Update on Mutual Company Dividend Interest Rates for 2013



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Near the end of each calendar year, mutual insurance companies declare their dividend interest rates on participating whole life (WL) insurance policies for the upcoming year. Below are the declared 2013 dividend interest rates (DIR) of four major mutual life insurance companies as taken from the carriers' own publicized dividend announcements. These four insurance companies were chosen because they are the largest issuers of participating whole life policies.

Guardian Life Insurance Co. of America	6.65% (down from 6.95% in 2012)
Massachusetts Mutual Life Insurance Co.	7.00% (unchanged)
New York Life Insurance Co.	5.90% (up from 5.80%) ¹
Northwestern Mutual Life Insurance Co.	5.60% (down from 5.85%)

This white paper provides information on the elements that drive changes in DIRs—as supported by historical DIR results, insurance company asset allocations, and investment returns—for the four major mutual life insurance companies.

Participating Whole Life: Background

Participating (par) policies are entitled to share (via non-guaranteed policy elements called dividends) in any distribution of the insurer's surplus funds that the insurer decides to make to those policies. Insurers selling par policies typically price them conservatively. This conservative pricing means the policies as a group are highly likely to generate profits—called surplus. Following each year's operations, the insurer's board of directors decides how much of these surplus funds—called divisible surplus—may be passed on to par policies in the form of dividends.

Actuaries then seek to divide this divisible surplus among the par policies in an equitable manner, commonly following what is called the contribution principle, which holds that divisible surplus should be distributed to policies in the same proportions as the policies are considered to have contributed to the surplus. In operationalizing this principle, actuaries usually follow an approach that recognizes that surplus derives from three sources, often called factors:

- 1. Gains from investment earnings: actual investment earnings being higher than the guaranteed rate
- 2. Gains from Mortality: actual mortality experience being less than that implicit in policy pricing, meaning that death claims payments were less than priced into policies
- 3. Gains from loadings: actual expenses being lower than that implicit in policy pricing

For both Par WL and UL policies, it is possible for positive margins from the other policy elements, such as gains from mortality, to subsidize lower investment earnings, which indirectly results in a higher crediting rate for UL or a higher DIR for Par WL.

¹ New York Life changed the methodology it uses to calculate the dividend interest rate (DIR) in 2010 to more closely align with the DIR methodology used by other carriers. This change had the effect of raising the DIR by 32 basis points from the previous method. For purposes of this study, the DIR in years prior to 2010 have been adjusted to reflect this change in methodology.

Sample Dividend Calculation

Below is a dividend calculation example that can vary by insurance company and product:

Investment Earnings

Assume the DIR is 6.0%, the guaranteed rate is 4.0%, and the reserve is \$100,000. Interest Return = $(6.0\% - 4.00\%) \times (100,000) = (2,000)$

Mortality Component

Assume the actual mortality experience rate is \$1.0 per thousand of insurance, the guaranteed mortality rate is \$2.0, and the face amount is \$1 million. Mortality Return = $($2.0 - $1.0) \times ($1,000,000 - $100,000)/1,000 = 900

Loading Component The Loading Component is negative \$500

Putting It Together

The dividend at the end of policy year is: Dividend = Interest + Mortality + Loading = \$2,000 + \$900 + (-\$500) = \$2,400

The Difference: UL Crediting Rates vs. WL Dividend Interest Rates

The declared DIR in a participating WL policy has a very different application than a universal life (UL) crediting rate. A UL crediting rate is the actual crediting rate being applied and credited to the account value. In most participating WL policies, one part of the dividend is based on a formula using the declared DIR. The formula can be generically described as taking the excess of the declared DIR over the policy guaranteed rate, and multiplying it by the "policy value."

The application of this otherwise straightforward formula varies widely by insurer and by policy. For example, some insurers may make additional deductions from the declared DIR to cover expenses or mortality. Other policies will have multiple guaranteed interest rates from which to choose (e.g., one for policy cash surrender values and one for policy reserves). And, there is wide variation in what is used in "policy value"—it may be a reserve, a cash surrender value, the greater of two, a year-end value, or a mid-year value, etc. Therefore, DIRs are not comparable on an absolute basis.

