



## Issue Commentary

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### Some firms have huge pension shortfalls obscured by favorable assumptions

2008 saw a massive erosion in the value of defined-benefit pension plan assets, creating material pension deficits for many firms. These shortfalls can significantly dilute equity and reduce future earnings and future cash flows.

Unfortunately, the strange rules of pension accounting and the discretion allowed in the choice of actuarial assumptions results in many companies understating the magnitude of their pension shortfalls. For this *Issue Commentary*, we systematically analyzed 2008 fiscal year-end pension disclosures for hundreds of U.S. firms with material pension-plan obligations. From this analysis, we identify a set of nine firms that have made questionable pension-accounting assumptions that may disguise the true magnitude of their obligation. As a result, the balance sheet may not provide an accurate portrayal of their financial condition, while their future earnings and cash-flow streams may be at risk for unexpected future declines.

### Allegheny Technologies (ATI)

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ATI's discount-rate assumption and upward revision to the assumption helped to understate PBO. The company also reported unsustainable pension income during 2008.

### FMC Corporation (FMC)

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FMC's discount-rate assumption, as well as an upward revision to the assumption, ranked among the highest of non-financial companies, thereby helping to understate PBO. Expected pension expenses going forward are expected to be materially higher than the reported 2008 expense.

### The AES Corporation (AES)

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AES's weighted-average discount-rate assumption was the highest among non-financial companies. There are also concerns that a material portion of plan assets may not be accounted for at fair value.

### Pactiv Corp. (PTV)

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PTV's pension accounting rates as one of the most concerning in our study. Unsustainable pension income has represented a material portion of earnings in recent years. The adjusted funding shortfall as a percentage of total assets also ranks among the highest in our study.

### United Parcel Service Inc. (UPS)

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UPS's relatively outsized discount-rate assumption may be causing the company to significantly understate the company's PBO. Company-provided guidance regarding the 2009 pension expense appears significantly low compared to our calculation.

### J. C. Penney Company Inc. (JCP)

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JCP recorded a material benefit to earnings as result of recognizing unsustainable pension income. Going forward, we expect JCP's sustainable pension expense to be materially high.

### Allstate Corp. (ALL)

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The revision to its discount-rate assumption ranked as one of the largest adjustments seen last year, thereby helping to understate its obligation. Going forward, we expect pension expense to increase significantly.

### Marsh & McLennan Companies (MMC)

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MMC's adjusted funding shortfall as a percentage of total assets was among the highest of financial firms. Even with this shortfall, outsized return assumptions allowed MMC to report material pension income in 2008.

### Citigroup Inc. (C)

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Given the unusually small decline in pension value reported for 2008 and the significant concentration of private equity and "other investments" as a percentage of plan assets leads, we question whether plan assets have been fairly valued, or whether the overfunded status of C's plans is illusory.



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## 2008 Pension Declines Threaten Many Firms' Finances

### INTRODUCTION

2008 was a difficult year for companies offering defined-benefit plans to their employees. According to a survey of U.S. firms, the median rate of return on plan assets during CY2008 was a dismal -23.8%.<sup>1</sup> Diversification was no protection either as nearly every type of investment commonly held by pensions lost significant value, including stocks, bonds, and real estate.

Though the losses have been relatively widespread, variation in the key assumptions used to estimate a firm's pension liability for financial-reporting purposes can distort the underlying economic reality. In this regard, our goal in this *Issue Commentary* is to identify a subset of U.S. firms that we believe may face obligations that are substantially greater than the liability reported on their balance sheets.<sup>2</sup>

Note: We do not attempt to identify firms that may have violated generally accepted accounting principles (GAAP) in computing pension expense, pension assets, or pension liabilities. Our sole focus is determining whether the reported obligation and pension expense (or income) appears consistent with our estimate of the underlying economic obligation.

In identifying firms for analysis, we apply a systematic approach to remove as much discretion as possible in estimating the economic value of each firm's pension obligation. These estimates are used to identify firms that may face relatively larger shortfalls and greater exposure to future increases in pension expense and related cash contributions.

The selection process yielded nine companies that we believe may have the greatest disparity between the economic value of their pension obligation and the net liability (including amounts stored in "other comprehensive loss") reported on their balance sheet. We focus on this latter group because there may be a greater risk of share mispricing due to a failure of the market to discount the full economic value of their pension obligations.

The remainder of the report is organized as follows: The next two sections provide a brief introduction to pension accounting under U.S. GAAP and discuss two valuation assumptions that may be used to reduce a firm's pension liability relative to economic reality. The third section describes the statistical methodology used. The fourth and final section focuses on nine firms that we believe may be mispriced by the market as a result of a mismatch between the pension liability reported in the financial statements and our estimate of the true economic value of the obligation.

<sup>1</sup> We only include firms with fiscal years matching the calendar year to ensure comparability.

<sup>2</sup> We have also covered pension deficiencies in three prior *International EQA* reports. These include *Alerts* on Lindt & Sprüngli of Switzerland (published 12/15/08), Finning International of Canada (published 03/23/09) and Michelin of France (published 06/12/09).





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## A Brief Primer on Pension Accounting

### DEFINED-BENEFIT PLANS VS. DEFINED CONTRIBUTION PLANS

There are two general types of pension plans commonly employed by U.S. firms: defined contribution and defined-benefit. The primary difference between the two types of plans is how the company's obligation is defined. In a defined-contribution plan (such as a 401K plan), the firm provides funds (or matches contributions) that employees invest themselves. Since the employees bear all future risks on the investment (including whether the resulting asset is sufficient for retirement), the company's obligation is limited to the amount of *contributions* it has committed to provide. In contrast, in a defined-benefit plan the firm invests money itself to provide for future payments it has promised to employees when they retire. Thus, the company's obligation is the actual (but uncertain) stream of future payments it must ultimately provide to employees when they retire.

Given their relative simplicity, the accounting for defined contribution plans is simple. The contributions are expensed as incurred (i.e., as employees earn the contributions), and the company faces no liability beyond any contributions currently payable to the plan. The accounting for defined-benefit plans is much more complicated, however, as the company must estimate the present value of its future obligation, the cash contributions required to fund the obligation, and the economic cost of providing the pension benefit.

### ACCOUNTING FOR DEFINED-BENEFIT PLANS

The accounting rules for defined-benefit pensions under U.S. GAAP are specified in Statements of Financial Accounting Standards (SFAS) 87 and 158. The accounting for pensions is convoluted, due in large part to a desire to shield net income from large year-to-year changes in pension asset values, but also due to the use of actuarial assumptions in making predictions that in turn directly affect financial-statement presentation.

There are two basic components that must be valued in determining the net asset or liability associated with a firm's defined-benefit plan. The first component, the projected benefit obligation (PBO), is an estimate of the present value of all future benefits that the company is obligated to provide to past and present employees as a consequence of services *already* provided by those employees.<sup>3</sup> The second component, plan assets, consists of all funds contributed to the plan plus (minus) any gains (losses) on related investments.

The accounting for plan assets is, in principle, straightforward since the assets are fair valued. However, the PBO is difficult to measure as it involves payouts decades into the future, with a high degree of uncertainty regarding how much will actually be owed (due to life expectancy, retirement salary levels, etc.). On top of this uncertainty there is ambiguity about how to discount the expected future cash outlays to determine their present value. Though the final payments

<sup>3</sup> In theory, this amount reflects what the company would owe if the existing plan were curtailed and the present value of all benefits were paid out to employees today.





