

LGIMA's Pension Solutions' Monitor

February 2019 Market Update

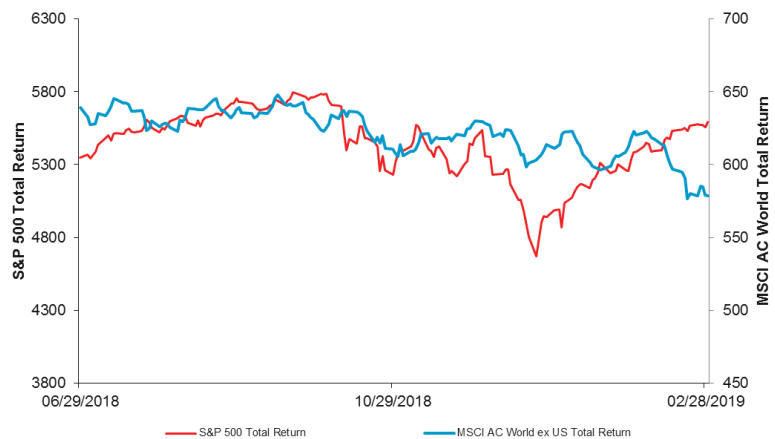


Overview

Pension funding ratios increased throughout the month of February, primarily driven by positive equity returns. Plans also experienced a marginal benefit from a slight increase in the discount rate, ultimately decreasing the present value of plan liabilities. We estimate that the average plan's funding ratio increased 1.4% to 87.9% through February.

Global equities

Equity indices performed well across the board, with US small caps leading the way. Domestic markets experienced outperformance of growth stocks vs. value, highlighted by a stellar month for the information technology sector. These strong returns were driven by a change in risk sentiment, as US-China trade relations turned positive with an extension in the trade deal deadline and the Fed communicated "patience" in monetary tightening and a commitment to maintaining a significant balance sheet. Additionally, markets largely shrugged off any negative news from the US-North Korea summit as economic data still implies strong growth opportunities.



Source: Bloomberg/Barclays and LGIMA as of 2/28/2019.

Internationally, expected Chinese stimulus (paired with the extension of the trade deal) boosted emerging market indices despite worries of stagnated growth. Japan remains far from meeting their inflation target, signaling long-term continuation of loose monetary policy. Europe and the UK continue to wrestle Brexit uncertainties while economic data is showing some signs of decelerating growth. Additionally, Spain and Italy both present headline risk as various elections could change the shape of the existing political landscape. Amongst the mixed data points, each nation/region experienced positive returns on the month.

Overall, the equity market had a positive impact on pension funding ratios over the month.

Interest rates

US Treasury rates traded in a tight 10 basis points range in February. Rates moved higher on the back of mixed data to start the month as the 30 year Treasury rate hit 3.05. Non-farm payrolls printed at +304k vs. the +165k estimate, but there was a 90k downward revision to prior months. ISM printed at 56.6 vs. the 54.0

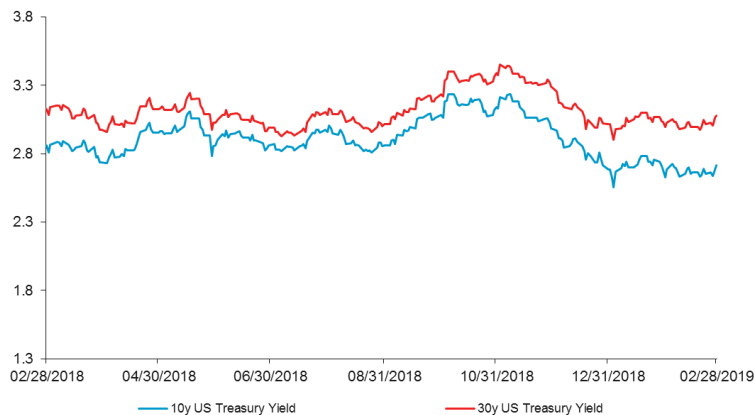
expectation. But both average hourly earnings and ISM prices paid fell well

