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Measuring Fair Value for Participation Units of Stable Value Pooled Funds

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Introduction

S table Value Pooled Funds are a popular vehicle, particularly for smaller plans to add the benefits of stable value to a defined-contribution benefits plan. However, some defined-benefit plans also use stable value pooled funds for asset allocation purposes.

Measuring the "fair value" of units of participation in a stable value-pooled fund is necessary for a variety or purposes. The valuation of units of a pooled fund held by defined-benefit plans is governed by FAS 110, and the units must be valued at "fair value."[1] For purposes of determining the performance of managers of pooled funds according to the standards endorsed by the Stable Value Investment Association, it is necessary to establish the "fair value" of the units.

In this article, I conclude that the readily available and convenient answer to the question of fair value is also theoretically the soundest—the best estimate of fair value is book value.

Characteristics of a Stable Value-Pooled Fund

Stable value-pooled funds are bank-maintained common funds, exempt from registration under both the Securities and Exchange Act and the Investment Company Act, which are tax exempt by complying with Revenue Ruling 81-100. This organizational framework allows a stable-value pooled fund to accept deposits from an unlimited number of plans qualified under ERISA. All transactions of a pooled fund are in cash. While some pooled funds may provide for in-kind distributions, it is generally not feasible to pay out a departing plan with an in-kind transfer of a piece of each asset of the plan.[2] Each plan is generally a small proportion of the pool and transaction costs and the impossibility of division of assets like GICs make in-kind transfers essentially impossible.

As with separate account stable value funds, pooled funds must make cash available to honor participant transactions permitted by the investing plans on a daily basis at book value.[3] However, quite unlike separate account stable-value funds, the need to preserve the value of a participant's account on transfer of a plan to a new funding vehicle means that when the plan is paid out, the plan must receive also receive book value

in cash. Therefore, all pooled fund transactions take place in cash at book value.

The Risk of Disintermediation

Stable value as an investment vehicle is made possible by guarantee contracts "wraps" which assure that funds will also be available to make all payments required by contract to be made at book value.[4] The primary risk to the issuer of the guarantee contract is the disintermediation risk. When rising interest rates depress the market value of assets underlying a stable value fund below their book value and enable money-market plans to offer higher rates, massive transfers to money-market funds could force issuers to advance funds to honor their guarantees.

Stable value-pooled funds protect themselves against the risk of disintermediation at the level of participants in the investing plans the same way separate account stable value funds generally do. The pooled fund Trust Indenture would normally restrict participation to plans either without other short duration fixed income funds or that impose a 90-day "equity wash" on transfers from the stable value option.

Stable value separate-account funds protect against "investor" (plan) level disintermediation by in-kind transfers. The book and market values of the account are both transferred to a successor manager. Of course, if the transfer is to any option other than another stable value fund, only the market value of the assets is relevant.

Since the operational realities of a pooled fund require a transfer in cash at book, the pooled fund must

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1) See PAUL J. DONAHUE, *What AICPA SOP 94-4 Hath Wrought: The Demand Characteristics, Accounting Foundation and Management of Stable Value Funds*, 16:1 BENEFITS QUARTERLY 44:46-47 (First Quarter, 2000), and accompanying notes.

2) Some Stable Value pooled funds retain the theoretical right in the governing Trust Indenture to pay out plans in-kind, but the practical difficulties make this a right that would in practice be impossible to exercise.

3) This protects the pooled fund from the disintermediation risk, *see below*, at the level of participant activity.

4) See PAUL J. DONAHUE, *The Stable Value Wrap: Insurance Contract or Derivative? Experience Rated or Not?* 37 RISKS AND REWARDS 18 (Investment Section of the Society of Actuaries, July, 2001)

adopt some alternate mechanism to protect the fund against the risk of adverse selection by plans. The usual way pooled funds guard against plan-level disintermediation is for the pooled fund to reserve the right to delay the redemption of units put by a plan back to the pooled fund by up to 12 months.

Measuring Fair Value

What is the fair value of units with these characteristics on a given valuation date? There is no market for the units of the pooled fund other than the fund, so the most straightforward measure of fair value—a market price—is not available. FASB Statement 140, *Accounting for Transfers and Servicing of Financial Assets and Extinguishments of Liabilities*, states:

> If quoted market prices are not available, the estimate of fair value shall be based on the best information available in the circumstance. The estimate of fair value shall consider prices for similar assets and liabilities and the results of valuation techniques to the extent available in the circumstances. Examples of valuation techniques include the present value of estimated future cash flows, option-pricing models, matrix pricing, option-adjusted spread models, and fundamental analysis. . . .

> Estimates of expected future cash flows, if used to estimate fair value, shall be based on reasonable and supportable assumptions and projections.[5]

Actuarial valuation is specifically cited as an example of what FASB intends to move toward with the Concepts Statement 7, *Using Cash Flow Information and Present Value in Accounting Measurements*.[6]

In the analysis below, I set out a generalized estimate for the fair value of units of a stable value-pooled fund that fully complies with the requirements as set out by FASB.

Valuation Using Expected Cash Flows

As soon as we attempt to formulate the possible patterns for redemption of the units of a stable value-pooled fund, we begin to see how complex our valuation problem is. Consider first of all that the defined benefit plan (DB) is required to report its units at fair value. A DB plan could justify considering annuity payments from the fund, or participant cash-outs, as "participant-initiated benefits." However, pooled-fund rules would only allow the plan to redeem the proportion of its units of the pooled fund that the pooled fund was to assets of the entire plan, likely to be a small percentage. As a practical matter, DB plans do not draw on pooled-fund units for participant activity, and the valuation question simplifies to the plan exercise of its redemption of its units, or its exercise of the "put" right.

