# TARGET DATE BENCHMARKING: THE VALUE OF A CONSENSUS GLIDE PATH

- A consensus target date glide path is formed by observing cross-sectional asset allocations of active target date managers, and using that data to create a glide path that represents the aggregate opinion with respect to asset class exposures.
- Target date benchmarks should meet all of the CFA Institute's properties of valid benchmarks, as well as several additional criteria that facilitate sound selection of managers and monitoring.
- Peer groups are not appropriate target date benchmarks. While it may be worthwhile to note a particular target date manager's returns relative to a peer group, peer groups cannot serve as truly representative benchmarks. With the exception of being measurable, peer groups fail to meet the properties of valid benchmarks. In particular, they are not specified in advance and are subject to survivorship bias.
- A consensus glide path index is not a peer group. It is constructed from the bottom up using the asset allocations that compose the benchmark glide path. Unlike a consensus glide path index, a peer group does not comprise asset allocations or a glide path.
- Custom indices, or blended benchmarks, do not permit attribution analysis. Since they represent a single manager's asset allocation rather than the market's asset allocation consensus, custom indices cannot be used to determine the proportion of a given target manager's returns that is attributable to asset allocation choices.
- A consensus glide path target date index can serve as a valid benchmark for facilitating attribution analysis, which isolates sources of return and risk. This approach can be particularly revealing for near-dated target date funds.

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## *Introduction*

Some market participants believe that target date funds should not be benchmarked against market-based indices. Their rationale is that, as asset allocation strategies, target date funds are designed to fulfill specific investment mandates related to the demographics and goals of particular savings plans such as 401(k) retirement plans. The success of these funds should therefore be defined as their success in meeting a plan's goals as articulated by its investment policy statement.

Target date managers may be selected for a variety of reasons including the demographics of a plan's participants (average age, compensation, level of financial awareness, etc.), as well as their ability to realize quantitative goals such as replacing a specified portion of income in retirement for the average plan participant. We would encourage plan sponsors to address these needs thoroughly and monitor their chosen target date fund accordingly. However, we believe that market benchmarks have a place in the target date fund selection and monitoring process.

First, from a plan sponsor's perspective, there is a significant amount of uncertainty in establishing a goal such as replacement of final income. The process involves projecting capital market returns, inflation and annuity rates. It also involves making statistical inferences about a plan's participants. In the face of this significant uncertainty, a representative target date index offers a simple, straightforward way to compare the approach of particular target date managers to the approach taken by the market overall. Questions such as "Is the manager I have hired more or less aggressive than their competition?" or "Is the manager's asset allocation appropriate given the investment mandate I have hired them to fulfill?" can be answered by referencing a representative target date market benchmark.

Second, it is worth emphasizing that statistical inferences about a plan's population do not address individual needs. None of a plan's participants are average; in other words, the articulated goals of a plan do not necessarily equate to a set of individual participant goals. For example, the plan may seek to replace 70% of final salary for its participants, but an individual participant may need less than 70% from the plan due to her unique financial situation. It therefore may be appropriate for her to accept more market risk than her average colleague. If the goals of the plan do not conform to her personal financial situation, a market benchmark offers an appropriate means of measuring the risk that she is exposed to, and can thereby serve as a valuable tool in her decision about how much risk to accept.

Third, for both sponsors and participants, scrutinizing target date fund prospectuses may do little to clarify asset allocation and risk policies. Many fund prospectuses describe their investment objectives in ways that fail to clarify their perspective on asset allocation. A typical description reads, "The fund seeks total return consistent with its asset allocation." Information as to what assumptions and expectations are implied in the asset allocation is not always provided. For these three reasons, a representative target date market benchmark can serve as an appropriate reference point for all stakeholders.

In this paper, we will explore some of the nuances of target date benchmarking and distinguish between some of the alternative methods of measuring target date managers' performance.

