

Benchmarking A Moving Target

Target date funds come of age

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Illustration by Art Glazer

As baby boomers approach retirement age and as individuals of all ages re-examine their 401(k) choices, the popularity of “target date” mutual funds is soaring. These funds aim to offer one-stop shopping for individual investors, featuring portfolios (usually funds of funds) that are specifically designed to reduce risk as the “target date” nears when the investment capital will be used for a particular purpose (retirement, college education, etc.). According to a recent comprehensive fund industry report published by Lipper (March 14, 2005), assets in target date retirement funds jumped 65 percent in 2004 to \$43.9 billion, while the number of funds rose from 60 to 78.

Why the growth?

Tom Lauricella explains it this way in his recent article “Shopping at ‘Target,’ Mutual Fund Style for Retirement,” which appeared in the January 7, 2005, edition of *The Wall Street Journal*:

Simplicity isn't a word that most people associate with investing. That goes a long way toward explaining the rising popularity of mutual funds designed to provide one-stop shopping for retirement investing. The funds, known as “target date” or “lifecycle” funds, simply require investors to pick one that comes closest to their expected retirement date and let professional money managers do the rest.

Jane Bryant Quinn, in her *Newsweek* article, “One Fund Is All You Need” (February 28, 2005), sums it up this way:

Too bad we got what we wanted, when we started investing our own retirement funds. We wanted choice—lots of different mutual funds. We imagined dividing our money among the best—so much in stocks, so much in bonds (if we paid any attention to bonds). For fun, we'd pick the stocks that went up, or our broker would. Ha. The world turned, and those on top suddenly slid off. We learned that we had no idea how to balance reward and risk. Some of us risked too much, and are still dangerously exposed. Others sit fearfully in bank accounts at 1.5 percent. We had plenty of choice and we muffed it. Now we want advice. One-stop funds cuddle up to a human truth: Most of us don't want to manage our retirement money. We're inexpert. We have other lives.

The number of plan sponsors offering target date investments has almost doubled since 2001. In addition, the simplicity and potential fiduciary soundness has led to an increasing number of defined contribution plan sponsors turning to target date investments as default options in their retirement plans.

The simplicity of target date funds, however, reflects only the individual investor's point of view. After all, investment management is hard not just for individuals, but for professional money managers as well. History has shown that it is difficult for active money managers to consistently outperform relevant indexes—and that's for single asset classes. Successful target date investment managers must be right on many levels. They must pick the right asset classes out of an ever-expanding menu of style, sector and capitalization alternatives. They must determine how to weight these asset classes in each portfolio to obtain the desired level of risk for a particular point in time. They must consistently select the best investment vehicle to fill each of the chosen asset class

slots—do they choose active or passive strategies? And lastly, they must make sure that their asset allocation decisions reduce risk over time in a fiducially sound and, hopefully, transparent manner. It's no small order.

The primary and common goal of all target date series is to deliver appropriate returns while reducing portfolio risks as investors approach their target dates. Methodologies employed by fund managers to achieve this goal, however, are as numerous as the fund managers themselves. The key differences fall into three broad areas:

1. *Philosophies on the amounts of risk investors should take on over the target date continuum.*

Different providers have different views on how much risk (as defined by equity exposure) is appropriate at a specific point on an investor's timeline. A survey of existing offerings shows that total equity allocations, domestic and foreign, in longer-term target date funds (i.e., those currently targeting 2040 and 2045) range from 76 percent to 95 percent, with the mean being approximately 88 percent. On the more conservative end of the timeline, “today” or “income” funds feature equity allocations ranging from 19 percent to 45 percent, with a mean of approximately 32 percent. In the middle years, total equity allocations for 2025 funds ranged from 48 to 84 percent.

Taken together, there's certainly a wide enough range to give all investors and fiduciaries reason to closely examine their own attitudes toward risk before choosing a particular target date series.