short of what was expected, indicating a lack of inflation or potential economic slowdown, leading the market to believe the Fed will remain on hold. The US 30 year Treasury rate dipped back below 3.00 as the EU Commission and the Bank of England revised down their 2019 GDP growth estimates by 0.5%-1.2%. Long-end rates bounced back up to 3.03 on news that a budget agreement had been reached in Congress that would avoid another government shutdown, only to drop back below 3.00 a few days later in the wake of weak retail sales (-1.2% month-over-month growth vs. the +0.1% expectation). Optimism trickled back into the market at the end of the month on reports of progress in US/China tariff negotiations as well as the potential for extending the Brexit deadline in the UK. The US 30 year Treasury rate closed out the month at 3.08, compared to 3.00 at the end of January, while 5s30s closed the month at 57 basis points, the steepest level in a year. Over the course of the month, Fed members Brainard and Mester both commented that they think balance sheet normalization will end this year. This and the updated dot plot should be the highlights of the March FOMC meeting.

Overall, interest rates had a positive impact on pension funding ratios over the month.

Credit

Credit has rallied to start the year with investment grade and high yield leading the way. A strong uptick in investment grade issuance in February has slowed down the spread tightening where long duration credit now stands at mid-November levels. Over the month, the Bloomberg Barclays US Long Credit OAS tightened 6 basis points and the Bloomberg Barclays Long AA Credit OAS tightened 3 basis points.



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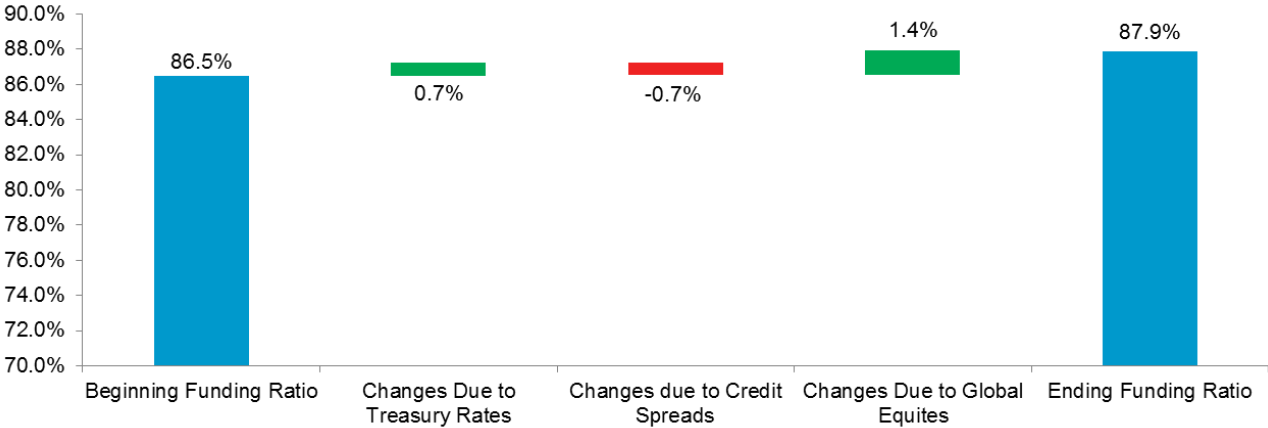
While markets have started the year with an impressive rally, there are signs of investors taking a more cautious stance. In the dollar-denominated credit markets, up-in-quality credit quality outperformed over the past month (As vs. BBBs, BBs vs. CCC) as well as more liquid securities. Additionally, credit surveys indicate that investors have increased their positioning in investment grade credit risk in early 2019, but are now taking a more careful approach given a less attractive entry point in valuations. However, the Fed’s increasingly dovish stance with emphasis placed on rate hike patience and balance sheet flexibility has alleviated many investor concerns for the foreseeable future, which may also encourage more overseas demand and support bond valuations.

