

General ReView®



About this Newsletter

This issue of *General Review* was written by Mark Yu, Enterprise Risk Management. Each issue provides review and comment on current investment and capital management subjects impacting the insurance industry. Mark may be reached at mark.yu@grneam.com.

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Life Industry Net Investment Spread: Declining but Stabilizing

The low interest rate environment remains a challenge for the insurance industry in many ways. In particular the life industry's profitability is predominately driven by its investment returns. Life insurers are subject to minimum interest rate guarantees, both explicitly and implicitly, for long-term insurance contracts. Minimum crediting rates offered within fixed annuities are an example of the explicit investment return requirement while valuation interest rates specified for statutory reserving are implicit minimum investment returns that life insurers must earn to maintain profitability.

This issue of *General ReView* focuses on the “implicit” net investment spread estimated using statutory financial statements. Our analysis leverages a study¹ done by the NAIC but extends the scope to cover the 2002 to 2012 time horizon and incorporates more than 99.5% of industry data.²

General Approach and Methodology

The following figures were calculated, following the same methodology used in the NAIC's 2012 report:

Net Investment Spread = *Net Portfolio Yield* - *Guaranteed Interest Rate*

$$\text{Net Portfolio Yield} = \frac{\text{Net Investment Income}}{\frac{\text{Invested Assets}_t + \text{Invested Assets}_{t-1} - \text{Net Investment Income}}{2}}$$

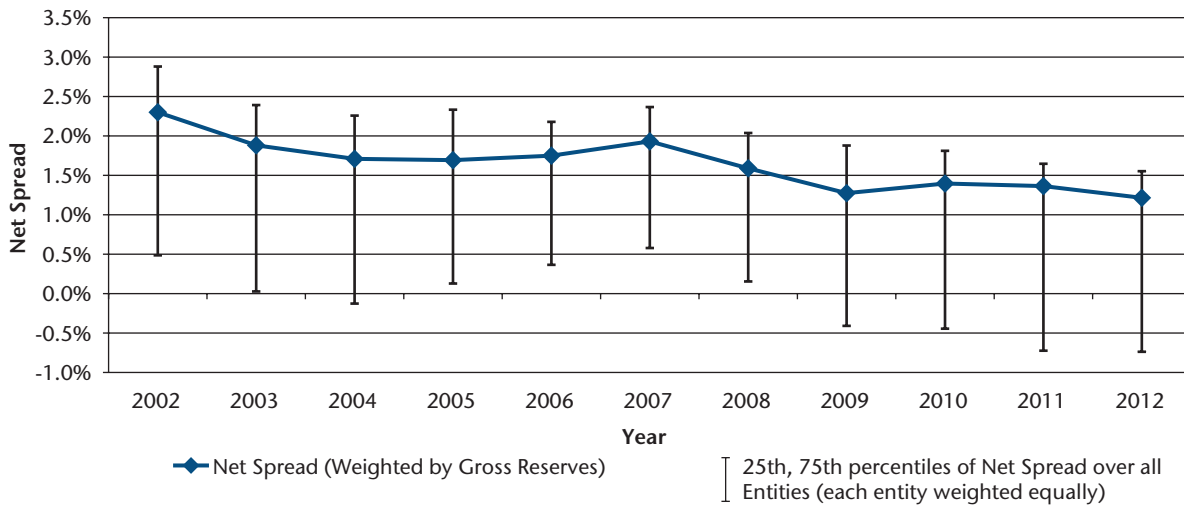
Guaranteed Interest Rate was approximated by the weighted-average valuation interest rate that was extracted from Statutory Financials, Exhibit 5: Aggregate Reserve for Life Contracts.³

Life Industry Net Investment Spread Trend 2002 to 2012

Chart 1 shows historical trends of net investment spread for the industry. It is important to note that all of the net spread data presented in this report is weighted by statutory reserves. The industry-level spread declined during the financial crisis between 2007 and 2009 but has since stabilized between 1.25% and 1.5%. This is consistent with the industry's target level to maintain a desired profitability, which takes into account commissions and expenses. The minor net investment spread increase between 2009 and 2010 was due to higher net portfolio yield reported for 2010.

Additionally, the chart shows the 25th and 75th percentiles of net spread by company count for each year. Although the industry weighted net spread has flattened, there have been more and more companies with lower than average levels of net spread each year since 2007.