2. *General procedures used to select or reject various asset classes for inclusion in the portfolios.*

Target fund managers have a vast range of options when deciding which asset classes to utilize, and in what proportions. Most fund managers, however, are “active” asset allocators; active in the sense that they choose to include and manipulate distinct asset classes to achieve their goals, as opposed to utilizing broad-based, cap-weighted index strategies to fill the major stock, bond and cash asset slots. Many fund managers' decisions seem to be influenced by the availability of existing in-house funds that can be used as portfolio components. A few fund providers offer target date products containing only index components, but most use actively-managed funds to fill the various asset category slots.

In addition, fund providers have varying attitudes about how these asset classes should be represented in the target portfolios. For example, foreign equities make up between 9 percent and 32 percent of the total equities in the 2040 and 2045 funds that we examined; that range is from zero to 25 percent for “today” funds. Some providers have obviously made the decision to remove asset classes, and thereby reduce diversification, as investors approach retirement.

3. *Methodologies for allocating money among acceptable asset classes at each level of risk.*

Providers typically manage allocations over time in one of three ways (sometimes a combination): a) a naïve predetermined schedule that reduces equity exposure and increases bond/cash exposure over time; b) quantitative portfolio optimization (think Monte Carlo simulation, etc.); and c) active, subjective management.

Results are as varied as the methodologies. Twelve-month returns for “today” and “income” type funds for the period ending May 31, 2005, ranged from 4.67 percent to 9.43 percent, a 476-basis-point difference. Remember, however, that the “best performer” is not necessarily the best choice: It all depends on a particular investor’s risk tolerance or investing philosophy. In the example above, the fund with the 9.43 percent return also has the highest equity allocation (45 percent). How would that fund fare in a bear market? How would a retiree react to substantial negative return?

Results for the longer-term funds are varied as well, with a range of 8.42 percent to 11.31 percent for the 2040 and 2045 funds over the same twelve-month period. It is interesting to note that the fund with the lowest return had the lowest equity exposure of all 2040 and 2045 funds surveyed.

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With so many philosophies and such varied returns, how do investors really measure the performance of a target date series? The answer: by using objective benchmarks having the same target date time horizons.

In early 2004, Dow Jones was aware of the increasing number of offerings in the target date funds category, and the lack of objective benchmarks. As a global index provider, they recognized the need for meaningful measures that fiduciaries and investors could use to gauge the performance of their target date investments.

In creating the Target Date Indexes, Dow Jones leveraged their experience developing the Dow Jones Relative Risk Indexes, which were profiled in this space in the June/July 2004 issue in an article entitled “Asset Allocation Made Easy: Benchmarks For Total Portfolios.” (This article is available on the *Journal of Indexes* Web site.) These benchmarks are designed to track investment styles that hold a constant level of relative risk, offering good benchmarks for investors following a particular style of investing—growth, growth & income, income, aggressive, balanced, etc.

Dow Jones Target Date Indexes utilize the same stock, bond and cash components and apply the same optimization process and rebalancing strategy as the Relative Risk Indexes. The key difference is that the monthly asset allocation for each Target Date Index seeks to benchmark a progressively less aggressive relative risk level as the index journey towards its target date.

Basic Composition

Each Dow Jones Target Date Index is made up of a variety of sub-indexes from three distinct Composite Major Asset Classes (CMACs)—Equity, Fixed Income and Cash. The proportions of the

CMACs are adjusted over time as the index maturity date approaches. The equity and fixed-income CMACs are formed by equally weighting the sub-asset class indexes listed in Figure 1. The cash CMAC is defined as the Lehman 1-3 Month T-Bill Index.

