



AMERICAN ACADEMY *of* ACTUARIES

Report of the Joint Risk-Based Capital Work Group

To the

NAIC Risk-Based Capital (E) Task Force

Atlanta — March 2003

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This report was prepared by the Joint Risk-Based Capital Work Group of the Academy's Solvency and Risk Management Task Force.

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Introduction

In February 2002, the Academy's Joint Risk-Based Capital Work Group presented the NAIC Risk-Based Capital Task Force with a comparison of the 2001 versions of the three NAIC RBC formulas: Life, Property & Casualty, and Health. (That report may be downloaded from http://www.actuary.org/pdf/finreport/jrbc_12feb02.pdf.) The stated purpose of that report was to document the similarities and differences between the three formulas and the reasons, as understood by the authors¹ of the report, for those differences that exist.

In December 2002, the Ad Hoc Subgroup of the RBC Task Force requested that the Academy provide a supplement to the February 2002 report addressing the changes that were made to the three RBC formulas from 2001 to 2002 and the extent to which those changes affected inter-formula consistency. The present report is intended to serve that purpose.

Attached as an appendix to this report are three memoranda issued by NAIC staff, each dated July 17, 2002, that collectively summarize the changes made to the RBC formulas for 2002. This report uses those memoranda as a framework for discussing the 2002 changes.

Life Formula

The NAIC memorandum bundles the changes made to the Life RBC formula for 2002 into the following seven categories.

1. Changes made for modified coinsurance or funds withheld reinsurance.

These changes made further refinements to an existing section of the Life formula that does not have a direct counterpart in either of the other two formulas. (Note that while "funds withheld" reinsurance is a term used in both the life and P&C industries, the meanings differ. In the P&C industry, the funds withheld are usually credited with interest at a fixed or indexed rate, with no sharing of actual asset return. However, in the life industry, there is actual sharing between the reinsurer and the cedent of the returns from specific assets. Hence, the Life formula has a unique need to adjust asset risks to account for these types of reinsurance treaties.)

2. Treatment of Schedule BA affiliated common stock.

Affiliated common stock that is reported on Schedule BA was shifted from the C-1o component to the C-1cs component. Thus, such assets now reside in the same Life RBC covariance component as non-insurer affiliated common stock reported on Schedule D.

Both of these types of affiliated common stock reside in the R-2 component of the P&C formula and reside in the H-1 component of the Health formula. Therefore, this change contributed to inter-formula consistency, in the sense that now all three formulas place Schedule BA affiliated common stock in the same covariance component as non-insurer Schedule D affiliated common stock. This

¹ It was observed during a recent RBC Task Force meeting that, as contrasted with most Academy reports to the NAIC, the February 2002 report did not contain a list of those Academy members who contributed to the report. The February 2002 report was prepared by the same set of people listed on the cover page of the current report, except that Mr. Weller was the chairperson at that time and Steven G. Lehmann, FCAS, FSA, MAAA participated in place of Mr. McCarter.

change, however, did not affect the existing inter-formula inconsistency in the risk charges applied to such assets.

3. *Treatment of affiliated health entities.*

Prior to 2002, the Life formula treated an investment in an entity filing the NAIC Health annual statement as if it were non-insurer affiliated common stock; the risk charge was a percentage of carrying value and was located in the C-1cs component.

A new treatment was adopted for 2002 whereby the affiliated entity's own Health RBC amount is used as the risk charge, with the risk now being located in the C-0 component.

This change was designed to resolve an inter-formula inconsistency. For several years, both the P&C formula and the Health formula have used an HRBC-based charge, located in the affiliated insurer component (R-0 for P&C, H-0 for Health), for investments in entities subject to the Health RBC formula.

However, the manner in which the change was implemented in the Life formula has resolved one inter-formula inconsistency but created another.

The new Life formula treatment applies to any affiliated entity that files the NAIC Health statement, regardless of whether or not the affiliated entity's state of domicile has adopted the NAIC Health Organizations Risk-Based Capital Model Law. (Note that all entities that file the Health statement are instructed to complete the Health RBC formula and report the results in the statement, regardless of whether the entity is subject to the HORBC Model Law.)