## *The Properties of a Valid Target Date Benchmark*

According to the CFA Institute, valid benchmarks[1] must be:

- *Unambiguous*. The identities and weights of securities or factor exposures constituting the benchmark are clearly defined.
- *Investable*. It is possible to forgo active management and simply hold the benchmark.
- *Measurable*. The benchmark's return is readily calculable on a reasonably frequent basis.
- *Appropriate*. The benchmark is consistent with the manager's investment style or area of expertise.
- *Reflective of current investment opinions*. The manager has current investment knowledge (be it positive, negative or neutral) of the securities or factor exposures within the benchmark.
- *Specified in advance*. The benchmark is specified prior to the start of an evaluation period and known to all interested parties.
- *Owned*. The investment manager should be aware of and accept accountability for the constituents and performance of the benchmark. It is encouraged that the benchmark be embedded in and integral to the investment process and procedures of the investment manager.

We believe benchmarks should also exhibit the following properties[2]:

- *Be free of glide path bias*. A target date benchmark should reflect a bias-free glide path by limiting the distortion of the index construction process.
  - The index provider should not express a view as to what asset allocation or glide path is appropriate. Target date fund managers take such views, but index providers should be neutral and reflect a consensus of opinion.
- *Produce bias-free returns*. In addition to being free of the glide path bias mentioned above, the benchmark should be free of other sources of bias such as survivorship.
- *Facilitate performance attribution*. Asset allocation and security selection should be able to be isolated as sources of return relative to the benchmark.

## *Do Available Target Date Indices Meet the Properties of Valid Benchmarks?*

To create a representative target date index, S&P Dow Jones Indices determines the relevant consensus glide path.[3] The consensus glide path is determined by conducting an annual holdings survey of active target date managers to obtain holdings data from their regulatory filings. The index asset allocations used for each target date, and the associated glide paths across target dates, are derived from this data. Each index's glide path is consequently a function of cross-sectional market observations.

[1] 2011 Level 3 CFA Program Curriculum Volume 6, Section 5.2
[2] "Best Practices in Benchmarking Target Date," available at http://www.spindices.com/targetdate
[3] See "Benchmarking Target Date Funds" and "Best Practices in Benchmarking Target Date," available at http://www.spindices.com/targetdate

Exhibit 1: Target Date Benchmark Alternatives

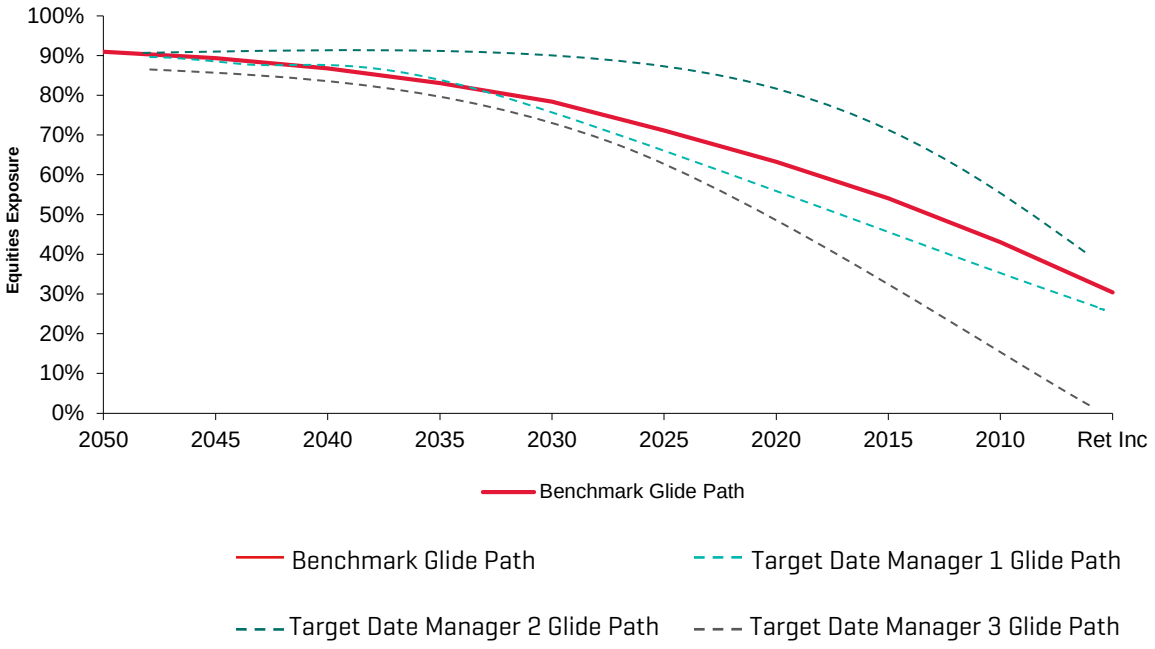
| | Valid Benchmark Properties | Target Date Benchmark Alternatives | | | |
|---|---|---|---|---|---|
| | | Consensus Glide Path Index | Peer Group Average | Custom Index (Blended benchmarks) | Model-Driven Index |
| CFA Institute Properties | Unambiguous | √ | | √ | √ |
| | Investable | √ | | √ | √ |
| | Measurable | √ | √ | √ | √ |
| | Appropriate | √ | | √ | |
| | Refective of current investment opinions | √ | | √ | |
| | Specified in advance | √ | | | √ |
| | Owned | √ | | | |
| S&P Indices Additional Properties | Free of glide path bias | √ | | | |
| | Produce bias-free returns | √ | | | |
| | Facilitate performance attribution | √ | | | √ |
| | Conform to all CFA properties | √ | | | |

