Making DC more like DB

A position paper by Matthew Glaser, chief of investment strategies and executive managing director

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Our position in brief

As a result of the shocking losses experienced by Defined Contribution plan participants in 2008, we believe plan sponsors will begin to more fully embrace the principles of Modern Portfolio Theory by becoming more broadly diversified. In short, we envision over time many DC plans and target-date funds will attempt to asset allocate more like large Defined Benefit plans. In addition, it is our view that liquid alternative investments will serve as the key diversifying element in the next generation of DC plans.

"I was at the stage where I had to pick a dissertation topic. So I went to my advisor, Professor Jacob Marschak. He was busy when I got there, so I waited in his ante room. There was another fellow in the ante room who turned out to be a broker waiting for Marschak. We chatted while we were there, and he suggested that I should maybe do a dissertation on the stock market. So I went in…Some biographer of mine said this was the best advice a stockbroker has ever given. And I agree."

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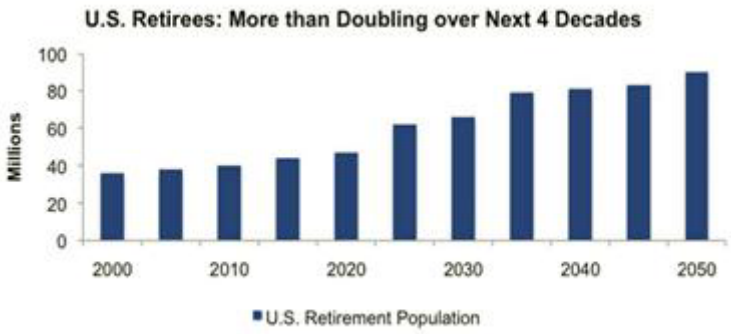
So said Nobel Prize Laureate Harry M. Markowitz in an interview describing how, as a graduate student at the University of Chicago, he settled on a dissertation topic that would forever change the world of investing. An article from his dissertation would be published in the *Journal of Finance* in 1952 titled "Portfolio Selection," introducing what is now known as Modern Portfolio Theory.[1]

Briefly stated, Modern Portfolio Theory contends that an investor can maximize a portfolio's expected return for a given amount of risk by carefully selecting the proportions of various assets. In other words, assets should be selected based on how they interact with one another rather than on how they perform in isolation, and investors can reduce risk for an expected level of return by constructing a diversified portfolio.[2] "A good portfolio is more than a long list of good stocks and bonds. It is a balanced whole, providing the investor with protections and opportunities with respect to a wide range of contingencies," Markowitz wrote in his 1959 book *Portfolio Selection: Efficient Diversification of Investments*.

Though the recent financial crisis spawned a group of naysayers (as correlations of various asset classes approached one), the tenets of Modern Portfolio Theory are still closely adhered to by most large, sophisticated institutional investors. Over time, a widely diversified asset allocation approach, though still possessing substantial risks, is positioned to reduce volatility and offer better risk-adjusted returns than a concentrated portfolio. Unfortunately, the old adage of "don't put your eggs in one basket" does not fully apply to the retirement accounts of millions of Americans.

The current retirement landscape

A tidal wave of an aging population is approaching. Much has been written about the demographic tsunami that awaits the United States (as well as other developed nations) as baby boomers approach retirement. With the oldest baby boomers turning 65 next year, the population of retired Americans is expected to balloon in the coming decades:

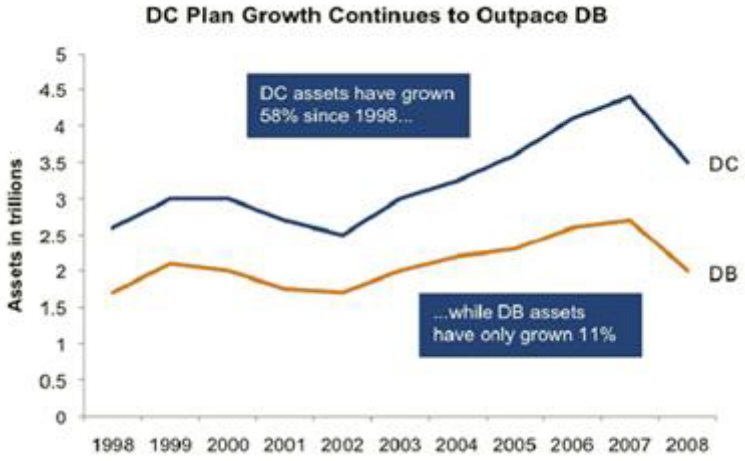


Source: U.S. Census Bureau and UBS

More retirees mean more retirement assets. A recent report by Goldman Sachs suggests that retirement assets will increase by 40% over the next four years from $14 trillion to over $20 trillion.[3] In the aftermath of the financial crisis, given such growth projections, one critically important question looms for plan sponsors and their consultants: how will the retirement assets of millions of Americans be managed in the next several years?

DC plans and the growing importance of target-date funds

Increasingly, Americans are being called upon to self-fund their retirements. In the early 1990s, assets in Defined Contribution (DC) plans started to exceed those in Defined Benefit (DB) plans, and by the end of last year, DB assets under management were $2.1 trillion, compared to DC assets of $4.1 trillion.[4] The current funding challenges facing the private and public sectors in the United States suggest that DC plans will continue to grow at the expense of DB plans for the foreseeable future:



Source: Investment Company Institute and Goldman Sachs Research

Leadership companies are driving the growth of DC plans at the expense of DB plans. One recent example of this trend is Caterpillar Inc., the world's largest construction and mining equipment company, which announced that it will move more than half of its 50,000 U.S. employees from DB plans to 401(k) accounts. Bridget Young, a spokeswoman for the company, told Bloomberg News that they were making this transition "in light of a continued trend among large companies to migrate from defined benefit plans to defined contribution plans as their predominant retirement income benefit and to strengthen Caterpillar's competitive position."[5]

Within DC plans, target-date funds are playing an increasingly important role and, for a variety of reasons, this role is expected to further expand. Target-date funds are meant to be a "one-stop investment vehicle" for retirement savers who prefer not to research or monitor their investments. They typically invest according to a "glide path" by shifting assets into what are viewed to be more conservative vehicles (i.e., bond funds) as an investor nears retirement.[6]

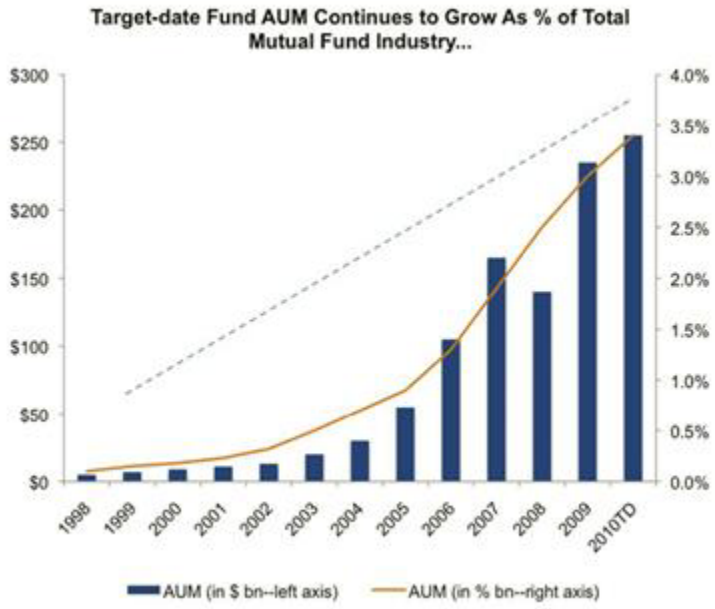
In 2006, the federal government helped accelerate what was already the extraordinary growth of target-date funds with the passage of the Pension Protection Act, which sanctioned automatic enrollment for DC plans. Shortly after in 2007, the Labor Department approved target-date funds as a default option for company retirement plans, making them a so-called Qualified Default Investment Alternative (QDIA) designed to protect employers from lawsuits when investing an employee's contributions in a target-date fund when that employee has not made an investment decision.[7]

