Pension plans' funded status since 2008

Two steps forward, one step back

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Since 2008, the recovery in funded status has been sporadic, following a pattern that can loosely be described as "two steps forward, one step back." Russell Investments tracks monthly liability-driven investing (LDI) data that measures short-term changes in two representative plans' funded status due to variations in interest rates and investment returns. What does the longer-term pattern show? This paper examines what the longer-term pattern shows for a typical pension plan's funded status.

Background

The funded status numbers tracked are based on two hypothetical plans – one open and one closed – designed to be representative of a broad range of actual corporate pension plans. See the Appendix for more detail on the assumptions we make for the representative plans.

Russell Investments' monthly LDI data show the short-term effects of variations in interest rates and investment returns on the funded status of these representative plans. For example, in March 2018, interest rates and global equity markets both fell. This resulted in a reduction of roughly 0.7% in the funded status of the representative closed plan and roughly 1.5% in the funded status of the open plan.

Exhibits 1 and 2 show how the funded status of each of the plans would have developed from the start of 2008 to the end of the first quarter of 2018, had changes in interest rates and investment returns been the only contributing factors.

Exhibits 1 and 2 show that market conditions have been, overall, favorable since the sharp decline of 2008. The recovery in funded status has, however, been sporadic, following a pattern that can loosely be described as "two steps forward, one step back." The gains of 2009 and 2010 were largely surrendered in 2011, and the gains of 2012 and 2013 were partially given back in 2014 through 2016. 2017 again brought improvement in funded status.

Funded status is also affected by other factors. Most notably, to the extent that plan sponsor contributions exceed (or lag) the value of new benefit accruals, this leads directly to an improvement (or a decline) in funded status. The timing, direction and size of this effect vary from plan to plan and are not captured in the monthly data. This can lead to divergence over the longer term between the representative plans' situations and the typical funded status of actual plans as the cumulative effect of contributions and accruals drives actual funded status up or down. To limit the extent of the divergence, the funded status of the representative plans is rebased annually to reflect actual plan funded status as reported by corporations. We describe how this is done in the Appendix.

Exhibit 1: Representative open plan funded status, 2008-1Q2018

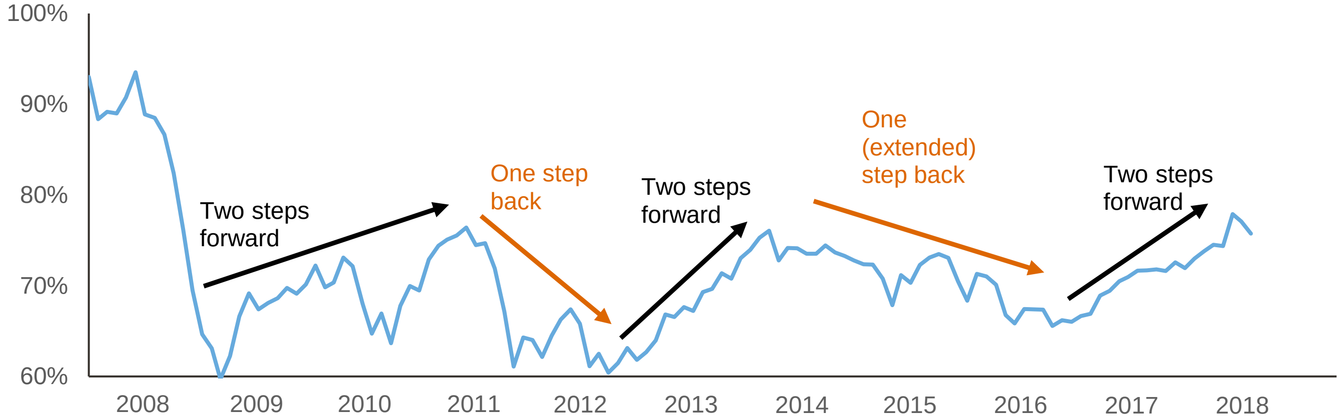
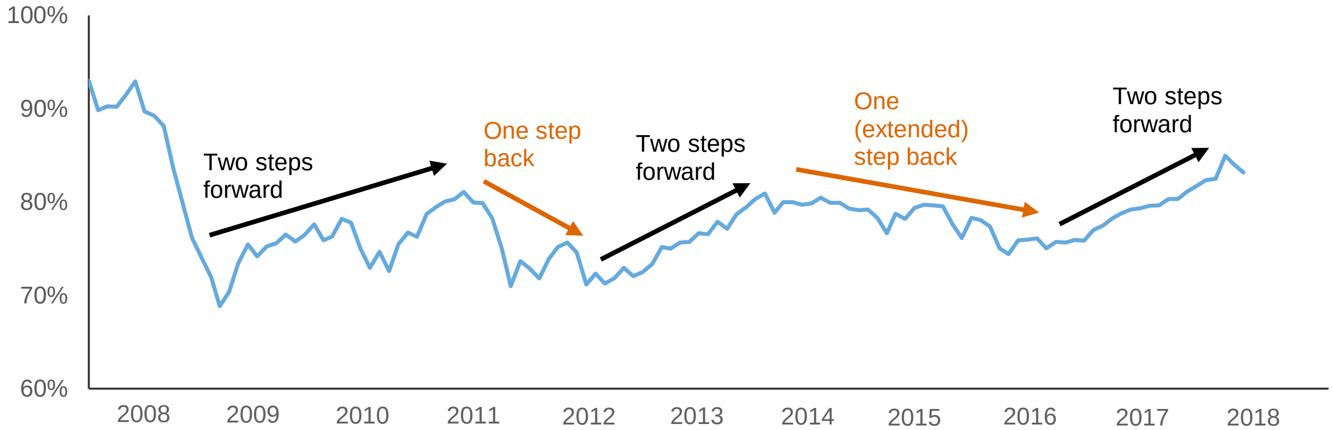


