

VA Reform: Assessment and Implications

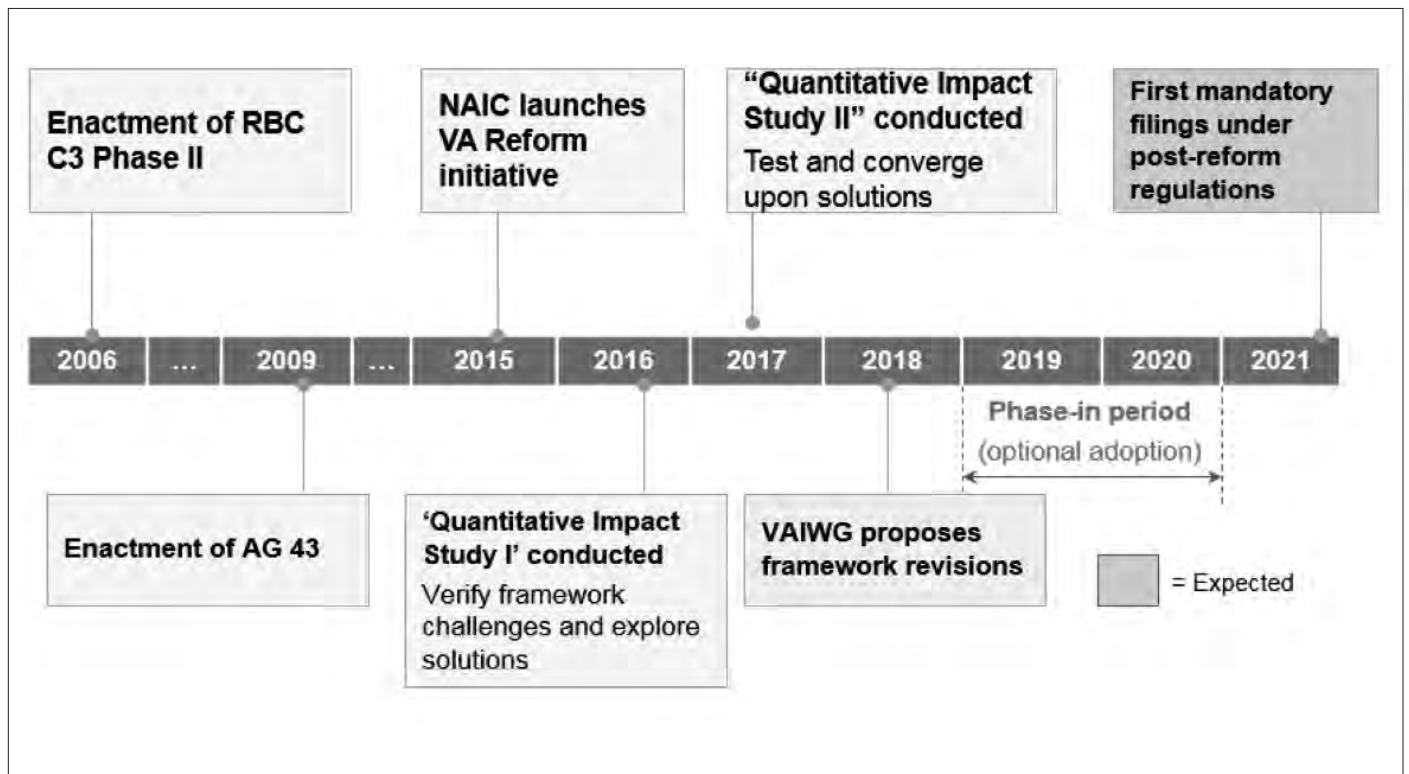
By Aaron Sarfatti

The variable annuity (VA) industry remains an engine of growth for the U.S. life insurance industry, with more than \$2 trillion in industry assets under management and annual premiums exceeding \$100 billion. While originally designed as a vehicle for tax deferred accumulation, a sizable portion of VA assets have riders attached to the policies that create exposures—in many instances material—to risks arising from capital markets, policyholder behavior and mortality. The regulations that 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 National Association of Insurance Commissioners (NAIC) embarked on an approximately three-year initiative to reform the Actuarial Guideline 43 (AG 43) and C3 Phase II (C3P2) regulations that establish standards for setting VA reserves and capital. The principal NAIC objective was to encourage captive recapture—with subobjectives to (a) enable companies with prudent risk management to achieve greater capital stability and (b) maintain or enhance the prudence of regulatory standards. In May 2018, following two quantitative impact studies spearheaded by Oliver Wyman, the Variable Annuities Issues Working Group (VAIWG) recommended revisions to the AG 43 and C3P2 standards that, while preserving the general structure of the calculations, represent a sweeping overhaul of the calculation standards. Figure 1 shows a timeline of past and expected changes to VA reserve and capital regulations.

Figure 1
Timeline of VA reserve and capital regulations
2006-2021



I was the lead partner at Oliver Wyman supporting the NAIC initiative. The remainder of this article reflects my personal analysis of the reform initiative.

