IR+M Funded Status Monitor

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Objective

For plan sponsors committed to a de-risking journey and making progress towards their desired end state, it is critical to regularly track the health of their pension plans and act efficiently and accordingly as risks and market environments evolve. To better serve our Liability Driven Investing (LDI) clients, we have developed our own proprietary funded status calculator. We believe the transparency and timeliness afforded through an in-house built model will help drive deeper and more meaningful conversations with our clients.

The IR+M Funded Status Monitor captures the month-over-month impact of interest rates and market returns on funded statuses. Recognizing the diversity and breadth of clients that we serve, our Monitor calculates month-end funded statuses for three different illustrative sample plans: an end stage (i.e., closed to new entrants and frozen accruals) plan, an average (i.e., closed and accruing) plan, and a young (i.e., open and accruing) plan. These sample plans are intended to serve as guideposts so individual sponsors can assess a reasonable monthly funded status change for their own plans.

The calculated funded status information is published in our monthly LDI Monitors along with relevant interest rate statistics, commentary on the long fixed income market, and our insights on the defined benefit and LDI space. The inception date for our proprietary funded status calculations is December 31, 2019.

Inputs and Methodology

On an annual basis at year-end, the LDI team will evaluate and revise, if needed, the profiles for our three sample plans.

	End Stage	Average	Young
Target Liability Duration (Years)	8-10	12-14	15-17
Funded Ratio at Inception	100%	89.8%	80%
Growth Assets Allocation (%)	15	50	70
Fixed Income Allocation (%)	85	50	30

Table 1: 2021 Assumptions

All plans are assumed to have traditional benefit formulas with annuity only payment forms (i.e., no lump sums).

Average Plan

The Average Plan is intended to represent a typical US corporate defined benefit plan. It is closed to new entrants but still accruing a service cost for certain active participants. The funded ratio at inception of December 31, 2019 uses the applicable Milliman Pension Funding Index calculated funded ratio as of the same date (i.e., 89.8%).

Average Plan Liability

Sample projected benefit obligation (PBO) liability cash flows were developed to target the desired duration of 12 to 14 years. Because the cash flows are reset each month to calculate the PBO (i.e., no aging of cash flows), there is an implicitly assumed annual service cost of approximately one to two percent of PBO. The PBO cash flows are discounted using the FTSE Pension Liability Index and the resulting single effective discount rate for the average plan is published in the IR+M LDI Monitor.

Average Plan Assets

The strategic asset allocation is comprised of 50% growth assets and 50% fixed income, as detailed below. The asset allocation is rebalanced to strategic weights at each month-end. Monthly index returns are pulled from Bloomberg for each asset class, and cash contributions are assumed to offset any benefit payments made from plan assets.

Asset Class	*Weight*
US Equity	27%
International Equity	17%
Long Government Fixed Income	10%
Long Credit Fixed Income	25%
Intermediate Government Fixed Income	5%
Intermediate Credit Fixed Income	10%
US REITS	2%
Private Equity	4%

Table 2: 2021 Average Plan Asset Allocation

Average Plan Funded Status Attribution

Attribution of the month over month funded status movement is calculated for the Average Plan. Asset and liability changes are allocated to movement in Treasury rates, credit spreads, and growth asset returns. On the asset side, the monthly excess return of the fixed income assets over Treasuries (i.e., credit spread return) and growth asset returns is sourced from Bloomberg. The difference between gross return and excess return of Credit Fixed Income assets is attributed to movement in Treasury rates. On the liability side, the difference between the spot rates in the FTSE Pension Liability Index and the Treasury Model Curve from Yieldbook are assigned to credit spread changes.

End Stage Plan

The End Stage Plan is intended to represent a mature US corporate defined benefit plan in a hibernation or self-sufficient state. It is closed to new entrants and benefits are frozen. The funded ratio at inception of December 31, 2019 was assumed to be 100% or fully funded.

End Stage Plan Liability

Sample projected benefit obligation (PBO) liability cash flows were developed to target the desired duration of 8 to 10 years. The cash flows are not reset each month to calculate the PBO (i.e., aging of cash flows). The PBO cash flows are discounted using the FTSE Pension Liability Index.

End Stage Plan Assets

The strategic asset allocation is comprised of 20% growth assets and 80% fixed income, as detailed below. The fixed income allocation reflects that an end stage plan is likely utilizing Liability Driven Investing (LDI), and has a similar duration to liability duration. The asset allocation is rebalanced to strategic weights at each month-end. Monthly index returns are pulled from Bloomberg for each asset class, and cash contributions are assumed to offset any benefit payments made from plan assets.

Asset Class	*Weight*
US Equity	12%
International Equity	3%
Long Government Fixed Income	5%
Long Credit Fixed Income	30%
Intermediate Government Fixed Income	5%
Intermediate Credit Fixed Income	45%

Table 3: 2021 End Stage Plan Asset Allocation

Young Plan

The Young Plan is intended to represent an open US corporate defined benefit plan. It remains open to new entrants and active participants are still accruing a service cost. The funded ratio at inception of December 31, 2019 was assumed to be 80%.

Young Plan Liability

Sample projected benefit obligation (PBO) liability cash flows were developed to target the desired duration of 15 to 17 years. The cash flows are reset each month to calculate the PBO (i.e., no aging of cash flows) and they accrue a monthly service cost, resulting in an assumed annual service cost of approximately two to three percent of PBO. The PBO cash flows are discounted using the FTSE Pension Liability Index.

Young Plan Assets

The strategic asset allocation is comprised of 70% growth assets and 30% fixed income, as detailed below. The asset allocation is rebalanced to strategic weights at each month-end. Monthly index returns are pulled from Bloomberg for each asset class, and cash contributions are assumed to offset any benefit payments made from plan assets.

Asset Class	Weight
US Equity	38%
International Equity	22%
Long Government Fixed Income	10%
Long Credit Fixed Income	10%
Intermediate Government Fixed Income	5%
Intermediate Credit Fixed Income	5%
US REITS	5%
Private Equity	5%

Table 4: 2021 Young Plan Asset Allocation