Article from:

Small Talk

March 2015 – Issue 43

VM Reporting Requirements for a Company with Low-Risk-Profile Products

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Introduction

The advent of principle-based reserves (PBR) will undoubtedly herald many changes for companies. There already has been a lot of discussion around what PBR requires for stochastic reserves, deterministic reserves (and the exclusion tests for both), and of course the net premium reserve (NPR). Many small companies subscribe to the view that the increased reserving work is not commensurate with the risk entailed in their mundane insurance portfolio. There will be some relief to this work if the American Council of Life Insurers' (ACLI's) proposal to allow cash flow testing (CFT) models to be utilized to perform the deterministic exclusion test (DET) and stochastic exclusion test (SET) is adopted.

Even with the ability to "kill two birds with one stone" with your CFT model, there are still reporting requirements embedded in the Valuation Manual (VM) that must be addressed, in particular VM-31: "PBR Report Requirements for Business Subject to a Principle-Based Reserve Valuation." A read-through of this section of the VM can be pretty daunting. The good news is, if you work for a small company and are already complying with the Actuarial Opinion and Memorandum Regulation (AOMR, now contained in VM-30), then you have done most of the work already. With a few adjustments to the AOMR, you can have a report that satisfies VM-31.

This article assumes that the ACLI's proposal to use the CFT model for performing the SET and DET is adopted into VM-20. The rest of this article is directed at providing the simplest path for a small company that has passed the DET and SET. Thus, stochastic and deterministic reserves do not need to be calculated and hence not documented. There is an argument that a company that passes the SET and DET does not have to comply with VM-31. Unfortunately, the VM provides conflicting guidance in different sections. It is assumed that VM-31 will apply to companies that hold the net premium valuation (NPV) reserve and have done the work to pass the SET and DET (otherwise, this would be a really short article). The simplest path is to start with your AOMR and make the appropriate modifications to develop the principle-based reserve actuarial report (PBRAR). There will be sections that are different, but whenever possible we identify where the same verbiage can be used simultaneously for both reports to minimize future maintenance.

Summary Comparison

Figure 1 compares and maps the AOMR requirements alongside the VM-31 PBRAR requirements into the categories of equivalent, similar and new. Some items might be new in VM-31 but not new to your AOMR. Your AOMR may contain descriptions and content that VM-30 does not explicitly require. VM-31 makes these requirements explicit.

Sections 3.A.1-3, 3.A.7-12, 3.B.1-6 in VM-30 are specific to the AOMR and are not applicable to the PBRAR. Most of the Other Disclosure Items in VM-31 Section 3.E and a few items regarding assets and investment strategies in Section 3.C are newly introduced in VM-31 and the PBRAR.

The single largest distinction between the AOMR and the PBRAR can be captured by the words transparency and disclosure. VM-30 requires the AOMR to disclose, i.e., what is used. What are the mortality rates? What are the lapse rates? VM-31 requires more details in the PBRAR regarding how and why: descriptions of methods, development, rationale, impact/quantification of choices, demonstrations, and underlying data comparing actual to expected results. In various places VM-20 allows the actuary to exercise judgment. VM-31 requires that judgment be made transparent.

AOMR and PBRAR Section-by-Section Comparison

The AOMR and PBRAR can be organized into the following sections:

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Figure 1: Comparison—Actuarial Opinion and Memorandum (VM-30) and

Principle-Based Reserve Actuarial Report (VM-31)

