Decline in discount rates drives pension plans to record deficits in 2011

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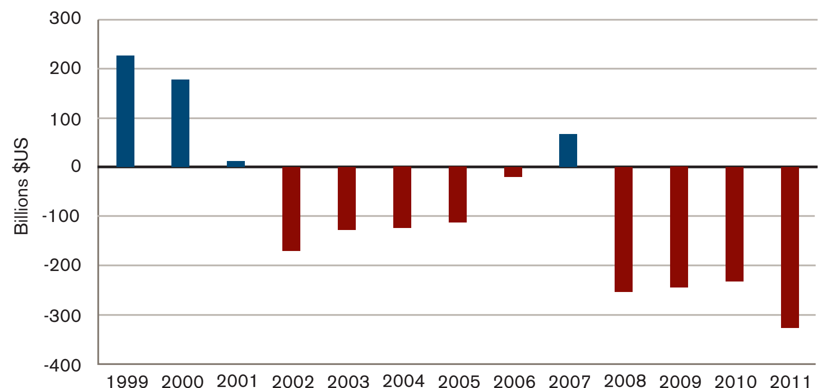
Impact of declining discount rates evident in 2011 financial statements of the Milliman 100 companies

As expected, declining discount rates in 2011 (including a historic year-end low of 4.80%) drove the pensions of the Milliman 100 companies to a record year-end 2011 funding deficit of $326.8 billion – a $94.7 billion increase over the year-end 2010 funding deficit of $232.1 billion. It is the largest deficit in the 12-year history of the Milliman Pension Funding Study.

Pension expense, the charge to company earnings, also registered a record level of $38.3 billion during fiscal year 2011, a $7.8 billion increase over fiscal year 2010, which had been the previous 11-year high.

PENSION FUNDING SURPLUS / (DEFICIT)



Somewhat of a surprise were the aggregate 2011 cash contributions of the Milliman 100 companies. Contributions were only $55.1 billion. We had expected an increase over the record level of $60.3 billion contributed in 2010, but it did not materialize. With the historically low discount rates, we expect new highs in 2012 contributions and pension expense.

Disappointing 2011 investment experience and $55 billion in contributions not enough to offset liability losses

The 9.3% increase in liabilities generated by the decrease in discount rates that are used to measure pension plan liabilities (median rate of 4.80% at year-end 2011, down 62 basis points from 5.42% at year-end 2010) offset the cash contributions and modest 5.9% investment experience (actual weighted average return on assets during 2011). The Milliman 100 companies had set an expectation that 2011 investment returns would be, on average, 7.8%.

The deterioration in funded ratio was a reversal of the investment gains made in 2010. The funded ratio dropped to 79.2% at year-end 2011, down from 83.9% at year-end 2010 and 81.7% year-end 2009.

2011 pension expense also a Milliman 100 high

The continual decline in discount rates during 2011 led to record levels of pension expense: a $38.3 billion charge to earnings ($7.8 billion higher than the $30.5 billion in 2010), reaching the highest level in the 12-year history of our study. Defying all the sobering statistics, 11 companies still recorded 2011 pension *income* (i.e., a credit to earnings), down from 12 in 2010.

The discount rate for 2012 pension expense is based on the year-end 2011 SEC disclosures. Given the record low discount rates, we estimate that 2012 pension expense will increase to $54 billion, ($16 billion over 2011), resulting in another record-high charge to corporate earnings.

Significant 2012 contributions already reported

While the $55.1 billion in contributions during 2011 was significantly greater than most prior years, the contribution total was $5.2 billion lower than the record level of $60.3 billion set during 2010. Contributions for 2011 by several companies were significantly lower than in 2010. The contributions made by General Motors, UPS, and Pepsi in 2011 decreased $2.1 billion, $1.8 billion, and $1.2 billion, respectively, from their 2010 levels.

