked to conduct primary research into these topics to inform a prudent solution.
- Iterative: QIS1 consisted of a single round of testing. QIS2 consists of three "cycles" of testing which are, in essence, their own QIS—albeit with different focus areas.

Given its expanded scope and objectives, the timeline for QIS2 is longer than QIS1 by approximately two months. Moreover,

Figure 1



instead of delivering recommendations in the summer meeting, recommendations are anticipated to be delivered at the NAIC fall meeting in December.[1] The QIS2 timeline is displayed in Figure 1.

As of the time of this article, 16 companies are participating in QIS2.

KEY ELEMENTS TESTED IN QIS2 – CYCLE I

The prior section noted that QIS2 consists of three distinct cycles of testing. While the scope of each cycle of testing remains subject to discussions and agreement among the regulators, industry and Oliver Wyman, each cycle has an anticipated focus:

- Cycle I: Revisions to stochastic calculation
- Cycle II: Revisions to standard scenario
- Cycle III: Testing of combined revisions (with refinements from Cycles I/II)

Additionally, primary research and steps to support implementation preparations are important parts of each cycle as well. Cycle I testing has commenced and intends to inform the following aspects of the revisions, organized by calculation.

Stochastic calculation

Some key elements of the stochastic calculation under review as part of Cycle 1 are as follows:

a. **Equity calibration criteria:** A central determinant of key framework properties (level of reserves/capital, market-sensitivity of reserves/capital) are the capital markets scenarios underpinning the simulated evolutions of variable annuity investment balances. A series of principles are used to govern these returns. However, equity investment returns are subject to an additional set of "calibration criteria" that specify minimum or maximum cumulative returns at various future timeframes (e.g., 5-year, 10-year, 20-year) and for a variety of percentiles (e.g., 2.5 percent, 5 percent, 95 percent). Under current regulations, these calibration criteria are fixed over time—irrespective of capital markets conditions. Under exploration, focusing on primary research, is whether these calibration criteria should change in some fashion—either simply changing the fixed parameters or indexing their levels to market factors such as long-term interest rates.

b. **"High CTE" supporting C3 charge:** The C3 charge in C3 Phase II is determined by taking the difference of the C3 Phase II result (max of C3 Phase II CTE 90 and Standard Scenario) and AG43 result (max of AG 43 CTE 70 and Standard Scenario). Among the Oliver Wyman 2016 recommendations was a revision to the pre-diversification C3 charge calculation to (i) utilize a single distribution of stochastic scenario results instead of distinct distributions for AG43 and C3 Phase II, and (ii) increase the "CTE High" value, currently CTE90, to CTE98. However, the CTE98 parameter was a "bracketed" parameter, meaning its specific calibration is subject to further testing. An objective of setting the "CTE High" parameter is to promote hedging—so the parameter is being evaluated against a series of criteria designed to determine whether its value promotes hedging,

among other considerations. Moreover, the recommended High CTE selection is anticipated to be sensitive to any decision on the equity calibration criteria·—with a more market-sensitive or adverse equity calibration criteria likely attended by a lower confidence level for the CTE High.

c. **Scalar to support C3 charge:** Attending the recommendation to elevate the "CTE High" confidence level beyond CTE90 is a recommendation to set the pre-diversification C3 charge equal to the difference between CTE High and CTE 70 divided by a scalar. Division by a scalar is necessary to maintain the approximate level of prudence of the Total Asset Requirement given that CTE High is being shifted further into the tail of the stochastic distribution. The scalar is being examined in conjunction with the equity calibration criteria and the confidence level of CTE High.

d. **Revenue sharing recognition:** The AG 43 and C3 Phase II standards specify different approaches to the recognition of revenue sharing—with specifications that any non-guaranteed revenue sharing be reduced relative to current levels by varying amounts across the standards. The Oliver Wyman recommendation to use a single distribution requires the selection of a single revenue sharing recognition approach. During Cycle I, primary research is being conducted to inform a revenue sharing recognition approach that reflects the cumulative experience regarding the risk to revenue sharing gained since the formulation of AG 43 and C3 Phase II. Of particular importance in the revenue sharing recognition is not only the level of revenue sharing allowed, but how the non-revenue sharing portion of the total fund fee is projected. This is because, for more in-the-money guarantee portfolios the portion of the total fund fee retained by the investment advisor can represent a substantial driver of reserves and capital. Currently, the regulations broadly specify that the non-revenue sharing portion of the total fund fee not decline over time, a conservative treatment.

Standard scenario

As noted previously, Cycle I testing focuses on the stochastic calculation. However, elements of the revised standard scenario construct—recommended by Oliver Wyman to be aligned substantially with the stochastic calculation construct—are subject to testing in Cycle I. These are described briefly below.

a. **Standard Scenario market paths:** The standard scenario market path today consists of a "stress-and-recovery" style scenario, with the stress both (i) instantaneous and (ii) focused on equity markets, with the subsequent recovery following pre-determined parameters. The Oliver Wyman recommendations included extending the stress to transpire over a full year, allowing for hedge rebalancing via the Clearly Defined Hedging Strategy and any product risk mitigation (e.g., asset transfer programs) to take place. During Cycle I, a variety of different potential market paths are being evaluated, including paths that stress both interest rates and equity returns and different types of recovery rates.

