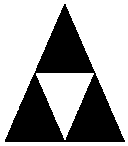

AMERICAN ACADEMY *of* ACTUARIES

Report of the Asset Codification Work Group

to the

NAIC HORBC Working Group

Nashville — March 2001

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This report was prepared by the Academy's Asset Codification Work Group of the Task Force on Health Organizations Risk-Based Capital (HORBC).

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Introduction

The American Academy of Actuaries' Asset Codification Work Group of the Task Force on Health Risk-Based Capital was formed in August 2000 in order to respond to a request for assistance from the NAIC's Health Risk-Based Capital (HRBC) Working Group. The objective of that request was a review of certain asset-related elements of the MCO RBC (now Health RBC) formula in light of recent developments, most notably the impending introduction of the "codification" Statements of Statutory Accounting Principles. Specific issues identified in the request included the following:

- Common stock
- Covariance formula
- Deferred tax assets/liabilities
- Health care delivery assets
- Health care receivables

The work group presented an interim report at the December 2000 NAIC meeting that touched on all five of the issues listed above.

After delivering that report and receiving feedback to it from the NAIC, the work group felt that its future obligations to the NAIC were as follows:

- *Common stock*: No further work necessary.
- *Covariance formula*: The work group was encouraged by the HRBC Working Group to take additional time and reevaluate the "quick fix" recommendation made in the December report.
- *Deferred tax assets/liabilities*: Monitor the efforts of the "tax factor" project being undertaken by the Codification Subgroup of the Academy's Life RBC Committee and comment as necessary on the suitability of their recommendations for the Health RBC.
- *Health care delivery assets*: No further work necessary.
- *Health care receivables*: No further work necessary at this time; however, once definitive guidance (such as Issue Paper No. 107) has been adopted by the NAIC's Statutory Accounting Principles Working Group, additional analysis and comment may be warranted.

The primary purpose of this report is to present a final recommendation on the covariance formula and related issues. In addition, we make a brief comment relating to developments in the tax factor project.

Covariance Formula

Background

The Health RBC formula currently combines all asset risks (except affiliated insurers) into a single component, H1, for purposes of the covariance formula. The Property/Casualty RBC formula, by contrast, has two distinct components for such asset risks, R1 (fixed income) and R2 (other assets). While the Life RBC currently has a single component, C1, for all asset risks, in December 2000 the NAIC's Life RBC Working Group tentatively accepted an Academy recommendation to split C1 into two pieces, C1-cs (unaffiliated common stock) and C1-o (other assets), starting with the 2001 formula.

In our December 2000 report, this work group concluded that it was appropriate for the H1 component of Health RBC to be bifurcated into two separate components. With the impending change to the structure of Life RBC, that formula would join Property/Casualty RBC in recognizing a lack of correlation between equity losses and bond defaults, whereas the current Health RBC covariance formula assumes that equity losses and bond defaults are perfectly correlated. The work group saw no theoretical justification for retaining in Health RBC a covariance treatment that differs materially from the corresponding treatments in both of the other RBC formulas.

Since the December 2000 NAIC meeting represented the deadline for approval of any structural changes to the 2001 Health RBC formula, this work group felt that it was desirable to present at that meeting a proposal for modifying the Health RBC covariance treatment, so that the Health and Life formulas could both adopt new covariance treatments in the same year rather than in successive years. Given the time constraint, this work group elected to present a recommendation that mimicked the Life RBC proposal. After receiving this work group's December 2000 report, the NAIC's Health RBC Working Group voted to, "forego adopting this proposal for the 2001 formula in favor of further review and study" (quoting from the minutes). In a subsequent discussion, the chairperson of the Working Group indicated that the Academy should study the issue further from the point of view of determining the most appropriate recommendation for the Health RBC formula, for implementation no sooner than 2002. He invited the Academy to report back to the NAIC in early 2001 if its further deliberations were to produce a different recommendation.