DIRs May or May Not Be Impacted by Mortality and Expense Experience

Most DIRs are impacted by all life insurance company experience components: mortality, expenses, and investment income. Therefore, as an example, good mortality experience can offset declining investment income (and vice versa). However, some DIRs are only impacted by investment experience (but the actual dividend paid out does reflect all pricing factors: mortality, expenses, and investment experience). For all of these reasons, including the "black-box" nature of dividends, it is difficult to compare DIRs and determine what drives annual changes in DIRs. With that said, as detailed in the remainder of this white paper, annual changes in DIRs tend to follow changes in interest rates as supported by an insurance portfolio of fixed income assets.

Fixed Income Asset Classes Lead Insurance Company Portfolios

Insurance companies invest assets primarily in investment grade bonds and mortgages. These fixed income asset classes are a strong match in supporting insurance liabilities. As seen in Table 1, 85% of insurance industry invested assets were in bonds and mortgages at year-end 2012. Table 2 shows that 94% of industry bond holdings were class 1 and 2 (i.e., investment grade); 63% were class 1.

Table 1. Asset Allocation of U.S. Life/Health Industry Invested Assets, 2012		Table 2. NAIC Classification of U.S. Life/Health Industry Bond Assets, 2012 (with Moody's and S&P equivalent			
Bonds	74.8%	ratings)			
Preferred stocks	0.2%	Class 1 (Moody's 'A3' or better; S&P 'A-' or better)	62.7%		
Common stocks	2.1%	Class 2 (Moody's 'Baa'; S&P 'BBB')	31.0%		
Mortgages	9.9%	Class 3 (Moody's 'Ba'; S&P 'BB')	3.8%		
Real Estate	0.6%	Class 4 (Moody's 'B': S&P 'B')	1.8%		
Contract Loans	3.7%		1.070		
Cash & ST	3.1%	Class 5 (Moody's 'Caa'; S&P 'CCC')	0.5%		
Other	5.6%	Class 6 (Moody's below 'Caa'; S&P below 'CCC')	0.1%		

Source: A.M. Best Statement File

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The Correlation Between Dividend Interest Rates and Fixed Income Benchmark

Due to insurance company invested asset concentration in bonds and mortgages, changes in DIRs generally correlate to long-term interest rate changes, especially benchmarks reflecting a seasoned portfolio of long-term interest rates.

The Moody's 'Aaa' Long-Term Corporate Bond Yield Average, which provides the new money rate for an investment grade fixed income instrument, serves as an effective proxy for a typical insurance company asset. The seven-year rolling average of Moody's 'Aaa' can provide an example of an insurance company portfolio yield as the rolling average contains both older and newer investments, simulating the older assets that mature and roll off the books and the purchase of new assets over time. When referring to Figure 1 (page 5), which shows historical interest rates, note that new money interest rates have been declining; the seven-year rolling average (proxy for portfolio yield) has also been declining but lags new money rates. For example, if new money rates are below the portfolio yield and were to remain level, the portfolio yield would steadily decrease over time and would equal the new money rate in seven years (the lag factor).





In Figure 1, the new money rate as of today is approximately 150 basis points (bps) below the seven-year rolling average. Therefore, if new money rates remain at this level we should anticipate that DIRs are at risk of a 150 bps drop over the next seven years due to the correlation between DIRs and the Moody's seven-year rolling average, as shown on the following page.

Historically, the annual change in the seven-year rolling average of the Moody's 'Aaa' Long-Term Corporate Bond Yield Average, referred to in this analysis as the Moody's Benchmark² (Figure 2), correlates well with the annual change in DIRs. Since insurance companies declare their annual dividend near the end of the previous year, the Moody's benchmark is as of the end of the prior calendar year.



Figure 2. Moody's Benchmark & Insurance Company Annual Dividend Interest Rates (1986–2013)

² Since insurance companies declare their annual dividend rates near the end of the previous calendar year, the Moody's Benchmark shown is as of the end of the previous year. For example, the value of the Benchmark shown for 2013 is as of December 31, 2012.

Highlighting the highest and lowest DIRs each year illustrates the movement correlation between DIRs and the Moody's Benchmark. Figure 3 charts the highest and lowest DIRs each year with the color of the line changing to reflect the respective insurer to which the rate applied. (The color black signifies that multiple insurers shared the same highest or lowest rate.) Each of the four insurance companies had both the highest and the lowest DIR during at least one year during the time period displayed.