AOMR Requirements	No PBR Equivalent	PBR Equivalent	Similar PBR Requirement	New PBR Requirement	Section
3.A.1.a-f	X				
3.A.2	X				
3.A.3	X				
3.A.4		3.C.1			Other Disclosure Items
3.B.9.a-c			3.C.2, 3.C.5		Overview/ Summary
3.A.5			3.C.3-4		Results
3.A.6		3.C.6			Other Disclosure Items
3.A.7-12	X				
3.B.1-3	X				
3.B.4	X				
3.B.5-6	X				
3.B.9.e		3.E.3.h			Prod Assumption
3.B.9.f			3.E.3.i-j		Assets
3.B.9.g			3.C.7.a-c		Prod Assumption
3.B.10			3.C.8, 3.E.3.k		Assets
				3.C.7.d-g	Prod Assumption
3.B.12.a			3.E.2		Other Disclosure Items
3.B.12.b-c			3.E.1.a-c		Results
3.B.11			3.C.10		Other Disclosure Items
3.B.13	X				
				3.C.9	Assets
				3.C.11	Other Disclosure Items
				3.E.3.a	Other Disclosure Items
				3.E.3.b-d	Other Disclosure Items
				3.E.3.l	Assets
				3.E.3.m-n	Other Disclosure Items
				3.E.3.e	Other Disclosure Items
				3.E.3.f	Other Disclosure Items
				3.E.3.g	Prod Assumption
				3.E.4-6	Prod Assumption
				3.E.7	Assets
				3.E.8	Prod Assumption
				3.E.9	Prod Assumption
				3.E.10	Prod Assumption
				3.E.12	Prod Assumption
				3.E.13-14	Other Disclosure Items

Overview/Executive Summary
Product Assumptions
Assets
Other Disclosure Items
Results

Below, each section is organized into subsections. This is simply a representative structure. The reports could be organized differently.

Overview

The overview pertains to AOM/VM-30 3.A and PBRAR/VM-31 3.C. Topics can be organized into subsections as:

- Introduction
- Product Descriptions
- Description of Cash Flow Model
- Valuation Assumptions and Margins
- Reinsurance
- Derivative Programs
- Process to Monitor Changes in Experience
- Interest Rate and Equity Performance Scenarios
- Use of Modeling Date That Precedes Valuation Date
- Stochastic Modeling Exclusion
- Summary of Reserve Results
- Signature Section

VM-30: Section 3.B.9.a-c vs. VM-31: Sections 3.C.2, 3.C.5

3.B.9.a-c of the AOMR has requirements to provide product descriptions including market description, underwriting and other aspects of a risk profile and the specific risks the appointed actuary deems significant, along with the source of the liability in force, and the reserve method and basis. This section of the AOMR would need to be revised to reflect the reserving method and basis of VM-20 and 21, matching the PBR requirements of section 3.C.2. Section 3.C.5 requires the actuary to describe material risks associated with policies subject to PBR valuation. The AOMR risk descriptions in 3.B.9.a should be tailored to meet this requirement.

Product Assumptions

Product assumptions can be organized as:

- Mortality Assumptions
- Premium Persistency
- Lapse
- Dynamic Lapse Formula
- Competitor Rate
- Variable Account Assumption
- Interest Crediting
- Expenses

VM-30: Section 3.B.9.g vs. VM-31: Section 3.C.7.a-c

Already contained in the AOMR is documentation of the assumptions used for lapse rates (both base and excess), interest crediting rate strategy, mortality, policyholder dividend strategy, competitor or market interest rate, annuitization rates, commissions and expenses, and morbidity. The level of documentation is such that another actuary should be able to take the documentation and reproduce the results contained in the memo. PBR documentation requires the actuary to go one step further and document how those assumptions were developed; i.e., experience vs. judgment, and the source of the experience. You'll also need to disclose any changes from the previous year in the method of determining assumptions and the plan to monitor experience for future assumption-setting.

VM-30: Section 3.B.9.e vs. VM-31: Sections 3.E.3.h, 3.E.9

The requirements for disclosing how reinsurance cash flows are modeled are pretty consistent between VM-30 and VM-31. Paragraph 3.E.9 of VM-31 requires more explicit documentation of the treatment of reinsurance in establishing PBR reserves. As the CFT model will be used in the exclusion tests, the reinsurance documentation necessary has already been documented.

VM-31: Section 3.C.7.d-g

These requirements revolve around the assumption margins. These will not be applicable given the CFT model will be used for the exclusion tests.

VM-31: Section 3.E.3.g

While loan treatment and assumptions are not called out specifically in the requirements of VM-30, cash flows resulting from loan treatment are likely material and have been included in the CFT model and documented. VM-31 specifically calls for loan modeling documentation.

VM-31: Sections 3.E.4-6

VM-31 paragraphs 3.E.4, 3.E.5 and 3.E.6 deal with PBR-prescribed assumptions for mortality, policyholder behavior and expenses, respectively. The CFT model assumptions will be used for the exclusion tests, and the documentation of those respective assumptions is already covered.