Summary of Recommendation

After further discussion, this work group now makes a recommendation that differs in many aspects from the proposal advanced in our earlier report. The key points of our recommendation are as follows:

- The current H1 risk category should be bifurcated into two categories, which we shall call H1-a and H1-b. Bonds would fall into one risk category, H1-a, while unaffiliated common stock would fall into the other risk category, H1-b.

- The two new categories would be separate components under the covariance adjustment; that is,

$$\text{Health RBC After Covariance} = H0 + \sqrt{H1\text{–}a^2 + H1\text{–}b^2 + H2^2 + H3^2 + H4^2}$$

- More specifically, the H1-a component would include the following asset classes:
  - Bonds;
  - Cash and Short-Term Investments,
  - Mortgage Loans and Collateral Loans;
  - Redeemable Unaffiliated Preferred Stock;
  - Property & Equipment;
  - Schedule BA Assets having underlying characteristics of assets listed above;
  - Assets listed above held by an investment subsidiary.

- The H1-b component would include the following asset classes:
  - Unaffiliated Common Stock;
  - Perpetual Unaffiliated Preferred Stock;
  - Investment in Other Affiliates;
  - Investment in Parent;
  - Holding Company Excess of Subsidiaries;
  - Market Value Excess Affiliate Common Stock;
  - Schedule BA Assets not included in the H1-a component;
  - Assets listed above held by an investment subsidiary.

- The existing asset concentration calculation, which considers the entity's total exposure to a given issuer's securities (both bonds and stocks), would be retained. However, the approach currently found in the Property/Casualty RBC formula would be adopted, so that the additional concentration RBC arising from H1-a assets would be added to the H1-a component and the additional concentration RBC arising from H1-b assets would be added to the H1-b component.

This recommendation would necessitate revisions to the Health RBC formula and instructions. While we have not formally prepared these revisions, we would be pleased to assist NAIC staff in preparing such exhibits if desired.

As a result of our recommendation, we believe that further consideration needs to be given to the following two areas:

Risk factors for Schedule BA Assets. Currently, all Schedule BA assets (except for collateral loans) are assessed a 20% risk factor. We believe that, while this high factor is appropriate for the Schedule BA assets that we would assign to the H1-b component (e.g., venture capital funds), many of the H1-a Schedule BA assets (e.g., surplus notes) may merit lower risk factors.

Determining the ten largest issuers. Currently, the ten issuers to be included in the asset concentration calculation are determined via a "top-line" approach, based on the statement values of eligible assets. We believe that it may be more appropriate to adopt a "bottom-line" approach, increasing the RBC requirement of the ten largest issuer exposures as measured by RBC requirement rather than by statement value. This approach recognizes the need for additional capital for the ten "riskiest" assets, as opposed to the current approach of requiring additional capital for the ten largest assets. Switching from a "top-line" to a "bottom-line" approach would increase required capital and hence would offset, and possibly in some cases overshadow, the reduction in RBC caused by the change in the covariance adjustment. Noting the similarities between the Health RBC and Property/Casualty RBC asset concentration factors, for consistency this NAIC may wish to consider implementing a change in this approach for both formulas at the same time. By contrast, switching from "top-line" to "bottom-line" is less likely to have a significant impact under the proposed Life RBC treatment, with its two separate concentration factors.

Discussion of Recommendation

For reasons articulated above and in our previous report, the work group decided that it would be appropriate to bifurcate H1 risk into two components, one of which, H1-a, would contain bonds and the other of which, H1-b, would contain unaffiliated common stock. In order to formulate a complete recommendation along these lines, our work group considered the most appropriate treatment for each of the asset line items identified on page HR019 of the 2000 MCO RBC formula. The H1 ("Asset Risk - Other") component is defined as the sum of the following line items:

(9) *Investment Subsidiary*. ("An affiliate that exists only to invest the funds of the parent company.")
(10) *Holding Company Excess of Subsidiaries.* (The value of a holding company in excess of the indirectly owned insurance affiliates included in H0 risk.)
(11) *Investment in Parent.* (Investments in upstream affiliates, whether or not the upstream affiliate is itself subject to risk-based capital.)
(12) *Other Affiliates.* (Any affiliate that neither is subject to H0 risk treatment nor falls into lines 9 through 11 above; e.g., most non-insurer subsidiaries other than intermediate holding companies.)
(13) *Market Value Excess Affiliate Common Stock.* (For a publicly traded insurance affiliate carried proportionally to market value, this is the excess of carrying value over pro rata statutory surplus.)
(14) *Fixed Income Assets.* (This includes: bonds; cash; short-term investments; mortgages; collateral loans; and Schedule BA long-term invested assets, which includes surplus notes, real estate joint ventures, venture capital funds, etc.)
(15) *Unaffiliated Preferred Stock.*
(16) *Unaffiliated Common Stock.*
(17) *Property & Equipment.* (This includes all real estate – whether owned & occupied, for investment, or HCDA – as well as any admitted furniture & equipment assets.)
(18) *Asset Concentration.*

Line 9 — Investment Subsidiary

The following is an excerpt from the current MCO RBC Instructions:

> "The term 'investment affiliate' is strictly defined as … any affiliate, other than a holding company, engaged or organized primarily to engage in the ownership and management of investments for the insurer… The risk-based capital charge for the ownership of an investment affiliate is based on the risk-based capital of the underlying assets, pro-rated for the degree of ownership. The basis for this calculation is the assumption that *the charge should be the same as it would be if the MCO held the assets directly* (italics added)."

In order to maintain the pass-through principle articulated in the italicized passage, the RBC arising from the investment affiliate's bonds should become part of the component (H1-a) containing the RBC arising from the insurer's bonds. The RBC arising from the investment affiliate's unaffiliated common stock should become part of the component (H1-b) containing the RBC arising from the insurer's unaffiliated common stock, et cetera.

If this were not done, then an "RBC reduction" strategy would be available. For example, suppose that all RBC arising from an investment affiliate's holdings were included in the H1-a component, regardless of the underlying assets. If an insurer has significantly more H1-b risk than H1-a risk, as would normally be the case if the insurer chooses to invest in equities, then that insurer could effectively convert H1-b risk

to H1-a risk by setting up an investment subsidiary and shifting part of its equity holdings to that subsidiary. This strategy would bring the insurer's H1-a and H1-b components into closer balance, thus reducing RBC after covariance.

Line 10 — Holding Company Excess of Subsidiaries
Line 11 — Investment in Parent
Line 12 — Other Affiliates

The work group sees these line items as being essentially similar. In determining that these items should join unaffiliated common stock in the H1-b component, the work group agreed with the reasoning advanced by the Academy's Life RBC Committee in its December 2000 report:

> Given that there is no data readily available to quantify the covariance characteristics of non-insurance affiliates with other categories of asset risk, the Academy Committee made a judgement based on the observation of the general characteristics of such affiliates that they are more like unaffiliated common stock than the other categories of investment included in the C-1 category.

Line 13 — Market Value Excess Affiliate Common Stock

This line item represents a risk charge that is assessed against a publicly traded insurance affiliate's "market premium," the excess of its market value over its statutory book value. The work group believes that this market premium should be correlated with the general stock market, and hence that the risk that the market premium will diminish is correlated with the risk of general equity losses. Hence, we recommend that this line item should join unaffiliated common stock in the H1-b component.

Line 14 — Fixed Income Assets

Clearly, the majority of the assets included in this line item — cash, short-term investments, mortgage loans, and collateral loans — belong with bonds in the H1-a component.