According to footnote disclosures and press releases to investors, many companies have chosen to defer their pension contributions to 2012. At least 10 companies have already disclosed to investors that their expected contributions during 2012 will be $1 billion or more. Ford and Exxon-Mobil have announced that they expect their 2012 contributions to be approximately $3.8 and $2.9 billion, respectively. In addition, eight companies announced that they expect their 2012 contributions to be at least $1 billion (Boeing, Caterpillar, GE, Honeywell, Lockheed-Martin, Pepsi, Raytheon, and Verizon). With these disclosures and the impact of low discount rates, we expect contributions to reach a new record level in 2012.

Overall asset allocation changed significantly during 2011

The percentage of pension plan assets invested in equities decreased from approximately 43.8% to 38.1%, fixed-income allocations increased from 36.4% to 41.4%, and the allocation to other investments increased from 19.8% to 20.5% during 2011. For the first time in the history of the Milliman study, the allocation to fixed income exceeds the allocation to equities. This shift reflects both the strong outperformance of fixed income over equities in 2011 and the continued action of companies to de-risk their investment portfolios. The minor increase to other asset classes, in part, reflects increases in private equity investments, which are not included in the general equity allocation figures.

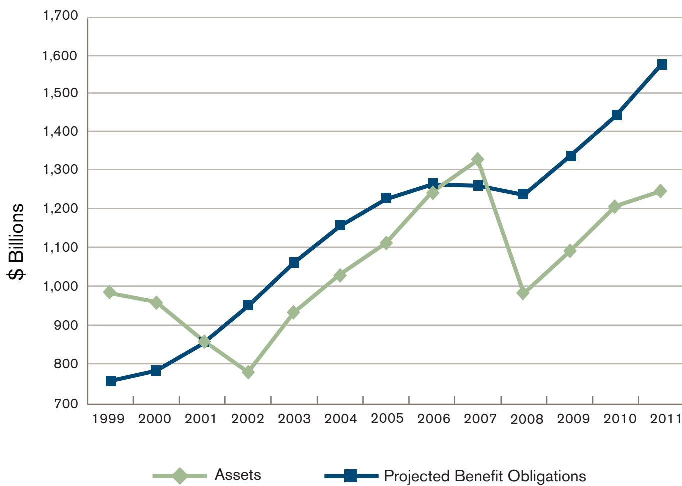
Who are the Milliman 100 companies?

The Milliman 100 companies are the 100 U.S. public companies with the largest defined benefit pension plan assets for which a 2011 annual report (Form 10-K) was released by March 5, 2012. This 2012 report is Milliman's 12th annual study. The total value of the pension plan assets of the Milliman 100 companies was $1.246 trillion at the end of 2011.

Funded ratios drop

The funded ratio of the Milliman 100 pension plans decreased during 2011 to 79.2%. The aggregate pension deficit of $326.8 billion had increased by $94.7 billion during these companies' 2011 fiscal years, from an aggregate deficit of $232.1 billion at the end of 2010.

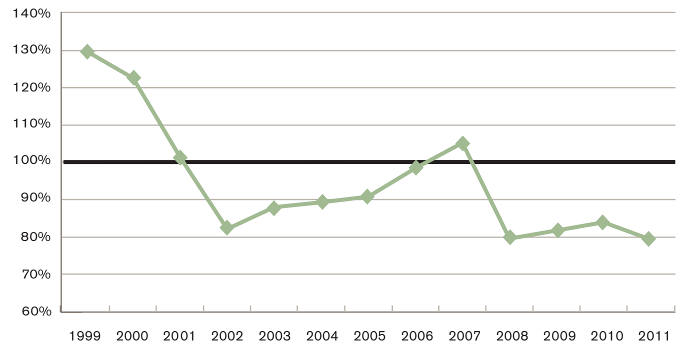
PLAN ASSETS AND LIABILITIES



Retiree health insurance and life insurance benefits are commonly referred to as other post-employment benefit (OPEB) plans. The Milliman 100 companies' balance sheets absorbed an additional loss of $5.2 billion when the pension liabilities were combined with OPEB liabilities. The resulting year-end 2011 balance sheet liability increase was $99.9 billion.