The importance of target-date funds attaining "default option status" cannot be minimized. According to *The New York Times*, target-date funds became blessed by Washington "as a way to put your 401(k) on automatic pilot and glide safely toward retirement." Richard Thaler, a professor of behavioral science and economics at the University of Chicago, who has studied human behavior with regard to employer-sponsored plans such as 401(k)s, concluded years ago that "a default fund must be devised carefully because human nature dictates that a large portion of investors' money will go there."[8]

A November 2009 study notes that as a result of the QDIA designation, target-date funds benefit from a "privileged position, often automatically benefiting from contributions made by employees in a defined contribution plan." The study suggests that target-date funds "are becoming the core, if not the sole, product of interest within defined contribution plans."[9] According to a survey of more than 1,500 companies by Mercer, a global consulting firm, 70% of U.S. employers use target-date funds as their default investment. As the table below highlights, by December 2018, target-date funds alone may represent nearly half the assets in defined contribution plans.[10]

Source: Casey Quirk Analysis

As of May 2010, target-date funds had accumulated $259 billion in total assets, a 41% cumulative annual growth rate since they were initially introduced in the late 1990s, and new net flows remained positive through the downturn.[11] As shown in the following chart, the importance of target-date funds within the mutual fund industry as a whole continues to grow unabated:



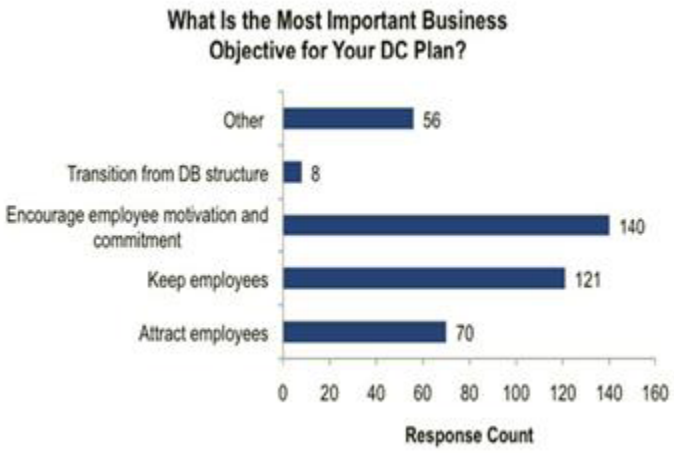
Source: Goldman Sachs Research

2008 -- the catalyst for change

The rapid growth of target-date funds is occurring despite a wave of controversy and scrutiny. Investors are well aware that the S&P 500 was down roughly 38% in 2008, but the more alarming fact is that the average target-date fund lost 32% of its value in 2008 while some funds labeled “Retirement 2010” lost as much as 41% that year. Among 31 funds targeted at a 2010 retirement, the average loss in 2008 amounted to nearly 25%, according to figures cited by Securities and Exchange Chairperson Mary L. Schapiro.[12]

Needless to say, plan participants were shocked by the losses. A February 2009 report issued by the Senate Special Committee on Aging concluded that many 2010 target-date funds held 50% or more of their assets in equities -- just two years before investors would have needed the money in retirement. Along these lines, a review of 2010 target-date funds showed that equity allocations as of late 2009 varied from 21% to 79%.[13] Many funds still rely exclusively on long-only equity strategies for their non-fixed income exposure, and several target-date funds, some would argue, continue to be too heavily weighted to equities.

At their core, DC plans should be designed to attempt to provide participants with the opportunity for a secure retirement. In addition, many corporate management teams and plan sponsors view their DC plans as a critical component in maintaining positive staff morale. According to an April 2009 survey by the Profit Sharing/401k Council of America, a DC plan is perceived to be a way to motivate, attract, and retain employees:



Source: Profit Sharing/401k Council of America

To the extent DC plans and their target-date funds' default options lead to huge drawdowns because of a lack of diversification and over-allocations to long-only equity strategies, a plan may be structured in a way that leads to unintended consequences. Instead of encouraging employee motivation and commitment, extreme levels of negative DC plan performance can adversely impact staff morale and productivity.