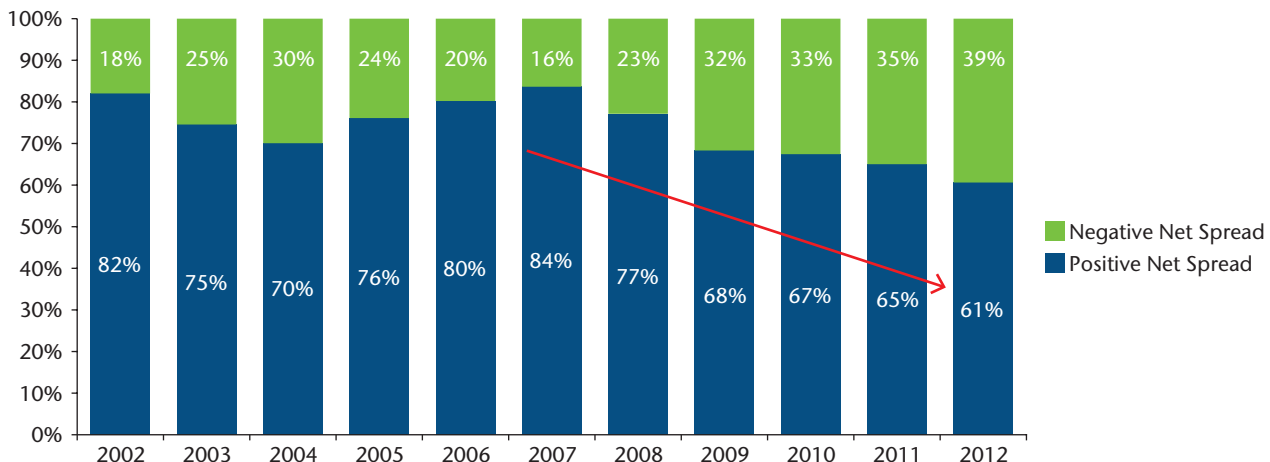
Chart 1. Industry Net Spread over Guaranteed Interest Rate



Source: SNL Financial and GR-NEAM

Chart 2 shows the proportion of life insurers with a positive net spread. Although the net investment spread is “implicitly estimated,” the results indicate interesting trends, especially prior and post financial crisis. In 2007, 84% of the companies had a positive net spread but this number has decreased every year since. In 2012 only 61% of companies had a positive net spread.

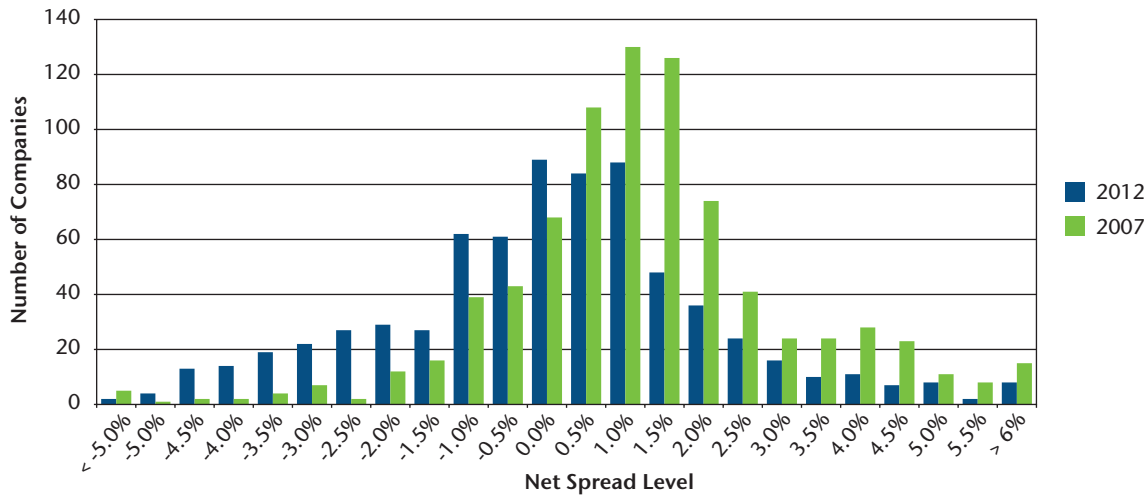
Chart 2. Percentage of Companies with Positive Net Spread



Source: SNL Financial and GR-NEAM

Chart 3 compares the distribution of net spread by company count in 2007 and 2012. This comparison further validates the previous results that show an increasing proportion of insurers with lower net spread levels. In particular there are more companies with negative spread in 2012 than there were in 2007.