For fiscal year 2011, funded ratios ranged from a low of 40% to a high of 147%. The average funded ratio decreased to 79.2% from the prior year's 83.9%. (These averages are well below the year-end 2007 funded ratio of 105.2%.) Despite aggregate favorable investment performance since January 1, 2009, the market value of assets for the Milliman 100 companies is still almost $80 billion below the record-high value at year-end 2007, prior to the collapse of the worldwide financial markets, and the funded status is almost $393 billion lower than at year-end 2007.

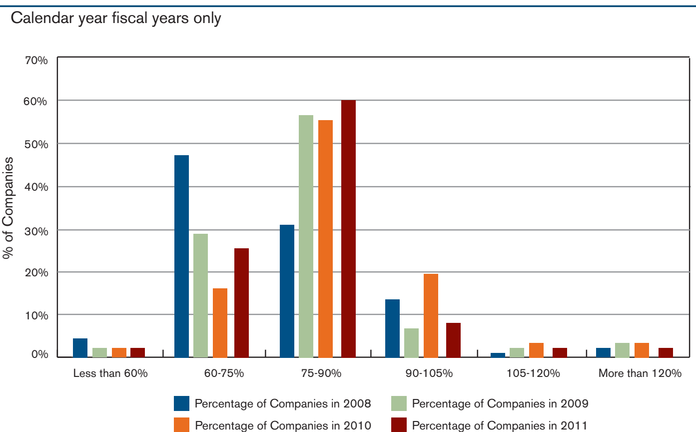
FUNDED RATIO - ASSETS / PROJECTED BENEFIT OBLIGATION



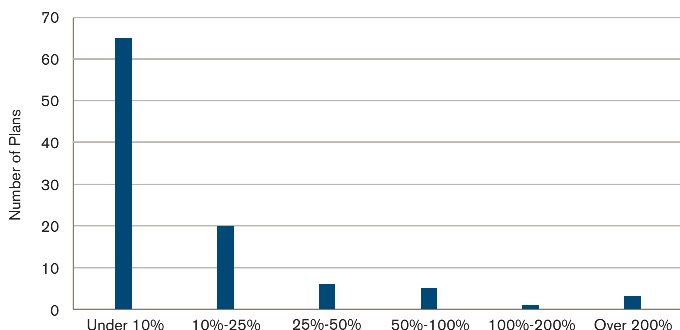
Seven out of the 87 companies with calendar-year fiscal years reported a surplus funded status at year-end 2011, compared with seven at year-end 2010 and six at year-end 2009. These figures pale in comparison to the 48 companies with reported surplus funded status at year-end 2007. Only 12 of the Milliman 100 companies reported an increase in funded ratio for 2011, compared with 72 for 2010.

DISTRIBUTION BY FUNDED STATUS - 2008 - 2011

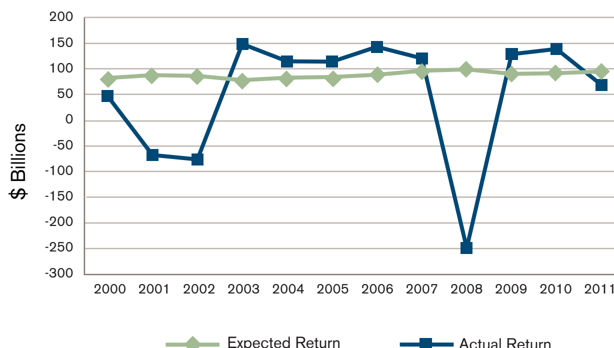
Calendar year fiscal years only



PENSION FUNDING DEFICIT AS A PERCENTAGE OF MARKET CAPITALIZATION



INVESTMENT RETURN ON PLAN ASSETS



Pension deficit a significant percentage of market capitalization for a small number of companies

While the funding deficits grew to record levels in 2011, the deficits represented less than 10% of market capitalization for 65 of the Milliman 100 companies. The funding deficits represented a much more serious issue for the nine companies where the deficit exceeded 50% of market cap.