SUMMARY OF MAJOR RECOMMENDATIONS

The VAIWG recommended 27 revisions to the AG 43 and C3P2 guidelines. The most material pillars of these recommendations are summarized below.

Overhaul of the Standard Scenario

The existing AG 43 and C3P2 standard scenarios are supplanted by a Standard Projection (SP) featuring (a) prescribed policyholder behavior and mortality assumptions derived from industry experience and (b) a calculation structure aligned fully with that of the stochastic calculation. The stated objective of the new SP is to govern company model choices such as policyholder behavior assumptions.

Prescribed use of the VM-20 Scenario Generator

The current framework permits companies to determine the capital markets scenarios used in the stochastic projections, subject to a limited set of calibration criteria for select equity returns. The reformed framework prescribes all companies to use the scenario generator required by VM-20 (and with common input parameters), which at the time of this article is a generator authored by the American Academy of Actuaries.

Alignment of Reserve and Capital Calculations

The current framework derives reserves and total asset requirements (and hence risk-based capital, or RBC) using two distinct calculations: reserves at conditional tail expectation (CTE) 70 from one distribution of scenario projections and capital at the CTE90 of a separate distribution. The revised framework derives reserves and capital from the CTE70 and CTE98¹ of the same distribution.

Enhanced and Targeted Disclosures

The current framework requires several more general disclosures regarding inputs to or properties of the company projections. The revised framework prescribes targeted disclosures intended to enhance regulator knowledge of specific potential vulnerabilities of company projections; for example, companies will be required to disclose the magnitude of the “credit” to reserves and capital realized by projected hedge rebalancing.

SUCCESSSES OF THE REFORMS

The VA reforms constitute a de facto overhaul to the calculations, particularly with respect to company incentives and the quality of signals to regulators about the financial condition of companies. The most material successes are summarized below.

Greater Capital Stability for Prudent Risk Managers

Four distinct calculations can bind insurer reserve or capital in the current framework, and each contains different (oftentimes materially so) sensitivities to the capital markets environment. These conflicting signals regarding a company’s market exposure greatly complicate company hedge programs and effectively preclude capital stability across market environments, a requirement for many companies to participate in insurance markets.

The revised framework reduces to two and fully aligns the component calculations, with any residual variations in market risk sensitivity arising from matters of regulatory prudence, such as prescribed versus company policyholder behavior assumptions. Combined with a parallel Statutory Accounting Principles (E) Working Group initiative to expand hedge accounting practices, the alignment of capital market sensitivities in the new framework addresses the most oft-cited motivation for use of VA captives, that is, lack of capital stability post-hedging.

Harmonization of Capital Markets Scenarios

A 2015 Oliver Wyman survey at the outset of the VA reform initiative revealed wide disparities in company capital markets scenarios, particularly for interest rates, where observed company variations included:

- Long-term mean interest rates—from then-present, long-term U.S. Treasury rates (~3.0 percent) to nearly 7.0 percent.
- Speed and strength of mean reversion—from companies with gradual reversion to others where the preponderance of projected scenarios included sharp upward movements in long-term interest rates within 10 years.

For a class of long-dated GMxB liabilities where interest rates are arguably the most significant risk factor, granting companies the ability to set interest rate distributions issues a de facto license to set reserve and capital levels—a regrettable regulatory property itself, let alone the obvious preclusion of any uniform regulator assessment of capital strength across companies. The harmonized scenarios within the reform enable regulators to express a uniform appetite for capital markets risk across the industry.

Governance of Actuarial Assumptions

Error in actuarial assumptions, and particularly policyholder behavior, is among the most material risk to issuers of variable annuities, with analogs to long-term care via both the (i) long-dated, complex nature of many GMxB assumptions and (ii) the poor track record of many industry participants in assumption unlock experience.



The current framework attempts to govern policyholder behavior via the Standard Scenario, but these assumptions were set both (a) prior to the emergence of valuable industry experience and (b) without sufficient regard to policyholder economic incentives in many guarantee products. Moreover, whatever governance value the Standard Scenario affords through its prescribed assumptions is distorted by the sharp variations in its calculation approach relative to that of the stochastic calculations.²

While imperfect by dint of a lack of a crystal ball into the future, the revised prescribed assumptions in the Standard Projection (a) integrate substantial relevant industry experience and (b) better reflect policyholder economic incentives for assumptions not yet credibly informed by experience.

Elimination of the RBC Distortion Caused by the Use of Voluntary Reserves

A common industry practice is for companies to employ so-called “voluntary reserves” for variable annuities, setting the amount of the voluntary reserve such that total reserves approximately equal the C3P2 capital requirement. While the intent of many companies engaged in this practice is to stabilize capital given the mismatching signals, a poorly understood byproduct is to distort RBC ratios higher because the C3 charge under C3P2 is small or zero (the latter leading to an infinite standalone VA RBC ratio). The consequence of such a ratio is to weaken the signal value of the RBC ratio as a measure of company financial health. The revised framework, by use of the scalar to CTE98,

sharply reduces the distortionary effect of any use of voluntary reserves should any companies continue to use them.

