Danger Zone: Pension Accounting – Discount Rates

Check out this week’s Danger Zone interview with Chuck Jaffe of Money Life.

2017 brought a rare bit of good news for chronically underfunded corporate pensions. Strong stock market performance and higher than average employer contributions drove a 20% decline – from $848 billion to $679 billion – in corporate pension underfunding.¹

This trend appears likely to continue in 2018, but investors should remain cautious. Much of the improvement this year will come from rising discount rates reducing projected benefit obligations. One-time contributions from tax reform could also spur improvement. It’s going to take more than a couple years of positive conditions to alleviate the significant pension funding gap.

Some Firms Continue to Exploit Pensions to Manipulate Earnings

On top of overall pension funding levels, investors need to be wary of managers who exploit pensions to manage earnings. Underfunding remains dangerously high for many firms, and some companies use unusual pension plan assumptions to mislead investors. We previously highlighted how unusually high assumptions for expected return on plan assets can artificially boost earnings. This report focuses on how companies can use the discount rate to manipulate their reported benefit obligation.

The discount rate refers to the level at which future pension obligations are discounted to their present value. A higher discount rate reduces the reported benefit obligation, while a lower discount rate raises the obligation.

Companies have some discretion over how these assumptions are determined, but they are driven in large part by interest rates. As interest rates have fallen in recent years, discount rates – on average - have declined as well, as shown in Figure 1.

Figure 1: Benefit Obligation Discount Rates Since 2011 Are in Decline

Sources: New Constructs, LLC and company filings

The average discount rate has declined from 4.7% to 3.4% since 2011. Discount rates have been volatile due to rule changes. Congress passed a law in 2012 that allowed companies to use a 25-year average of interest rates (rather than the previous 2-year average) which provided a short-term boost to discount rates in 2013.

¹ Based on our analysis of over 2,800 U.S. and international companies, ~1,200 of which report pension or other postretirement benefit assets and liabilities.
That boost was short-lived, and rates steeply declined over the past two years. The average discount rate fell by 30 basis points in 2017, which makes the improvement in pension funding all the more impressive. With interest rates rising again in 2018, expect to see discount rates come back up and the reported pension underfunding decrease even further.

**Unusual Discount Rates Raise Red Flags**

In theory, you’d expect companies to have fairly similar assumptions for discount rates. In practice, there is a wide variation, driven by geography and management discretion. Figures 2 and 3 show the distribution of discount rates in 2017 collected by the Robo-Analyst.

**Figure 2: Averages and Outliers for Discount Rates**

<table>
<thead>
<tr>
<th>Company</th>
<th>Discount Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median</td>
<td>3.5%</td>
</tr>
<tr>
<td>Mean</td>
<td>3.4%</td>
</tr>
<tr>
<td>High</td>
<td>7.7%</td>
</tr>
<tr>
<td>Low</td>
<td>0.3%</td>
</tr>
</tbody>
</table>

Sources: New Constructs, LLC and company filings

As Figure 3 shows, the distribution of discount rates among companies is normal, with relatively few outliers on either end of the distribution.

**Figure 3: Distribution of Discount Rates**

Geography plays a big role in determining these assumptions. The company with the lowest discount rate, Bottomline Technologies (EPAY), has its pension plan in Switzerland, where the combination of low yields on government bonds and a mandated conservative asset allocation lead to a discount rate of just 0.3%.

On the other side of the coin, the company with the highest expected returns, Syntel (SYNT), has a pension plan for its Indian employees. The higher yields in this developing economy lead to a much higher discount rate of 7.7%.

**One Stock to Avoid**

One company whose discount rate assumptions raises a red flag is Libbey Inc. (LBY), a small glassware manufacturer. LBY’s reported pension and postretirement plan underfunding stands at $97 million, 56% of its market cap, but a closer look reveals that the issue is even worse than it appears.

---

2 Harvard Business School features the powerful impact of our research automation technology in the case study [New Constructs: Disrupting Fundamental Analysis with Robo-Analysts](https://www.newconstructs.com/research/robo-analyst/).
LBY uses a 3.6% discount rate for its U.S. pension plans, above both the mean and median assumptions shown in Figure 2. However, the big outlier comes when we look at the pension plan for its Mexican employees, which uses a discount rate of 9.4%. By comparison, Mexican company Controladora Vuela Compañía de Aviación (VLRS) uses a 7.7% discount rate for its pension plan.

Although the Mexican plan is significantly smaller than the U.S. plan, it is completely unfunded, so it accounts for roughly 1/3 of the total pension underfunding. By using an abnormally high discount rate, LBY can obscure the true size and cost of its unfunded liability. We estimate that using 3.4% (the mean in Figure 2) as the discount rate for its U.S. plans and 7.7% as the discount rate for its Mexican plans would increase LBY’s underfunded pension liability by ~10%.

LBY also discloses that a 1% change in its discount rate would change pretax pension expense by $3.5 million (10% of pre-tax operating profit). If LBY had to use these more appropriate discount rates, it would report significantly higher liabilities and lower profits than it currently does.

The increase in the discount rate for its Mexican pension plan (up 130 basis points from 8.1% in 2015) enables LBY to reduce its reported pension underfunding from $105 million in 2015 to $95 million in 2017.

This rising discount rate has also helped mask the extent of the decline in LBY’s profitability. From 2015 to 2017, reported pre-tax operating profit3 declined by 40%, but our adjusted net operating profit before tax (NOPBT) declined by 57%. The rising discount rate reduces pension costs and makes accounting earnings look better than they should.