As we've highlighted in the past (see *The case for long/short equity strategies*, 12/2009), huge drawdowns matter and they can have a lasting impact on 401(k) accounts:

If you lose this amount in one year...	You'll have to make this much the next year (after fees) to get back to even...	Or you'll have to make 10% annually (after fees) for this number of years
-10%	11.1%	1.1 yrs
-20	25.0	2.3
-30	42.9	3.7
-40	66.7	5.4
-50	100.0	7.3
-60	150.0	9.6
-70	233.3	12.6
-80	400.0	16.9
-90	900.0	24.2

Hypothetical example for illustrative purposes only.

A silver lining from the 2008 performance debacle is that more transparency is on the way. In June 2010 the Securities and Exchange Commission voted 5-0 in favor of proposing new rules related to disclosures for target-date funds. One of the proposed rules would require a fund that has a "target date" in the name to disclose immediately, next to the first use of its name in marketing materials, the fund's asset allocation at the target date. Other rules would require more disclosure in marketing materials regarding the fund's glide path and asset

allocation approach. The SEC has recently been taking comments on its proposal and new rules are expected in the coming months.[14]

New disclosure and marketing rules that the SEC will likely mandate should be a positive development for plan sponsors and investors. SEC Chairperson Schapiro said the agency will "confront the issue of the potential for target-date funds' names to confuse investors, or lull them into a false sense of security."[15]

Another positive outcome from 2008 is the potential for DC plans to adopt more of the principles of Modern Portfolio Theory by becoming more diversified. In short, we think that over time many DC plans and target-date funds will attempt to allocate assets more like large DB plans.

A comparison of two large plans

In the hypothetical illustration below, we examine a very large DB plan's current asset allocation (as of August 31, 2010) alongside one of the largest 2020 target-date funds in the United States (representing a large DC plan). We use passive indices to represent various asset classes:

Hypothetical example for illustrative purposes only. Returns are gross of fees -- the deduction of fees will lower actual returns. Past performance is no guarantee of future results.

As the chart illustrates, the current fixed-income and short-term reserves allocations are almost identical: 35% for the DB plan and 32% for the target-date fund in the DC plan. Importantly, diversification has been called "the only free lunch" in investing, and the DB plan employs a more diversified approach in investing the non-fixed-income assets. The DC plan simply invests the non-fixed-income assets in long-only equity strategies in the United States, Europe, Asia, and emerging markets. The DB plan invests the non-fixed-income assets in long-only equities globally as well; however, the DB plan's assets are also invested in TIPs, hedge funds, commodities, and REITs in a clear attempt to diversify and thus improve the risk/return profile of the portfolio.

It should be noted that the DB plan has exposure to certain illiquid assets (i.e., private equity) that would be difficult for the DC plan to replicate, but such exposure represents a relatively small portion of the total asset allocation mix. Overall, the DB plan is constructed in a way that attempts to reduce portfolio risk by holding combinations of investments that may not have perfect correlations. In our hypothetical example, the DB plan generated superior returns over the last decade and did so with less volatility.

Performance disparity: DB plans outperform DC plans

Our hypothetical example appears to be playing out in the real world as different asset allocation approaches have generally led to different outcomes. Several studies have been written about the relative outperformance of DB plans over DC plans over various time horizons. A recent article in *Institutional Investor News* highlights the

fact that "defined contribution plans are lagging behind defined benefit plans when it comes to returns, and big defined contribution players see using more institutional strategies as a way to close the return gap."[16]