It is important to note that the correlation between DIRs and the Moody's Benchmark involves changes in those rates over time, not the rate itself. For example, the Moody's Benchmark rate is currently around 5%; however, insurance company portfolio yields are currently in the range of 5.5% to 6.5%. The difference is that insurance companies are capturing yield from other alternative investment classes, such as equities, and potentially from taking some additional credit risk (i.e., lower rated bonds). As detailed later in this white paper, these alternative asset classes may be driving the divergence between DIRs and the Moody's Benchmark.

More Recent Divergence Between DIRs and Moody's Benchmark

Focusing on the period since 2003, Figure 4 shows that DIRs have become more divergent from the Moody's Benchmark in recent years.





To gain some perspective on today's DIRs we can look at historical average differences between various carrier DIRs and the Moody's Benchmark. Below is a table of carrier DIRs and the average differences from the Moody's Benchmark over both 10-year (2003–2012) and 20-year (1993–2012) periods.

Table 3. Current Insurance Company Dividend Interest Rates and Average Differences from Moody	's
Benchmark	

	DIR		Difference From Benchmark			
	2012	2013	2012	2013	10-Year Avg.	20-Year Avg.
Moody's Benchmark	5.27	5.05	-	-	-	-
Guardian	6.95	6.65	1.68	1.60	0.72	0.58
Mass Mutual	7.00	7.00	1.73	1.95	0.93	0.58
New York Life	5.80	5.90	0.53	0.85	0.50	0.56
Northwestern Mutual	5.85	5.60	0.58	0.55	0.83	0.29

The Moody's Benchmark dropped approximately 20 bps from 2012 to 2013, reflecting lower new money interest rates. The DIR drops for Guardian and Northwestern Mutual were similar (25–30 bps). However, Mass Mutual maintained its DIR and New York Life actually increased its DIR by 10 bps.

This table is useful to compare current DIRs relative to the Moody's Benchmark (i.e. the spread) and how those spreads compare to historical averages for each carrier. The spreads for Guardian and Mass Mutual have increased significantly (over 100 basis points) from historical averages to present, while the spreads for New York Life and Northwestern Mutual have increased modestly (20–30 bps).

When spreads increase, or DIRs are maintained/increased in a decreasing interest rate environment, it begs the question of what is driving the spread and the future sustainability of that spread/DIR. For DIRs that reflect both mortality and portfolio yield experience, it could be better mortality experience offsetting lower portfolio yield experience. Some mutual companies invest surplus in alternative investments, like subsidiaries or private equity, which have performed well recently, and are able to pass back that better investment experience through the participating DIR. However, alternative investments tend to be less liquid and generate more volatile returns, which may result in more risk to the dividend scale (DIR).

Increased Allocation to Slightly Lower Rated Bonds

One possible reason for the divergence from the Moody's 'Aaa' Benchmark is a shift in the asset allocation. While the bond allocation of the four mutual life insurance companies has been relatively stable (between 57% and 64% on average from 1995 to 2012) there has been a shift in the relative credit quality of these companies' bond holdings (Figure 5).



Figure 5. Average Bond Allocation by NAIC Credit Quality Classification for Four Major Mutual Life Insurance Companies

The percentage of bond holdings allocated to the highest NAIC Class rating has declined to 59% in 2012 (from 72% in 1995). At the same time, the allocation to lower rated NAIC Class 2 bonds has increased to 34% in 2012 (from 21% in 1995). According to the NAIC, the Moody's 'Baa' rating is equivalent to its Class 2 bond rating. While a 'Baa' rating represents a relatively low-risk bond or investment, it is toward the bottom of the investment-grade category.

Figure 6 shows a comparison of DIRs to both the seven-year rolling average of the Moody's 'Aaa' and lower rated 'Baa' Long-Term Corporate Bond Yield Averages.



Figure 6. Seven-Year Rolling Average of Moody's 'Aaa' and 'Baa' Long-Term Corporate Bond Yield Averages & Insurance Company Dividend Interest Rates (1986–2013)

Since 2000, there has been a stronger correlation between DIRs and the 'Baa' Benchmark as compared to the 'Aaa' Benchmark. After reaching a low point of 68 basis points in 1999, the additional yield provided by 'Baa' versus 'Aaa' averages has increased to 132 basis points in 2013. The increase in allocation and yield for Class 2/'Baa' bonds could at least partially explain the increase in the divergence between dividend interest rates and the Moody's 'Aaa' Benchmark.

