



S&P Dow Jones Indices: 2 Target Date Index Methodologies

**S&P Dow Jones
Indices**

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September 2024

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Comparison: S&P Target Date Indices vs. Dow Jones Target Date Indices

	S&P	Dow Jones
Objective	Measures the performance of subindices which are selected and weighted to represent a survey of US Target Date funds.	Serve as market risk-sensitive benchmarks for target date funds.
Construction	Annual survey data of target date funds provides average sub-asset class allocations which are represented by indices.	Mathematical glidepath with sub-asset classes represented by indices.
Asset Allocation/ Weighting of Sub-Indices within the Index of Indices	US, international developed, and emerging market assets.	Global Series: US, developed, and emerging market assets. US Series: US assets.



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Overview

- Series of multi-asset indices intended to reflect market consensus for asset allocation across a spectrum of target date vintages.
- Asset allocation (or weighting within the Index of indices in this context) is determined from annual survey of target date funds and then implemented via indices.
- In addition to the regular series, S&P also calculates style indices in the “to” and “through” categories.

Source: S&P Dow Jones Indices. For more information, please see the [S&P Target Date Index Series Methodology](#).

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Index Vintages

S&P Target Date Indices	
S&P Target Date 2010 Index	S&P Target Date 2015 Index
S&P Target Date 2020 Index	S&P Target Date 2025 Index
S&P Target Date 2030 Index	S&P Target Date 2035 Index
S&P Target Date 2040 Index	S&P Target Date 2045 Index
S&P Target Date 2050 Index	S&P Target Date 2055 Index
S&P Target Date 2060 Index	S&P Target Date 2065 Index
S&P Target Date Retirement Income Index	



S&P Target Date “To” Style Indices	
To 2020	To 2025
To 2030	To 2035
To 2040	To 2045
To 2050	To 2055
To 2060	To 2065+
To Retirement	



S&P Target Date “Through” Style Indices	
Through 2015	Through 2020
Through 2025	Through 2030
Through 2035	Through 2040
Through 2045	Through 2050
Through 2055	Through 2060
Through 2065+	Through Retirement

Source: S&P Dow Jones Indices. The S&P Target Date To 2010 Index was discontinued effective June 5, 2016. The S&P Target Date To 2015 Index and the S&P Target Date Through 2010 Index were discontinued effective June 10, 2022. For more information, please see the [S&P Target Date Index Series Methodology](#).

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Components

The current universe of eligible asset classes and underlying benchmarks for each are as follows:

Asset Class	Index Name
U.S. Large Cap	S&P 500
U.S. Mid Cap	S&P 400
U.S. Small Cap	S&P 600
International Equities	S&P Developed Ex-U.S. BMI
Emerging Market Equities	S&P Emerging BMI
U.S. REITs	Dow Jones U.S. Select REIT
International REITs	S&P Developed Ex-U.S. REIT
Core Fixed Income	S&P U.S. Aggregate Bond Index
Cash Equivalents	S&P U.S. Treasury Bond 0-1 Year Index
TIPS	S&P US Treasury TIPS Index
High Yield Corporate Bonds	S&P 500 High Yield Corporate Bond Index
Commodities	S&P GSCI

Source: S&P Dow Jones Indices. Information as of June 28, 2024. For more information, please see the [S&P Target Date Index Series Methodology](#).

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Index Construction – Step 1

- Identify target date funds from vendor database.
- Sort by sponsor and asset size. Use fund sponsors with more than \$100MM within their respective target date families.
- Use fund holdings in vendor database, supplemented by the latest quarterly holdings filing (Form N-Q) available on the SEC's EDGAR website.
- Asset class exposures of the Indices are derived by mapping the security-level holdings from the underlying fund universe to their corresponding asset class categories.

Source: S&P Dow Jones Indices. For more information, please see the [S&P Target Date Index Series Methodology](#).