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are not entirely known, in theory the obligations are fixed by criteria established in the plan. Accordingly, the appropriate discount rate is the riskless rate.

Unfortunately, the Financial Accounting Standards Board (FASB) has never specified how firms should select an appropriate discount rate. As a result there is significant variation across firms, even though there is absolutely no reason that the discount rate should differ across companies. Even firms that claim to use essentially the same methodology show substantial variation in their chosen discount rates.

In our research we have found that companies that use relatively higher discount rates (and thereby report relatively lower PBO values) state that they base their rate on some average of corporate bond yields. Economically this approach makes no sense because the default premiums imbedded in corporate bond yields merely reflect the likelihood that *other* companies will fail to honor their *bond* obligations. The premiums have no effect on how much the reporting firm is obligated to pay its pensioners. Indeed, the use of a risk-adjusted discount rate would only be appropriate if management were concerned about the firm's ability to satisfy the pension obligation.

Needless to say, this distinction is very important in 2008, when default premiums on corporate bonds increased greatly due to the abnormally high (but likely transitory) level of economic uncertainty. As a consequence, many firms raised their pension discount rates in a year when the risk-free interest rate actually fell.

## INCOME STATEMENT AND BALANCE-SHEET PRESENTATIONS

The PBO (plan assets) meets the standard accounting definition for a liability (asset). However, these accounts are not reported directly on the balance sheet. Instead, the PBO and plan assets are netted against each other to determine the funding status. If the PBO is larger, there is a funding deficit, which is reflected as a net liability on the balance sheet. If the plan assets are larger, there is a funding surplus, which is reported as a net asset on the balance sheet.<sup>4</sup>

The income-statement presentation is more complex because of a variety of smoothing effects meant to limit the year-to-year variability in pension expense. The most prominent smoothing effect is the use of an expected return rather than the actual return to calculate pension income (which is netted against pension expense). Thus, a fund that loses \$1 billion on \$3 billion in investments during 2008 could still report a net gain of say \$240 million if it expects the plan's investments to earn 8% over the long term. In theory, fluctuations between actual and expected returns should even out over time. But, this will occur only if

<sup>4</sup> This is only true in recent years (since SFAS 158 was promulgated in 2006) and is still not necessarily the case for firm's using international financial reporting standards (IFRS). For various reasons, before SFAS 158, the balance-sheet numbers could be different from the funding deficit/surplus reported in the footnotes. Even now, the real economic deficit could deviate substantially from the balance-sheet liability if the PBO is mismeasured as a result of the many assumptions involved.





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the company has consistently used a realistic, long-term expected rate of return.

Unfortunately, the FASB also offers little guidance in the selection of an appropriate expected return. Not surprisingly, public companies also vary considerably in the expected rates of return they use. For those firms that chose an unattainably high expected return, economic reality generally catches up with them over time. Ultimately, these firms are likely to be forced to make sizable contributions to offset their growing pension deficit. Their pension losses must also be recognized against net income over time.

Pension losses flow through net income in two ways. First, when pension assets decline in value, the amount of accounting-based “pension income” (i.e., not the real amount of investment income) will decline because the expected *rate* of return is multiplied against a smaller base of assets. Second, if actual pension income deviates too far from what has been recognized in income, the “excess loss” is gradually amortized as additional pension expense under what the FASB refers to as the “corridor approach.”

For example, if a firm lost 28% of its plan assets in 2008 (the median loss reported for our sample of publicly traded domestic firms), then pension income for 2009 will only be 72% of the amount reported in 2008 (assuming the expected rate remains the same). Furthermore, if the company fails the test required under the corridor approach, additional losses may be amortized to pension expense each quarter. Either one of these mechanism (or worse yet, both of these mechanisms) could cause a nasty earnings surprise for many firms in 2009 and beyond.

In the next section we test two hypotheses about how companies select the discount rate and the expected rate of return. The results of our tests lend credence to our thesis that the firms we selected for coverage are, statistically speaking, likely to have chosen relatively extreme assumptions in order to distort their financial results. This does not necessarily imply that the firms we highlight in our report have, in fact, manipulated these key assumptions to cosmetically enhance their financial results. In some—or even all—of the cases we highlight, the results could be due to random chance. (That’s not terribly likely ... but it is theoretically possible.)

## **Firms Appear to Employ Pension Assumptions Opportunistically**

### **EMPIRICALLY, FIRMS SEEM TO USE DISCOUNT RATES TO HIDE DEFICITS**

While there are several assumptions involved in pension accounting, the two key assumptions that should, in principle, be roughly the same at all companies, are the discount rate (for determining the PBO) and the expected return (applied to actual plan assets). As noted earlier, however, these two values vary considerably across firms.

The discount rate mainly affects the balance sheet. A higher discount rate implies a lower present value of future obligations and thus reduces the liability reported





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by the company. Therefore, we might expect that firms with especially large pension deficiencies would have an incentive to pick high discount rates.

To test this first hypothesis, we employ a regression analysis using 368 industrial companies and 79 financial firms with December 2008 fiscal year ends with complete and comparable data available.<sup>5</sup> We used the following model to tell us whether firms faced with large real (i.e., economic) pension deficits tend to select higher discount rates to minimize the deficits that are reported in their accounting-based financial statements:

$$d = \alpha + \beta_1 \frac{Deficit}{TA} + \beta_2 \frac{AdjPBO}{TA} + \beta_3 \ln(TA).$$

In the above equation,  $d$  is the discount rate chosen by each company at the end of 2008.  $Deficit$  is our estimate of the funding shortfall, computed using a constant discount rate to estimate the PBO (see the next section for estimation details). It is important to use a uniform PBO value (based on a constant discount rate for all firms) as the as-reported PBO is driven by the discount rate. As noted earlier, there is no economic reason for these rates to differ across firms. Moreover, use of the actual discount rate will lead to unreliable statistical results.<sup>6</sup>  $AdjPBO$  is our transformation of the PBO, which has been adjusted to reflect the aforementioned constant discount rate. It is included to control for overall size of the pension. We scale both  $Deficit$  and  $AdjPBO$  by total assets ( $TA$ ) of the company to normalize pension values across firms.<sup>7</sup> Finally,  $TA$  itself is included as a variable to control for the fact that, on average, larger firms tend to make relatively more conservative accounting choices than smaller firms.<sup>8</sup>

## RESULTS OF OUR REGRESSION TESTS

Since assets are not really comparable between financial and industrial firms, we also ran two separate regressions for the each set of firms. Consistent with our hypothesis regarding discount rates, for non-financial firms we find that the size of the deficit has a strong positive effect on the choice of discount rate. That is, firms with relatively larger pension deficits tend to choose higher discount rates to cosmetically shrink the size of the liability that must be reported on the balance sheet. For comparison, a firm with the mean deficit-to-asset ratio (9.1% for our sample) will choose a discount rate that is, on average, 0.43% higher than a firm with no deficit.<sup>9</sup> Considering that the standard deviation in discount rate assumptions is 0.58% (around a mean of 6.25%), this effect is quite large.

