

The defined benefit plan of 2017

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Michael Hall,
Director, Investment
Strategy

The dynamics of corporate defined benefit (DB) plans in the U.S. have been transformed by the Pension Protection Act of 2006 and other recent changes. In this note we follow these new dynamics through time, including a description of the results of a series of projections of the status of a wide range of different DB plan types. This analysis allows us to set out four key features that will likely characterize the DB landscape of 2017.

It is well documented that the dynamics of corporate defined benefit plans have been fundamentally altered by the Pension Protection Act of 2006 (PPA), by the Statement of Financial Accounting Standards (FAS) No. 158 and by changes in corporate, political and public attitudes towards defined benefit pension provision in general¹.

It is possible to trace the probable impact of these changes, by following them through time. To this end, we have selected the year 2017, by which time most of the PPA changes will have been fully phased in and will have worked their way through the system².

Our projections

To allow us to be concrete in presenting our outlook for the corporate DB landscape nine years hence, we have carried out projections of the status of a wide range of DB plans³. These were based on the projection engine of Russell's Strategic Review process, and covered a wide range of possible future economic scenarios⁴. They allowed us to examine the impact of today's funded status, benefit policy, investment policy and funding (contribution) policy on the corporate DB universe of 2017.

¹ See, for example, Blackwell, R. and R. Collie (2006). The Current State of Pension Provision in America. *Russell Pension Report 2007*.

² The first PPA amortization based on 100% of the funding target will be retired by 2017.

³ These projections were first presented in Hall, M. (2008). *What Does the DB Plan of 2017 Look Like?* Presentation to the Russell Institutional Summit, March 17.

⁴ Source: Russell Capital Markets Forecasts (June 2007) and Russell Enterprise Risk Report for those companies in the Russell 3000 Index using published 10K Information and FactSet.

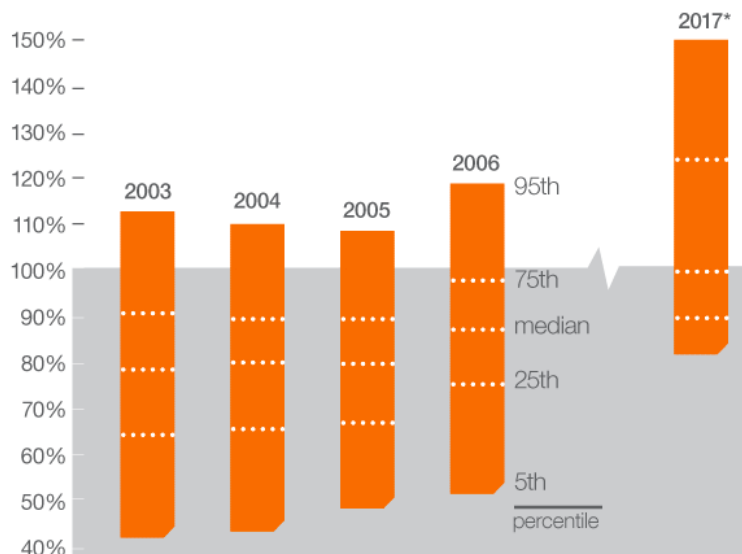
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FEATURE #1 OF THE DB PLAN OF 2017: A STRONGER FUNDED STATUS

One notable feature of our vision of 2017 is that funding levels will tend to be higher than today. This is no surprise, given the PPA's explicit intention to strengthen plan funding, to increase benefit security and to reduce the risk to the PBGC (and ultimately the taxpayer) that arises when the sponsor of an underfunded plan finds itself unable to make good the shortfall. Specifically, the PPA demands that funding gaps are amortized over seven years, a shorter time period than previously for most sponsors.

The impact of this can be seen in chart 1, which compares our projection of the range of PBO funded status in 2017 with the actual range of funded status in each of the years 2003-2006⁵ for the approximately 1,000 members of the Russell 3000[®] index⁶ that operate a defined benefit pension plan.

Chart 1: Historical and projected range of DB plan funded status
Projected benefit obligation funded status



* Projected mean funded status for the 72 plans we forecasted.
Source: Corporate financial disclosures and Russell Investments.

We see that our projections show a central tendency for funded status in 2017 much closer to 100% than it has been in recent years. The number of plans with significant shortfalls is greatly reduced. Indeed, we expect barely 1 plan in every 4 to be below 90% funded⁷.

⁵ We are still in the process of gathering the 2007 disclosures – all indications are that funded status as reported in the 10-K improved for most plans from 2006 to 2007.

⁶ The Russell 3000[®] index is made up of the 3,000 largest publicly-listed corporations in the U.S.

⁷ We should add a note of caution here that this number will of course still fluctuate with market experience – if market conditions immediately prior to 2017 are unfavorable, this 1 in 4 estimate will probably prove too optimistic. While the health of plans in general will be far less volatile in 2017 than it has been in recent years, short term market conditions and interest rate movements will still tend to push all plans together towards a better or worse funded status.