Chart 3. 2007 & 2012 Histogram of Net Spread by Insurers



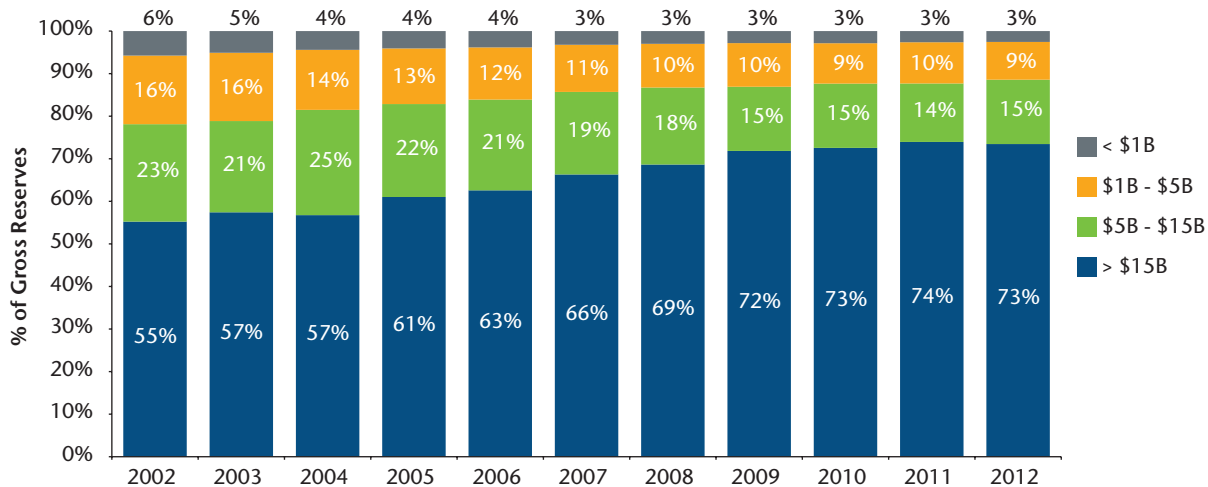
Source: SNL Financial and GR-NEAM

Life Insurers Net Investment Spread by Company Size

In order to better understand the net investment spread variations by companies, GR-NEAM examines net investment spread by company size (measured by statutory gross reserves).

Chart 4 shows the reserve distribution by company size. Companies with over \$15 billion in gross reserves account for the majority of reserves in the life industry. Their proportion of the industry reserves have increased almost every year from 2002 to 2012, rising from 55% in 2002 to 73% in 2012.

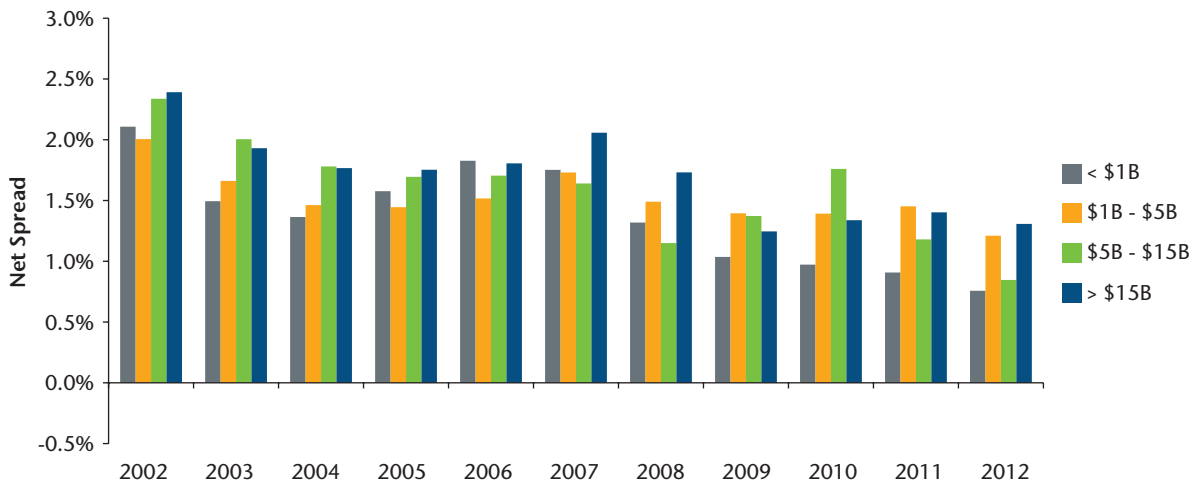
Chart 4. Gross Reserves Distribution by Company Size



Source: SNL Financial and GR-NEAM

Chart 5 shows that net spreads for larger companies have remained relatively unchanged for the last four years while net spreads for smaller companies have continued to deteriorate. Overall, net spreads seem to increase consistently with company size.