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Index Construction - Eligibility

- **Existing asset classes** in the index series must be included by **at least 25%** of surveyed target date fund sponsors in one or more of their respective funds to remain eligible for inclusion.
- **New asset classes** must be included by **at least 30%** of surveyed target date fund sponsors in one or more of their respective funds in order to be considered for inclusion.

Source: S&P Dow Jones Indices. For more information, please see the [S&P Target Date Index Series Methodology](#).

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Index Construction – Weighting Methodology

- For each vintage, asset class values in the tails are removed and replaced:
 - Weights below the 10th percentile value are replaced by the 10th percentile value for each data point. This mitigates outlier effects without diminishing the number of survey data points.
 - Weights above the 90th percentile of raw values are replaced with the 90th percentile value for each data point. This mitigates outlier effects without diminishing the number of survey data points.
- Sub-asset classes are included at the following thresholds:
 - Mean values of at least 0.5% for existing sub-asset classes.
 - Mean values of at least 1.5% for new sub-asset classes.
- These sub-asset classes are then proportionately adjusted to create preliminary weights that sum to 100% for each target date index.

Source: S&P Dow Jones Indices. For more information, please see the [S&P Target Date Index Series Methodology](#).

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Eligibility versus Inclusion

	Existing Asset Class	New Asset Class
Eligibility	25%+ in target date fund sponsors in one or more of their respective funds	30%+ in target date fund sponsors in one or more of their respective funds
Inclusion	Mean values of 0.5%+	Mean values of 1.5%+

Source: S&P Dow Jones Indices. For more information, please see the [S&P Target Date Index Series Methodology](#).

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Launch/Retirement of Vintages

Target date index vintages are dynamic: new indices are introduced and legacy indices retired as fund sponsors manage their suite of offerings.

- **Launches of Far-Dated New Indices:**
 - When at least 30% of target date fund sponsors offer the new vintage.
- **Retirement of Near-Dated Legacy Vintages:**
 - When less than 20% of target date fund sponsors continue to offer the vintage.
 - Retiring near-dated vintages is akin to rolling assets into a fund that tracks the **Target Date Retirement Income Index**, which is effectively the ultimate endpoint in the series.

Source: S&P Dow Jones Indices. For more information, please see the [S&P Target Date Index Series Methodology](#).