VM-31: Section 3.E.8

This paragraph of VM-31 covers revenue-sharing assumptions for establishing PBR reserves. As the CFT model will be used for exclusion tests, this section is not applicable.

VM-31: Section 3.E.10

This paragraph specifically concerns the treatment of non-guaranteed elements (NGEs) for determining PBR reserves. Like the previous paragraphs, this will not apply as the CFT model will be used for exclusion tests, and has been covered in the documentation specific to the CFT model (namely from VM-30: Section 3.B.9.g and VM-31: Section 3.C.7.a-c above).

VM-31: Section 3.E.11

Paragraph 3.E.11 documents the results of the DET and SET.

Section 3.E.11.a identifies each group of policies that used both the DET and SET.

Section 3.E.11.b documents the groups of policies that pass the SET, and discusses the SET used. There are three SETs available: passing the stochastic exclusion ratio test, the stochastic exclusion demonstration test, or certification that the group of policies does not contain material interest, tail or asset risk.

Section 3.E.11.c displays results of any stochastic exclusion ratio tests.

Section 3.E.11.d documents the rationale for using the stochastic exclusion demonstration test(s) and the demonstration, itself. The demonstration method requires the use of a modified deterministic reserve, with projections for the current and two subsequent calendar years of this, given exposure to sufficient adverse deterministic scenarios. The demonstration method, if chosen, must be repeated at least once every three calendar years after electing the method.

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Section 3.E.11.e documents support for the certification method of stochastic exclusion.

Section 3.E.11.f documents the group of policies that pass the SET, and if stochastic reserves are not chosen as the method, the results of the DET for each group of policies.

VM-31: Section 3.E.12

Paragraph 3.E.12 deals with the impact of margins on the deterministic and stochastic reserves. These will not be relevant upon passing the DET and SET.

Assets

Topics can be organized into subsections as:

- Portfolio Description
- Model Segments and Starting Assets
- Investment Assumptions
- Disinvestment Assumptions
- Asset Valuation Basis
- Description of Assets
- Default Assumption
- Prepayments
- Calls
- Puts
- Separate Account

VM-30: Section 3.B.10 vs. VM-31: Sections 3.C.8, 3.E.3.k, 3.E.7

The AOMR will already contain documentation on the quality, distribution, and types of assets, including the investment and disinvestment assumptions (including market value (MV) determination of sold assets and yield on purchased assets), source of asset data, asset valuation bases, default costs, call options, and prepayment functions. Consistent with the general migration of mere disclosure in the AOMR to transparency in the PBR report, expanding these sections to include the rationale for the assumptions used should be completed for the PBR report. PBR requirements also add the rationale for dividing the total portfolio into sub-segments. This will be specific to the purpose of how the sub-segments were chosen to perform the DET and SET.

VM-30: Section 3.B.9.f vs. VM-31: Section 3.E.3.i-j

The AOMR requirements laid out in 3.B.9.f revolve around disclosing the relationship between general account and separate account assets and the guarantees for the policy. The PBR requirements are a bit more specific in asking the actuary to disclose the rationale for grouping the assets in the manner done, and how the grouped assets are tied to product liabilities for purposes of establishing crediting rates.

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VM-31: Section 3.C.9

This requirement hinges around describing the hedging modeled. With the overall assumption that this document is applicable to small companies with simplistic products that have passed the DET and SET, there is a good chance that this paragraph will not apply.

VM-31: Section 3.E.3.l

This paragraph contains documentation of prescriptions for the investment strategy for determining PBR reserves. This will not be applicable to policies that pass the DET and SET as the CFT model will be used.

Other Disclosure Items

Topics can be organized into subsections as:

Impact of Assumption Margins
Material Risks Not in Cash Flow Model
Impact of Aggregation
Embedded Spread on Starting Assets
Test of Consistency of Discount Rates

VM-30: Section 3.A.4 vs. VM-31: Section 3.C.1

These sections are basically identical in requiring an opening paragraph identifying the qualified actuary, with qualifications and relationship to the company.