Chart 5. Net Spread by Company Size (Gross Reserves)



Source: SNL Financial and GR-NEAM

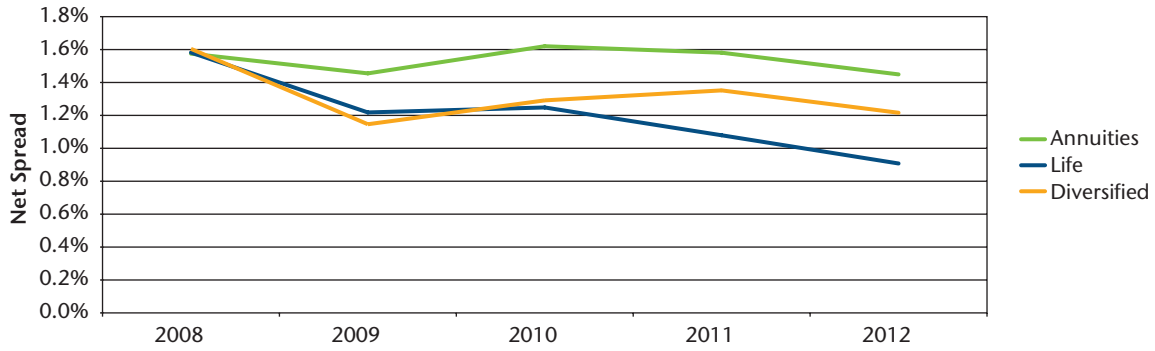
Life Insurers Net Spread by Line of Business

In addition to reviewing net investment spread by company size, GR-NEAM further examines net spread results by the type of business insurers write. We classify life insurers as either “Life” or “Annuity” if at least two-thirds of their statutory reserves can be so classified; otherwise, the insurer is deemed as “Diversified.” As of year-end 2012, 25%, 32%, and 43% of the industry gross reserves were represented by these classifications.

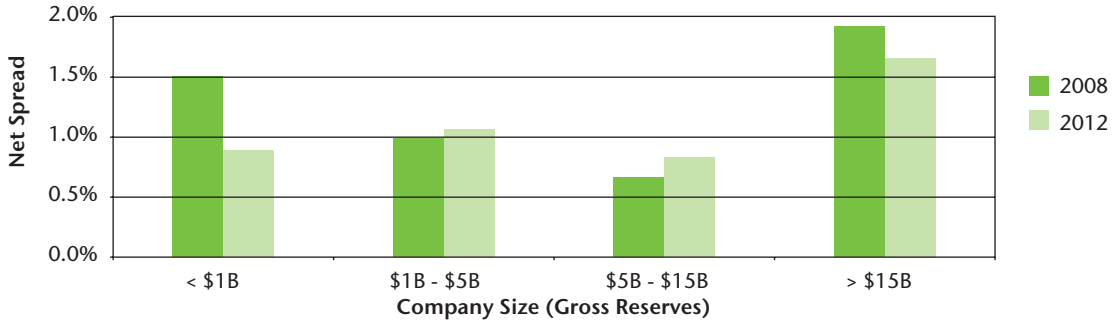
Chart 6 focuses on net spread results by business type over the last five years. “Life” companies exhibit a more pronounced reduction in net spreads than “Annuity” and “Diversified” companies. The net spread reductions are consistent across different sizes within the Life companies.

