AMERICAN ACADEMY of ACTUARIES

Modified Coinsurance (MODCO) & Funds Withheld Reinsurance Issues in RBC

Presented by the American Academy of Actuaries' Life Capital Adequacy Subcommittee to the National Association of Insurance Commissioners' Life Risk-Based Capital Working Group

New York, NY – June 2003

The American Academy of Actuaries is the public policy organization for actuaries practicing in all specialties within the United States. A major purpose of the Academy is to act as the public information organization for the profession. The Academy is non-partisan and assists the public policy process through the presentation of clear and objective actuarial analysis. The Academy regularly prepares testimony for Congress, provides information to federal elected officials, comments on proposed federal regulations, and works closely with state officials on issues related to insurance. The Academy also develops and upholds actuarial standards of conduct, qualification and practice and the Code of Professional Conduct for all actuaries practicing in the United States.

Life Capital Adequacy Subcommittee

Alastair G. Longley-Cook, F.S.A., M.A.A.A., Chair
Robert A. Brown, F.S.A., M.A.A.A., Vice-Chair

Gerald A. Anderson, F.S.A., M.A.A.A.
Stephen M. Batza, F.S.A., M.A.A.A.
Jeffrey M. Brown, F.S.A., M.A.A.A.
Martin Claire, F.S.A., M.A.A.A.
Arnold N. Greenspoon, F.S.A., M.A.A.A.
Luke N. Girard, F.S.A., M.A.A.A.
Robert G. Meilander, F.S.A., M.A.A.A.
David E. Neve, F.S.A., M.A.A.A.
Keith D. Osinski, F.S.A., M.A.A.A.
Jan L. Pollnow, F.S.A., M.A.A.A.
Craig R. Raymond, F.S.A., M.A.A.A.
Mark C. Rowley, F.S.A., M.A.A.A.
Ruth Y. Sayasith, F.S.A., M.A.A.A.
Michael S. Smith, F.S.A., M.A.A.A.
James A. Tolliver, F.S.A., M.A.A.A.
George M. Wahle, F.S.A., M.A.A.A.
William H. Wilton, F.S.A., M.A.A.A.
Michael L. Zurcher, F.S.A., M.A.A.A.

The following report is based on discussions and a charge to the Academy from the December 8, 2002 Life Risk-Based Capital Working Group meeting on bond size, asset concentration factors, and vanishing/disappearing RBC.

BOND SIZE FACTOR:

Present Treatment:

The NAIC Instructions state as follows:

> Size Factor
> Companies with MODCO and Funds Withheld reinsurance agreements should adjust the company's year- end size factors according to the way the bonds are handled in the treaties. The assuming company includes the bonds that support its share of the liabilities; the ceding company includes the bonds that support its share of the liabilities. No adjustment is made for bonds that were purchased subsequent to June 30 of the valuation year and which solely support ceded liabilities.

Thus, the effect of the size factor is transferred to the party to whom the performance of the bonds inures.

Theoretically Appropriate Treatment:

When bonds are placed in a segregated account for the benefit of the reinsurer, the reinsurer has diversified its risk by adding more issuers to its performance. For the ceding company, the opposite is true. In cases where the companies share the performance of the bonds, whether through quota shares of segregated assets or through interest crediting based on the yield rate of the cedant's portfolio, the reinsurer's number of issuers will go up without any reduction in the cedant's. The combined required capital of the two companies is effectively reduced in this situation. This treatment is appropriate, as real diversification has been achieved.

Issues:

There should be no concern over reduced total required capital as this results not from vanishing capital, but true diversification. Could a party game the system to greatly lower its size factor through reinsurance? MODCO or funds withheld reinsurance is a poor vehicle for such a strategy. Reinsurance treaties are complex arrangements, which create substantial risks and obligations for the reinsurer. A company, which wanted to artificially lower its size factor, could more easily find some enterprising financial engineer to create a package of mini-bonds for it.

The exclusion of bonds acquired after June 30 was instituted to prevent abuse. Although this could create significant implementation difficulties, neither regulators nor the industry have voiced complaints with this requirement.

ASSET CONCENTRATION FACTOR:

Present Treatment:

The NAIC Instructions make no specific reference to how MODCO/funds withheld will be treated. The Academy's report, issued in December 1998 and adopted by the NAIC, states:

> 3. We thought it impractical and unwise to do a separate adjustment for the concentration factor.
> - In most instances, the concentration factor is a small percentage of the total RBC.
> - The necessary aggregation or non-aggregation by issuer is often quite complex, let alone taking into account mod-co adjustments and the timing of reporting.
> - In this context, there is no ready definition for the assets net of ceded.