Source: CFA Institute, S&P Dow Jones Indices. Charts are provided for illustrative purposes.

## *Using a Consensus Glide Path Index*

Benchmarking target date funds may be less straightforward than benchmarking single-asset class funds, but indices based on a consensus glide path allow stakeholders to answer a few basic questions. By comparing a target date manager's asset allocation approach to that of the consensus-based index, stakeholders can determine whether a target date manager is generally more or less aggressive than his or her peers. A consensus glide path index can also show whether a target date manager's glide path differs markedly in shape from the consensus.

Exhibit 2: Comparing Target Date Fund Glide Paths to a Benchmark Glide Path



Source: S&P Dow Jones Indices. Benchmark glide path as of April 30, 2011. Other glide paths are hypothetical and are provided for illustrative purposes.

The benchmark's consensus glide path may be particularly useful for spotting wide divergences in exposure to equities, especially in near-dated target date funds. It is crucial for retirement plan sponsors and participants to understand the approach of their plan's target date fund, particularly whether the fund is designed for participants to remain invested after retirement or to redeem their investment at retirement. Comparing a fund's glide path to that of a benchmark, such as an S&P Target Date Index, will generally indicate how aggressive the fund manager is, compared to the rest of the target date community. This can serve as a useful first step in understanding the fund's general approach.

The process of applying market-based benchmarks to subjectively determined goals introduces complexity to target date benchmarking. For example, suppose a given plan decides that a conservative glide path suits their participant population. They seek to find a target date manager whose investment policy generally matches theirs. The chosen target date manager's approach will be reflected in a glide path which assumes that plan assets will be withdrawn upon retirement or soon thereafter, and accordingly allocates a relatively large proportion of the portfolio to conservative fixed income securities, particularly as the target date approaches. Under normal market conditions (when risk is rewarded), this manager's near-dated funds will likely underperform a consensus glide path index. For many fiduciaries, if this were a single-asset class fund, analysis would possibly go no further. An underperforming manager could be removed or put on watch for potential removal, as specified in a plan's investment policy statement. However, in contrast to the manager of an underperforming single-asset fund, the target date manager may be doing exactly what he was hired to do. The question that needs to be addressed is whether the target date manager is underperforming due to his asset allocation or due to another factor such as poor security selection. In the former case, he may be simply overweight less risky assets, rather than invested in poorly chosen securities.