<sup>5</sup> See the next section for details of sample construction.

<sup>6</sup> Using the as-reported PBO values to estimate the above regression would create what statisticians call endogeneity and distort the results.

<sup>7</sup> Failure to scale the variables would lead to a violation of the assumptions underlying the normal distribution and would reduce (increase) our parameter estimates (the error term).

<sup>8</sup> This empirical result is reflected in a long body of academic research dating back to the late 1970s.

<sup>9</sup> This is highly statistically significant with a t-stat of 4.98 denoting near certainty that a relationship exists.  $Deficit$  is the main variable of interest. The control variables have weaker effects statistically, with overall firm size being positively related to pension assumption and pension fund size being negatively related.





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Moreover, it results in a highly material reduction in the reported pension liability. For a major pension fund, a difference in discount rate of 0.43% could mean a reduction of its reported liability in the billions of dollars.

Our sample of financial firms is much smaller (just 79), so while the estimated effect of the deficit on discount rate is positive (0.15% difference for the mean deficit versus no deficit), it is not statistically significant (t-stat of 1.00). Thus, we really can only confidently claim evidence of opportunistic behavior in the selection of discount rates for non-financial companies.

## EXPECTED RETURNS GO UP FOR FIRMS WITH PENSION FUNDS THAT PERFORMED POORLY

In principle, two companies with similar asset allocations should use the same expected return. The only reason they should differ is if one firm has greater skill in making investment choices. Thus, we could understand if firms with higher actual returns claim higher expected returns going forward. However, given the nature of human behavior, we believe just the opposite is likely to occur. That is, firms that have relatively poor investment performance are more likely to choose a relatively higher expected rate of return.

Our hypothesis reflects the fact that firms that have experienced especially low *actual* returns have an incentive to raise their expected returns in order to produce higher accounting-based “pension income.” This result is expected because accounting-based “pension income” (rather than *actual* pension income) is used to offset the service cost (i.e., benefits earned by employees during the period) and interest cost that drive pension expense. In other words, if the firm’s pension investments performed poorly in 2008, its plan assets will be smaller at year end. In order to prevent an increase in pension expense next year, the firm can raise its expected return to offset the decline in the base.

We test this second hypothesis using the following regression for a set of 445 companies:<sup>10</sup>

$$\Delta ER = \alpha + \beta_1 \frac{ExpRet - ActRet}{PlanAssets} + \beta_2 \frac{Liab}{PBO} + \beta_3 \ln(MV).$$

In the above equation, we are attempting to explain the *change* in expected rate of return ( $\Delta ER$ ) from year-end 2007 to year-end 2008. The key variable is the deficiency in actual return for 2008 (*ActRet*) relative to the expectation (*ExpRet*). Control variables include the size of the pension liability (LIAB) as reported by the firm (expressed as a percentage of the PBO) and firm size (log of market value at 12/31/08). As noted previously, firm size is used to control for the fact that, other things equal, larger firms tend to make relatively more conservative accounting choices than smaller firms (see Footnote 9, which is on Page 6.)

<sup>10</sup> This combines both financials and non-financials, since none of the variables are non-comparable across sectors.





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Consistent with expectations, we find that firms with especially poor performance in 2008 were indeed likely to raise their expected return assumptions, consistent with the hypothesis of earnings management. We find that a firm with the average performance shortfall (29.7%) has, on average, raised its expected return by 0.22% more than a firm with no shortfall.<sup>11</sup> This is compared to a mean change in expected return of -0.07% (the standard deviation of assumption change is 0.36%). Thus, the opportunistic behavior is also potentially material (for a base expected return of 8.0%, the median, an increase of 0.22%, would boost pension income by 3%).

Finally, we acknowledge that some firms may be tempted to argue that, because of the large amount of losses suffered in 2008, returns are likely to mean revert in the near term. However, it is important to realize that such an assumption would, in principle, violate accounting standards because the return assumption is supposed to be a long-term expected rate of return—not a short term rate of return assumption based on an assumption (mean reversion) that also may violate accounting standards (conservatism).

## OVERALL IMPLICATIONS OF OUR FINDINGS

The combination of findings for the discount rate and expected return tests suggest that, statistically speaking, there appears to be opportunism in how firms select their pension assumptions. This is one reason we feel a thorough cross-sectional review of firms' pension accounting is valuable for investors. In this context, we believe our results support the view that high assumed rates are evidence of low quality of earnings and poor balance-sheet quality. Of course, as stated earlier, we cannot say whether any specific firm has engaged in earnings management. However, we can say that, statistically speaking, there is a significant likelihood that the average firm will manipulate these assumptions when pension losses mount.

### **We Set Companies on an Equal Footing and See Who is Lacking**

#### WE APPLY A SYSTEMATIC APPROACH TO A LARGE SET OF FIRMS

Our goal is to eliminate differences in pension accounting caused by firms' accounting assumptions, since there is little reason to expect that the assumptions should vary across companies and much reason (see above) to expect that differences that do exist are driven in part by opportunism. With a consistent methodology for pension analysis we hope to estimate the following:

- How large the real economic deficits in companies' pensions are. This implicates the likely cash-flow consequences in future years.
- How much of the real deficits are not shown on the balance sheet as liabilities. This is the amount that investors are probably unaware of.

<sup>11</sup> This is highly statistically significant with a t-stat of 4.55.





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- How much the sustainable long-term pension expense is likely to be, relative to 2008 expense as reported. This is clearly critical for long-term valuation.
- How much 2009 as-reported pension expense is likely to exceed 2008 expense. This could cause significant short-term earnings surprises.

## STEP 1: SELECTION OF COMPARABLE FIRMS

First, we need to establish a set of firms to compare. Our goal is to have as large a set as possible while having complete detailed pension data and fully comparable companies.

We first began by eliminating all companies below \$800 million in market capitalization from our study. We further removed all ADRs from consideration and only included companies that closed their fiscal year between 11/15/08 and 03/01/09. To focus our study further, we considered only companies with active defined-benefit pension plans.

Our primary source of pension plan data was Capital IQ. However, for companies that maintained multiple plans with multiple assumptions, had plans in multiple geographies with multiple assumptions, or had disclosed discount-rate and expected return-rate assumptions as a range, data was hand-collected from 10K statements.

For data-testing purposes, discount and expected-return-rate assumptions were averaged (if companies maintained multiple plans) using the PBO and plan assets, respectively, as weights. For companies that provided a range of assumed rates, we used the median.

## STEP 2: ESTIMATING THE TRUE ECONOMIC PBO

There are a number of critical assumptions that go into the calculation of the PBO. While salary growth, for example, is important, we are not in a position to assess it in a large scale cross-sectional comparison. Other assumptions are not even disclosed but critical to the cash-flow projections behind the PBO figure. The only assumption we can assess is the discount rate. Since the rate is used to adjust for the time value of money in valuing future cash obligations, it should in principle be the same for all firms and should in fact equal the long-term risk-free rate. Considering this, we impose a uniform rate of 4.33%, which is a recent rate on 30-year Treasury bonds. Since the average pension assumes a much higher rate of 6.25%, our estimate of the true economic PBO is generally much higher than the figure reported by the firm. The key point, however, is that we use a method that puts all companies on an equal basis and does not reward firms for choosing an abnormally high discount rate.