S&P Target Date Indices

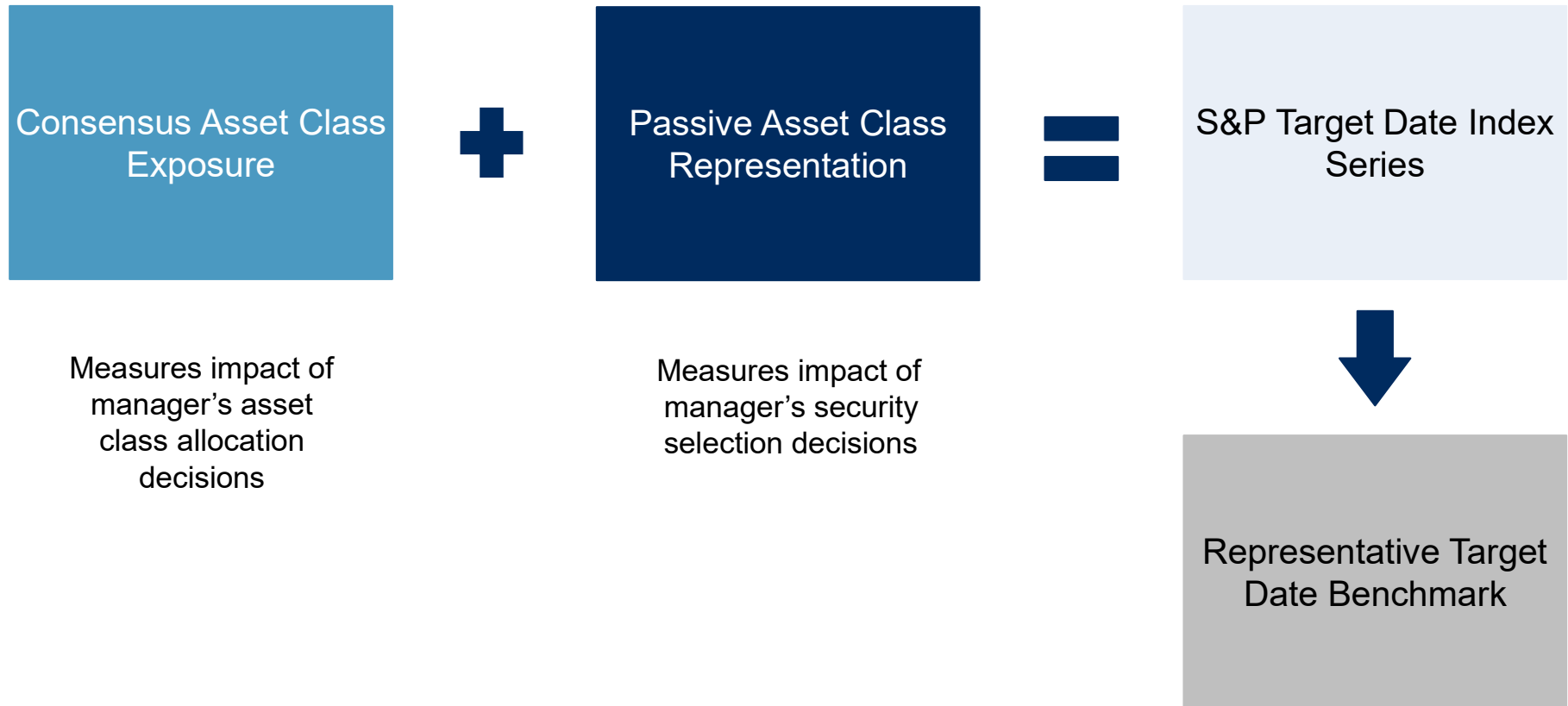
Reconstitution & Rebalancing

- **Annual Reconstitution:**
 - Last trading day in May
 - Reference date: Data pulled from close of 3rd Friday in April
- **Monthly Reweighting:**
 - Rebalances back to annual reconstitution weights
 - After close of business on the last trading day of each month
 - Reference date for pricing: 5 business days prior to the rebalancing.

Source: S&P Dow Jones Indices. For more information, please see the [S&P Target Date Index Series Methodology](#).

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Constructing the Consensus Glidepath



Source: S&P Dow Jones Indices. For more information, please see the [S&P Target Date Index Series Methodology](#). Charts are for illustrative purposes only.

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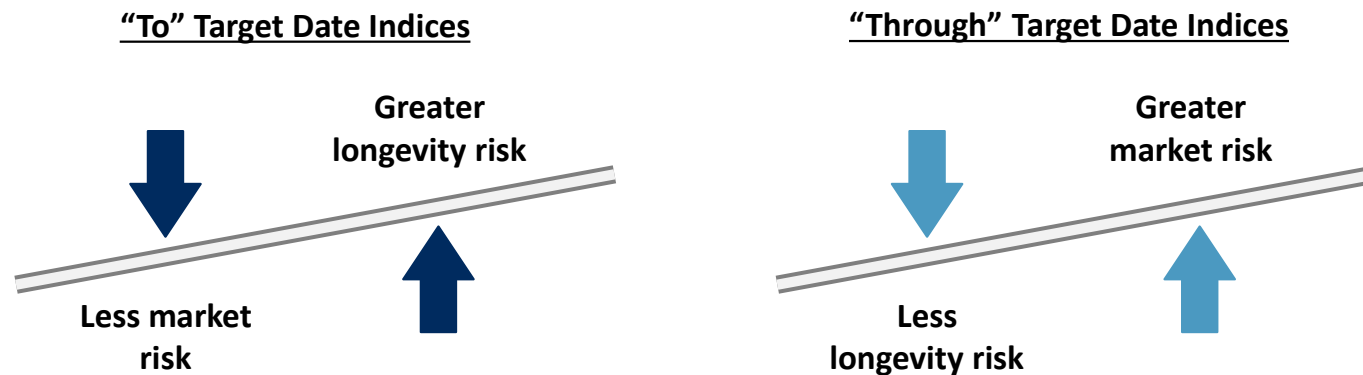
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Style-Specific: “To” and “Through”