VM-30: Section 3.A.6 vs. VM-31: Section 3.C.6

Both VM-30 and VM-31 require the disclosure of reliance. These reliance statements are pretty consistent between VM-30 and VM-31.

VM-30: Section 3.B.12.a vs. VM-31: Section 3.E.2

Both VM-30 and VM-31 require disclosures on any material changes in assumptions from the previous valuation. This respective VM-31 paragraph also requires a listing of the margins for major risk factors. This latter component will not be applicable as the CFT model will be used for the SET and DET.

VM-30: Section 3.B.11 vs. VM-31: Section 3.C.10

Paragraph 3.B.11 of the AOMR is focused on disclosing the rationale for determining the measure and degree of analysis of risk for determining asset adequacy. Paragraph 3.C.10 of VM-31 similarly requires the disclosure of the rationale for determining whether an element of the PBR calculation is material. As the CFT model is being used for the DET and SET, documentation and disclosure of the elements the actuary deems relevant to the respective results would be appropriate.

VM-31: Section 3.C.11

This section requires a paragraph stating that the reserves are calculated in accordance with VM-05 and VM-20, and assumptions are prudent estimates.

VM-31: Section 3.E.3.a

The modeling system used for projections is probably already contained in your AOM, but this paragraph of VM-31 specifically requires you to detail it.

VM-31: Section 3.E.3.b-d

In performing the SET and DET using the cash flow model, there will need to be segmentation of assets and liabilities for the tests. The liabilities will probably be pretty straightforward, though the rationale for the asset selection will need to be disclosed.

VM-31: Section 3.E.3.m-n

These paragraphs refer to the number of scenarios in the stochastic reserve runs. These will not be applicable to companies passing the SET.

VM-31: Section 3.E.3.e

This paragraph of VM-31 requires a description of the approach to validate the deterministic and stochastic models. While not explicit in the requirements of the AOMR, the AOMR may already contain documentation of the validation of the CFT model. If not, an additional section describing the validation work will become necessary.

VM-31: Section 3.E.3.f

Paragraph 3.E.3.f is a requirement that mirrors Actuarial Standard of Practice (ASOP) 22 3.3.4.b that says, "Asset adequacy should be tested over a period that extends to a point at which, in the actuary's professional judgment, the use of a longer period would not materially affect the analysis." There is a chance that the AOMR already contains language detailing the length of the projection and why it was deemed sufficient.

VM-31: Sections 3.E.13-14

There are two certifications required by VM-31. The first is from the investment officer stating the modeled investment strategy is consistent with the company's current investment strategy. The second is from senior management certifying the PBR valuation complies with VM_G.

Results

Topics can be organized into subsections as:

Basic Results
Sensitivity Tests
Margins

VM-30: Section 3.A.5 vs. VM-31: Sections 3.C.3-4

The tables accompanying the AOM will have been revised to add the category of PBR reserves to the normal exhibit 5 through 8 tables. For the values that are subject to PBR reserves, VM-31 requires there to be tables containing a more granular breakdown of policy types with face amount, premium, and whether or not this is the first year the line was subject to PBR.

VM-30: Section 3.B.12.b-c vs. VM-31: Section 3.E.1.a-c

The requirements in the AOMR for disclosing results are very broad—namely, the actuary just needs to summarize them. VM-31 paragraphs 3.E.1.a-c have specific tables dedicated to summarizing results by the deterministic reserve, the stochastic reserve, and the NPR, respectively. As the exclusion tests are assumed to be passed for the DET and SET, the only result that will need to be included is a table of the NPR by product line. ●

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On The Research Front

VBT RECOMMENDATION RELEASED ON MORTALITY IMPROVEMENT RATES
The SOA released a recommendation from the Preferred Mortality Project Oversight Group's Valuation Basic Table (VBT) Team for a set of improvement factors that vary by gender and attained age to be used in conjunction with the 2008 VBT for AG-38 purposes for year-end 2014. Excel files are available on the smoothed rates and the mortality improvement rates smoothed and rounded.

http://www.soa.org/Research/Experience-Study/Ind-Life/Valuation/research-2014-mort-improve-rates-ag-38-year-end-2014.aspx