Since we do not know the year-by-year cash-flow projections that are being





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discounted to derive the PBO, we adjust for the difference in discount rate indirectly. We apply a method first used in our 06/12/09 *Alert* on Michelin whereby we assume a pattern of future obligations starting at the current level of cash outflows, growing at an unknown rate for 20 years, flattening out for 10 years, and then declining to nothing over 50 years. The exact pattern we assume has minimal effects on our estimates. Since we know the firm's reported PBO and discount rate, we can calibrate the cash-flow projections to match these numbers by setting the growth rate appropriately. We can then substitute the uniform discount rate and estimate the PBO with that calibrated growth number.

This adjusted PBO allows a largely discretion-neutral metric for comparing firms.

On an as-presented basis, PBO equaled 16.11% of non-financial company assets, 3.70% of financial company assets, and 13.91% overall. After making our adjustments to company PBO assumptions, the recalibrated PBO equaled 21.86% of non-financial company assets, 5.15% of financial company assets, and 18.91% overall. On an as-presented basis, pension fund deficits equated to 4.61% of non-financial firm total assets, 0.74% of financial firm total assets, and 3.93% overall. After adjusting the PBO, the funding deficit rose to 10.37% of non-financial company assets, 2.19% of financial company assets, and 8.92% of overall assets. Clearly, by utilizing potentially indefensible discount-rate assumptions, companies are able to substantially understate their PBO liabilities.

	Funding status / Total assets	Adjusted funding status / Total assets	PBO / Total assets	Adjusted PBO / Total assets
Non-financials	-4.61%	-10.37%	16.11%	21.86%
Financials	-0.74%	-2.19%	3.70%	5.15%
Total	-3.93%	-8.92%	13.91%	18.91%

### STEP 3: PREDICTING 2009 AND SUSTAINABLE LONG-TERM EARNINGS

While the PBO assumptions (discount rate) are major drivers of balance-sheet presentation, the discount rate has only a modest impact on the income statement in the short term. The expected return has a direct impact on the pension expense calculation. We analyze the earnings impact of the pension in two ways. First, given the assumptions made by the firm, what are they likely to report in 2009. We know that the typical company will see higher pension expense because of the decline in plan assets in 2008 (which had no impact at all on 2008 earnings). Our objective is to identify firms that will be hit the hardest on the income statement in the short run.

To assess the longer-run earnings effects, we construct a measure of sustainable pension expense by utilizing our assumptions, which are uniform across companies. This includes the discount rate as discussed above, as well as the expected return, which we believe should be 6% for the typical pension asset





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allocation (the median is 8%, which strikes us as optimistic).

To estimate next year's expected pension expense, we applied the discount and return rates provided by companies. We further gathered data regarding the amortization of pension-related items recorded in accumulated other comprehensive income, such as actuarial gains and losses, and prior service costs and credits. We further assumed that service costs would be equivalent to prior-year levels.

To estimate the sustainable mid-term pension expense, the assumptions used to calculate the 2009 pension expense were held constant except for expected return and expected interest costs. Interest costs were calculated based upon our adjusted PBO multiplied by our discount-rate assumption. Expected returns were assumed to be 6.00% multiplied by plan asset values at the close of the most recent fiscal year. The difference between our estimated expense adjustment relative to the net interest minus expected returns for 2009 equated to 0.18% of total assets for non-financial firms, 0.05% for financial firms, and 0.15% overall.

## Highlighting Nine Firms with Severe Pension Deficiencies

### SELECTION OF FIRMS THAT MAY BE MISPRICED DUE TO FAILURE OF THE MARKET TO REFLECT THEIR TRUE ECONOMIC PENSION OBLIGATION

Using the data developed in the prior section, we examine firms that have especially large pension deficiencies, abnormally high assumptions (and unusual increases in them), and are likely to see material increases in their pension expense and cash outflows this year and in the years to come. These are firms that we feel investors should be wary of, as the pension problems could be a devastating time bomb, especially if financial markets continue to be weak in the next few years. For many of these companies, their deficits are so vast, that even a strong bull market might not be enough to rescue them.

While there may be a perception that, after 2008, all companies have fairly significant pension problems, this is not entirely true. First, not all firms have large defined-benefit plans and those with defined contribution plans are fine (though their employees may not be). Those with small defined-benefit plans or less-optimistic assumptions are also unlikely to be facing severe deficiencies—certainly nothing of the magnitude as the nine companies highlighted below.

Our analysis consists of two parts. The first part of the analysis discusses the results of non-financial firms with severe pension deficits that we believe may not be fully reflected in their financial statements. The second section provides analyses of financial firms with similar gaps between what we believe to be the economic obligation associated with their pensions and the related liabilities reported on their balance sheets.





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**Allegheny Technologies Inc.**  
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**Company Description:** Allegheny Technologies Inc. (ATI) is a diversified specialty metals producer.

**PBO appears significantly understated as result of outsized discount-rate assumption:** As of 12/31/08, ATI's PBO was \$2.07 billion. ATI's PBO measurement utilized a 6.85% discount rate—up from 6.25% as of 12/31/07. ATI's assumed discount rate ranked in the 94<sup>th</sup> percentile of all non-financial firms in our study. Furthermore, the company's +0.6% revision to its discount-rate assumption also ranked in the 90<sup>th</sup> percentile among the companies we have analyzed. After adjusting for what we view as a more realistic discount rate, we believe that the economic value of ATI's PBO may be closer to \$2.92 billion, or 41% higher than reported.

Industrial Metals & Minerals	INDUSTRY
3.28 billion	MARKET CAPITALIZATION
\$33.24 (07/06/09)	RECENT CLOSING PRICE
7.73	PRICE-EARNINGS RATIO
12.5%	SHORT INTEREST
VIEW	<b>NEG</b>

**Adjusted funding shortfall represents a material portion of total assets:** During 2008, ATI's pension assets declined \$565 million, or 24.2%. After paying benefits of \$176 million and contributing \$71 million to the fund, the fair value of plan assets stood \$1.69 billion, resulting in a \$383 million funding shortfall on an as-presented basis. After adjusting the PBO for our lower discount rate assumption, however, the estimated funding shortfall increases to \$1.23 billion, or 29.5% of the company's total assets as of 12/31/08. Other things equal, we believe the gap between our estimated economic value of the pension obligation and the accounting-based liability reported by the company materially understates the fair value of the firm's liabilities. This implies that book value may also be materially overstated relative to the economic value of the firm's assets and liabilities, unless some of its assets are understated by at least the same amount (or approximately \$850 million).

**Due to high return assumption, ATI's pension income may be unsustainable:** For 2008, ATI assumed an 8.75% long-term rate of return on plan assets, which was unchanged from 2007. ATI's assumed rate of return ranked in the 90<sup>th</sup> percentile among the non-financial company dataset.

Partly as a result of the abnormally high rate-of-return assumption, ATI actually reported a \$12.2 million net pension benefit (i.e., accounting-based "pension income" was used to reduce real operating expenses) during 2008. The boost was equivalent to 1.3% of 2008 operating profit. The recognition of pension income was also driven partly by a decline in its net actuarial loss amortization. An actuarial loss occurs when a company's previous accruals related to its pension plan turn out to be insufficient. Such losses (and similar gains, should they arise) are amortized to expense over time to prevent large fluctuations in pension expense.