- “To” funds have relatively conservative glide paths and aim to emphasize market risk sensitivity around the retirement date.
- “Through” funds are relatively more aggressive and aim to mitigate longevity risk at, and beyond, the retirement date.



Source: S&P Dow Jones Indices. For more information, please see the [S&P Target Date Index Series Methodology](#). Charts are for illustrative purposes only.

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“To” and “Through” Methodology Overview

- Target date series are assigned a style score based on their respective glidepaths. The glidepaths inform two calculations:
 - Equity exposure factor: the average of the equity exposure in the nearest dated target date fund and the equity exposure in the retirement income fund.
 - Differential factor: the difference between the equity exposure in the nearest dated target date fund and the equity exposure in the retirement income fund.
- These calculations form a composite score. Highest scores go into the Through style, and lowest scores go into the To style.

Source: S&P Dow Jones Indices. For more information, please see the [S&P Target Date Index Series Methodology](#).



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Dow Jones Target Date Indices

Highlights

- Risk-sensitive benchmarks for target date funds
- The index measures the performance of subindices of stocks, bonds, and cash, each considered a Composite Major Asset Class (CMAC) on a glidepath.

Composite Major Asset Class (CMAC)		
Equities	Fixed Income	Cash Equivalents
Domestic, Developed International, Emerging Markets	U.S. Governments, U.S. Corporates, U.S. Mortgages, International	1-3 Month T-bills

- Two separate sub-series with difference in regional exposure: Global (global exposure) and US (US-only exposure).
- Each sub-series is comprised of 14 indices representing a target date. New vintages are launched every 5 years.

Source: S&P Dow Jones Indices. For more information, please see the [Dow Jones Target Date Indices Methodology](#).

Dow Jones Target Date Indices

Composition of the CMACs

Global Series	U.S. Series
Dow Jones Global Stock CMAC Index	Dow Jones U.S. Stock CMAC Index
Dow Jones U.S. Large-Cap Growth Index	Dow Jones U.S. Large-Cap Growth Index
Dow Jones U.S. Large-Cap Value Index	Dow Jones U.S. Large-Cap Value Index
Dow Jones U.S. Mid-Cap Growth Index	Dow Jones U.S. Mid-Cap Growth Index
Dow Jones U.S. Mid-Cap Value Index	Dow Jones U.S. Mid-Cap Value Index
Dow Jones U.S. Small-Cap Growth Index	Dow Jones U.S. Small-Cap Growth Index
Dow Jones U.S. Small-Cap Value Index	Dow Jones U.S. Small-Cap Value Index
Dow Jones Europe/Canada/Middle East Developed Markets Index	
Dow Jones Asia/Pacific Developed Markets Index	
S&P Bond Composite – Global Index	S&P Bond Composite – U.S. Index
S&P U.S. Government Bond Index	S&P U.S. Government Bond Index
S&P U.S. Dollar Global Investment Grade Corporate Bond Index	S&P U.S. Dollar Global Investment Grade Corporate Bond Index
S&P U.S. Mortgage-Backed Securities Index	S&P U.S. Mortgage-Backed Securities Index
S&P Global Developed Sovereign Ex-U.S. Bond Index	
S&P Cash Composite – Global Index	S&P Cash Composite – U.S. Index
S&P U.S. Treasury Bill 0-3 Month Index	S&P U.S. Treasury Bill 0-3 Month Index

Source: S&P Dow Jones Indices. For more information, please see the [Dow Jones Target Date Indices Methodology](#).