Investment performance lags expectations

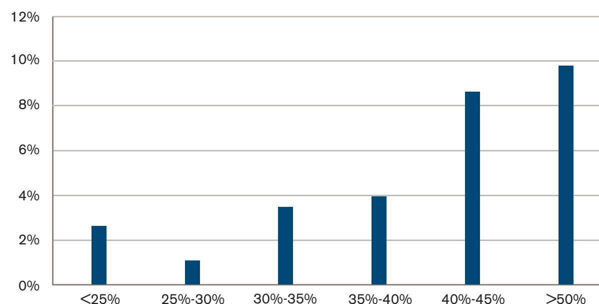
The weighted average actual investment return on pension assets for the Milliman 100 companies' 2011 fiscal years was 5.9%, well below their average expected rate of return of 7.8%.

During 2011, investment performance increased the market value of assets by $68 billion, $26 billion less than the companies' expected return. Only 27 of the companies exceeded their expected returns in 2011, compared with 99 in 2010. For the five-year period ending in 2011, investment performance has averaged only 3.98% compounded annually. Three years of adverse returns (2001, 2002, and 2008) over the past 12 years have resulted in an annualized investment return of only 5.15% over that period.

Long-duration fixed income was the place to be in 2011

Fixed income outperformed equity by a wide margin in 2011. The broad U.S. equity market only returned about 1% and non-U.S. equities did even worse, losing more than 13%. Meanwhile, U.S. core fixed income returned almost 8%, with long-term credit returning about 17% and long-term government notes returning about 29%. Plans with significant allocations (over 45%) to fixed income, especially long-duration bonds, generally beat their expected return assumptions and came closer to keeping up with their liability growth when compared with plans with smaller fixed-income allocations.

ESTIMATED AVERAGE RATE OF RETURN FOR 2011 BY ALLOCATION TO FIXED INCOME



EXPECTED VS. ACTUAL INVESTMENT RETURN

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Expected Return	9.4%	9.3%	9.2%	8.5%	8.4%	8.3%	8.3%	8.2%	8.1%	8.1%	8.0%	7.8%
Actual Return	4.5%	(6.4%)	(8.7%)	19.2%	12.4%	11.2%	12.9%	9.9%	(18.7%)	13.9%	12.8%	5.9%

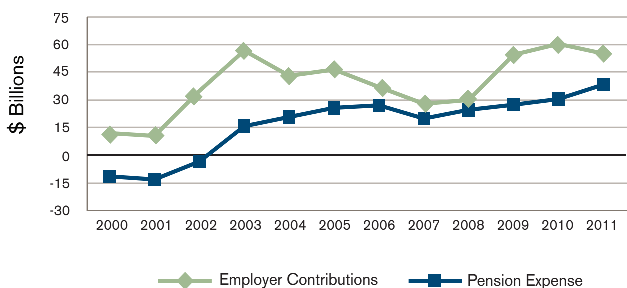
Pension expense and employer contributions at high levels

Pension expense increased by $7.8 billion during 2011, producing an aggregate pension expense of $38.3 billion. Both pension expense and employer contributions are expected to remain high during 2012.

Eleven companies reported pension income during 2011, a decrease from the 12 that did so during 2010 and well below the high point of 63 companies in 2001.

Employer contributions decreased slightly, to $55.1 billion for 2011, down from $60.3 billion in 2010. By comparison, contributions averaged $39.1 billion over the five prior years. Many companies will be subject to quarterly contribution requirements (under IRS rules) in 2012 and several have already announced plans to make extraordinary contributions in 2012. For these reasons, even though the Milliman 100 companies have reported a lower level of expected contributions ($44 billion) for 2012, we expect contributions for 2012 to exceed those made in 2011.

PENSION EXPENSE (INCOME) AND CONTRIBUTIONS



Discount rates drop, boost pension liabilities

Discount rates that are used to measure plan liabilities continued to decrease during 2011. The lower discount rates increased pension liabilities, outdistancing the modest asset returns in 2011.