For the defined contribution plans (DC), which more commonly invest in Stable Value pooled funds, the units currently owned beneficially by participants need not be redeemed until the last surviving participant has died, which could be 70 years or more in the future.

There are really only two plausible candidates for the value of the units of the stable value-pooled fund—the market value of the assets other than wraps underlying the fund, or the book value. This article limits by hypothesis the selection of a fair value to one or the other of these two values.

There are three "states" relevant to valuation, and two lengths of time. A plan has either already put its units to the stable value-pooled fund, or has determined a date at which it will put its units to the pooled fund, or has no firm plan to put its units to the pooled fund. There are two significant time intervals, the one-year put period and the duration of the portfolio of assets other than wraps. Let us consider the significance of the duration of the portfolio first.

Duration

In an internal study, *Stable Value Product Volatility—A Simplified Model*, Miloje S. Makivic[7] of INVESCO's Quantitative Analysis unit used a simplified model of interest rate dynamics, market portfolio, account crediting rules and Monte Carlo simulation to compute ratios of standard deviations of the market and book-value accounts. The particular result of that study important for our purposes here is that beyond the duration of the portfolio, the expected value of the market and book value accounts converges. If we restrict our solution set for the fair value of units of a pooled fund to the interval bounded by the fair value of the assets other than wraps in the underlying portfolio and the book value of the units, the expected value converges to future book value at all points beyond the duration. Further, beyond the duration, total return on the market portfolio will have

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5) Quoted in *Measuring Fair Value*, JOHN M. FOSTER AND WAYNE S. UPTON, 3:1 UNDERSTANDING THE ISSUES 1:4-5 (Financial Accounting Standards Board, June, 2001).

6) EDWARD W. TROTT AND WAYNE S. UPTON, 1:1 UNDERSTANDING THE ISSUES 1:2 (Financial Accounting Standards Board, May, 2001).

7) Mr. Makivic, CFA, received his Ph.D. in physics from the California Institute of Technology.

converged with credited return on the book value account. It is therefore appropriate to consider the present value of all cash flows resulting from the redemption of a unit occurring beyond the duration of the portfolio as the current book value of the unit.[8]

Put Period

The plan has a right to receive book value for the units in no more than 12 months, and in fewer than 12 months if the units have already been put to the fund. Let us assume the plan has put the units and that the plan has the right to receive book value in no more than x days. The plan will receive book value on some day α, $0 \le \alpha \le x$. The value of α is uncertain, and depends on what the investment manager of the pooled fund believes is in the best interests of the remaining pool participants. The exact value of α will never be information available to the person performing the valuation.

In general, when the market value of the assets underlying the wraps in a pooled fund exceeds the book value, the investment manager will pay out funds immediately. However, even in this situation, the manager will sometimes delay this for purposes of managing the liquidity of the fund.

Conversely, when the market value of the assets is less than the book value, the investment manager will generally delay payment until adjustments to the crediting rate have narrowed the gap. However, there may be times when the fund has excess liquidity and the investment manager chooses to pay out the departing plan.

If we knew day α with certainty, the value today of a book value payment to be received on day α would be the book value today accumulated at the crediting rate for each day between today and day α discounted back to today by today's rate on the appropriate credit/yield curve.

Consider the following simple crediting rate formula, widely used.

Portfolio yield = Y
Market yield = R_0
Duration = D
Crediting rate = $R_0 + (Y - R_0)/D$

The purpose of this formula is to amortize any difference between book and market over the duration of the underlying portfolio. For any value of a less than D, there will still be a difference of the same sign between the book value and the market value on the date the payment will be made. The discounted value of the book value payout must be closer to the current book value than to the current market value, since if m > n, then $m \cdot v^a > n \cdot v^a$.

The result of this calculation will generally be that the calculated value exceeds book value, though not in periods of interest rate inversion, since the crediting rate will generally exceed the discount rate.

However, α is not known, and even if it were, the value of the crediting rate over the period from now to α is not known. Based on the actual experience of pooled funds, in general, the value of a will be less than three months. Clearly, the shorter the time until the investment manager will pay out the fund, the smaller the difference between current book value and the discounted future book value due to the difference between crediting rate and discount rate.

However, we have not yet reached the final step. The calculated value must be reduced to account for the uncertainty of the date of its receipt, a "liquidity adjustment," if you will. The amount of this adjustment would also be subjective and uncertain. It could easily offset any excess generated by the difference between the crediting rate and the discount rate.

When the plan has not yet put the units, but has a plan to put the units, the time frame of the analysis above is extended. However, as the point for redemption of the units approaches the duration of the portfolio, the difference between the crediting rate and the appropriate discount rate will diminish in all but the most extraordinary interest rate environments, and the difference between current book and discounted future book will not grow meaningfully larger than in the illustration above. As above, the only plausible estimate of fair value is book value when taking uncertainty into account.

Conclusion

What is the conclusion to which this analysis leads? The only sensible, practicable estimate for the fair value of the units of a pooled fund is that fair value equals book value!

This analysis confirms the appropriateness of the actual treatment by DB plans of units of stable value-pooled funds. These plans have universally reported the fair value of their holdings, as required by FAS 110, as equal to book value. Our analysis confirms the soundness of their judgment. 🔔

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8) Of course, I could as accurately have said "market value" for the period beyond the duration, since the expected values are equal.

9) A fund manager could not consistent with the manager's fiduciary duty under ERISA to all pooled fund participants make a commitment to pay out a sum on a particular date. On that date, if the notice period had not expired, and a payout was not in the interests of continuing pooled fund participants, the manager could not honor any such commitment imprudently made.

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