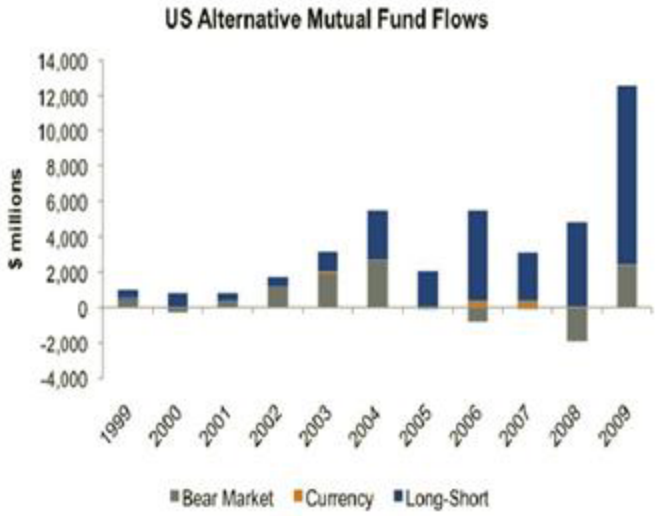
The consulting firm Towers Watson has been comparing the returns in DB and DC plans for many years. Focusing on 2007 and 2008, the firm's analysis, based on a survey of 79 employers that sponsor one DB plan and one 401(k) plan, revealed that DB plans clearly outperformed in the bear market -- with larger plans showing the most outperformance. In more favorable market environments, such as the 1995-1999 period, 401(k) accounts had larger equity allocations than most DB plans, so they generally performed better -- though "the difference in returns was less pronounced than one would expect, which might be because DB plans had greater diversification or more sophisticated investment strategies to maximize returns."[17]

Alternative investments, a key element to diversification and customization

The use of alternative investments can be a key diversifying element for large DB plans. According to an April 2010 report by Barclays Capital, the average large pension fund has between 17% and 20% allocated to alternatives (hedge funds, real estate, real assets, private equity, and other opportunistic investments). Among other institutional allocators, endowments and foundations expect to boost their allocations to alternatives to 31%, from the 26% average allocation as of March 2009.[18]

There is little debate that many DB plans continue to see alternative investments as a way to deliver better risk-adjusted returns for their participants. One recent study notes that, in the first two quarters of 2010, almost 36% of placement dollars were allocated to alternatives.[19] Importantly, the number of liquid alternative investment options has increased considerably in recent years, which should benefit those DC plans and target-date funds that are looking for greater diversification. According to SEI, alternative mutual funds grew by $110 billion in 2009, with the largest flows consisting of long/short, market neutral, commodity, and currency funds.[20]

Earlier this year in a report titled "Mainstreaming Alternative Investments," Morningstar highlighted the rapid growth of alternative mutual funds in 2009 and the continuation of this growth in 2010, especially in the long/short category:



Source: Morningstar

A greater supply of liquid alternatives, managed by a diverse group of both well-established and emerging managers, should lead to more competition and likely lower fees -- which we view as a positive development for DC plans that look to "customize." Several large DC plans have begun to adopt a more globally-diversified, customized "DB-like" approach. According to a 2009 study, roughly one-third of large DC plans (over $1 billion in assets) are offering customized target-date funds.[21]

The chip giant Intel was an early adopter of the DB-like approach, creating its own custom target-date funds in 2004, rather than using a prepackaged, single-manager fund. A custom approach gives the company's plan "flexibility in the asset mix, lower fees, and a stable of best-in-class asset managers," according to Stuart Odell, Intel's director of retirement investments. Similar to our hypothetical example, most DC plans use target-date funds managed by a single investment manager, and the asset allocation approach is simply a collection of long-only equity and fixed income funds operated by a single manager. By creating a target-date portfolio in-house, Intel includes asset classes not typically seen in other target-date funds, such as hedge funds and commodities. "We think there are different managers that are best in different classes," explains Mr. O'Dell, on why he uses an open-architecture approach for the company's target-date funds. "We would like the flexibility to have the best-in-breed wherever we're allocating capital."[22]

