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# Employers' Accounting for Defined Benefit Plans — Alternatives for Applying Discount Rates in the Measurement of Benefit Cost Under a Bond-Matching Approach

Some companies develop their discount rate assumption for measuring the projected benefit obligation or accumulated projected benefit obligation by using a bond-matching approach (sometimes also referred to as a hypothetical bond portfolio or a bond-model approach). In light of the SEC staff's recent acceptance of the use of a spot rate approach for measuring interest cost by entities that develop their discount rate assumption by using a yield curve approach,<sup>1</sup> entities and actuaries have been exploring whether other acceptable methods similar to the spot rate approach could be developed for entities that use a bond-matching approach to measure their defined benefit obligation.

<sup>1</sup> See Deloitte's [Financial Reporting Alert 15-3](#), *Employers' Accounting for Defined Benefit Plans — Alternatives for Applying Discount Rates to Measure Benefit Cost*, for more information.

In an August 2, 2016, meeting with representatives of the Big Four accounting firms and a large actuarial firm, the SEC staff stated that it objected to a proposed approach to adapting bond matching that would facilitate the use of a spot rate method for measuring interest cost. Under this approach, the implied spot rates at each maturity that are present in the entity-specific hypothetical bond portfolio for the measurement of the interest cost component of net periodic benefit cost would be derived and used in a manner similar to the spot rate approach. This alert provides further background on this topic and describes in greater detail some of the relevant considerations in connection with the proposed approach.

## **Traditional Bond-Matching Approach**

An entity measures its benefit plan obligation (i.e., the PBO for pension plans or accumulated postretirement benefit obligation for other postretirement plans) for a defined benefit plan at the end of each annual period, or more often if a plan remeasurement is required under U.S. GAAP as of an interim date because of a significant event. The benefit obligation represents the actuarial present value of the benefits that employees are entitled to in the future for services already rendered as of the measurement date. Two common methods of determining the discount rate an entity uses to measure the actuarial present value of these future benefits are the yield curve and bond-matching approaches. This alert focuses on a particular application of the bond-matching approach.

The bond-matching approach involves the construction of a hypothetical bond portfolio that will generate cash flows from coupons and principal payments that match the year-by-year projected cash flow requirements of an entity's defined benefit plan. To construct the bond portfolio, an entity uses high-quality corporate bonds that are traded in financial markets and for which pricing information is readily available. Since very few of the bonds that can be selected for inclusion in a hypothetical bond portfolio are zero-coupon bonds, the entity achieves the required cash flow match by combining coupons and maturities that will be generated from the selected bonds. The bond proceeds generally provide a close but not perfect fit to projected benefit plan cash flows. Any excess cash flows generated by the bonds in a given year above that year's projected benefit plan cash flow requirements are assumed to be reinvested at interest rates derived from existing broader market yield curves to meet plan obligations due in later years. The aggregate fair value of the plan-specific hypothetical bond portfolio is the measurement of the related defined benefit obligation as of the measurement date, as described in ASC 715-30-35-44.<sup>2</sup>

Typically, an entity takes that aggregate fair value of the bond portfolio and solves for the single discount rate that, when applied to the same plan-specific projected benefit cash flows, would produce a present value measurement equal to the aggregate fair value of the bond portfolio. The entity then uses this single weighted-average discount rate to measure interest cost on the defined benefit obligation for the subsequent annual period. Under this traditional aggregated approach, the single weighted-average discount rate is used for all calculations of net periodic benefit cost — including the measurement of its service cost and interest cost components.

By comparison, under the yield curve approach to measuring the defined benefit obligation, an entity uses spot rates at all durations (generally up to about 30 years) derived from an acceptable universe of high-quality corporate bonds to directly measure the present value of the benefit obligation. Under a bond-matching approach, an entity measures the benefit obligation by using the fair value of the cash flow matched hypothetical bond portfolio rather than performing a direct present value measurement of the projected benefit cash flows by using acceptable discount rate(s). Thus, the bond-matching method does not provide

<sup>2</sup> FASB Accounting Standards Codification Topic 715, *Compensation — Retirement Benefits*.

observable spot interest rates across the spectrum of maturities of the projected benefit plan cash flows that would allow an entity to measure interest cost in a manner similar to that used under the yield curve-based spot rate approach.

## Proposed Spot Rate Approach for Bond Matching

The objective of the application of the proposed bond-matching approach was to derive an implied yield curve from the bonds that constitute the hypothetical bond portfolio, which would overcome the challenge under bond matching of unobservable spot rates across the spectrum of cash flow maturities. Under the proposal, an entity would then be able to use the spot rates from this derived yield curve to measure the interest cost and service cost components of net periodic benefit cost. The proposed change in approach would not alter the measurement of the related benefit obligation as of the reporting date because the present value measurement of the projected benefit payments under the set of derived spot rates would still be equal to the fair value of the bond portfolio.