Investors that rely on reported earnings might see LBY as a potential “value” stock without realizing just how much the business has declined. Performing due diligence on investments means digging into the financial footnotes to see how pension assumptions and other accounting gimmicks can distort the income statement and balance sheet.

This article originally published on June 18, 2018.

Disclosure: David Trainer, Kyle Guske II, and Sam McBride receive no compensation to write about any specific stock, style, or theme.

Follow us on Twitter, Facebook, LinkedIn, and StockTwits for real-time alerts on all our research.

---

3 Excluding an $80 million Goodwill impairment reported on the income statement in 2017
New Constructs® - Research to Fulfill the Fiduciary Duty of Care

Ratings & screeners on 3000 stocks, 450 ETFs and 7000 mutual funds help you make prudent investment decisions.

New Constructs leverages the latest in machine learning to analyze structured and unstructured financial data with unrivaled speed and accuracy. The firm’s forensic accounting experts work alongside engineers to develop proprietary NLP libraries and financial models. Our investment ratings are based on the best fundamental data in the business for stocks, ETFs and mutual funds. Clients include many of the top hedge funds, mutual funds and wealth management firms. David Trainer, the firm’s CEO, is regularly featured in the media as a thought leader on the fiduciary duty of care, earnings quality, valuation and investment strategy.

To fulfill the Duty of Care, research should be:

1. **Comprehensive** - All relevant publicly-available (e.g. 10-Ks and 10-Qs) information has been diligently reviewed, including footnotes and the management discussion & analysis (MD&A).
2. **Un-conflicted** - Clients deserve unbiased research.
3. **Transparent** - Advisors should be able to show how the analysis was performed and the data behind it.
4. **Relevant** - Empirical evidence must provide **tangible, quantifiable correlation** to stock, ETF or mutual fund performance.

**Value Investing 2.0: Diligence Matters: Technology is Key to Value Investing With Scale**

Accounting data is only the beginning of fundamental research. It must be translated into economic earnings to truly understand profitability and valuation. This translation requires deep analysis of footnotes and the MD&A, a process that our **robo-analyst technology** empowers us to perform for thousands of stocks, ETFs and mutual funds.
DISCLOSURES

New Constructs®, LLC (together with any subsidiaries and/or affiliates, “New Constructs”) is an independent organization with no management ties to the companies it covers. None of the members of New Constructs’ management team or the management team of any New Constructs’ affiliate holds a seat on the Board of Directors of any of the companies New Constructs covers. New Constructs does not perform any investment or merchant banking functions and does not operate a trading desk.

New Constructs' Stock Ownership Policy prevents any of its employees or managers from engaging in Insider Trading and restricts any trading whereby an employee may exploit inside information regarding our stock research. In addition, employees and managers of the company are bound by a code of ethics that restricts them from purchasing or selling a security that they know or should have known was under consideration for inclusion in a New Constructs report nor may they purchase or sell a security for the first 15 days after New Constructs issues a report on that security.

DISCLAIMERS

The information and opinions presented in this report are provided to you for information purposes only and are not to be used or considered as an offer or solicitation of an offer to buy or sell securities or other financial instruments. New Constructs has not taken any steps to ensure that the securities referred to in this report are suitable for any particular investor and nothing in this report constitutes investment, legal, accounting or tax advice. This report includes general information that does not take into account your individual circumstance, financial situation or needs, nor does it represent a personal recommendation to you. The investments or services contained or referred to in this report may not be suitable for you and it is recommended that you consult an independent investment advisor if you are in doubt about any such investments or investment services.

Information and opinions presented in this report have been obtained or derived from sources believed by New Constructs to be reliable, but New Constructs makes no representation as to their accuracy, authority, usefulness, reliability, timeliness or completeness. New Constructs accepts no liability for loss arising from the use of the information presented in this report, and New Constructs makes no warranty as to results that may be obtained from the information presented in this report. Past performance should not be taken as an indication or guarantee of future performance, and no representation or warranty, express or implied, is made regarding future performance. Information and opinions contained in this report reflect a judgment at its original date of publication by New Constructs and are subject to change without notice. New Constructs may have issued, and may in the future issue, other reports that are inconsistent with, and reach different conclusions from, the information presented in this report. Those reports reflect the different assumptions, views and analytical methods of the analysts who prepared them and New Constructs is under no obligation to insure that such other reports are brought to the attention of any recipient of this report.

New Constructs’ reports are intended for distribution to its professional and institutional investor customers. Recipients who are not professionals or institutional investor customers of New Constructs should seek the advice of their independent financial advisor prior to making any investment decision or for any necessary explanation of its contents.

This report is not directed to, or intended for distribution to or use by, any person or entity who is a citizen or resident of or located in any locality, state, country or jurisdiction where such distribution, publication, availability or use would be contrary to law or regulation or which would be subject New Constructs to any registration or licensing requirement within such jurisdiction. This report may provide the addresses of websites. Except to the extent to which the report refers to New Constructs own website material, New Constructs has not reviewed the linked site and takes no responsibility for the content therein. Such address or hyperlink (including addresses or hyperlinks to New Constructs own website material) is provided solely for your convenience and the information and content of the linked site do not in any way form part of this report. Accessing such websites or following such hyperlink through this report shall be at your own risk.

All material in this report is the property of, and under copyright, of New Constructs. None of the contents, nor any copy of it, may be altered in any way, copied, or distributed or transmitted to any other party without the prior express written consent of New Constructs. All trademarks, service marks and logos used in this report are trademarks or service marks or registered trademarks or service marks of New Constructs. Copyright New Constructs, LLC 2003 through the present date. All rights reserved.