AMERICAN ACADEMY *of* ACTUARIES

Report of the American Academy of Actuaries'
Life Reserves Work Group Asset Subgroup

Presented to the National Association of Insurance Commissioners'
Life and Health Actuarial Task Force

July 22, 2010

The American Academy of Actuaries is a 16,000-member professional association whose mission is to serve the public on behalf of the U.S. actuarial profession. The Academy assists public policymakers on all levels by providing leadership, objective expertise, and actuarial advice on risk and financial security issues. The Academy also sets qualification, practice, and professionalism standards for actuaries in the United States.

Life Reserves Work Group Asset Subgroup

Gary Falde, A.S.A, F.S.A, M.A.A.A., Chair

Bruce Friedland, A.S.A., F.S.A., M.A.A.A.
Stephen Neill, A.S.A., E.A., M.A.A.A.
David Neve, A.S.A., C.E.R.A., F.S.A., M.A.A.A.
Alan Routhenstein, A.S.A., F.S.A., M.A.A.A.

1850 M Street NW Suite 300 Washington, DC 20036 Telephone 202 223 8196 Facsimile 202 872 1948 www.actuary.org

Supplemental Information for Discussion of VM-20 Reinvestment Spread Proposal

The Academy's Life Reserves Work Group (LRWG) Asset Subgroup has prepared this supplemental information package to assist LHATF in finalizing decisions on the LRWG's VM-20 amendment proposal on reinvestment spreads. This information addresses certain "second-tier issues" as identified in our prioritization list presented on the July 8, 2010 LHATF call. "Second-tier issues" were described as important but somewhat less critical items aimed at fine-tuning to a more exact level of prescribed spread assumptions. The general level or "ballpark" of the prescribed spreads would be driven by LHATF's decisions on the first-tier issues. The items included in the package are mostly in response to comments or questions communicated to us from regulators. A remaining work product, prescribed swap spreads, that completes our amendment proposal is also included. Specifically, the materials are:

- A comparison of key features of the JP Morgan JULI Index and Moody's Long-Term Corporate Yields for determining corporate bond spreads
- Long-term benchmark swap spreads for inclusion in the amendment proposal
- Comparisons of spreads for different indices and different historical observation periods
    - JULI and estimated Moody's spreads over the last 10 years
    - Moody's spreads over the last 10, 24.5, and 50 years

Caveats

- Other spread indices such as Barclay's and Bank of America Merrill Lynch are also used by insurance company investment professionals and actuaries and may be suitable candidates. We have not investigated the features of or compared spreads derived from these sources.

- We believe from personal knowledge and discussion with investment professionals that there are essentially no Aaa corporate bond issuers in the market anymore. As such, while Aaa corporate bond spreads are shown here because they are readily available and of historical interest, we would advise that they should not be a major consideration in this proposal as they do not represent a diversified portfolio of bonds that would constitute a significant portion of life insurance company holdings.

1850 M Street NW Suite 300 Washington, DC 20036 Telephone 202 223 8196 Facsimile 202 872 1948 www.actuary.org

Key Features of Corporate Spreads Determined by

JP Morgan JULI Index and Moody's Long-Term Corporate Yields

- Spread Calculations
    - JPMorgan's JULI index data for each rating/maturity/sector bucket includes spread-to-interpolated-Treasury, yield, and remaining maturity. We used the remaining maturity and spread-to-interpolated-Treasury data to create the more detailed spread table in the amendment proposal.

    - Moody's Aaa and Baa long-term bond yields and Treasury yields are published by the Federal Reserve in different frequencies over different historical periods of time. The Moody's basket of long-term corporate bonds has remaining maturities of 20 to 30 years. Spreads must be estimated by subtracting appropriate long-term Treasury bond yields from the Moody's yields. In the attached spread comparison, we estimated the Moody's spreads by taking the Moody's yield and subtracting from it either a) the average of 20 year and 30 year Treasury yields when both are available, or b) the 20 year or 30 year Treasury yield when only one of the two is available. Moodys.com also appears to have long-term spreads available directly, as well as intermediate term yields and spreads, but Asset Subgroup members currently do not have access to this data.

- Ratings Buckets
    - JPMorgan's JULI index data is available for Aaa, Aa, A and Baa.
    - Moody's data on the Federal Reserve website is available for Aaa and Baa. We believe certain Aa and A data is available through a Moody's subscription.

- Maturity Buckets
    - JPMorgan's JULI index data is available for five maturity buckets: 1-3, 3-5, 5-7, 7-10, and 11+.
    - Moody's data on the Federal Reserve website is available for the 20-30 year maturity bucket. Moody's.com also has data for a 5 to 10 year maturity bucket.