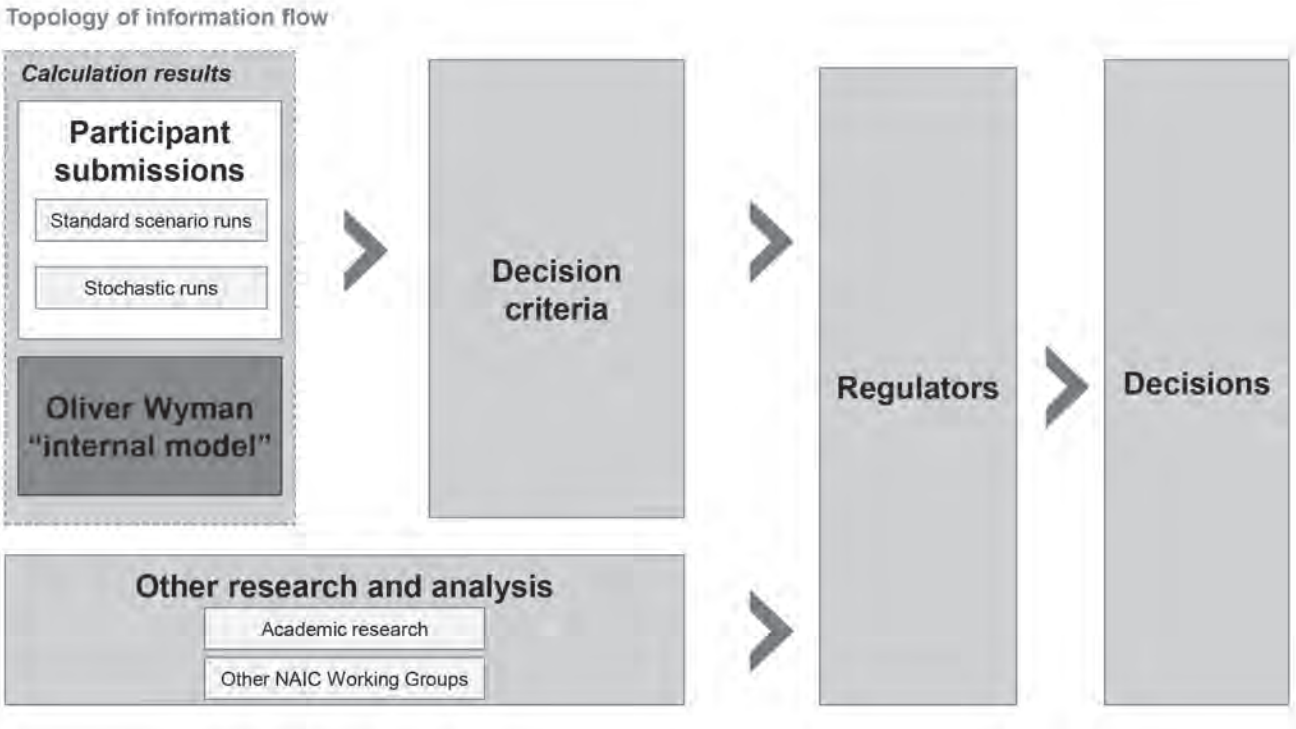
b. **Reflection of CDHS:** As noted previously, the CDHS is recommended to be reflected during the period of stress. Alternatives are being examined including, depending on the character of the market path, (i) no reflection of CDHS (if no stress takes place) and (ii) reflection of the CDHS in perpetuity, as is allowed in the stochastic calculation.

c. **Behavioral assumptions:** Verifying and testing revisions to prescribed policyholder behavior assumptions is a focal point of QIS2, given the substantial amount of industry learnings about VA policyholder behavior since the enactment of the AG43 and C3 Phase II regulations. Cycle I testing will involve primary research into policyholder behavior experience to verify and potentially revise the Oliver Wyman 2016 recommended revisions to the policyholder behavior prescriptions. Moreover, discussions are beginning regarding a potential "hybrid governance model" that allows companies to utilize their own data under a prescribed method—not a prescribed assumption.

HOW DECISIONS ARE BEING MADE

The significant ramifications of QIS2 decisions has attracted focus on the specification of how decisions should be made for each of the framework elements being investigated. We previously noted the presence of primary research to the quantitative testing results supplied by QIS2 participants and an Oliver Wyman stylized "internal model." In addition, a series of decision criteria consisting of (i) target properties of the framework, (ii) supporting data, (iii) external research and (iv) regulator guidance are being developed early in each testing Cycle in order to guide decisions. This aspect of the framework and its role is described in Figure 2 and has been effective in drawing input in

Figure 2



advance of data submissions about how exactly to guide decision-making on each framework topic.

CONCLUSION

QIS2 promises to be an important milestone in the development of more prudent regulatory standards for the variable annuity sector. It is an initiative that draws on skills and experience gained by members across the industry and consulting fields over many decades. We hope this introduction and background of QIS2 is helpful for participants and non-participants alike, and will seek to continue to provide updates on QIS2 status throughout the course of the initiative. ■

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ENDNOTES

1 The author of this article sincerely hopes the rumors that the NAIC fall meeting will be hosted in Hawaii are true.