**FEATURE #2 OF THE DB PLAN OF 2017:
CONTRIBUTIONS WILL VARY MORE AS PLAN EXPERIENCE VARIES**

Offsetting the reduced variability in funded status from plan to plan, we expect to see increased variability in contributions. These are two sides of the same coin: the primary reason that fewer plans will be significantly underfunded is that, under the new rules, contributions will be more responsive to short term variations in plan experience⁸. Contribution expectations are inherently asymmetric; bad experience exacerbates requirements, and favorable experience can only reduce contributions to zero. As under the old rules, contributions cannot be negative.

Anything that increases the probability that the system will be underfunded increases contributions over the horizon we examined. This is intuitive if we think of contributions as an option; the more volatility in the system, the more valuable the option. This asymmetry – and its implications - will be described in more detail in a forthcoming paper.

**FEATURE #3 OF THE DB PLAN OF 2017:
THREE MAIN LEVERS WITH WHICH SPONSORS CAN INFLUENCE THEIR PLANS**

These three levers are: benefits policy; funding (or contribution) policy; and investment policy. The operation and effect of those three levers will not be quite the same looking forward as it has been looking back.

Decisions around benefit design (in particular, whether to continue to operate the plan for all employees, to close it to new entrants, to freeze accruals altogether, etc.) are clearly critical, and are connected to decisions around the other levers.

Our projections confirm what a moment's thought would imply: that freezing a plan reduces expected contributions (because the cost of accruing benefits is reduced or cut off altogether). It also has the effect of making risk-taking less attractive and exacerbating the asymmetry, described above, between the impact of good and bad plan experience.

The second lever, funding policy, takes on greater importance in the new world. The regulatory minimum, stripped of smoothing of assets and liabilities, fixated on 100% funding, is certainly a volatile target. A policy that budgets contributions in excess of the minimum can manage the uncertainty of contribution requirements, just as airplanes cruise at 30,000 feet instead of 500 to avoid excessive ascent and descent. What's more, this more deliberate policy can be adopted without necessarily having any material impact on the cost of the plan. So, for the sponsor of 2017, contribution policy has the potential to be a more significant lever for the management of their plan. It remains to be seen how sponsors will, in practice, choose to use that lever.

The final lever, investment policy, will continue to be important for pension plans. But, as we have already noted, the nature of the risk/reward trade-off that exists in investment policy has been altered by the new rules. The impact of bad experience is felt more quickly. It is this change that will largely drive the fourth feature, described below, of the plan of 2017: the trend towards a reduction in risk.

**FEATURE #4 OF THE DB PLAN OF 2017:
THE RISKS THAT PLANS WILL TAKE WILL BE SMALLER – AND DIFFERENT**

While the three observations above follow from the new dynamics that have been created, our fourth observation is closer to a prediction about how sponsors and plans

⁸ Because there are multiple sources of governing legislation, there can be a disconnect at times between funding and accounting measures, leading to a more complex interaction than we have implied here.

will respond. However, given the pressures that the new dynamics create, the consensus of general opinion around this point, and the response that can already be seen among the plan sponsor community, few would accuse us of sticking our necks out too far with this one.

We believe that plans will have a different balance of risks in the future than they have had in the past and that, in aggregate, the amount of risk that they take will be less. This opinion follows from the points described above.

Traditionally, pension plans have:

- accepted a great deal of interest rate risk (the mismatch between the interest rate sensitivity, both nominal and real, of the assets & liabilities) and taken significant market risk. That exposure to market experience – or beta – was most notably equity markets and credit risk (the impact of uncertainty in the yield spread between government debt and high quality corporate debt),
- chosen to implement with active management, which thanks to its favorable correlation to other risks in the system has contributed a lesser amount of risk, and
- enjoyed a relatively minor amount of longevity risk (which derives from uncertainty around the mortality experience of the plan versus that assumed by the actuary). We attribute this to conservatism in the assumption, the tendency to change assumptions infrequently, and the prevalence of so many other risks in the system.

In the future, we expect the extent of the risk taken in each of these areas to decline, with the possible exception of longevity risk (depending on whether instruments become available to allow that to be managed). Most significantly, the extent of both interest rate risk and market risk will likely fall for most plans. So, the total risk pie will get smaller, and the relative size of the slices will change and become better balanced.

Conclusion

Much can change in nine years. The state of DB plans in 2008 is not what many would have predicted in 1999. Obviously we don't know which of the thousands of capital market scenarios we examined will present itself over the next nine, but it seems to us that a path for the evolution of DB plans has been set by PPA and other changes, a path that we can discern clearly enough to foresee some key features of the DB landscape of 2017. Four of those features are:

1. That relatively few plans will find themselves with a PBO funded status far below 100% (a direct consequence of the more stringent funding requirements of PPA and the removal of some of the smoothing in previous funding practices).
2. That variations in plan experience will be felt more in contributions (especially when experience is bad) rather than in funded status.
3. That the three levers through which sponsors will be able to influence their plans will continue to be benefits policy, funding policy and investment policy. In particular, funding policy has the potential to be a more significant management lever than it has been in the past.
4. That pension plans will, in general, accept less risk than they do today, and the balance of the risks that they take will be different.

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