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BE KIND TO YOUR RETIREMENT DECUMULATION PLAN—GIVE IT A BENCHMARK

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Target-date funds have become one of the most popular vehicles, if not the single dominant one, for individual investing. But we've barely begun to apply institutional-quality technology to benchmarking these funds, measuring their performance, and otherwise treating them as we would any other investment. What problems are caused by this lack of attention and how can the problems be fixed?

In the crash year of 2008, for example, a sample of six funds with the "target 2015" label, intended for people retiring in about seven years, had returns ranging from -43 percent to -8 percent. Is this good or bad? One cannot tell without a benchmark. We constructed a simple, 35/65 U.S. equity-bond benchmark and found that the 2008 benchmark return was -9.54 percent, so the range of actual returns was terrible, with the exception of the fund that returned -8 percent. Such low returns could only have been earned with heavy equity exposures that are likely to be inappropriate for many investors at an age near retirement. Fiduciaries, investors, and others concerned with the investment process need to have access to benchmarks and benchmark returns so they can make informed decisions.

The principle that good investing requires benchmarks can be applied to retirement decumulation portfolios. These portfolios are unlike accumulation portfolios in several important ways. This essay focuses on the importance of benchmarks and benchmarking in the decumulation phase of lifecycle investing.

AN INSTITUTIONAL-CLASS SOLUTION

When an actuarial firm takes on an institutional mandate, its first task is to determine the schedule of retirement-income promises made to the employees by the company (or by a government or industry scheme). The objective is to fund this schedule by managing the assets matched to it. The liability schedule itself forms a benchmark, in the sense that the return on the liability can be calculated using market

interest rates and other data, and the return on assets held for the purpose of paying the liability can be compared to this benchmark return.

If this is such a good idea—and we believe that it is—why don't we do something similar for individuals in the decumulation or post-retirement spending-down phase of life?

Individuals also have a liability schedule—their retirement income goal, or planned spending. Many of the characteristics of this liability schedule are common to all of us in the decumulation phase: we all need income, we all gain from longevity pooling, we all need inflation protection, and almost all of us put a high value on liquidity. A retirement decumulation strategy is highly desirable if it accomplishes all these things. Since the purpose of a benchmark is to capture the overall goals and characteristics of an investment strategy while avoiding active bets and other difficult decisions, we can ask: what is the appropriate benchmark that does all these things? And after deciding on a benchmark, we have additional questions: Can we invest directly in the benchmark, in an approach akin to indexing? Can investors beat the benchmark?

INTRODUCING THE DCDB™ BENCHMARK

In general, finance provides a rich theoretical basis for deciding what the benchmark should be in most situations. The most common example is a U.S. equity portfolio. As we noted earlier, the natural benchmark for such a portfolio is a capitalization-weighted combination of all of the liquid, publicly traded stocks in the U.S. market, because such a benchmark is (1) macroconsistent (everyone could hold it if they chose to); (2) self-rebalancing, so that there are no transaction costs caused by ordinary price changes, only by index reconstitution; and (3) mean-variance efficient according to the capital asset pricing model. A cap-weighted benchmark is also risk-minimizing in the sense of having no alpha risk (that is, no risk other than that presented by the asset class itself).

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There is, however, no theory saying what the benchmark should be for a given client in decumulation. Or it might be more accurate to say that we're still debating what the right theory is. A conversation on this topic could easily migrate among the following benchmark concepts:

- LDI—liability-driven investing is, choosing assets to match the cash flows in the liability;
- A conventional asset-class portfolio benchmark, of which 60/40 (equities/bonds) is the simplest example;
- 100 percent in U.S. Treasury inflation-protected securities (TIPS);
- A benchmark based on nominal or real annuity payouts; and
- One of the several benchmarks for target-date funds, as discussed above.

The benchmark for decumulation should be the benchmark that minimizes the four dominant decumulation risks: longevity, investment (including inflation), counterparty, and liquidity. It should also be an executable and index-

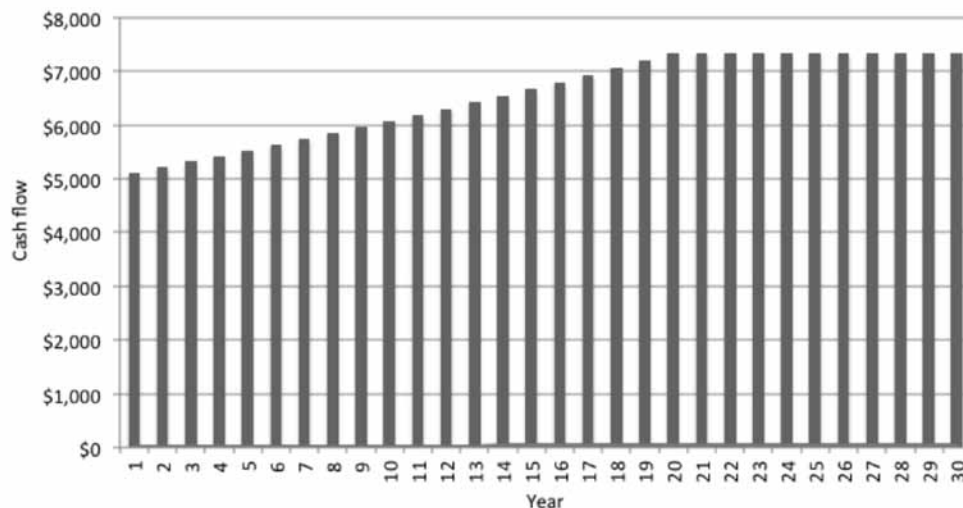
able portfolio. One benchmark that does this is the DCDB benchmark, described below.