**Large jump in pension expense expected in 2009:** Economic reality has apparently caught up with ATI as the company expects to incur \$120 million in pension expense during 2009. The increase in expense is primarily driven by an increase of amortization of net actuarial losses to \$84 million as result of the





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plan's poor performance during 2008. Despite the significant expected spike of pension expense during 2009, we believe that the expense is still likely to be understated.

**Sustainable expense may be markedly higher than company's guidance for 2009 pension expense:** After adjusting for what we believe is a more reasonable expected return on plan assets (\$101 million) and reducing interest expense (to -\$126.4 million) to reflect our use of a lower discount-rate assumption, we believe ATI should recognize an incremental \$28.2 million in net plan expense going forward. Holding service costs equal to the expected 2009 level (\$25.4 million), and assuming that the amortization of net actuarial losses and the recognition of prior service costs remain equal to expected 2009 levels, we believe ATI's mid-term sustainable pension expense is closer to \$151 million—6.5% higher than the company's guidance.

**FMC Corp.**  
1735 Market Street  
Philadelphia, PA 19103  
(215) 299-6000  
www.fmc.com

**Company description:** FMC Corporation (FMC) is a diversified, global chemical company providing solutions, applications, and products to a variety of markets. It operates in three segments: Agricultural Products, Specialty Chemicals, and Industrial Chemicals.

**Upward revision to already outsized discount-rate assumption may have materially distorted the PBO in 2008:** As of 12/31/08, FMC's PBO was reported at \$944 million, based on a 7.0% discount rate. Additionally, we found that the discount rate was increased +0.5% YOY. FMC's year-end discount-rate assumption and 2008 change in discount-rate assumption ranked in the 95<sup>th</sup> and 88<sup>th</sup> percentiles, respectively (among the non-financial companies in our sample). After adjusting for what we view as a more defensible discount rate, our estimate of FMC's true PBO increases to \$1.45 billion.

Chemicals – Major Diversified	INDUSTRY
3.07 billion	MARKET CAPITALIZATION
\$43.38 (07/06/09)	RECENT CLOSING PRICE
10.46	PRICE-EARNINGS RATIO
2.3%	SHORT INTEREST
<b>VIEW</b>	<b>NEG</b>

**Adjusted funding shortfall a material percentage of total assets:** During 2008, FMC's pension-plan assets declined \$261 million, or 29.2% YOY. After paying benefits of \$56 million, contributing \$42 million to the fund, and making various other adjustments, FMC's pension plan assets totaled \$608 million as of 12/31/08.

Subtracting this amount from the company's PBO estimate yields an as-reported net funding shortfall of \$336 million. However, after adjusting FMC's PBO to what we believe is a more realistic level, we estimate FMC's funding shortfall may have been approximately \$840 million, or 28.0% of total assets as of 12/31/08.

**Expected 2009 pension expense to increase significantly:** FMC recognized pension expense of \$6.1 million during 2008. Curiously, though its pension assets plummeted in value during the year, the level of pension expense reported by the company actually *declined* 42.5% YOY. The reported decline was primarily driven by an unusually high expected return on plan assets. Based on disclosures provided by the company, we estimate that FMC's pension expense will rise nearly 500% YOY to \$36.5 million in 2009.





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**Sustainable pension expense materially higher than as-reported expense:** For 2008, FMC assumed an 8.75% expected long-term rate of return on pension-plan assets, equivalent to prior-year levels. This assumed rate of return ranked in the 90<sup>th</sup> percentile among all non-financial companies in our analysis.

After adjusting for what we believe is a more defensible expected return of \$36.5 million and reducing interest expense by \$3.4 million (to reflect our use of a lower discount rate in estimating the PBO), we believe that sustainable pension expense is approximately \$49.9 million—37% higher than the expected 2009 expense and 718% higher than the net pension expense reported in 2008.

**The AES Corporation**  
4300 Wilson Blvd, 11th Floor  
Arlington, VA 22203  
(703) 522-1315  
www.aes.com

**Company description:** The AES Corporation (AES), together with its subsidiaries, engages in the generation and distribution of electricity in Asia, North America, Europe, Latin America, and Africa. The company operates in two segments, Generation and Utilities.

**Highest discount-rate assumption among non-financial firms may mean the PBO is materially understated:** AES discloses two sets of PBOs, with one in the U.S., which accounted for 14% of total pension benefit obligations (\$557 million), and the remainder (\$3.50 billion) related to foreign pension plans. The total PBO reported for both was \$4.06 billion at 12/31/08.

Electric Utilities	INDUSTRY
7.35 billion	MARKET CAPITALIZATION
\$11.12 (07/06/09)	RECENT CLOSING PRICE
6.16	PRICE-EARNINGS RATIO
1.3%	SHORT INTEREST
VIEW	NEG

AES also utilized two sets of pension accounting assumptions when calculating the PBO as of 12/31/08. In the U.S., the company's discount assumption appears relatively reasonable in comparison to other non-financial firms, at 6.26%, down from 6.48% a year earlier. However, for the majority-portion of its PBO related to foreign defined-benefit plans, AES utilized the highest discount-rate assumption among all non-financial firms in our sample. That rate, 11.78%, was also increased from 11.25% a year prior. During 2008, AES's weighted-average discount rate applied to its combined-plan PBOs also increased +0.27% to 11.02%, which was the highest discount-rate assumption utilized by a non-financial firm in our sample.

**Adjusted funding shortfall may be significantly higher than as-reported deficit:** During 2008, AES reported *positive* combined pension returns of \$139 million, with \$268 million actual pension asset returns reported for its foreign plans and a \$129 million loss on the company's U.S. plan. That said, in the next section we discuss issues that cast doubt on the reported pension returns.

Assuming for now that the company's figures are accurate, the reported gain on foreign-plan assets was still more than offset by a negative \$884 million foreign-currency impact. And after paying \$409 million in benefits and contributing \$197 million to the fund, the fair value of assets as of 12/31/08 totaled \$3.08 billion, resulting in a \$976 million shortfall in plan funding.

Clearly AES's assumed discount rate is hard to justify in relation to return assumptions of other firms. As such, it may not reflect economic reality. After





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adjusting for our lower discount-rate assumption, AES's PBO increases to \$9.61 billion, or 137% higher than the as-presented PBO. This implies that AES may be under-funded by approximately \$6.53 billion, or 19% of the company's total assets. But, then again, the disclosures discussed next could imply an even higher deficit.

**Illiquid asset disclosure a red flag:** According to AES's most recent 10K:

Some of the Company's plans hold investments that are illiquid. These assets are held by our subsidiaries in Brazil and total \$279 million and represent 9% of total plan assets as of December 31, 2008.

Beyond the disclosure offered above, AES did not provide any additional information regarding the illiquid assets nor the accounting treatment applied to the illiquid assets. A subsequent review of AES's 10K yielded a short disclosure regarding \$674 million of "unsecured debentures" which were primarily held by the company's Brazilian subsidiaries. We are concerned about whether there may be potential impairments in these illiquid assets not reflected in the fair value of plan assets provided by the company.

