MACROECONOMICS

Words From the Wise DB Plans Glossary

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This appendix provides some terminology and key concepts as background for the discussion that Martin Leibowitz of Morgan Stanley has with Antti Ilmanen and Rodney N. Sullivan of AQR.

- A U.S. defined-benefit (DB) plan promises defined retirement benefits to the participating employees according to some formula often tied to the salary in the final working years and the number of years. The investment risk and longevity risk is with the sponsor who may need to make additional contributions if initial contributions and investment returns result in underfunding.
- Sponsor firms have increasingly stopped offering DB plans to new employees, instead offering defined-contribution (DC) plans, where the investment and longevity risks belong to the employee. In existing DB plans, some sponsors have frozen the plan (stopping the growth of liabilities with wages), de-risked using liability-driven investing (LDI), and in extreme cases terminated the plan.
- The post-retirement benefits in corporate DB plans are typically defined in nominal terms so the main liability is nominal (for mature or frozen plans) but during the working years the liability is also related to inflation and real wage growth.
- The most important measure of pension liabilities is the projected benefit obligations (PBO), which includes both accumulated obligations and projections related to future wage growth and longevity assumptions. The PBO is present-valued using a discount rate which was traditionally tied to actuarial assumptions on the expected return of assets, but which for single-employer corporate plans became tied to long-dated corporate bond yields since 2006. There are many discount rates used for different purposes: (i) for calculating minimum pension contributions some smoothing is allowed (PPA 2006, MAP-21 2012, HATFA 2014) which has enabled the use of discount rates above market yields and thus lower contributions; (ii) for calculating the value of pension surplus or deficit on the corporate balance sheet, no smoothing has been allowed since accounting changes adopted in 2006 (FASB 158).
- Pension assets reflect the market value of its holdings whose size reflects employer contributions over time as well as investment returns earned on them. The difference between assets and liabilities is called the funded status (surplus or deficit), or if expressed as a ratio of A/L, it is called the funding ratio (FR) — overfunded / fully funded / underfunded if FR is >/=/< 100. If a plan becomes underfunded, the sponsor is required to cover it by making further contributions over a multi-year period. (In extreme cases, if the sponsor is unable to make contributions, the PBGC insurance will help; in exchange, DB plans pay annual insurance fees, partly related to the funded status).
- Asset perspective involves analyzing the expected returns and risks of the asset portfolio without considering liabilities. Equities have higher expected returns and risks than long-term bonds which in turn are riskier than cash. Pension plan sponsors who want to minimize contributions prefer to ‘let the equity premium do the work’ while accepting the resulting volatility in contributions and/or funded status as a reasonable trade-off. This perspective was long supported by the actuarial approach in discounting liabilities with asset returns which supported pension plan’s presumed long investment horizon and ability to look through market fluctuations.
- A-L perspective focuses on the assets-minus-liabilities (A-L) surplus. In surplus management, a liability-matching long-term bond portfolio is deemed the lowest-risk investment (nominal bonds for fixed liabilities; though inflation-linked bonds and even equities have a role in matching real and growing liabilities). This perspective emphasizes funding ratio volatility as a key risk and may link a plan’s risk tolerance to the level of the funding ratio.
- The asset perspective tends to result in equity-dominated portfolios, the pure A-L perspective in bond-dominated portfolios. Put simply, the former is cost-minimizing (lower expected contributions) while the latter is risk-minimizing (lower uncertainty). The former approach was the prevailing U.S. corporate DB practice for long, but the latter (renamed as LDI) has become increasingly popular in the past decade.

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