Each Dow Jones Target Index always contains at least four percent stocks, four percent bonds and four percent cash. The Target Today Index always reflects 20 percent of the risk of the stock CMAC (calculated as 36-month semivariance). All other Dow Jones Target Date Indexes reflect 90 percent of the risk of the stock CMAC until the 35th year prior to index maturity. Then, beginning in January of the 35th year prior to the index maturity, each target date index begins to systematically reduce risk monthly until it reaches 20 percent of the stock CMAC risk on December 31 of the index maturity year. The three CMACs within each index are rebalanced based on the following steps:

- Each index’s monthly risk level and corresponding CMAC allocation are determined based on the current risk level of the stock CMAC and the number of months remaining until December 31st of the maturity year.
- Rather than following a straight-line reduction of risk, the indexes’ risk levels decline following a cosine curve—reducing risk at a lower rate at the beginning of the 35-year risk adjustment period and a higher rate in the middle years, returning to a lower rate as the index approaches maturity.
- CMAC allocations are determined for a given level of risk using the same below mean variance optimizer used in the Dow Jones Relative Risk Indexes. The optimizer analyzes the relative risk and correlations of the three CMACs over the previous 36 months to determine the allocation needed to hit the desired percentage of equity CMAC risk.
- The systematic reduction of risk over time causes the indexes to reflect theoretically higher levels of risk in the early years and lower levels of risk in the years immediately prior to their target dates, as shown below.

Figure 1

CMAC Composition	
U.S.	GLOBAL
EQUITY CMAC	EQUITY CMAC
Dow Jones Large-Cap Growth Index	Dow Jones U.S. Large-Cap Growth Index
Dow Jones Large-Cap Value Index	Dow Jones U.S. Large-Cap Value Index
Dow Jones Mid-Cap Growth Index	Dow Jones U.S. Mid-Cap Growth Index
Dow Jones Mid-Cap Value Index	Dow Jones U.S. Mid-Cap Value Index
Dow Jones Small-Cap Growth Index	Dow Jones U.S. Small-Cap Growth Index
Dow Jones Small-Cap Value Index	Dow Jones U.S. Small-Cap Value Index
	Dow Jones Europe/Canada Index
FIXED INCOME CMAC	Dow Jones Asia/Pacific Index
Lehman Government Bond Index	Dow Jones Institutional Emerging Markets Index
Lehman Corporate Bond Index	
Lehman Mortgage Bond Index	FIXED INCOME CMAC
	Lehman Government Bond Index
CASH	Lehman Corporate Bond Index
Lehman 1-3 Month T-Bill Index	Lehman Mortgage Bond Index
	Lehman Majors (ex U.S.) Index
	CASH
	Lehman 1-3 Month T-Bill Index

Figure 3 summarizes the performance of indexes whose risk has been held constant at 90 percent and 20 percent of equity CMAC risk. It illustrates that a portfolio index taking a predetermined percentage of equity risk does not necessarily realize that same percentage of equity return. Thus, while the Dow Jones Target Date Index methodology intends to limit the risk reflected in the index to a percentage of equity CMAC risk, index return may not be similarly limited. Historic risk/return relationships are not necessarily indicative of future risk/return relationships.

Final Thoughts

Can one benchmark series be the “perfect” solution for an investment category with so many differing philosophies?

No. But Dow Jones Indexes has provided appropriate and academically sound benchmarks for target date investment models that combine multiple asset classes in ways that are intended to reflect reduced risk over extended time periods. The range of equity asset allocations for the family of Dow Jones Target Date Indexes is broad enough to measure virtually all target date funds’ equity asset allocations, providing rational benchmarks for all current providers in the target date funds marketplace.

If a fund is found to significantly underperform the appropriate Dow Jones Target Date Index, an investor should research the components used in the product and the proportionate weights. Is the fund significantly more conservative than the benchmark? Or did the manager use active components that under-

performed relevant benchmark indexes? Conversely, if a target date fund dramatically outperformed the appropriate Dow Jones benchmark, are fund managers making asset class “bets” that are out of line with a fiducially sound policy at that point in an investor’s journey towards his target date? Is the investor comfortable with those bets and the added risk to which he is exposed?