Line 14 also contains an item called "Other Long-Term Invested Assets," which according to the MCO RBC instructions means Schedule BA assets (except for collateral loans, which are separately identified in the RBC formula). There are fourteen separate categories of Schedule BA assets (the numbers below are the first two digits of the corresponding Schedule BA line numbers):

01. Oil and Gas Production
02. Transportation Equipment
03. Mineral Rights
04. Fixed or Variable Interest Rate Investments That Have the Underlying Characteristics of Bonds
05. Fixed or Variable Interest Rate Investments That Have the Underlying Characteristics of Mortgage Loans
06. Fixed or Variable Interest Rate Investments That Have the Underlying Characteristics of Other Fixed Income Instruments
07. Joint Venture or Partnership Interests That Have the Underlying Characteristics of Fixed Income Instruments
08. Joint Venture or Partnership Interests That Have the Underlying Characteristics of Common Stocks
09. Joint Venture or Partnership Interests That Have the Underlying Characteristics of Real Estate
10. Joint Venture or Partnership Interests That Have Other Underlying Characteristics
11. Surplus Debentures, etc.

12. Collateral Loans
13. Capital Notes
14. Any Other Class of Admitted Assets

The work group's recommendation is that categories 04, 05, 06, 07, 11, 12, and 13 belong in the H1-a component, since the assets included in these categories have similar characteristics to fixed income instruments. Moreover, the work group suggests that the current 20% risk factor applied against such assets (excepting category 12) may be excessive.

The work group recommends that the more speculative assets in categories 01, 02, 03, 08, 09, 10, and 14 belong in the H1-b component.

Line 15 — Unaffiliated Preferred Stock

SSAP No. 32, "Investments in Preferred Stock," draws a distinction between "redeemable" preferred stock and "perpetual" preferred stock. Redeemable preferred stock is defined as, "preferred stock that must be redeemed by the issuing enterprise or is redeemable at the option of the reporting entity" (paragraph 4), and is later described as having "characteristics of debt securities" (paragraph 17). Perpetual preferred stock is defined as "preferred stock with no redemption or sinking fund features or preferred stock redeemable at the option of the issuer" (paragraph 7), and is later described as having "characteristics of equity securities" (paragraph 18). For entities not subject to an AVR, which includes Health RBC filers, redeemable preferred stock is carried at cost or amortized cost, like bonds, while perpetual preferred stock is carried at market value, like common stock (paragraphs 17 and 18).

Based on this, the work group believes that redeemable preferred stock belongs with other debt securities in the H1-a component, while perpetual preferred stock belongs with other equity securities in the H1-b component.

Line 17 — Property & Equipment

The work group had considerable discussion on the appropriate treatment of this line item, owing to the fact that it includes several diverse types of assets having unique characteristics.

A case could be made that health care delivery assets belong in neither H1-a nor H1-b, but in the H2 component. A case could also be made that investment real estate (which is not currently captured separately in the MCO RBC formula) belongs in H1-b.

However, the work group's recommendation is that the line item be included in its entirety in the H1-a component. Unlike the other aspects of our recommendation, this decision was based more on materiality and practicality considerations than on any particular theoretical firmament. We look forward to comment from the NAIC on this issue.

Line 18 — Asset Concentration

In our December 2000 report, the work group recommended that the current asset concentration calculation be retained, and that the total concentration RBC for the entity be combined with the larger of the two H1 components.

We continue to recommend that the current asset concentration calculation be retained. With time for additional consideration and the opportunity for structural change, we now recommend that the concentration RBC be split between the H1-a and H1-b components according to the assets involved.

The concentration RBC arising from bonds and other H1-a assets would be added to the H1-a component, while concentration RBC arising from unaffiliated common stock and other H1-b assets would be added to the H1-b component. This parallels what is currently done in the Property/Casualty RBC formula.