POTENTIAL LIMITATIONS OF THE REFORMS

Given the magnitude of the approved revisions (all but one of the Oliver Wyman recommendations were substantially agreed to) and momentum to implement, my overall impression is that the NAIC VA reform initiative will be a success. Companies with prudent risk-management practices and sound assumptions should experience smoother capital and be able to simplify and streamline risk-management and hedging practices. However, three areas of concern remain.

Lack of Prudence of the VM-20 Interest Rate Scenario Generator

The VM-20 scenario generator is designed to provide a “real world” perspective of potential future capital markets environments along with a prudence margin. While the equity generator (and associated calibration criteria) was hotly debated during the QIS and, in my view, is lacking a sufficient prudence margin³, the most material questionable characteristic of the generator is its failure to produce sustained low, long-term interest rates, such as those observed in Europe over much of the past decade (or in the United States in 2016).

The interest rate generator is designed such that, at low interest-rate levels, the mean reversion strength (toward higher interest rates) overwhelms potential further interest rate

declines due to volatility in the random simulation. The consequence is a generator that, as of year-end 2017, did not produce a single scenario (out of 10,000), where the average 10-year interest rate is below 1.5 percent. The impact is that companies do not have to capitalize to sustained low interest-rate scenarios; therefore, business models predicated on a levered bet against sustained low interest-rate environments can attract capital and thrive, distorting market pricing and exposing the NAIC and life industry overall to financial losses and reputational harm in the event a sustained low interest-rate condition is realized.

The VAIWG chose not to recommend any revisions to the VM-20 scenario generator within the confines of the VA reform process, electing to defer the question of its revision. Unequivocally, the revision to or replacement of the VM-20 scenario generator should be a top priority for the NAIC, because the “sustained low interest-rate peril” will loom over the variable annuity industry until such revisions are instituted.

Uniform Regulatory use of the Enhanced Disclosures

Several aspects of the projections—such as Clearly Defined Hedge Strategies, complex but impactful components of company models—were deemed too complicated to govern via explicit guidelines. Instead, governance of these projection components relies exclusively on regulators’ diligent examination and questioning of results through enhanced disclosures prescribed as part of the reforms. The NAIC should ensure that regulators from all states uphold the commitment to examine these disclosures. Failure to do so would introduce substantial gaps in regulatory oversight.

Failure to Refresh Prescribed Policyholder Behavior Assumptions

As noted previously, the prescribed policyholder behavior assumptions in the new Standard Projection contain many improvements over existing prescriptions. However, many material assumptions still lack credible experience (either existence of data or the interest rate environment attending the data), and in these instances, judgment was applied with respect to the degree to which policyholders act according to their economic interests. Further data will continue to emerge for material assumptions; and updates to the assumptions, whether to strengthen or relax the prescriptions, will be a valuable use of regulatory resources in light of the tens of billions of dollars of capital dependent on relatively minor revisions to these

assumptions. Moreover, expanding the data sets to include non-retail GMxB business (the Oliver Wyman QIS study focused on retail GMxB business) should be allowed for companies that can demonstrate material exposure to such businesses.

CONCLUSION

The NAIC deserves considerable praise for undertaking the VA reform initiative, and I view the initiative unambiguously to have been a worthwhile endeavor. However, further work is required to complete (e.g., VM-20 generator overhaul) and sustain (such as refresh prescribed assumptions) the reforms. Moreover, the NAIC should extract and apply the learnings from this initiative—such as the needs to harmonize market assumptions and govern actuarial assumptions—to similar reform initiatives across the industry to promote soundness in both risk-management practices and business models. I would also like to thank the NAIC for granting me the privilege to render (with the support of my erstwhile colleagues at Oliver Wyman, in particular the peerless Peter Tian) the most significant industry contribution to date of my career. I hope this perspective on the VA reforms is helpful for regulators and interested parties alike, and I look forward to the continued health of the VA industry. ■

This article presents the author’s views of the NAIC VA reserve and capital reform initiative. These views are not sanctioned by either Oliver Wyman or AXA Equitable, the author’s current employer.



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ENDNOTES

- 1 The revised framework sets undiversified C3 RBC equal to a scalar (initially 25 percent) of the difference between CTE98 and CTE70.
- 2 The current Standard Scenario uses the accumulated net revenue construct while the stochastic calculation uses the greatest present value of accumulated deficiencies construct. These two constructs differ sharply in the discount rate, reflection of hedging and recognition of certain liability cash flow items.
- 3 The Academy Generator, at the time of this article, produces a ~7.6 percent compound mean long-term expected large cap equity return where returns are entirely unrelated to the returns on risk-free assets and with an average annual lognormal volatility between 14 to 15 percent.