

Exactly what's behind the calculation of pension scheme liabilities? Chris Wagstaff, Head of Investment Training at Aviva Investors, explains.

You may have recently read that BA's defined benefit pension scheme liabilities at £12.1bn dwarfed its stock market value at the end of last year four times over. Not that BA was alone. For BT, BAE Systems and ICI, amongst others, the picture was similar, if not as dramatic.

Not only have pension scheme liabilities become somewhat unwieldy in both absolute and relative terms but these "technical provisions", to give liabilities their proper name, continue to grow at a rate that substantial additional sponsor contributions and stellar returns from stock and bond markets are struggling to match. Why is this?

Firstly, the calculation of scheme liabilities, unlike that of scheme assets, is extremely subjective as it relies on a whole host of assumptions about the future. Considerations such as how long each scheme member will remain within the scheme, what their expected final salary will be, how wage and price inflation will pan out and, perhaps most importantly of all, what is the likely postretirement life expectancy of the scheme membership, all need to be forecasted decades into the future and incorporated into a single number. Expressed in how much that would be worth in today's money, this means a scheme's assets and liabilities can be compared on an equal footing.

Despite the application of accounting standards FRS17 and its soon-to-be successor, IAS19 – which set the discount rate – to the valuation of assets and liabilities, considerable latitude is applied to the valuation of many of those factors that determine the liabilities, especially wage and price inflation alongside post-retirement life expectancy. Moreover, despite the dramatic impact small differences in these factors can have on the resulting number – a one year increase in longevity is estimated to add about 4% or £12bn to FTSE 100 company scheme liabilities – very few of the assumptions made require mandatory disclosure in the scheme sponsor's financial year end report and accounts.

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In order to express the liabilities number in today's money, the present value of future liabilities is determined by applying an appropriate discount, or interest, rate to the resulting liabilities number that culminates from the many and various cash outflows from the scheme's assets that are expected to arise far into the



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future. For example, the present value of £100 payable in one year's time when the prevailing interest rate is 5%, is £95.24. This is obtained by dividing £100 by 1 plus the interest rate of 5%. The future value of £95.24 invested over one year at 5% is £100. The higher the discount rate, the lower the present value and visa versa.

As scheme liabilities are treated by FRS17 and IAS19 as being bond-like, the discount rate applied is that of a high quality corporate bond yield. In the case of FRS17, this is specified as an AA-rated corporate bond yield. Whether this yield is the appropriate discount rate by which to value liabilities is a highly contentious point, though perhaps not as contentious as the extent to which the discount rate applied varies from scheme to scheme.

As with inflation and longevity assumptions, small differences in the applied discount rate can dramatically alter the liabilities number. For the average pension scheme, whose liabilities have a duration of 18.5 years, and given a AA-rated bond yield of 5%, applying, say, a 6% discount rate, would underestimate the liabilities number by about 20%. A not inconsiderable amount. During 2005, whilst some FTSE 100 scheme sponsors applied discount rates as low as 4%, others adopted rates as high as 5.5%. Although some of this variation in discount rates can be attributed to recent gyrations in the bond markets, which have, in turn, caused considerable volatility in the value of scheme liabilities, it cannot account for all. Moreover, the reported FRS17/IAS19 liabilities number is dwarfed by the much larger buyout number, now disclosed to the scheme membership in the mandatory Summary Funding Statement. Aggressively discounted at the gilt yield less about 0.5%, this represents the value of the scheme's liabilities to a third party insurer looking to assume – buy-out – the risks of running the scheme.

In conclusion, if the published liabilities number is ever to be meaningful, then FRS17/IAS 19 must be revised to reflect a greater realism by ensuring, at the very least, a more consistent approach to the calculation and disclosure of its consistent parts. Nowhere is the imperative greater than forecasting life expectancy. The Pensions Regulator recently estimated that, on average, schemes were underestimating longevity by about two years, with some schemes being as much as nine years out. Failure to address this will not only store up considerable financial trouble for sponsors in the future but will also mean the persistent underestimation of pension scheme liabilities joining death and taxes as one of life's certainties.

The opinions expressed are those of Aviva Investors as at November/December 2006.

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