Correlation Between DIRs and Annual Insurance Company Investment Returns

DIRs are also correlated to the investment returns generated by the insurance company. While investment returns are only publicly available for each company's entire invested asset portfolio (and not for the specific segregated general accounts by product type), over periods of time it can be observed that a carrier's DIR will tend to move in the same direction as its annual net investment yield (a measure of net investment income divided by annual average invested assets) and total return (net investment yield

plus realized capital gains/losses³). Appendix A contains charts for each of the mutual life insurance companies showing their DIR along with their net yield, total return, and the Moody's 'Aaa' Benchmark as of the end of the prior year for the past 10 years.

The charts show the DIRs generally correlate well with both the respective companies' net yield and total return. At the height of the financial crisis in 2009, life insurance companies recorded losses due to asset impairments, which are reflected in their net yield and total returns, driving down DIRs. Since the financial crisis life insurance companies have been able to either greatly reduce realized capital losses or even achieve realized capital gains, which have positively supported DIRs.

Summary

DIRs are complex and "black-box" in nature. DIRs are not UL crediting rates. DIRs may be impacted by mortality and expense experience and can be calculated differently from company to company. Therefore, the absolute value of DIRs should not be compared.

Over long periods of time there has been a historical tendency for annual changes in DIRs to trend with the annual changes in fixed income benchmarks (such as the Moody's 'Aaa' or 'Baa' Long-Term Corporate Bond Yield Average). DIRs can diverge from fixed income benchmarks over the short term (since life insurers may shift their asset allocation when opportunities arise to enhance yield). However, life insurers are also sensitive to risk, which limits the magnitude of shifts in their asset allocations. Therefore, it is likely for the foreseeable future that life insurers will remain heavily invested in bonds and mortgages, with a high percentage of those investments made in investment grade securities (NAIC Classes 1 and 2), resulting in DIR changes that will tend to continue to be correlated to changes in fixed income benchmarks.

This information has been taken from sources, which we believe to be reliable, but there is no guarantee as to its accuracy. This material is not intended to present an opinion on legal or tax matters. Please consult with your attorney or tax advisor, as applicable.

³ The charts in Appendix A include a measure labeled "Net Yield + Realized G/L." This measure equals net investment income, plus realized capital gains/losses, minus transfers to the Investment Maintenance Reserve (IMR), plus amortization of IMR. Unrealized gains, which are often included in "total return," are not included for the purposes of this white paper.

Appendix A: Mutual Life Insurance Company Annual DIRs, Net Yields, and Total Returns

The data for the Moody's Benchmark, net yield, and total return is as of the end of the previous year. The dividend rate is the DIR declared for the calendar year, which is declared at the end of the previous year.

Guardian Insurance Co. of America

The analysis leading to the movement of the company's DIR is unclear when charted against the company's net yield and total return. In fact, from 2006 through 2009, the DIR appears to move almost inversely with movements of net yield and total return. As the only company of the four to have a higher DIR in 2013 than in 2004, it is challenging to understand how Guardian's DIR relates to its reported investment performance.



Massachusetts Mutual Life Insurance Co.

Mass Mutual's DIR has correlated well with its net yield. However, the spread between the DIR and net yield has increased to 194 bps in 2013 (from 96 bps in 2004). It is unclear from the data if capital gains have contributed to the company's investment performance to support the DIR.



New York Life Insurance Co.

From 2008 to 2012, New York Life's DIR decreased in a similar pattern to the company's net yield and total return. In 2013, the net yield decreased from the prior year but the DIR was increased from 2012. An improvement in New York Life's total return may account for the higher DIR.



Northwestern Mutual Life Insurance Co.

A significant spread existed between Northwestern Mutual's DIR and net yield during the years 2004 to 2008. Capital gains during those years may have been supportive of the DIR as represented by the total returns. Since 2008, the spread between the DIR and net yield has narrowed substantially. The spread between the DIR and the total return has also narrowed substantially, which makes it unclear whether or not the current relationship between the DIR and investment returns will continue to be the same in the future.