One powerful technique facilitated by a consensus glide path index is target date attribution analysis. Since asset allocation drives the majority of the variability of returns,[4] measuring the active value delivered through asset allocation is highly revealing. Attribution analysis, which employs a consensus glide path index as a benchmark, is helpful in measuring the value delivered by asset allocation. Exhibit 3 provides a simple, one-period example of the two cases outlined above. Appendix 1 outlines the full set of hypothetical allocations that lead to the outcome exhibited here. Specifically, in up markets, conservatively managed funds will underperform. However, it is important to distinguish between the first case, where a manager underperforms due to over-weighting less risky assets, and the second case, where he shows poor ability to select securities.

### Exhibit 3: Understanding Target Date Manager Performance

*Case 1: Hypothetical target date manager underperforms for the sample period because he is underweight risky assets.*

| | |
|---|---|
| **Fund Return** | 4.90% |
| **S&P Target Date 2015 Return** | 5.50% |
| **Difference vs Benchmark** | -0.60% |
| **Allocation Effect** | -1.49% |
| **Selection and Interaction Effects** | 0.89% |

[4] Gary P. Brinson, L. Randolph Hood, and Gilbert Beebower (1986), "Determinants of Portfolio Performance," *Financial Analysts Journal,* July/August 1986, Vol. 42, No. 4:39-44.

*Case 2: Hypothetical target date manager underperforms for the sample period because he does a poor job of selecting securities for the fund.*

| | |
|---|---|
| **Fund Return** | 4.90% |
| **S&P Target Date 2015 Return** | 5.50% |
| **Difference vs Benchmark** | -0.60% |
| **Allocation Effect** | 2.00% |
| **Selection and Interaction Effects** | -2.60% |

Source: S&P Dow Jones Indices. Index data as of Q4 2010. Other figures are based on a hypothetical target date portfolio and are provided for illustrative purposes. Past performance is not a guarantee of future results.

## *Custom Indices, or Blended Benchmarks, Do Not Permit Attribution Analysis*

Custom indices are commonly used to benchmark target date fund performance. However, they have several deficiencies, as shown in Exhibit 1. One of the most significant of these issues is that custom indices do not permit attribution analysis. Since they embody a particular manager's asset allocation and are not representative of the consensus asset class exposure, returns due to asset allocation cannot be isolated.

## *Peer Groups, or Manager Universes, Are Not Appropriate Target Date Benchmarks*

It is worthwhile to note the CFA Institute's stance on the subject of using "manager universes," or peer groups, as benchmarks. In its 2011 Level 3 CFA Program Curriculum,[5] it provides a critique of this practice, stating, "With the exception of being measurable, the median account in a typical commercially available universe does not have the properties of a valid benchmark." The Curriculum goes on to state, "One of the most significant deficiencies is that, although the universe can be named, the median account cannot be *specified in advance*." The Curriculum then outlines a number of additional deficiencies.

Significantly, the Curriculum mentions another shortcoming that does not violate CFA properties, but does violate S&P Dow Jones Indices' properties of a valid benchmark. The Curriculum states, "One other disadvantage merits attention. Because fund sponsors terminate underperforming managers, universes are unavoidably subject to 'survivor bias.'"

## *A Consensus Glide Path Index Is Not a Peer Group*

A consensus glide path index, such as The S&P Target Date Index, is constructed from the bottom up using the asset allocations that compose the consensus glide path, unlike a peer group, which does not comprise asset allocations or a glide path. Unlike a peer group, a consensus glide path index is specified in advance, unambiguous, survivorship bias-free and representative of the consensus asset class exposure. It also facilitates attribution analysis and meets all of the CFA Institute properties of valid benchmarks.