By contrast, both the P&C and Health formulas apply an HRBC-based charge only when the entity is subject to RBC. Investments in Health statement companies that are not subject to RBC are treated as non-insurer affiliated common stock.²

Thus, whereas in 2001 the RBC formulas were inconsistent with respect to the treatment of Health statement subsidiaries domiciled in HORBC states, in 2002 they are instead inconsistent with respect to the treatment of Health statement subsidiaries domiciled in non-HORBC states.

4. *Changes to the asset concentration calculation.*
5. *Tax adjustment for claim reserves on long-tailed health lines.*
6. *Changes to the tax adjustment for bonds.*

In all three cases, these changes represented further refinements to the tax-adjustment regime of changes that were introduced for 2001 to the Life formula only. (In December 2002, the NAIC P&C Risk-Based Capital Working Group asked the Academy's P&C Risk-Based Capital Committee to study the issue of whether the tax-adjustment changes should be implemented in the P&C formula. In a September 2001 report, the Academy's Task Force on Health Risk-Based

² One member of our work group commented that companies filing the P&C or Health RBC formulas may not, in practice, be utilizing this methodology. This member has had occasion to review the Health RBC filings of multiple companies that own subsidiaries who are themselves Health statement filers and are domiciled in states that have not adopted Health RBC. Invariably, in these cases the parent companies' Health RBC calculations have treated the subsidiaries as though they were subject to Health RBC, even though a literal reading of the instructions would prescribe an alternative (and frequently more favorable) treatment as described above.

Capital had recommended that the tax-adjustment changes should be implemented in the Health formula if, and only if, similar changes are implemented in the P&C RBC formula.)

7. *Changes to the Interest Rate Risk (C-3a) section.*

These changes represented further refinements to an existing section of the Life formula that does not have a direct counterpart in either of the other two formulas.

Property & Casualty Formula

The NAIC memorandum bundles the changes made to the Property & Casualty RBC formula for 2002 into the following two categories.

1. *Treatment of replication transactions and mandatorily convertible securities.*

These changes implemented a new treatment for replication (synthetic asset) transactions and mandatorily convertible securities that is identical with the treatment that was introduced initially in the Life formula and added to the Health formula for 2001. Thus, these changes resolved an existing inter-formula inconsistency.

2. *Updated annual statement reference for off-balance sheet items.*

This change was technical in nature and did not affect the substance of the P&C formula.

Health Formula

The NAIC memorandum bundles the changes made to the Health RBC formula for 2002 into the following four categories.

1. *New treatment for long-tailed health coverages.*

For 2002, the Health formula implemented, with minor variations, the new treatment for disability income and long-term care coverages that had been implemented for 2001 in the Life formula.

The main difference between the Health implementation and the Life implementation is that the Life formula assesses an additional risk charge for Exhibit 6 (formerly Exhibit 9) reserves relating to these coverages, whereas the Health formula does not. This inconsistency was not created in 2002; it was present in the pre-2001 treatment of long-tailed health coverages in both formulas.

Note that, with respect to companies for whom accident & health comprises at least 5% of total premiums, the P&C formula continues to use the treatment of long-tailed health coverages that was used in the Life formula prior to 2001. Structural changes to the P&C formula would be required in order to maintain the historical practice of using the Life formula's C-2 factors for health coverages in this situation.

2. *Real estate encumbrances.*

As an unintentional consequence of the introduction in 2001 of the Health statement, the 2001 Health formula applied a risk factor to the value of real estate assets net of encumbrances, rather

than gross of encumbrances. This was changed for 2002, thereby bringing the Health formula treatment of real estate assets back into consistency with the P&C formula treatment as intended.

3. *Health care receivables.*
4. *Updated annual statement references.*

In both cases, these changes were technical in nature and did not affect the substance of the Health formula.