The value of these illiquid assets is just over 10% of our estimate of the firm's true obligation, and more than 2/3 of the value of the company's as-reported obligation. In addition, if the positive investment returns reported in 2008 for the company's foreign plans are in any way dependent on the value of these illiquid assets, then the firm's true pension expense could be materially higher than reported.

**Expected 2009 pension expense set to rise:** AES's combined recognized pension expense during 2008 totaled \$60 million, down 17% YOY. The decline in the expense was driven by an increase in expected returns. We estimate AES's pension expense, based on the company's current assumptions, will rise 73% YOY to approximately \$104 million in 2009. However, if the illiquid assets discussed above have been impaired, the as-reported pension expense for 2009 could soar even higher.

**Our estimated sustainable pension expense is higher still:** We view AES's assumptions, particularly for the company's foreign plans, as outsized and unsustainably high, thereby causing AES to understate the true economic expense of its plan. After adjusting for a lower expected return (to \$185 million), we believe AES should be recognizing an incremental \$149 million in pension expense going forward. Holding the assumptions utilized to calculate AES's expected pension expense during 2009 and applying our adjustment, we believe AES's sustainable pension expense is closer to \$252 million—143% higher than the expected 2009 expense and 320% higher than the pension expense recognized in 2008. Consistent with our earlier comments, if the illiquid portion of pension assets has been impaired, our estimate of sustainable pension expense would rise even further.





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# Issue Commentary



**Pactiv Corp.**  
1900 West Field Court  
Lake Forest, IL 60045  
(847) 482-2000  
www.pactiv.com

**Company description:** Pactiv Corp. (PTV) engages in the manufacture and sale of consumer and foodservice/food packaging products in the U.S. and internationally.

After reviewing PTV's accounting assumptions and current funding position, we are concerned by the potential distortion of as-presented results as a result of what we view as outsized pension accounting assumptions.

Packaging & Containers	INDUSTRY
2.75 billion	MARKET CAPITALIZATION
\$21.42 (07/06/09)	RECENT CLOSING PRICE
9.94	PRICE-EARNINGS RATIO
2.8%	SHORT INTEREST
VIEW	<b>NEG</b>

**Revision to discount-rate assumption may understate true PBO:** As of 12/31/108, PTV maintained a defined-benefit plan with a reported \$3.71 billion PBO. The PBO was based on a 6.74% discount-rate assumption, which was 0.35% higher than the prior year's rate. Both PTV's discount rate and change in discount rate ranked among the highest in our sample at the 87<sup>th</sup> and 80<sup>th</sup> percentiles, respectively. Adjusting the PBO to reflect what we believe to be a more defensible discount-rate assumption, we estimate that the true PBO may be as high as \$5.06 billion, or 36.5% higher than the as-presented PBO.

**Adjusted funding shortfall represents *over half* of the company's assets:** During 2008, PTV's plan assets declined by \$1.07 billion, or 27.3% YOY. After paying benefits of \$350 million and making contributions of just \$11 million, the fair value of plan assets at year end stood at \$2.51 billion. Subtracting the reported PBO results in a \$1.20 billion funding shortfall on an as-presented basis. However, after adjusting for our lower discount-rate assumption, the funding shortfall increases to \$2.55 billion. Of significant concern, our estimated net liability was 68.5% of total assets at 12/31/08.

**Plan contributions expected at \$200 million pre-tax in 2008:** After making a small \$11 million contribution to pension plans during 2008, pension contributions are expected to increase more than 18-fold to \$200 million (\$130 million) pretax (after tax) in 2009, per management's latest guidance. However, with cash outflows for benefit payments expected to be approximately \$292 million in 2009 and interest costs in excess of \$200 million, the additional \$200 million in contributions will barely make a dent in the company's deficit.

**Pension income represents a material portion of earnings:** Equally concerning, PTV recognized \$49 million in net pension income during 2008, \$50 million in 2007, and \$42 million in 2006. The company even reported \$7 million in pension income in Q1 2009, while management asserts that it expects an even larger non-cash benefit to earnings (\$37 million in total) in the remaining nine months of 2009. Of further concern, the pension income reported by PTV has been represented as a reduction of operating expenses, resulting in a non-cash boost to operating income of 11.0%, 10.6%, and 9.9% in 2008, 2007, and 2006, respectively. To make matters worse, even if the amount of pension income reported by the firm had actually been earned by the plan, the related cash flows still would not accrue to the company or its shareholders. As such, we view it as a particularly





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low quality source of reported income.

**When will the accounting-based pension income reflect the real economic expense?** As noted above, the company reported another \$7 million in pension income during Q1 and management’s latest guidance calls for a total of \$37 million in “non cash pension income” for the year. With \$292 billion in expected benefit payments during 2009, roughly \$240 million in accounting-based expected returns on plan assets<sup>12</sup> and over \$200 million in interest costs, we don’t see how the firm can continue to report pension income of this magnitude for much longer. Perhaps the more important question is: How much longer will shareholders value this lower quality, non-cash boost to PTV’s earnings?

**What is the sustainable expense likely to look like eventually?** We believe that PTV’s sustainable pension expense must eventually account for the erosion in plan assets and the true economic value of PBO. After adjusting for what we believe is a more defensible expected return (\$150 million) and lowering PTV’s interest expense to account for the lower discount rate applied to calculate the PBO (-\$31 million), we believe that the firm’s sustainable pension expense is approximately \$135 million (pre tax), or \$0.66 per share (after tax). Given that current guidance calls for a contribution of \$0.18 from pension income in 2009, our estimate of sustainable pension expense represents an incremental increase in expenses of \$0.84 per share after tax, or 37% of the sell-side’s consensus 2010 EPS estimate of \$2.26.

**United Parcel Service Inc.**  
55 Glenlake Parkway NE  
Atlanta, GA 30328  
(404) 828-6000  
www.ups.com

**Company description:** United Parcel Service Inc., (UPS) a package delivery company, provides transportation, logistics, and financial services in the U.S. and internationally.

**High discount rate and upward revision to the discount-rate assumption causes potential understatement of PBO:** As of 12/31/08, 97.4% (\$16.30 billion) of the company’s total pension obligations (\$16.74 billion) related to U.S. pension plans. Based on a review of UPS’s pension accounting assumptions, however, we have significant concerns that the company’s true pension liability and periodic benefit expense may be greater than reported.

For 2008, UPS assumed a 6.75% discount rate (6.73% on a weighted-plan basis), up from 6.47% (6.44%) a year prior. The discount-rate assumption and the upward-revision in the assumption ranked in the 86<sup>th</sup> and 73<sup>rd</sup> percentiles, respectively, among non-financial companies in our study. After adjusting UPS’s PBO for our lower assumed discount rate, the combined PBO increases 62.8% to

Air Delivery & Freight Services	INDUSTRY
48.16 billion	MARKET CAPITALIZATION
\$49.14 (07/06/09)	RECENT CLOSING PRICE
15.97	PRICE-EARNINGS RATIO
2.3%	SHORT INTEREST
VIEW	NEG

<sup>12</sup> This figure is based on the assumed return of 9.0% and the ending balance of \$2.51 billion plus an average balance of \$120 million in additional contributions invested on the year.





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an estimated \$27.26 billion.