## SEC Staff Response

At the August meeting, the SEC staff said that it would object to the use of the proposed application of the bond-matching approach in the measurement of interest cost on the benefit obligation. The following factors contributed to the SEC staff's conclusion:

- The measurement of the defined benefit obligation and the measurement of interest cost are integrated concepts under ASC 715, and the measurement of the defined benefit obligation is the relevant starting point for application of the pension accounting model. Bond matching measures the defined benefit obligation on the basis of the sum of the fair values of the selected bonds. The proposed approach results in a disaggregation of the bond portfolio cash flows (coupons and principal payments) into year-by-year cash flow maturities and derives a yield curve of spot interest rates (reflective of the pricing of the cash flows at each maturity) from that bond portfolio. Such spot rates and related pricing of the cash flows are not directly observable in the market but are mathematically derived from the hypothetical bond portfolio through generally accepted yield curve construction techniques employed by actuaries. The staff's overall concern is that using such derived spot rates to measure interest cost on the defined benefit obligation could not be demonstrated, at each maturity, to be based on the same rates inherent in the measurement of the defined benefit obligation under the bond-matching approach (i.e., the spot rates inherent in the bond portfolio are not observable). Therefore, the proposed approach would fail to comply with ASC 715-30-35-8, which requires entities to use the same interest rates to measure the defined benefit obligation and interest cost.
- The staff also expressed concern that the derived spot rates in the proposed approach would be inconsistent with the reinvestment-rate assumption used in the cash flow matching process that is part of building the cash flow matched hypothetical bond portfolio used to measure the defined benefit obligation under a bond-matching approach. Generally, the reinvestment rates used for the excess cash flows are either (1) based on an average return on high-quality bonds of comparable duration or (2) determined from a yield curve based on a broad universe of high-quality corporate bonds. Accordingly, such reinvestment rates would not be the same as the derived spot rates under the proposed approach.

The SEC staff's objection to the use of the proposed application of the bond-matching approach may raise a concern for some registrants about the comparability of interest cost measurements for (1) reporting entities that use a bond-matching approach and a single weighted-average interest rate to measure interest cost and (2) those that use a yield curve approach and thus are able to employ the recently accepted spot rate approach when calculating the components of the net periodic benefit cost (i.e., service cost and interest cost). In response to this concern, the SEC staff stated that a registrant's critical accounting policy

disclosures should include a description of the entity's method for calculating the projected benefit obligation, discount rate, interest cost, and service cost to give investors a better understanding of the entity's approach to dealing with this topic.

## Change in Approach to Determining Discount Rates

Entities that use a bond-matching approach to the selection of discount rates and are considering changing to a yield curve approach should refer to [Financial Reporting Alert 15-3](#), which we published last year on this topic. In recent discussions with the SEC staff, we also confirmed that the staff has not changed the views expressed in its [remarks](#) at the 2015 AICPA Conference on Current SEC and PCAOB Developments. At the conference, the SEC staff made some observations about an entity's change from a bond-matching approach to a yield curve approach and simultaneously adopting the spot rate approach to measure interest cost. While the staff does not have a formal view on such changes, we understand that it would consider their acceptability on the basis of an individual registrant's specific facts and circumstances. The staff provided the following considerations for registrants contemplating a change from a bond-matching approach to a yield curve approach:

- Although the use of discount rates to measure the present value of the benefit obligation and the determination of interest cost are integrated concepts under ASC 715, the measurement of the benefit obligation is the starting point for application of the pension accounting model.
- An entity should evaluate its current approach to selecting discount rates for measuring the benefit obligation and should change its method only if (1) its facts and circumstances have changed and (2) another approach would result in better measurement information. The decision to select or change an approach to selecting discount rates should be consistent with the objective described in ASC 715 of making a best estimate of the rate at which the benefit obligation could be effectively settled.
- The rationale for a change in the approach to selecting discount rates should not be based on materiality.
- An entity should consider its prior rationale for choosing or changing to a bond-matching approach and why that was deemed a best estimate.
- A change in the approach to selecting discount rates for measuring interest cost (i.e., from the single weighted-average approach to the spot rate approach) would not be considered a sufficient change in facts and circumstances on its own to justify a switch in approach to selecting discount rates for measuring the benefit obligation.

In light of the above considerations and in the absence of other entity-specific changes in facts and circumstances, we believe that it could be challenging to justify or support a change from the bond-matching approach to the yield curve approach. We also believe that the above considerations would apply to a nonpublic entity. Historically, entities have generally made the switch only from a yield curve approach to a bond-matching approach, which suggests that of the two methods, the bond-matching approach results in a better estimate. This historical practice, along with the SEC staff's position that the acceptability of the spot rate approach would not by itself be a change in facts and circumstances that justifies a change in approach to selecting discount rates, reduces the likelihood that switching from a bond-matching approach to a yield curve approach would be considered a better estimate in accordance with the best-estimate objective of ASC 715. However, if an SEC registrant believes that its facts and circumstances would support a switch from the bond-matching approach to the yield curve approach, it should consider submitting a preclearance request to the SEC staff to confirm that the staff will not object.

## Next Steps

Entities considering changes to their determination of discount rates and measurement of the service cost and interest cost components of net periodic benefit cost should consult with their actuaries and independent accountants regarding the application of the views discussed in this alert to their specific facts and circumstances.

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