Median discount rates decreased to 4.80% at the end of 2011, from 5.42% in 2010 and 5.50% in 2005, continuing the decline from 7.5% at the end of 1999. Discount rates were 156 basis points higher at the end of 2008. The drop in rates over the past three years greatly accelerated the erosion in funded status. Based on the precipitous decline in high-quality corporate bond interest rates during 2011, year-end discount rates for pensions were expected to be even lower than reported. However, companies have maintained higher discount rates through the increased use of various discount rate selection methodologies (e.g., bond matching and customized yield curves).

The decrease in discount rates increased pension liabilities by 9.3% in 2011, 7.8% in 2010, and 8.1% in 2009, after liabilities had dropped by 1.9% in 2008, and by 0.2% in 2007.

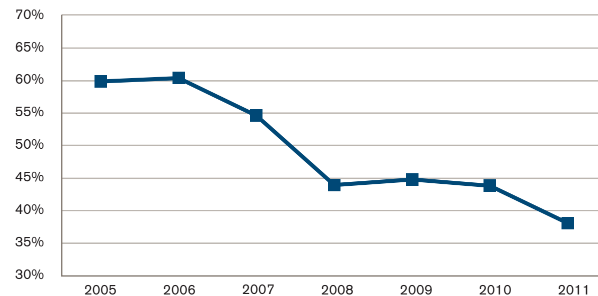
Companies change asset allocations, embrace risk management

Overall, companies maintained their expected rate of return on plan assets (7.8% for 2011, as compared with 8.0% for 2010 and 8.1% for both 2009 and 2008), after steady declines from the expected rate of return of 9.4% for 2000.

Only two Milliman 100 companies assumed an expected rate of return for 2011 of at least 9%, down from three in 2010 and a high of 80 in 2000. Asset allocations changed significantly in 2011, which could require companies to lower their expected returns for 2012.

Overall, the Milliman 100 companies allocated 38% of their pension fund assets to equities (down from 44% and 55% at the end of 2010 and 2007, respectively) and 41% to fixed-income instruments (up from 36% in 2010, and up from 33% at the end of 2007). The remaining 21% of pension fund assets were invested in other asset classes (up from 19% at the end of 2009 and 12% at the end of 2007), including real estate, private equity, hedge funds, commodities, and cash equivalents. More explicit details on how investments are allocated to the other category are generally not available.

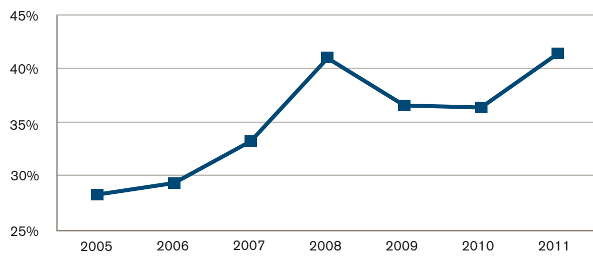
ASSET ALLOCATION - EQUITIES



Overall allocations to equities decreased in 2011. Seventeen companies decreased their equity allocations by more than 10% in 2011, compared with nine companies that had decreases of more than 10% in equity allocations in 2010 and 2009, and 46 companies that had decreases of more than 10% in equity allocations in 2008. None of the 100 companies had increases to its equity allocations by more than 10% in 2011.

The decline in equity allocations reflects one form of pension risk management: de-risking. Plans pursuing liability-driven investment

ASSET ALLOCATION - FIXED INCOME



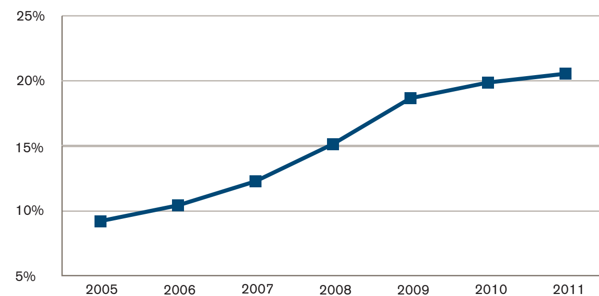
strategies are typically reducing their exposure to equities, increasing their allocation to fixed income, and lengthening the duration of fixed-income assets to more closely match their liabilities.