[5] 2011 Level 3 CFA Program Curriculum Volume 6, Section 5.5

## *Appendix*

*The full set of hypothetical asset allocations for the example given in Exhibit 4.*

### Understanding Target Date Manager Performance: Case 1

*Manager underperforms due to being underweight risky assets relative to benchmark.*

| 2015 Target Date Portfolio | Beginning Allocation | S&P Target Date 2015 Underlying Benchmark | Beginning Allocation | Asset Class Return | Allocation Effect |
|---|---|---|---|---|---|
| Large-cap Stocks | 22.00% | S&P 500 | 28.8% | 10.76% | -0.36% |
| Mid-cap Stocks | 3.00% | S&P MidCap 400 | 4.3% | 13.50% | -0.11% |
| Small-cap Stocks | 2.00% | S&P SmallCap 600 | 2.7% | 16.24% | -0.08% |
| Developed International Stocks | 10.00% | MSCI EAFE | 15.1% | 6.61% | -0.06% |
| Emerging Markets Stocks | 2.00% | MSCI EM | 2.1% | 7.34% | 0.00% |
| REITs | 5.00% | Cohen & Steers Realty Majors | 1.0% | 7.15% | 0.07% |
| Core Bonds | 37.00% | Barclays Aggregate | 28.7% | -1.30% | -0.57% |
| High Yield Bonds | 0.00% | iBoxx $ High Yield Corporate Bond | 2.7% | 3.00% | 0.07% |
| TIPS | 9.00% | Barclays TIPS | 4.8% | -0.65% | -0.26% |
| Commodities | 0.00% | S&P GSCI | 1.4% | 13.41% | -0.11% |
| Cash Equivalents | 10.00% | Barclays Short Treasury Bond | 8.3% | 0.06% | -0.09% |
| Total | 100.00% | Total | 100.00% | | -1.49% |

### Summary: Case 1

| | |
|---|---|
| **Fund Return** | 4.90% |
| **S&P Target Date 2015 Return** | 5.50% |
| **Difference vs Benchmark** | -0.60% |
| **Allocation Effect** | -1.49% |
| **Selection and Interaction Effects** | 0.89% |

### Understanding Target Date Manager Performance: Case 2

*Manager achieves same return as in Case 1, but underperforms due to poor security selection.*

| 2015 Target Date Portfolio | Beginning Allocation | S&P Target Date 2015 Underlying Benchmark | Beginning Allocation | Asset Class Return | Allocation Effect |
|---|---|---|---|---|---|
| Large-cap Stocks | 35.00% | S&P 500 | 28.8% | 10.76% | 0.33% |
| Mid-cap Stocks | 7.00% | S&P MidCap 400 | 4.3% | 13.50% | 0.21% |
| Small-cap Stocks | 5.00% | S&P SmallCap 600 | 2.7% | 16.24% | 0.24% |
| Developed International Stocks | 20.00% | MSCI EAFE | 15.1% | 6.61% | 0.05% |
| Emerging Markets Stocks | 4.00% | MSCI EM | 2.1% | 7.34% | 0.03% |
| REITs | 5.00% | Cohen & Steers Realty Majors | 1.0% | 7.15% | 0.07% |
| Core Bonds | 20.00% | Barclays Aggregate | 28.7% | -1.30% | 0.59% |
| High Yield Bonds | 0.00% | iBoxx $ High Yield Corporate Bond | 2.7% | 3.00% | 0.07% |
| TIPS | 3.00% | Barclays TIPS | 4.8% | -0.65% | 0.11% |
| Commodities | 0.00% | S&P GSCI | 1.4% | 13.41% | -0.11% |
| Cash Equivalents | 1.00% | Barclays Short Treasury Bond | 8.3% | 0.06% | 0.40% |
| Total | 100.00% | Total | 100.00% | | 2.00% |

### Summary: Case 2

| | |
|---|---|
| **Fund Return** | 4.90% |
| **S&P Target Date 2015 Return** | 5.50% |
| **Difference vs Benchmark** | -0.60% |
| **Allocation Effect** | 2.00% |
| **Selection and Interaction Effects** | -2.60% |

Source: S&P Dow Jones Indices. Index data as of Q4 2010. The "2015 Target Date Portfolio" and its "Beginning Allocation" represent a hypothetical portfolio and are provided for illustrative purposes. Past performance is not a guarantee of future results.

## *Disclaimer*