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Index Vintages

Global Series	U.S. Series
Dow Jones Target 2065 Index	Dow Jones U.S. Target 2065 Index
Dow Jones Target 2060 Index	Dow Jones U.S. Target 2060 Index
Dow Jones Target 2055 Index	Dow Jones U.S. Target 2055 Index
Dow Jones Target 2050 Index	Dow Jones U.S. Target 2050 Index
Dow Jones Target 2045 Index	Dow Jones U.S. Target 2045 Index
Dow Jones Target 2040 Index	Dow Jones U.S. Target 2040 Index
Dow Jones Target 2035 Index	Dow Jones U.S. Target 2035 Index
Dow Jones Target 2030 Index	Dow Jones U.S. Target 2030 Index
Dow Jones Target 2025 Index	Dow Jones U.S. Target 2025 Index
Dow Jones Target 2020 Index	Dow Jones U.S. Target 2020 Index
Dow Jones Target 2015 Index	Dow Jones U.S. Target 2015 Index
Dow Jones Target 2010 Index	Dow Jones U.S. Target 2010 Index
Dow Jones Target 2005 Index	Dow Jones U.S. Target 2005 Index
Dow Jones Target Today Index	Dow Jones U.S. Target Today Index

Source: S&P Dow Jones Indices. For more information, please see the [Dow Jones Target Date Indices Methodology](#).

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Asset Allocations

- CMAC's are determined based on a risk-weighted glidepath:
 - The risk of each vintage lies between that of a diversified stock portfolio and T-bills (cash).
 - The most near-dated vintage begins with 90% of the risk of an all-stock portfolio (as measured by the stock CMAC) **35 years** from the respective target date.
 - The glide path decreases to 20% of the historic market risk of an all-stock portfolio on December 31 of the tenth year past the target date year then maintains the risk level for **10 years**.
- Indices within each CMAC are equally weighted.
- CMAC allocations rebalanced to increasingly conservative asset mix.

Source: S&P Dow Jones Indices. For more information, please see the [Dow Jones Target Date Indices Methodology](#).

Dow Jones Target Date Indices

Glidepath for Risk Levels

Years to Retirement	Relative Equity Risk	Years to Retirement	Relative Equity Risk
35	90.00%	12	53.78%
34	89.91%	11	51.34%
33	89.66%	10	48.92%
32	89.24%	9	46.53%
31	88.64%	8	44.18%
30	87.89%	7	41.89%
29	86.97%	6	39.66%
28	85.90%	5	37.50%
27	84.68%	4	35.43%
26	83.32%	3	33.45%
25	81.81%	2	31.58%
24	80.18%	1	29.82%
23	78.42%	0	28.19%
22	76.55%	-1	26.68%
21	74.57%	-2	25.32%
20	72.50%	-3	24.10%
19	70.34%	-4	23.03%
18	68.11%	-5	22.11%
17	65.82%	-6	21.36%
16	63.47%	-7	20.76%
15	61.08%	-8	20.34%
14	58.66%	-9	20.09%
13	56.22%	-10	20.00%

Source: S&P Dow Jones Indices. For more information, please see the [Dow Jones Target Date Indices Methodology](#).

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Optimization at Each Risk Level & Constraints

Optimization:

- An optimization algorithm derives CMAC allocations at each risk level to maximize return.
- The expected returns for each CMAC:
 - Stock CMAC: 6%
 - Bond CMAC: 3%
 - Cash CMAC: 1%

Constraints on Rebalancing:

- Minimum allocation for any CMAC: 4%
- Equity exposure band: +/- 5% of target (if within band, no rebalancing)
- Maximum aggregate monthly allocation changes of equities and bonds of 3%.

Source: S&P Dow Jones Indices. For more information, please see the [Dow Jones Target Date Indices Methodology](#).

