Pension Plan Assumptions: How Companies Hide Liabilities And Overstate Earnings

Last week, we discussed how Goodwill is an artificial asset that can get wiped off the books at any moment. We showed how high levels of Goodwill could be a signal of future write-downs and underperformance. This week, we examine another artificial accounting construct that distorts both the balance sheet and the income statement: actuarial assumptions for pension plans.

Underfunded pensions are not a new story. Most people know about the disastrous pension situations for many state and municipal governments around the country, and well-informed investors know how underfunded many corporate pension plans are as well. What many people don't know, however, is that generous assumptions about pension obligation discount rates and expected returns on plan assets may mean plans are even more underfunded than we think.

**Figure 1: Neutral-Or-Worse Companies With The Most Underfunded Pensions**

<table>
<thead>
<tr>
<th>Company</th>
<th>Ticker</th>
<th>Underfunded Status ($billions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AT&amp;T</td>
<td>T</td>
<td>$39.7</td>
</tr>
<tr>
<td>General Electric</td>
<td>GE</td>
<td>$35.5</td>
</tr>
<tr>
<td>Exxon Mobil</td>
<td>XOM</td>
<td>$26.5</td>
</tr>
<tr>
<td>Petroleo Brasileiro</td>
<td>PBR</td>
<td>$17.3</td>
</tr>
<tr>
<td>Ford</td>
<td>F</td>
<td>$15.4</td>
</tr>
<tr>
<td>Royal Dutch Shell</td>
<td>RDS.A</td>
<td>$15.0</td>
</tr>
<tr>
<td>Delta</td>
<td>DAL</td>
<td>$15.0</td>
</tr>
<tr>
<td>Lockheed Martin</td>
<td>LMT</td>
<td>$13.5</td>
</tr>
<tr>
<td>DuPont</td>
<td>DD</td>
<td>$12.1</td>
</tr>
<tr>
<td>UPS</td>
<td>UPS</td>
<td>$11.5</td>
</tr>
</tbody>
</table>

Sources: New Constructs, LLC and company filings.

**Defining The Terms**

When companies calculate their pension costs and total obligations, they rely on two key assumptions that play a big role in these calculations.

**Discount Rate:**

Just as the projected future cash flows of companies have to be discounted to their present value, so too should future pension payments. In both cases, we have to consider the time value of money, the fact that money today is worth more than the same amount of money in the future. This is because money earns returns over time.

The discount rate, then, represents the amount of money a company’s pension assets can reliably return from the present until it must pay out benefits to retirees. Expected future payments are discounted by this rate to calculate the Projected Benefit Obligation. Generally speaking, the discount rate is calculated using the average of discount rates on high-grade corporate bonds (more on this subject later). The projected life expectancy of employees and assumptions regarding future salary increases also play a role.

**Expected Rate of Return:**

While companies are required to use high-grade bonds as the basis for their discount rate, most don’t invest their pensions plan assets solely in these bonds. In fact, many companies are aggressive, investing the majority of their money in equities. This means more risk, but also a higher long-term expected rate of return. Companies...
may have to discount their obligations at the rate of high-grade bonds, but they expect to earn a higher return from their actual investments.

Companies factor in return on plan assets when calculating net periodic benefit cost, the expense recognized in net income, so it’s important to get the rate of return correct. While it may seem simple enough to just use the actual rate of return in each year, this can create awkward lumpiness that excessively distorts the company’s earnings. For instance, many companies would have recorded significant losses when the market crashed in 2008, or could have had unwarranted boosts to net income in 2013.

Instead, in order to smooth these numbers so that the pension doesn’t have too large an effect on reported earnings, companies calculate an expected return on assets and use that number for the net periodic benefit cost. The company then records the difference between its actual return and expected return as an actuarial loss that is recorded in Other Comprehensive Income and then amortized in net income over the following years.

**Why They Matter**

These assumptions, and the way they’re calculated, may seem like academic concerns, but they have significant effects on the market. Companies can and do adjust these assumptions in ways that inflate their apparent profitability, mask their true liabilities, and mislead investors.

For instance, companies that increase their projected benefit obligation discount rates significantly can report a lower liability and contribute less money. We saw a striking example of this after Congress passed a law in 2012 that allowed companies to use significantly higher discount rates. The provision (added into a highway funding bill) allows companies to use a 25-year average of interest rates, rather than the usual 2-year average.

Since interest rates in the late 80’s and early 90’s were very high, this new rule was a boon for companies with severe pension underfunding. In 2013, the first year the new rule took effect, the average discount rate increased from 3.9% to 4.5%, which, along with the strong stock market in 2013, helped the cumulative funded status of corporate pension plans **go from 70% to 95%**.

Guess what else happened in 2013? The S&P 500 had its best performance since the heady days of the late-90’s tech bubble, gaining almost 30% on the back of **record earnings** and **unprecedented levels of buyback activity**. Many factors played a role in creating this situation, but companies recording lower pension costs and having to contribute less money to plans (giving them the ability to use that money for buybacks) certainly contributed to the record gains.

In 2014, interest rates continued to decline, and the average discount rate declined back to where it was in 2012 before the new rules were passed. Not coincidentally, pension net funded levels fell back below 80%, and stock market gains were more modest than in 2013.