**Adjusted funding shortfall represents a material portion of total assets:** During 2008, pension-plan assets declined a cumulative \$5.21 billion, or 28.3% YOY. After paying combined benefits of \$432 million and contributing \$164 million to the plans, and making additional adjustments, the fair value of plan assets totaled \$13.15 billion. This resulted in a \$3.59 billion funding shortfall on an as-presented basis.

Based on our adjusted PBO, we believe that UPS's combined plans may be underfunded by approximately \$14.11 billion—the equivalent of 44.3% of total assets reported at 12/31/08 and more than three times the reported liability.

**UPS's expected increase in pension expense significantly below what we would expect given its plan details:** During 2008, UPS recognized a combined \$461 million in net pension expense, an increase of 78% YOY. The increase in pension expense was primarily driven by higher current service cost and a significant increase in the amortization of prior service cost.

For 2009, UPS has indicated that pension costs are expected to increase by \$121 million YOY, which would imply total costs of approximately \$582 million. Curiously, based on anticipated amortization of costs, assuming constant service costs, and using existing discount and expected return rates, we would have instead predicted 2009 pension expense of \$918 million. Thus, the only way we see UPS's \$582 million forecast as plausible is if service costs are drastically cut, through either modification or curtailment of the pension plan during 2009. According to the Q1 2009 cash-flow statement, the company reported an expense for pension and other postemployment benefits (which are typically about a third of the line item) of \$218 million. This suggests that its current expense rate is still in line with management's estimate.

**Sustainable pension expense appears significantly higher than expected pension expense:** Setting aside the discrepancy between our expectation and UPS's expectations, we believe that pension expense may be understated by the use of an abnormally high (8.96%) assumed rate of return on U.S. plan assets (8.92% weighted-average return on total plan assets). This assumption ranked in 95<sup>th</sup> percentile among non-financial companies in our sample.

Starting with company's own assumptions used to compute 2008 pension expense, then adjusting for a more defensible assumed return on plan assets (to \$789 million) and a higher interest expense (+\$53 million), we believe sustainable pension expense is approximately \$1.36 billion, or more than three times (2.3x) the expense UPS reported (forecasts) for 2008 (2009).





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# Issue Commentary



**J.C. Penney Inc.**  
6501 Legacy Drive  
Plano, TX 75024  
(972) 431-1000  
www.jcpenney.com

Department Stores	INDUSTRY
6.47 billion	MARKET CAPITALIZATION
\$27.23 (07/06/09)	RECENT CLOSING PRICE
13.00	PRICE-EARNINGS RATIO
8.9%	SHORT INTEREST
VIEW	<b>NEG</b>

**Company description:** J. C. Penney Company Inc. (JCP) operates a network of department stores in the Contiguous U.S., Alaska, and Puerto Rico.

**High discount rate and upward revision to assumption may understate the true magnitude of its PBO:** As of 12/31/08, the company's PBO for its defined-benefit plan totaled \$3.73 billion. JCP utilized a discount rate of 6.95% to calculate its PBO, which was up 0.49% YOY. JCP's discount rate assumption ranked in the 95<sup>th</sup> percentile amongst non-financial firms and the adjustment to the discount rate ranked in the 87<sup>th</sup> percentile. After re-estimating the PBO based on our lower discount rate assumption, we believe the present value of JCP's obligation is closer to \$5.63 billion, or 51% higher than reported.

**Adjusted funding shortfall analysis:** After adjusting for a change in measurement date (-\$518 million), the value of pension assets declined \$1.56 billion, or 29.8% YOY, in 2008. Deducting \$230 million in benefits paid, the fair value of plan assets stood at \$3.45 billion, leaving a \$275 million funding shortfall on an as-reported basis. However, subtracting the adjusted PBO from the reported value of plan assets, we believe JCP's funding shortfall may be closer to \$2.18 billion, or 18.2% of total assets as of 12/31/08.

**Pension income represented a material portion of 2008 earnings:** Of particular concern, because of JCP's unusually high expected rate of return on plan assets, the company has reported significant pension accounting income during the last two years. For 2008, JCP assumed an 8.9% return on plan assets, which ranked in the 94<sup>th</sup> percentile among non-financial companies in the sample. This allowed the company to report net pension income of \$133 million, or 11.7% of 12-month operating income. The level of benefit reported was also up 37.1% from the \$97 million (5.1% of 12-month operating income) reported during 2007.

On a slightly positive note, for calculating its 2009 net periodic benefit expense, JCP has decided to reduce its expected rate of return to 8.4% of plan assets. That said, the return assumption still appears decidedly optimistic in relation to long-run historical returns for a diversified portfolio of investments.

**2009 pension expense to offset two years worth of previously reported pension income:** For 2009, we estimate JCP will report a \$333 million net pension expense, which would completely outstrip the combined pension income reported during 2007 and 2008.

**Sustainable pension expense materially higher than expected 2009 expense:** On a sustainable basis, after holding all of the assumptions used to calculate JCP's expected 2009 net pension expense equal, then adjusting expected returns lower (to \$207 million) and reducing the interest expense due to our application of a lower discount rate (-\$15 million), we believe JCP's sustainable net pension expense may be closer to \$401 million.





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# Issue Commentary



**Allstate Corp.**  
2775 Sanders Road  
Northbrook, IL 60062  
(847) 402-5000  
www.allstate.com

**Company description:** Allstate Corp. (ALL) engages in the personal property and casualty insurance business, as well as in the life insurance, retirement, and investment products business in the U.S. and Canada.

**Material increase in discount-rate assumption may understate materiality of PBO:** As of 12/31/08, ALL reported a PBO of \$4.57 billion. The PBO was calculated utilizing a 7.5% discount rate, which ranked in the 97<sup>th</sup> percentile among financial firms. Further, ALL's discount-rate assumption for 2008 was adjusted upward by 1.00%, which ranked in 95<sup>th</sup> percentile among financial companies in our dataset. After lowering ALL's discount-rate assumption, we believe that the company's actual PBO may be as high as \$6.84 billion, or nearly 50% higher than the as-presented PBO.

Property & Casualty Insurance	INDUSTRY
13.17 billion	MARKET CAPITALIZATION
\$24.55 (07/06/09)	RECENT CLOSING PRICE
NA	PRICE-EARNINGS RATIO
1.6%	SHORT INTEREST
VIEW	<b>NEG</b>

**Adjusted funding shortfall materially higher than reported deficit:** During 2008, ALL's plan assets declined \$1.37 billion, or 26.6% YOY. After paying benefits of \$444 million and contributing \$148 million to the plan, plan assets totaled \$3.40 billion. Subtracting the reported PBO results in a \$1.17 billion funding shortfall. However, considering our adjustments to ALL's PBO, we believe the true magnitude of ALL's funding shortfall was closer to \$3.45 billion at 12/31/08.

**Pension expense could materially increase in 2009:** Despite the decline in plan assets and potential understatement of the PBO, net periodic pension expense totaled declined 42.9% to just \$153 million in 2008. The decline of the expense was driven by a higher assumed return on plan assets, lower service costs, and a lower recognition of net actuarial losses.

Going forward, however, we estimate that ALL will report approximately \$210 million in net periodic pension expenses in 2009, up 37% YOY. But we believe the sustainable expense may be higher still.