Exhibit 2: Representative closed plan funded status, 2008-1Q2018



The recovery in funded status has been sporadic, following a pattern that can loosely be described as "two steps forward, one step back."

Another factor that affects funded status is demographic experience. This generally has a much smaller impact on funded status than the other factors mentioned so far. However, publication of mortality tables by the Society of Actuaries, described in Owens (2014), resulted in a one-off increase in liabilities of the order of 5% to 7% for most plans, and a corresponding drop in funded status. Further adjustment to these mortality tables have caused smaller adjustments to liability values in recent years. This will not affect the month-to-month calculations of funded status in our tracking database (because those calculations capture purely the impact of variations in interest rates and investment returns), but will in due course be captured as part of the annual rebasing.

Summary

Monthly funded status data tracked by Russell Investments captures the effect of changes in interest rates and investment returns on the funded status of two representative pension plans, one open to new entrants and one closed. This effect has been, in aggregate, beneficial since the end of 2008, although there have been some setbacks during that time (specifically, in 2011 and 2014-2016). Other factors that affect funded status (such as plan sponsor contributions, new benefit accruals and demographic experience) are not incorporated in the month-to-month calculations. Instead, they are captured in the starting position shown in each year of the calculation, which is rebased annually.

Appendix

The annual rebasing of funded status to reflect factors not incorporated in our monthly calculations is based on 10-K filings for the previous financial year. For example, updates published in 2017 (up to and including the update at the end of December 2017) are based on a starting point of 77% funded as of the beginning of 2016. This was the median defined benefit funded status as reported in the 2015 10-K filings of all corporations in the Russell 3000™ Index.(Approximately 1,000 corporations in the Russell 3000™ Index reported material defined benefit pension obligations in their most recent 10-K filings.)

Similarly, the updates produced in 2018 will be rebased to a funded status of 75% as of the beginning of 2017, 75% being the median reported funded status in 2016 filings (acknowledging that 10-K funded status data include non-US and unfunded plans).

Finally, some details of the assumptions used in our representative plan calculations: The liabilities of the representative pension plans are based on projected liability cash flows derived using the Standard Cashflow Generator (SCG) formula, as described in Collie (2012), and a duration of 12 years (eight years for the closed plan), discounted using the Merrill Lynch AAA-A corporate discount curve. Assumed asset returns for the open plan are based on 60% MSCI All Country World Index returns and 40% Bloomberg Barclays LDI 12-Year index returns; for the closed plan, they are based on 40% MSCI All Country World Index and 60% Bloomberg Barclays LDI 8-Year index returns. Contributions to the plan and benefit payments were each assumed to be equal to the value of accrual of new liabilities.

RELATED READING

Collie, B. (2012, March). “The SCG Standard Cashflow Generator: Parameterizing pension cash flow projections as the basis for LDI.” *Russell Investments Viewpoint*.

Owens, J. (2015, August). “How will the new RP-2014 mortality tables affect my DB plan strategy?” *Russell Investments Practice Note*.

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