A target date investment is intend-

ed to be a long-term marriage between an investor and a provider, a relationship that may sometimes be taken for granted by both. It is therefore of great importance to have standard, nonsubjective benchmarks that help investors evaluate the returns, wealth accumulation and consistency of a provider’s investment philosophy on a regular basis.

With the introduction of Dow Jones Target Date Indexes, investors and fiduciaries now have the tools to gauge how well fund providers are doing in their attempts to hit investors’ targets.

This document contains comparisons, assertions, and conclusions regarding the performance of indexes based on backtesting, i.e., calculations of how the indexes might have performed in the past if they had existed. Backtested performance information is purely hypothetical and is provided in this document solely for informational purposes. Backtested performance does not represent actual performance, and should not be interpreted as an indication of actual performance.

Figure 2

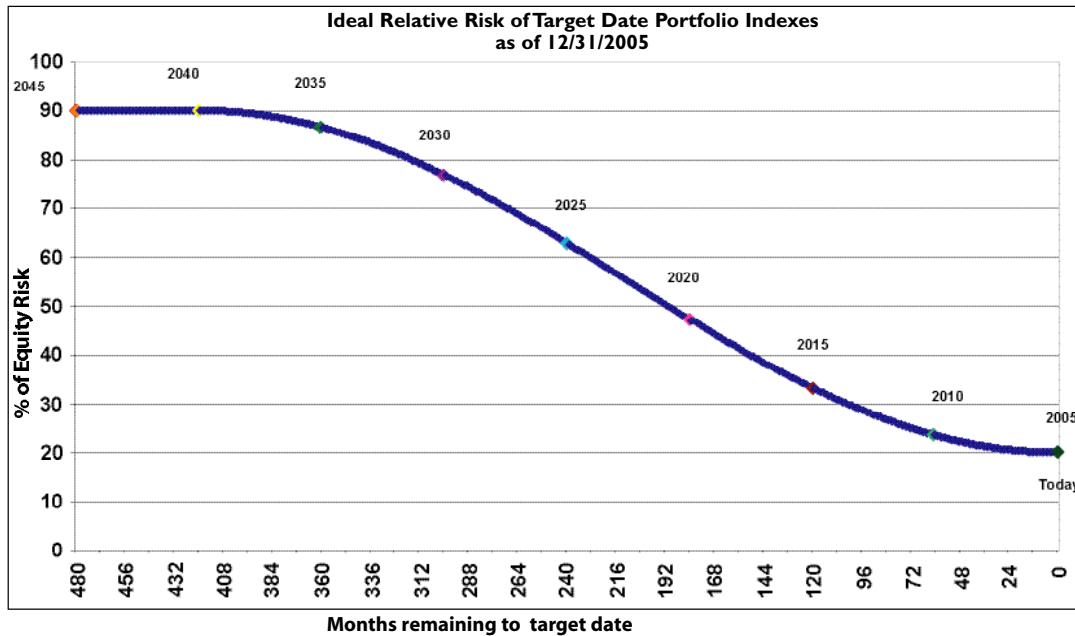


Figure 3

Target Date Index Proxies with Fixed Risk Levels Risk and Return Characteristics: 1/1/1983 – 3/31/2005				
	Return %	Risk %*	% Equity CMAC Risk	% Equity CMAC Return
Global Equity CMAC	13.79	11.68	100.0	100.0
Global Index Targeting 90% of Global Equity CMAC Risk	13.27	10.46	89.6	96.2
Global Index Targeting 20% of Global Equity CMAC Risk	8.40	2.52	21.6	60.9
Dow Jones U.S. Equity CMAC	13.02	12.55	100.0	100.0
U.S. Index Targeting 90% of U.S. Equity CMAC Risk	12.58	11.24	89.6	96.7
U.S. Index Targeting 20% of U.S. Equity CMAC Risk	8.29	2.46	19.6	63.7

* Annualized Below Mean Semideviation