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NATIONAL ASSOCIATION OF INSURANCE COMMISSIONERS

DATE: July 17, 2002

TO: Life Risk-Based Capital Vendors

FROM: Dan Swanson

SUBJECT: 2002 Life Risk-Based Capital Report

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Changes made to the 2002 life risk-based capital overview and instructions are highlighted in a bold font within that document. The following is a summary of the changes made:

1. Changes made for modified coinsurance:
 - a. Lines (39), (40), (41), (53), (54), (55) and (56) were added to Page LR008 Other Long-Term Assets.
 - b. Lines (16), (17) and (18) were added to Page LR012 Miscellaneous Assets.
 - c. Lines (24), (25) and (26) were added to page LR015 Off-Balance Sheet.
 - d. Lines (79), (80) (98), (99), (109) and (110) were added to page LR026 Calculation of Tax Effect for Life Risk-Based Capital.
 - e. Instructions were modified on Page 21.
2. Changes made to split out Schedule BA common stock between C-1o and C-1cs:
 - a. Page LR008 Other Long-Term Assets Lines (49.1), (49.2) and (56) were added.
 - b. Page LR026 Calculation of Tax Effect for Life Risk-Based Capital Line (123) was added.
 - c. Page LR027 Calculation of Authorized Control Level Risk-Based Capital Line (14) was added.
 - d. Page 13 of the instructions was modified.
3. An affiliate type was added for health insurance companies:
 - a. Line (3) was added to Page LR035 Summary for Affiliated Investments.
 - b. An affiliate type 3 was added to page LR037 Details for Affiliated Investments.
 - c. Line (113) was added to LR026 Calculation of Tax Effect for Life Risk-Based Capital.
 - d. Line (3) was added to Page LR027 Calculation of Authorized Control Level Risk-Based Capital.
 - e. Pages 53 through 58 of the instructions were modified.
4. The concentration factor calculation was modified:
 - a. Lines (5), (11) and (12) were added to Page LR010 Asset Concentration Factor.
 - b. Factors for Lines (4) and (10) were changed.
 - c. The instructions were modified for Pages 16 and 17.
5. Disability and long-term care health claim reserves were split out for tax adjustment:
 - a. Lines (9) and (15) were added to Page LR020 Health Claim Reserves.
 - b. Line (132) was modified for LR026 Calculation of Tax Effect for Life Risk-Based Capital
6. Bonds tax adjustment calculation was updated:
 - a. Factors were changed for Lines (1) through (14) of LR026 Calculation of Tax Effect for Life Risk-Based Capital.
 - b. The calculation for Line (16) of LR026 Calculation of Tax Effect for Life Risk-Based Capital was changed.
7. Interest Rate Risk changes were made:
 - a. Cash Flow Exemption Testing Worksheet (Figure 9) on page 45 of the instructions was updated.
 - b. Certain terminology and instructions were changed on pages 41 through 44 of the instructions.
 - c. Terminology changes were made to LR023 Interest Rate Risk.

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NATIONAL ASSOCIATION OF INSURANCE COMMISSIONERS

DATE: July 17, 2002
TO: Property and Casualty Risk-Based Capital Working Group
FROM: Tian Xiao
SUBJECT: 2002 Property and Casualty Risk-Based Capital Report

Changes made to the 2002 property and casualty risk-based capital overview and instructions are highlighted in a bold font within that document. The following is a summary of the changes made:

1. Changes adopted at June 25, 2001 meeting of the Property and Casualty Risk-Based Capital Working Group for adding a formula page for replication (synthetic asset) transactions and mandatorily convertible securities
 - a. Replication (Synthetic Asset) was added in Forecast (PR009) and in the Overview and Instruction (Page 12-13).
2. Changes made to PR013: Miscellaneous Off-Balance Sheet Items, Line 12:Contingent Liabilities to incorporate a Blank change, which requires the disclosure of Structured Settlement in Financial Notes 26A.
 - a. Notes 26A was added in Forecast (PR013),Line 12.

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NATIONAL ASSOCIATION OF INSURANCE COMMISSIONERS

DATE: July 17, 2002
TO: Health Risk-Based Capital Subscribers
FROM: Mary Caswell
SUBJECT: 2002 Health Risk-Based Capital Report

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Changes made to the 2002 Health Risk-Based Capital overview and instructions are highlighted in a bold font within that document. The following is a summary of the changes made:

1. Lines were added to the Disability Income Premium section, page XR013, to show a more complete breakout between the group and credit disability premium.
2. Lines were added to XR009 for real estate encumbrances.
3. Some additional lines have been added to the Other Receivables section, page XR018.
4. Annual statement references were changed on pages XR005, XR012 and XR019.