S&P versus Dow Jones Comparison

	S&P Target Date Index Series	Dow Jones Target Date Index Series
Reconstitution/Rebalance Schedule	<ul style="list-style-type: none"> • Annual reconstitution • Monthly rebalance 	<ul style="list-style-type: none"> • Monthly rebalance on glidepath
Methodology	<ul style="list-style-type: none"> • Target date fund market-based 	<ul style="list-style-type: none"> • Risk-based glidepath
Equity Components	<ul style="list-style-type: none"> • Broad-based by market cap and region 	<ul style="list-style-type: none"> • Includes growth/value tilts
New Vintages	<ul style="list-style-type: none"> • Based on underlying target date fund launches 	<ul style="list-style-type: none"> • Every 5 years
Series	<ul style="list-style-type: none"> • Headline series with To and Through styles 	<ul style="list-style-type: none"> • Global Series • U.S. Series

Source: S&P Dow Jones Indices LLC. Table is provided for illustrative purposes.

Appendix

Index Dissemination and Tickers

Index levels are available through S&P Dow Jones Indices' website at www.spdji.com, major quote vendors (see codes below), numerous investment-oriented websites, and various print and electronic media.

Index (Total Return)	Ticker
S&P Target Date 2010 Index	SPTGT10T
S&P Target Date 2015 Index	SPTGT15T
S&P Target Date 2020 Index	SPTGT20T
S&P Target Date 2025 Index	SPTGT25T
S&P Target Date 2030 Index	SPTGT30T
S&P Target Date 2035 Index	SPTGT35T
S&P Target Date 2040 Index	SPTGT40T
S&P Target Date 2045 Index	SPTGT45T
S&P Target Date 2050 Index	SPTGT50T
S&P Target Date 2055 Index	SPTGT55T
S&P Target Date 2060 Index	SPTGT60T
S&P Target Date 2065+ Index	SPTGT65T
S&P Target Date Retirement Income Index	SPTGRIT

Additional daily index data is available via FTP by subscription. For further information, please refer to S&P Dow Jones Indices' Web site at www.spdji.com.

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Target Date Series Launch Date

S&P Target Date Series	Launch Date	S&P Target Date To Series	Launch Date	S&P Target Date Through Series	Launch Date
S&P Target Date 2010 Index	Sep 25, 2008	-		-	Jun 7, 2012
S&P Target Date 2015 Index	Sep 25, 2008	-		S&P Target Date Through 2015 Index	Jun 7, 2012
S&P Target Date 2020 Index	Sep 25, 2008	S&P Target Date To 2020 Index	Jun 7, 2012	S&P Target Date Through 2020 Index	Jun 7, 2012
S&P Target Date 2025 Index	Sep 25, 2008	S&P Target Date To 2025 Index	Jun 7, 2012	S&P Target Date Through 2025 Index	Jun 7, 2012
S&P Target Date 2030 Index	Sep 25, 2008	S&P Target Date To 2030 Index	Jun 7, 2012	S&P Target Date Through 2030 Index	Jun 7, 2012
S&P Target Date 2035 Index	Sep 25, 2008	S&P Target Date To 2035 Index	Jun 7, 2012	S&P Target Date Through 2035 Index	Jun 7, 2012
S&P Target Date 2040 Index	Sep 25, 2008	S&P Target Date To 2040 Index	Jun 7, 2012	S&P Target Date Through 2040 Index	Jun 7, 2012
S&P Target Date 2045 Index	Sep 25, 2008	S&P Target Date To 2045 Index	Jun 7, 2012	S&P Target Date Through 2045 Index	Jun 7, 2012
S&P Target Date 2050 Index	Jun 7, 2012	S&P Target Date To 2050 Index	Jun 7, 2012	S&P Target Date Through 2050 Index	Jun 7, 2012
S&P Target Date 2055 Index	Jun 7, 2012	S&P Target Date To 2055 Index	Jun 7, 2012	S&P Target Date Through 2055 Index	Jun 7, 2012
S&P Target Date 2060 Index	Jun 1, 2016	S&P Target Date To 2060 Index	Jun 1, 2016	S&P Target Date Through 2060 Index	Jun 1, 2016
S&P Target Date 2065+ Index	Jun 1, 2021	S&P Target Date To 2065+ Index	Jun 1, 2021	S&P Target Date Through 2065+ Index	Jun 1, 2021
S&P Target Date Retirement Income Index	Sep 25, 2008	S&P Target Date To Retirement income Index	Jun 2, 2014	S&P Target Date Through Retirement income Index	Jun 2, 2014