Overall, credit spreads had a negative impact on pension funding ratios over the month.

Funding status monitor

LGIMA estimates that pension funding ratios increased throughout February, with gains driven primarily by positive equity returns. LGIMA estimates the discount rate’s Treasury component increased by 8 basis points while the credit component decreased 5 basis points, resulting in a net increase of 3 basis points¹. Overall, liabilities for the average plan decreased 0.2%, while plan assets with a traditional “60/40” asset allocation² increased by ~1.6%.

Funding Ratio Progression over the Month



¹Discount rates based on a blend of the Intercontinental Exchange Indices Average US Pension Plan AAA-A and Intercontinental Exchange Indices Mature US Pension Plan AAA-A discount curves

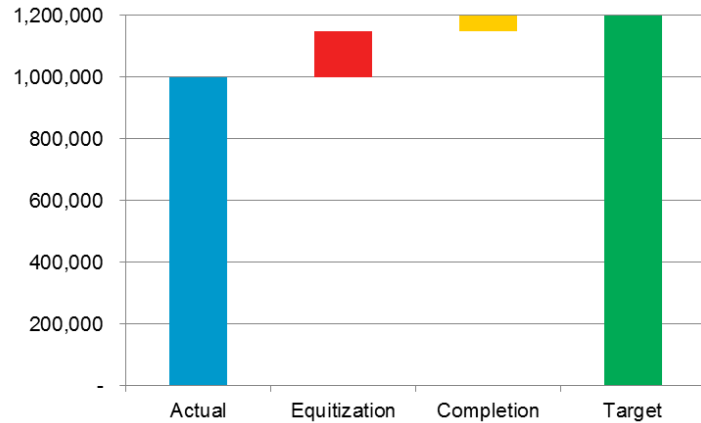
²For the average plan, LGIMA assumes a 60% allocation to MSCI AC World and a 40% allocation to Barclays Aggregate

Pension market highlights

Plan level completion

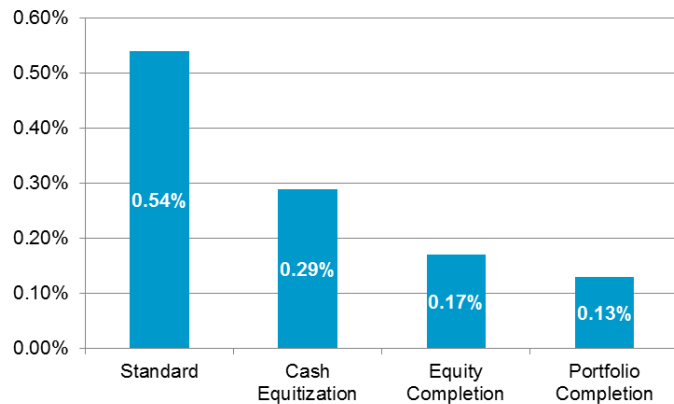
- Pension plans often have cash set aside for paying benefits / cash calls of illiquid assets / etc.
- This cash position can create a drag on performance
- **“Equitization”** is the process of using derivatives to achieve exposure backed by the cash available
 - Increases capital efficiency
 - Decreases drag from cash allocation
 - Reduces tracking error vs. policy target exposures
- Going one step beyond equitization, **“completion”** aims to neutralize drifts away from the allocation policy targets
 - Reduces cost of rebalancing by using derivatives instead of physicals
 - Eliminates drift from market moves resulting in unintended biases
 - Enhances plan governance
 - Optimizes collateral constraints / capital efficiency, as one manager can leverage a plan’s other assets (ex: posting Treasuries as collateral for equity exposure)

Completion illustration



Source: LGIMA

Representative expected tracking error



Source: Bloomberg/Barclays and LGIMA as of 2/28/2019.