Another risk management strategy is to reduce the exposure to the negative *tail risk* of equity returns by using derivatives to protect against downside volatility while keeping as much of the upside potential as possible. An example of this is the Milliman Protection Strategy™ (MPS). MPS is an overlay strategy that combines capital protection with volatility management to help plan sponsors avoid significant losses on their equity investments while maintaining enough equity exposure to potentially reduce the long-term funding cost of the plan.

Companies increased their overall allocations to fixed income in 2011. No company had a decrease of more than 10% in its fixed-income allocation. Eleven companies, however, increased their fixed-income allocations by more than 10% in 2011, compared with six companies that had increases in fixed-income allocations more than 10% in 2010.

Overall allocations to other asset classes increased in 2011. Fourteen companies increased their allocations more than 5% to

ASSET ALLOCATION - OTHER



other asset classes. We believe that the allocation increase to other asset classes in 2011 was mostly attributed to companies adopting diversification and risk management strategies.

What to expect in 2012 and beyond

Because the Federal Reserve has announced that it plans to keep interest rates low at least through 2014, there is little expectation that rising discount rates will contribute to improvements in the funded status of the Milliman 100 pension plans. Pension expense in 2012 is expected to exceed $54 billion, and 2012 contributions should rise to a new record level in excess of $80 billion. Congress is currently considering pension funding stabilization legislation that could significantly reduce required contributions for 2012 and later. Plan sponsors are increasingly taking steps to de-risk their investment portfolios. We expect to see continued declines in traditional equity allocations and increases in investments in fixed income and other asset classes, including private equity and hedge funds. Further interest in equity hedging and capital protection strategies such as the Milliman Protection Strategy should also increase in 2012.

HISTORICAL VALUES

FUNDED STATUS

Fiscal Year	Market Value of Plan Assets	Change From Prior Year	Projected Benefit Obligation	Change From Prior Year	Funded Ratio	Change From Prior Year	Funded Status	Change From Prior Year
2011	$1,245,732	$38,805	$1,572,554	$133,514	79.2%	-4.7%	($326,822)	($94,709)
2010	$1,206,927	$116,805	$1,439,040	$103,933	83.9%	2.2%	($232,113)	$12,871
2009	$1,090,123	$108,516	$1,335,107	$99,698	81.7%	2.2%	($244,984)	$8,819
2008	$981,607	($343,656)	$1,235,410	($23,769)	79.5%	-25.8%	($253,803)	($319,887)
2007	$1,325,263	$82,805	$1,259,179	($3,044)	105.2%	6.8%	$66,084	$85,849
2006	$1,242,458	$131,120	$1,262,223	$37,879	98.4%	7.7%	($19,765)	$93,241
2005	$1,111,338	$80,671	$1,224,343	$69,462	90.8%	1.5%	($113,006)	$11,209
2004	$1,030,666	$97,797	$1,154,881	$94,078	89.2%	1.3%	($124,215)	$3,719
2003	$932,869	$154,352	$1,060,804	$111,947	87.9%	5.9%	($127,935)	$42,405
2002	$778,517	($83,848)	$948,857	$98,241	82.0%	-19.3%	($170,339)	($182,089)
2001	$862,365	($97,149)	$850,615	$68,441	101.4%	-21.3%	$11,750	($165,590)
2000	$959,514	n/a	$782,174	n/a	122.7%	n/a	$177,340	n/a