**Red Flags With Expected Returns**

The good news for investors is that the average expected rate of return companies assume hasn’t undergone any significant distortion in the same way that the discount rate has. The average expected return has steadily decreased from 7.4% in 2009 to 6.5% in 2014, showing that, as a whole, companies are recognizing that increasing valuations mean lower long-term returns.

The bad news for investors is that there is a significant amount of variability around these averages, with many companies assuming highly unrealistic rates of return. They have tremendous leeway in determining this assumption, and many companies consistently overestimate their long-term rate of return. Figure 1 shows the 10 companies that assume the highest expected rate of return and also earn our Dangerous-or-worse rating.
Take, for example, energy company Dominion Resources (D). Dominion’s current 8.6% expected rate of return is roughly in line with how it has projected returns over the past decade and a half. Since 2000, D has, on average, projected a return of 8.8% annually for its pension plan assets.

Unfortunately, that number bears almost no relationship to the real returns the company has experienced over that time frame. In fact, going through its historical filings we found that its average annual return has actually been just 6.8%, much closer to the baseline expectations of the rest of the market.

A gap of 2 percentage points between the expected and actual rate of return may not seem like a big deal, but it adds up to a gap of $1.4 billion between what the plan assets have actually generated and what the company has projected. Given that massive disconnect, investors should be skeptical of the company’s projections going forward.

The number companies use for expected rate of return has a real effect on earnings. Due to its unrealistic assumptions, D earned a non-operating net periodic benefit of $140 million in 2014. Had it used assumptions more in line with the market average, almost that entire gain would have been erased. By using these aggressive assumptions, D boosts earnings in the short-term while setting itself up to record actuarial losses and decrease earnings down the road.

High Discount Rates Distort Income Statement And Balance Sheet

As mentioned above, the rules requiring companies to base their discount rate calculations on high-grade corporate bonds gives them less leeway than they have for expected returns. However, they still have some flexibility in how they carry out the calculation, and changes in rules and market conditions can cause significant fluctuations.

An unusually high projected benefit obligation discount rate can be a significant red flag for investors. Maybe it means that the company is being creative in its calculations, or it might just mean (as in 2013) that outside factors have caused a change. Either way, when the discount rate jumps, a company can make it look as if its plans are much less underfunded than is really the case. Figure 3 shows the companies with the highest discount rates that also earn our Dangerous-or-worse rating.
Some of these companies, such as the Brazil focused Vale (VALE) have high discount rates due to the fact that their plans are located in countries with high interest rates. Even though this isn’t a sign of managing earnings, it should still concern investors.

For instance, Russian mining company Mechel OAO (MTL) saw a big jump in its weighted average discount rate between 2013 and 2014, from 5% to 6.5%. Rising interest rates in Russia, brought about by that country’s instability and economic sanctions, drove the increase. This rising discount rate helped MTL’s reported pension underfunding decrease from $123 million to $79 million. It also helped decrease the service cost by ~$2 million.

Investors should be taking note of this issue, as the company’s own auditors have expressed concern about its ability to continue to function as a going concern. Most of this doubt comes from the need to refinance its large short-term debt load, but the pension liabilities add an extra degree of risk.

**Don’t Get Burned**

Examining the assumptions companies make to calculate their pension costs and obligations should be part of an investor’s due diligence process. It may seem like a minor issue, but these can be easy ways for companies to mask larger problems.

Be especially wary when companies that already have massively underfunded pensions use aggressive assumptions in their calculations. Note that both Delta (DAL) and DuPont (DD) have pension underfunding in the tens of billions and use unrealistically high numbers for expected returns. By inflating expected returns, they can mask some of the true costs of their dangerously underfunded pension plans.

By digging into pension assumptions, we help investors identify red flags, reverse accounting distortions, and build a more accurate model of assets, liabilities, and profitability.

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**Figure 3: High Discount Rates Mask Underfunding**

<table>
<thead>
<tr>
<th>Company Name</th>
<th>Ticker</th>
<th>PBO Discount Rate</th>
<th>Overall Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vale S.A.</td>
<td>VALE</td>
<td>9.1%</td>
<td>Dangerous</td>
</tr>
<tr>
<td>Mechel OAO</td>
<td>MTL</td>
<td>6.5%</td>
<td>Dangerous</td>
</tr>
<tr>
<td>International Paper</td>
<td>IP</td>
<td>6.1%</td>
<td>Dangerous</td>
</tr>
<tr>
<td>Noranda Aluminum</td>
<td>NOR</td>
<td>6.0%</td>
<td>Dangerous</td>
</tr>
<tr>
<td>Delta Apparel</td>
<td>DLA</td>
<td>6.0%</td>
<td>Dangerous</td>
</tr>
<tr>
<td>Kansas City Southern</td>
<td>KSU</td>
<td>5.9%</td>
<td>Dangerous</td>
</tr>
<tr>
<td>Bunge</td>
<td>BG</td>
<td>5.5%</td>
<td>Dangerous</td>
</tr>
<tr>
<td>Tempur Sealy</td>
<td>TPX</td>
<td>5.0%</td>
<td>Dangerous</td>
</tr>
<tr>
<td>UTi Worldwide</td>
<td>UTIW</td>
<td>5.0%</td>
<td>Dangerous</td>
</tr>
<tr>
<td>J.C. Penney</td>
<td>JCP</td>
<td>4.9%</td>
<td>Dangerous</td>
</tr>
</tbody>
</table>

Sources: New Constructs, LLC and company filings.
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