The ongoing examination of target-date funds as a result of the 2008 performance issues, coupled with the acknowledgement of the growing importance of target-date funds to millions of Americans, will likely lead to substantive changes to portfolio construction methods. According to Casey Quirk, many plan sponsors regard their target-date funds as first-generation prototypes, with some leading DC plans incorporating the innovations required for a "second-generation" of target-date funds. The study suggests that "institutional boutiques and alternative managers, the same managers now prevalent in the defined benefit landscape, will gain a larger share of a rapidly expanding pool of customized target-date funds among larger plans." In addition, the study predicts that customized target-date options, led by large DC plans, will balloon to nearly $1 trillion in 2018, from $53 billion today. It is the "desire for diversification, in both asset allocation and investment managers, that is driving customization," and DC plans are increasingly willing to consider alternative investments, real assets, TIPs, and long/short funds as a part of customized solutions.[23]

Ultimately, customization should allow DC plans to offer a broad array of investment vehicles beyond just long-only equity and fixed-income instruments. Additionally, plan participants are not at the mercy of one investment manager's decision making process, where there is the potential that the equity allocation decisions of one target-date fund manager may lead to extremely negative outcomes. Along these lines, Luis Viceira, a professor at the Harvard Business School, references target-date funds by saying, "Remember that we are looking at the first generation of these funds. When PCs were first invented, no one dreamed what they would be capable of. This may be true some day of target-date funds."[24]

Two hurdles: fees and education

In short, we believe customized target-date funds make sense for many DC plans as they allow plan sponsors more flexibility by giving participants access to best-in-class managers, not just exposure to one investment manager across all asset classes. It should be noted, however, that by adding alternative investments, plan sponsors could potentially increase the expense ratio of the overall offering. Data from the Investment Company Institute lists the current average expense ratio paid by 401(k) fund participants as 0.74% for equity funds and 0.55% for bond funds.[25] Many alternative mutual funds have expense ratios between 1% and 2% (or higher), so adding them to asset allocation models would raise a plan's overall expense. According to Morningstar, the average fund in the long/short mutual fund category declined 15.40% in 2008, exhibiting significant relative outperformance over each of the various flavors of target-date funds during this stress-test year. Many plan sponsors would have gladly paid a slightly higher fee for this level of outperformance. We would expect, over time, with the number of managers and offerings in this area increasing dramatically, that price competition will eventually benefit participants in the future.

The other key issue is the education of plan participants. According to a recent survey, many plan participants don't fully understand target-date funds -- roughly 62% believe that they could definitely retire on the fund's target date, 38% believe the funds would produce a guaranteed return, and 41% thought there was little or no risk of losing money in a one-year period.[26] Investment managers and plan sponsors will be charged with educating participants on the merits of diversification and the role alternative investments play in potentially generating better risk-adjusted returns over time.

Summary

The concept of target-date funds is here to stay, and these funds are an appropriate way for many investors to build a diversified portfolio and outsource investment decisions to professionals. Many DC plans currently use target-date funds that consist of long-only equity and fixed-income blends from only one investment manager, resulting in a relatively bumpy glide path. The next generation target-date fund will likely provide more diversification in both the investment strategies and the underlying managers implementing those strategies.

To the extent institutional investors and consultants believe that alternative assets provide diversification benefits and some measure of downside protection, they should be considered for inclusion in customized DC plan solutions -- ultimately aiding in the quest for superior risk-adjusted returns.

Roughly 60 years after a certain stockbroker gave young Harry Markowitz an idea, DC plans should more fully embody the principles of Modern Portfolio Theory. DC plans may never exactly replicate the use of all of the investment strategies and asset allocation methods of large DB plans; however, diversifying into multiple asset classes, including liquid alternatives and multiple managers, would move many DC plans in the direction of looking more like large DB plans. We believe such a shift could positively impact the financial lives of millions of Americans as they approach retirement.

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Turner Investments, founded in 1990, is an investment firm based in Berwyn, Pennsylvania. As of September 30, 2010, we managed more than $17 billion in stocks in separately managed accounts and mutual funds for institutions and individuals.