First introduced by three of us (Sexauer, Peskin and Cassidy), in a January/February 2012 *Financial Analysts Journal* article titled, "Making Retirement Income Last a Lifetime," this benchmark consists of only two assets:

1. A self-liquidating, laddered portfolio of TIPS with maturities up to 20 years, providing retirement income from ages 65 to 85; and
2. A deferred, inflation-adjusted (real) life annuity, with payments starting at age 85, and scaled so that the first deferred annuity payment is expected to be the same, in real terms, as the last cash flow from the TIPS portfolio.

(These ages are only examples. A benchmark can be constructed along these principles for any retirement age and any annuity deferral period. Thus, this benchmark is properly viewed as a family of benchmarks, one for each retirement age, gender, and so forth.)

Exhibit 1
Expected annual cash flows per \$100,000 invested in DCDB benchmark portfolio



Because of the long wait to receive the deferred annuity payments, and because mortality after age 85 is high, the cost of the deferred annuity is surprisingly small, leaving most of the portfolio in liquid TIPS. For a 65-year-old male in the United States in 2010, the portfolio weights were 88 percent in the laddered TIPS portfolio and 12 percent in the deferred annuity at the time the strategy is initiated (that is, at age 65).

Exhibit 1 illustrates the year-by-year income (cash flow to the investor) generated by the DCDB benchmark portfolio, per \$100,000 invested. The first 20 years' cash flows grow with the inflation rate. Starting in year 21, there are no more inflation adjustments. (The DCDB design does not include inflation-indexed deferred annuities because they are not currently available; insurance companies cannot defease the risk of issuing them because the TIPS market has no depth beyond 20 years, the same reason we cannot hedge inflation risk after the 20th year directly.)

We call the family of benchmarks that use this structure "DCDB," for "defined-contribution decumulation benchmark," but the acronym is also supposed to connote "DC to DB," defined-contribution to defined-benefit, reflecting our conviction that a well-engineered DC plan should be experienced by the participant much like a DB plan, providing predictable retirement income and having very little risk.

This benchmark has minimal risk. It provides inflation protection through age 85, does not contain any equity risk or fixed income duration-mismatch risk, and only the deferred-annuity cash flows starting at age 85 have any credit risk. To further reduce inflation risk would require annuitizing the whole investment balance in a real (inflating) life annuity, but this would expose the whole portfolio, instead of just 12 percent of it, to credit risk, and would be unacceptable to most investors because of the liquidity loss.

USES OF THE DCDB BENCHMARK

By purchasing the laddered portfolio of TIPS and the deferred life annuity, investors can invest directly in the benchmark, akin to indexing. We are aware that counterparty or credit risk in the deferred annuity component is a problem. Some investors simply will not pursue the strategy because of this risk, which cannot be eliminated by diversifying among annuity issuers because defaults are correlated. However, the gains from longevity risk pooling are so large, comprising about one-third of one's whole retirement assets according to some estimates we believe investors are foolhardy not to invest at least a modest amount in annuity-based products.

Alternatively, investors can try to beat the benchmark. Many of the millions of retirees may find greater utility in a different portfolio, say, one that contains equities or one that contains income guarantees. But these investors need a way of measuring the success of their portfolio, and the DCDB benchmark provides such a way, by revealing the cash flows that can be generated each year per \$100,000 invested, without taking any equity risk and while also taking advantage of longevity risk pooling from age 85 onward (which are the years when the pooling has the largest payoff).

Investors hunger for a way to hedge longevity risk, but with traditional immediate annuities they cannot do so without sacrificing the liquidity and flexibility that they prize. This is why immediate annuities are so unpopular. The DCDB benchmark combines the best aspects of traditional low-risk investing and insurance.

SUMMARY

It is the responsibility of plan sponsors to choose an appropriate glidepath and risk profile for their plan participants,

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and also to choose the associated benchmark that represents the overall goals of the investment strategy being pursued.

Plan sponsors, consultants, advisors, and participants can use a benchmark to define, evaluate, and judge QDIA target-date portfolios. By doing so, they will know why a particular glidepath was chosen, and what its attendant risks are. They will have access to the relevant risk and return performance metrics. As now required by the U.S.

Department of Labor, they will know how much retirement income their target-date portfolio can generate.

Until now, decumulation investors have been flying blind, having no benchmark with which to judge their progress. The DCDB benchmark can be used for this purpose.

Be kind to your retirement decumulation plan. Give it a benchmark. **5**



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