Chart 6. Net Investment Spread by Business Type and Company Size

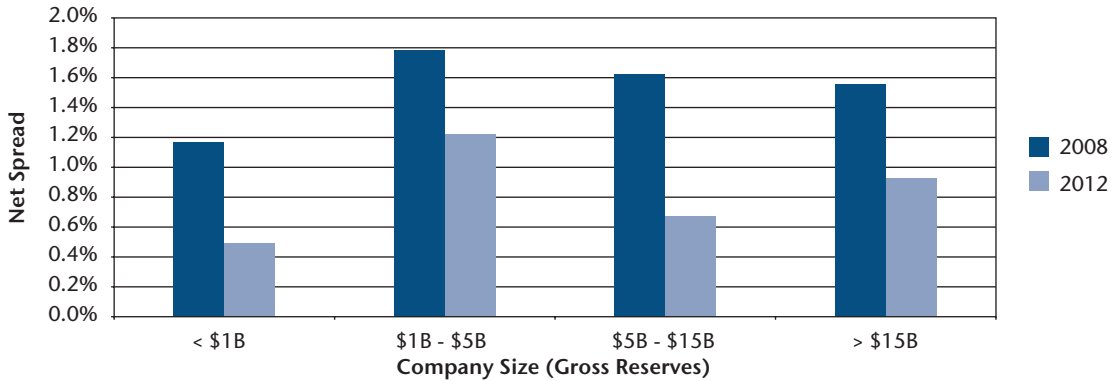
Net Spread by Product LOB



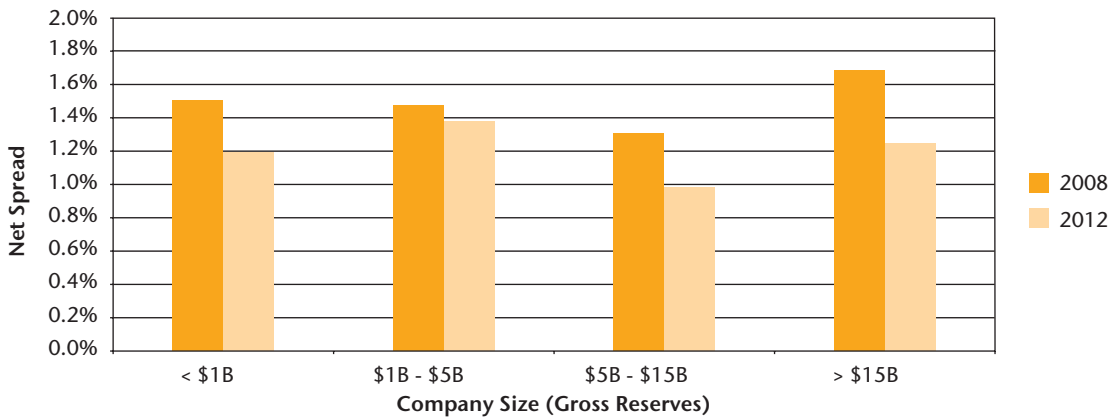
Annuities Companies: 2008 vs. 2012



Life Companies: 2008 vs. 2012



Diversified Companies: 2008 vs. 2012



Source: SNL Financial and GR-NEAM

Summary

Although it's challenging to identify and quantify the minimum crediting rate guarantee offered by the life industry, the implicitly required earned rate, inferred from statutory financial statements, can be estimated and provides telling trends and stories.

Life industry net investment spread has decreased over the last 10 years, taking the biggest dip during the financial crisis between 2008 and 2009. The industry net spread has stabilized since then, but many insurers still feel increasing pressure. Over 80% of Life insurers had a positive net spread in 2007 but this percentage declined to a little over 60% at the end of 2012.

Breaking down the industry net spread by company size reveals that smaller companies have relatively lower net spread than larger companies. Interestingly, the net spreads appear to increase consistently with company size.

Net spread by insurers' business line tells an interesting story. Over the last five years, Life companies had a more pronounced reduction in net spread than Annuity and Diversified companies. The results are consistent across different company sizes.

It requires further examination, however, to understand the causes of these differences in net spreads by size of company or business line focus. In a subsequent issue of *General ReView*, we will investigate asset allocation and market risk factors as potential contributors to these differences. Of great interest will be how differences in insurers' investment profiles are attributable to their risk budgets for investment risk.

Endnotes

- 1 Bruning, Larry, Shanique Hall, and Dimitris Karapiperis. "Low Interest Rates and the Implications on Life Insurers." CIPR (Apr. 2012): 1-14. Print.
- 2 Reserves of companies included in the study represent more than 99.5% of industry reserves over the study period from 2002 to 2012.
- 3 More than 800,000 entries from exhibit 5 of statutory statements are used between 2002 to 2012 study periods.

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