**Sustainable pension expense may be significantly higher than expected 2009 expense:** Holding constant all of the assumptions utilized to calculate ALL's expected net periodic benefit expense for 2009, then lowering the expected return on plan assets to a more defensible level (\$204 million) and reducing interest expense to reflect our utilization of a lower discount rate (-\$46 million), we believe ALL's sustainable net periodic benefit expense is approximately \$248 million—62.4% higher than 2008 and 18.6% higher than our estimate of 2009 net periodic benefit expense.





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# Issue Commentary



**Marsh & McLennan Companies Inc.**  
 1166 Avenue Of The Americas  
 New York, NY 10036  
 (212) 345-5000  
 www.marshmac.com

Insurance Brokers	INDUSTRY
10.14 billion	MARKET CAPITALIZATION
\$19.56 (07/06/09)	RECENT CLOSING PRICE
31.29	PRICE-EARNINGS RATIO
1.4%	SHORT INTEREST
VIEW	<b>NEG</b>

**Company description:** Marsh & McLennan Companies Inc. (MMC) provides advice and solutions in the areas of risk, strategy, and human capital. The company operates in three segments: Risk and Insurance Services, Consulting, and Risk Consulting, and Technology.

**Revised discount-rate assumption helps to reduce as-reported PBO:** MMC provides disclosures relative to its two defined-benefit pension plans. Combined, MMC's U.S. and foreign plan obligations totaled \$8.50 billion as of 12/31/08. However, during 2008, MMC revised its U.S. plan discount assumption (foreign plan discount assumption) 0.80% higher, (0.60% higher) to 6.9% (5.7%). This caused MMC's combined weighted-average discount rate to increase 0.41% overall to 6.48%. MMC's weighted-average discount rates as well as the upward revision to the rate both appear outsized, ranking within the 81<sup>st</sup> and 85<sup>th</sup> percentiles, respectively. After adjusting for our lower discount-rate assumption, we believe that MMC's PBO may be approximately \$12.36 billion.

**MMC's adjusted funding shortfall as a percentage of total assets was one of the highest among financial companies:** During 2008, MMC's plan assets declined \$1.59 billion or 14.5% YOY. However, after accounting for foreign-currency changes, plan assets declined \$3.13 billion YOY, or 28.5%. After paying benefits of \$400 million, and contributing \$261 million to the plans, MMC's combined plan assets totaled \$7.73 billion, resulting in a reported funding shortfall of \$776 million. After considering our adjustment to the company's PBO to account for a lower discount rate, we believe the funding shortfall may be closer to \$4.63 billion, or 30.5% of total assets as of 12/31/09. In both relative and absolute terms, MMC's pension funding shortfall was one of the highest among all companies in our sample.

**Pension income accounted for significant portion of 2008 operating income but 2009 should be very different:** MMC recognized \$42 million of net pension income in 2008, which was equivalent to 16.0% of income from operations. The primary drivers behind the reported pension income were its high (and recently increased) assumed return on plan assets and the amortization of prior service credits. Looking forward to 2009, however, we estimate that MMC will recognize a net pension expense of \$133 million.

**Sustainable pension expense is two times higher still:** MMC's weighted-average assumed rate of return on plan assets of 8.2% ranks in the 64<sup>th</sup> percentile for the sample financial firms. After adjusting for our lower sustainable expected return (\$464 million) and lower interest expense (\$535 million), we believe MMC's sustainable pension expense should be closer to \$287 million, or more than double the expectation based purely on company assumptions.





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# Issue Commentary



**Citigroup Inc.**  
399 Park Avenue  
New York, NY 10043  
(212) 519-1000  
www.citigroup.com

Money Center Bank	INDUSTRY
15.16 billion	MARKET CAPITALIZATION
\$2.79 (07/06/09)	RECENT CLOSING PRICE
NA	PRICE-EARNINGS RATIO
23.1%	SHORT INTEREST
<b>VIEW</b>	<b>NEG</b>

**Company description:** Citigroup Inc. (C) provides a range of financial products and services to consumer and corporate customers. The company operates in four segments: Global Cards, Consumer Banking, Institutional Clients Group, and Global Wealth Management.

**While discount rates appear reasonable in comparison to dataset, the magnitude of its PBO is still a concern:** C maintains both U.S. and foreign pension plans with a combined PBO of \$15.57 billion at 12/31/08. On a weighted-average basis, C's discount rate compared favorably relative to the other companies we have featured, at 6.25% (in the 58<sup>th</sup> percentile for financial firms). Even still, given the massive amount of benefits potentially on the line, the relatively small numerical adjustment required to conform to our standard (across firms) discount rate results in a sharp increase in the estimated PBO to \$21.26 billion.

**Small decline in pension value appears anomalous:** C's pension asset performance appears anomalous relative to our overall sample. During 2008, while most plans reported declines in assets in excess of 20% YOY, C's U.S. plan assets (\$12.84 billion) declined only 5.7% YOY (or \$730 million). We believe that the anomalous return was most likely a result of the plan asset portfolio being 17% composed of private-equity investments and 29% composed of "other investments." Neither the nature of the assets nor the accounting treatment applied to the assets was disclosed by the company.

Given the abnormally small decline in C's U.S pension asset value, we are concerned that the company may have utilized favorable valuations on relatively less liquid assets in order to cosmetically enhance the true value of pension assets. This concern echoes valuation issues we've also raised in prior reports on C (e.g., the *Bulletin* of 10/17/08).

**Overfunded pension-plan swings to a deficit after adjustments:** After including the return on the company's foreign pension plan and adjusting for foreign-exchange effects, C's combined plan assets declined by only 8.3% YOY. Again, this result appears to be an anomaly among all companies that we surveyed. At the end of 2008, C's combined pension assets totaled \$16.05 million, implying that the combined plans were actually overfunded by \$479 million. However, after considering our adjustment to the company's PBO for a lower assumed discount rate, we believe C's plans may be underfunded by approximately \$5.21 billion—and possibly even more if illiquid plan assets were overvalued.

While this is a small fraction of total assets at the bank, it does represent a sizable fraction of the firm's capital. In our *Issue Commentary* of 6/25/09, we estimated C's adjusted book value to be \$9.48 billion, without any adjustment for the pension liability. With this adjustment, the estimated book value compresses to under \$4.0 billion.





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## Issue Commentary



**C likely to report unsustainably low level of pension expense again in 2009:** During 2008, C reported a combined net pension expense of just \$7 million as result of a \$198 million net gain reported for U.S. plans and a \$205 expense for non-U.S. plans. The small recognized expense was primarily due to increased expected returns on plan assets. For 2009, we estimate C will report a net pension expense of \$28 million based on present assumptions.

**On a sustainable basis, the magnitude of pension expense may be highly material:** C's weighted-average assumed rate of return on plan assets appears aggressive in our view at 7.71%. On a sustainable basis, assuming all assumptions used to calculate the 2009 expected pension expense are held constant, except for our adjustments to reflect a lower assumed rate of return (\$921 million) and the higher level of interest expense required to account for our estimated PBO (\$963 million), we would believe that sustainable pension expense is just over \$250 million. This represents significant jump relative to the \$7 million expense recognized in 2008.



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