Theoretically Appropriate Treatment:

When assets are placed in a segregated account for the benefit of the reinsurer, such assets should be removed from the cedant's books and added to the reinsurer's for Asset Concentration Factor calculations, for C-1o and C-1cs assets. In cases where more than one company shares the performance of the assets (be it either multiple reinsurers or the cedant and the reinsurer), whether through quota shares of segregated assets or through interest crediting based on the yield rate of the cedant's portfolio, the assets should be split accordingly. The combined required capital of parties will likely (but not always) be reduced in this situation. The following example illustrates how this would work in a simplified case:

- The cedant's largest assets are 5 bonds, of $15 M each and numerous bonds of $10 M each.
- The reinsurer's largest assets are numerous bonds of $10 M each.
- Through a MODCO treaty, the reinsurer acquires a 50 percent share in the performance of the cedant's 5 $15 M bonds.

10 Largest Assets	Cedant	Reinsurer
pre MODCO	$125 M	$100
post MODCO	$100	$100

The cedant's concentration factor decreased while the reinsurer's is unchanged. This treatment is appropriate, as the risk of large assets has been diversified.

Issues:

The present treatment was adopted to avoid complex aggregation calculations yielding no material benefit. Where one reinsurer has a majority interest in a specific asset, it would seem that the reinsurer should not have difficulty with the calculations, as it is highly unlikely that it wouldn't have access to necessary data systems. In such cases the theoretical treatment could be adopted.

In cases where more than one company shares the performance of the assets, as described above, the present treatment is generally conservative. Thus, it would be inappropriate to force companies to make complex theoretical calculations, which would likely not uncover needed capital. Although there are possible scenarios where the above example is inappropriate, it is a fair illustration for companies whose sizes are of comparable orders of magnitude.

VANISHING RBC:

The NAIC Instructions state as follows:

> The ceding company will need to supply the assuming company with sufficient information in order for the assuming company to determine the amount of RBC assumed. With the exception of the impact of the size factor, the amount of RBC ceded should be equal to the amount of RBC assumed. Put another way, there should be "mirror imaging" of RBC, except for the impact of the size factor.

It should be noted that there is no need for true mirror imaging of RBC. Discrepancies in asset valuations, such as data systems, which produce different schedules for amortization of premium on bonds, are not inappropriate. Nevertheless, material discrepancies between a cedant's credits and its reinsurer's charges should not occur. Data from the NAIC indicate ongoing discrepancies.

Difficulties in data sharing with reinsurers might be alleviated through the following:

- An affirmative requirement in the instructions that the cedant must provide its reinsurers with needed data. Regulators might consider the disallowance of RBC credit for a ceding company, which does not provide such data.
- If a reinsurer is unable to procure the needed data, it must still book MODCO charges to its assets. It may use its discretion to apply MODCO asset charges based on MODCO liabilities multiplied by:
    - the average MODCO charge in effect at the prior year end for the block of business,
    - the average MODCO charge in effect for the reinsurer in total.

RECOMMENDATION:

Bond Size Factor:

- The current instructions on calculating the factor and the June 30th exclusion should not be changed.

Asset Concentration Factor:

- The following should be added to the instructions:

    In determining the assets subject to the concentration factor for both C1o and C1cs, the ceding company should exclude any asset whose performance inures primarily (>50 percent) to one reinsurer under modified coinsurance or funds withheld arrangements. The reinsurer should include 100 percent of such asset. Any asset where no one reinsurer receives more than 50 percent of its performance should remain with the ceding company~~.~~

Vanishing RBC:

- The following should be added to the instructions:

    The ceding company is required to supply the assuming company with sufficient information in order for the assuming company to determine the amount of RBC assumed. [drafter's note: what authority is there to impose such a requirement?]

- In situations where a ceding company has failed to supply such information to its reinsurers, the NAIC may wish to consider disallowing credits for RBC ceded.

- A reinsurer which has not received such information shall calculate MODCO adjustments for reinsurance assumed as follows:

    - If the reinsurer has received data for periods prior to the effective date of the RBC filing, a "MODCO liability ratio" will be developed by comparing the MODCO liabilities at the filing date to the MODCO liabilities as of the last date for which data were received. The required capital for MODCO assumed is the required capital as calculated based on these data multiplied by the "MODCO liability ratio".
    - If the reinsurer has never received data from the ceding company, a "MODCO liability ratio" will be developed by comparing the MODCO liabilities at the filing date to the reinsurer's total invested assets (Page 2, Line 11 of the blue blank, or its equivalent). The required capital for MODCO assumed is the reinsurer's required capital as calculated prior to MODCO ceded and assumed adjustments multiplied by the "MODCO liability ratio".