- Optionality
    - JPMorgan's JULI index data only includes bonds that are fixed rate bullet bonds that are not callable, put-able, extendable or convertible.

    - Moody's data, based on information publicly available on Moodys.com, includes fixed rate bonds and might include bonds with optionality. If bonds with optionality are included, it is only to the extent that such bonds are trading to the maturity date rather than the call/put date. We could not make a conclusive determination without full access to the website.

- Industry Sectors
    - JPMorgan's JULI index is available for all industries or separately for industrials, utilities and financials. The daily market value of bonds in each sector is also available, and could be used to create a custom index, if desired by LHATF, that is for example, a weighted average of industrials and utilities.

1850 M Street NW Suite 300 Washington, DC 20036 Telephone 202 223 8196 Facsimile 202 872 1948 www.actuary.org

- Moody's Aaa rates through December 6, 2001, are averages of Aaa utility and Aaa industrial bond rates. For December 7, 2001 and later, these rates are averages of Aaa industrial bonds only. Aaa financial bonds are excluded for all periods. Moody's Baa rates are for all industries.

- Liquidity Requirements
  - JPMorgan's JULI index includes bonds that have at least $300 million outstanding and for which the issuer has at least $1 billion outstanding.

  - Moody's includes long-term bonds that have at least $50 million outstanding and intermediate-term bonds that have at least $100 million outstanding.

- Frequency and Longevity of Historical Data
  - JPMorgan's JULI index data is available for every business day since July 2000.

  - Moody's corporate bond index yield data appears to be available from the Federal Reserve H15 website for different time periods as far back as 1919 depending on the frequency and maturity bucket.

    - Using combinations of long-term Moody's and Treasury bond data from the Federal Reserve H15 website, Moody's long-term spreads could be estimated daily since 1986, weekly since 1977 or monthly since 1953

    - The attached spread comparison shows estimated Moody's long-term spreads for the last 10 years, the last 24.5 years, and the last 50 years

    - Using intermediate-term bond information shown on Moodys.com, it appears that intermediate term spreads could be estimated weekly since August 1997 and monthly since June 1994, which is not significantly longer than for the daily data from JP Morgan.

1850 M Street NW Suite 300 Washington, DC 20036 Telephone 202 223 8196 Facsimile 202 872 1948 www.actuary.org

Comparative Historical Gross Spreads

(all figures in basis points)

Different Indices Over the Same 10 Year Period
July 1, 2000 Thru June 30, 2010

	Mean		85% Conditional Mean	
	Aaa	Baa	Aaa	Baa
JP Morgan JULI (25 year bond interpolated spread)	128	225	119	208
Moody's Long-Term Corporates (estimated spread)	95	209	92	195

Same Index over Different Historical Periods
Moody's Long-Term Corporates (estimated spreads)

	Mean		85% Conditional Mean	
	Aaa	Baa	Aaa	Baa
10 years (July 1, 2000 Thru June 30, 2010)	95	209	92	195
24.5 years (January 1, 1986 Thru June 30, 2010)	84	182	81	173
50 years (Monthly from July, 1960 Thru June, 2010)	69	172	65	161

Note: "85% conditional mean" is defined as the mean calculated after excluding the observations with the 7.5% highest and 7.5% lowest spreads. The LRWG proposed spreads are based on this metric.

1850 M Street NW Suite 300 Washington, DC 20036 Telephone 202 223 8196 Facsimile 202 872 1948 www.actuary.org

Long-Term Benchmark Swap Spreads

For Inclusion in VM-20 Amendment Proposal 29

(85% Conditional Mean--July 2000 through September 2009)

WAL	Swap Spread
3 M	29.3
6 M	29.9
1 Y	38.8
2 Y	47.5
3 Y	52.3
4 Y	53.4
5 Y	55.2
6 Y	55.4
7 Y	53.8
8 Y	50.6
9 Y	47.0
10 Y	43.6
11 Y	40.0
12 Y	37.7
13 Y	34.9
14 Y	33.3
15 Y	33.0
16 Y	31.7
17 Y	31.4
18 Y	32.0
19 Y	33.3
20 Y	35.1
21 Y	35.7
22 Y	36.4
23 Y	37.4
24 Y	38.5
25 Y	39.7
26 Y	40.7
27 Y	41.7
28 Y	42.7
29 Y	43.8
30 Y	44.2

1850 M Street NW Suite 300 Washington, DC 20036 Telephone 202 223 8196 Facsimile 202 872 1948 www.actuary.org