During our deliberations, we considered two additional issues regarding the current asset concentration calculation, the first of which (concentration based on RBC amount, rather than asset value) was discussed in the summary section above. The other issue relates to a difference in the calculation instructions between the Life RBC and Health RBC formulas. In Life RBC, a parent company's asset concentration calculation takes into account the combined holdings of the parent together with its subsidiaries, with offsets being provided to the parental concentration calculation for assets already included in subsidiary concentration calculations. Health RBC does not contain such a provision; as a result, a company might be able to avoid concentration RBC by spreading its exposure to a single issuer's securities across several affiliated companies. The Life RBC treatment makes sense to this work group.

Closing Comments

The work group believes that the covariance treatment recommendation described above, while slightly more complicated than either the treatment currently employed in the Property/Casualty RBC formula or the treatment proposed for the Life RBC formula, has a sound theoretical basis and represents the optimal treatment for the Health RBC formula.

We have not performed any formal work to estimate the impact that our recommendation would have on the required capital for health organizations. Since some aspects of our recommendation involve breakouts not currently found in the MCO RBC formula, it would not be possible to fully model the impact of our recommendation using data presently available to the NAIC. However, a testing program could be designed to estimate the impact, and we would be pleased to work in conjunction with NAIC staff towards that end.

It is important to recognize that for most health organizations, asset risk is secondary to underwriting risk. As such, bifurcating the asset risk component should have less impact on health organizations' RBC than it would for life insurers, where asset risk is dominant. Data provided by one of the work group members suggests that, for every dollar of H2 risk, a typical HMDI company has 56¢ of H1 risk, 8¢ of H3 risk, and 22¢ of H4 risk. For such a company, even if you were to assume that the H1 risk was split equally between H1-a and H1-b risks (which is the case that would produce the greatest reduction), bifurcation would only reduce RBC after covariance by about 6%. A more likely case for this typical company is that the H1 risk is split 80/20 between the two new components, in which case the reduction in RBC After Covariance would be less than 4%. The table below details the calculations of the covariance adjustment under these assumptions.

	$(H1\text{-}a)^2$	$(H1\text{-}b)^2$	$(H2)^2$	$(H3)^2$	$(H4)^2$	$(Total)^{.5}$
100% H1-a	.3136	.0000	1.0000	.0064	.0484	1.1698
50% H1-a	.0784	.0784	1.0000	.0064	.0484	1.1007
80% H1-a	.2007	.0125	1.0000	.0064	.0484	1.1260

Of course, these are aggregate estimates and the effect on individual companies will vary.

Tax Factor Project

Background

Under SSAP No. 10, deferred tax assets and deferred tax liabilities are introduced for the first time into statutory accounting. The Academy was asked to investigate whether changes to RBC formulas were warranted in connection with the implementation of SSAP No. 10.

In September 2000, the Academy's Life RBC Codification Subgroup made an initial presentation to the NAIC's Life RBC Working Group on this subject. As a result of this presentation, that Academy group has embarked on a broad "tax factor" project, which is still in progress. The NAIC's Health RBC Working Group is monitoring the progress of this Life RBC tax factor project and at some future point will be looking for Academy input as to the suitability for Health RBC of the project's conclusions.

Comments

Since the tax factor project is still a work in progress, this work group is not yet in a position to comment on it. However, we wanted to make the NAIC aware of two emerging issues.

The Academy's Life RBC Committee, in the course of its work on the tax factor project, has arrived at the conclusion that, in theory, the risk factors applied against bonds held at amortized cost should be higher for entities not subject to an AVR than for entities that are subject to an AVR. The current Health and P&C RBC bond factors are the same as Life RBC factors for Class 1 and 2 bonds where all statements use amortized cost as the basis for asset value. For most other bond classes the statement values are different.We believe that further review should be given to the risk factors applied to Health bond assets in light of this difference in treatment.

Second, the Life RBC tax factor project implicitly assumes that all RBC filers are subject to federal income taxation. While this may be true for Life RBC, it is not true for Health RBC, since some HMOs remain exempt from federal income tax. The ramifications of this observation still need to be explored.