Source: S&P Dow Jones Indices. The S&P Target Date To 2010 Index was discontinued effective June 5, 2016. The S&P Target Date To 2015 Index and the S&P Target Date Through 2010 Index were discontinued effective June 10, 2022. For more information, please see the [S&P Target Date Index Series Methodology](#).

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Performance Disclosure

All information presented prior to an index's Launch Date is hypothetical (back-tested), not actual performance. The back-test calculations are based on the same methodology that was in effect on the index Launch Date. However, when creating back-tested history for periods of market anomalies or other periods that do not reflect the general current market environment, index methodology rules may be relaxed to capture a large enough universe of securities to simulate the target market the index is designed to measure or strategy the index is designed to capture. For example, market capitalization and liquidity thresholds may be reduced. Complete index methodology details are available at www.spdji.com. Past performance of the Index is not an indication of future results. Prospective application of the methodology used to construct the Index may not result in performance commensurate with the back-test returns shown.

S&P Dow Jones Indices defines various dates to assist our clients in providing transparency. The First Value Date is the first day for which there is a calculated value (either live or back- tested) for a given index. The Base Date is the date at which the Index is set at a fixed value for calculation purposes. The Launch Date designates the date upon which the values of an index are first considered live: index values provided for any date or time period prior to the index's Launch Date are considered back-tested. S&P Dow Jones Indices defines the Launch Date as the date by which the values of an index are known to have been released to the public, for example via the company's public website or its datafeed to external parties. For Dow Jones-branded indices introduced prior to May 31, 2013, the Launch Date (which prior to May 31, 2013, was termed "Date of introduction") is set at a date upon which no further changes were permitted to be made to the index methodology, but that may have been prior to the Index's public release date.

The back-test period does not necessarily correspond to the entire available history of the Index. Please refer to the methodology paper for the Index, available at www.spdji.com for more details about the index, including the manner in which it is rebalanced, the timing of such rebalancing, criteria for additions and deletions, as well as all index calculations.

Another limitation of using back-tested information is that the back-tested calculation is generally prepared with the benefit of hindsight. Back-tested information reflects the application of the index methodology and selection of index constituents in hindsight. No hypothetical record can completely account for the impact of financial risk in actual trading. For example, there are numerous factors related to the equities, fixed income, or commodities markets in general which cannot be, and have not been accounted for in the preparation of the index information set forth, all of which can affect actual performance.

The Index returns shown do not represent the results of actual trading of investable assets/securities. S&P Dow Jones Indices LLC maintains the Index and calculates the Index levels and performance shown or discussed, but does not manage actual assets. Index returns do not reflect payment of any sales charges or fees an investor may pay to purchase the securities underlying the Index or investment funds that are intended to track the performance of the Index. The imposition of these fees and charges would cause actual and back-tested performance of the securities/fund to be lower than the Index performance shown. As a simple example, if an index returned 10% on a US \$100,000 investment for a 12-month period (or US \$10,000) and an actual asset-based fee of 1.5% was imposed at the end of the period on the investment plus accrued interest (or US \$1,650), the net return would be 8.35% (or US \$8,350) for the year. Over a three year period, an annual 1.5% fee taken at year end with an assumed 10% return per year would result in a cumulative gross return of 33.10%, a total fee of US \$5,375, and a cumulative net return of 27.2% (or US \$27,200).