RETURN ON ASSETS

		Actual Rate of Return (Estimated)				
Fiscal Year	Expected Rate of Return	All Plans	Calendar Fiscal Years	Expected Return	Actual Return (All Plans)	Difference
2011	7.8%	5.9%	5.0%	$94,434	$68,405	$26,029
2010	8.0%	12.8%	12.5%	$91,049	$138,121	($47,072)
2009	8.1%	13.9%	16.9%	$89,740	$128,015	($38,275)
2008	8.1%	-18.7%	-22.0%	$98,423	($248,597)	$347,019
2007	8.2%	9.9%	8.9%	$95,750	$119,962	($24,212)
2006	8.3%	12.9%	12.7%	$88,020	$142,341	($54,321)
2005	8.3%	11.2%	10.5%	$83,710	$113,483	($29,773)
2004	8.4%	12.4%	11.5%	$82,324	$114,117	($31,794)
2003	8.5%	19.2%	18.9%	$77,538	$147,829	($70,292)
2002	9.2%	-8.7%	-8.2%	n/a	n/a	n/a
2001	9.3%	-6.4%	-6.2%	n/a	n/a	n/a
2000	9.4%	4.5%	3.5%	n/a	n/a	n/a

PENSION COST

Fiscal Year	Pension Income/(Cost)	Change From Prior Year	Employer Contribution	Change From Prior Year	Discount Rate
2011	($38,274)	$7,815	$55,085	$5,244	4.80%
2010	($30,459)	$3,093	$60,329	($5,862)	5.42%
2009	($27,365)	$2,748	$54,467	($24,518)	5.82%
2008	($24,618)	$4,733	$29,949	($2,052)	6.36%
2007	($19,884)	($7,167)	$27,896	$9,083	6.20%
2006	($27,051)	$1,365	$36,980	$9,451	5.75%
2005	($25,686)	$4,953	$46,430	($3,373)	5.50%
2004	($20,733)	$4,989	$43,058	$13,657	5.75%
2003	($15,744)	$19,182	$56,715	($21,894)	6.01%
2002	$3,438	$9,692	$34,821	($24,369)	n/a
2001	$13,130	($1,671)	$10,451	$1,541	n/a
2000	$11,459	n/a	$11,993	n/a	n/a

ASSET ALLOCATIONS

	2011	2010	2009	2008	2007	2006	2005
Equity Allocation	38.06%	43.80%	44.77%	43.92%	54.57%	60.34%	59.82%
Change From Prior Year	-13.10%	-2.15%	1.92%	-19.51%	-9.57%	0.87%	n/a
Fixed Allocation	41.42%	36.36%	36.55%	40.98%	33.20%	29.28%	28.20%
Change From Prior Year	13.91%	-0.53%	-10.79%	23.41%	13.39%	3.85%	n/a
Other Allocation	20.52%	19.84%	18.63%	15.10%	12.23%	10.38%	9.17%
Change From Prior Year	3.43%	6.47%	23.35%	23.53%	17.85%	13.10%	n/a

- All dollar amounts in millions.
- Note: Numbers may not add up correctly due to rounding.

About the study

The results of the Milliman 2012 Pension Funding Study are based on the pension plan accounting information disclosed in the footnotes to the companies' annual reports for the 2011 fiscal year and for previous fiscal years. These figures represent the GAAP accounting information that public companies are required to report under Financial Accounting Standards Board Accounting Standards Codification Subtopics 715-20, 715-30, and 715-60 (formerly known as Statements of Financial Accounting Standards Number 87, 88, 106, 132, and 158). In addition to providing the financial information on the funded status of their U.S. qualified pension plans, the footnotes may also include figures for the companies' nonqualified and foreign plans, both of which are often unfunded or subject to different funding standards from those for U.S. qualified pension plans. The information, data, and footnotes do not represent the funded status of the companies' U.S. qualified pension plans under ERISA.

This study covers 100 U.S. public companies with the largest defined benefit pension assets whose 2011 annual reports were released by March 5, 2012. Thirteen of the companies in the 2012 study had fiscal years other than the calendar year. The 2012 study includes three new companies to reflect mergers, acquisitions, and other corporate transactions during 2011. Privately held companies, mutual insurance companies, and U.S. subsidiaries of foreign parents were excluded from the study.

Projections for 2012 are based on the Milliman 100 Pension Funding Index, which has been updated to reflect the data from this study. This index is published on a monthly basis and reflects the effect of market returns and interest rate changes on pension funded status, utilizing actual reported asset values, liabilities, and asset allocation from the Milliman Pension Funding Study.

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