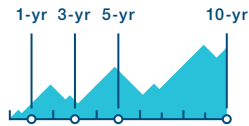




# Target Date Strategies

## THE BENEFITS OF T. ROWE PRICE'S STRATEGIC INVESTING APPROACH



### Rolling Periods

We measured performance over a large number of periods covering the full track record of each RF, instead of just looking at the most recent 5- or 10-year periods. Every calendar month marked the start of a new period—so an RF that launched on September 30, 2002, for example, has 124 rolling five-year periods included in the study.

### Summary

- We believe T. Rowe Price's strategic investing approach, underpinned by the rigor of our independent research and the decision-making of our experienced portfolio managers, has created long-term value for our clients. Our target date process seeks to enhance retirement outcomes both through dynamic tactical adjustments and security selection in the underlying strategies.
- To document the value added by T. Rowe Price's target implementation process, we examined the performance of 11 of our Retirement Funds (RFs)—those that had at least a 10-year track record. The returns net of fees on each RF were compared with their combined index benchmarks in order to quantify the value added by T. Rowe Price's implementation, including tactical allocation decisions and excess returns generated by security selection in the underlying funds.<sup>1</sup>
- Our study found that the 11 RFs studied outperformed their benchmarks in at least 85% of rolling five-year periods and 100% of rolling 10-year periods (rolled monthly) from inception through December 31, 2017, net of fees.
- We believe the success of T. Rowe Price's target date program stems from the firm's core strengths. Our target date managers seek to get ahead of change by identifying attractive near-term asset valuation situations and positioning their portfolios to take advantage of potential opportunities.
- Managers of the underlying funds in our target date strategies seek to add value for clients through security selection. That means our investment professionals go beyond the numbers to see firsthand how the companies we invest in are performing today in order to make skilled judgments about how we think they'll perform in the future.

**Figure 1**

Source: T. Rowe Price.

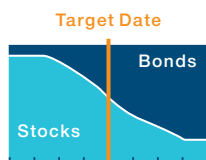
### Retirement Funds Included in Our Performance Study

Fund	Inception Date
Retirement 2005 Fund	2/27/2004
Retirement 2010 Fund	9/30/2002
Retirement 2015 Fund	2/27/2004
Retirement 2020 Fund	9/30/2002
Retirement 2025 Fund	2/27/2004
Retirement 2030 Fund	9/30/2002

Fund	Inception Date
Retirement 2035 Fund	2/27/2004
Retirement 2040 Fund	9/30/2002
Retirement 2045 Fund	5/31/2005
Retirement 2050 Fund	12/29/2006
Retirement 2055 Fund	12/29/2006

**Note that past performance data throughout this material are not reliable indicators of future performance.**

<sup>1</sup> All funds are subject to market risk, including possible loss of principal. For more information on the T. Rowe Price funds used in this study, please visit [troweprice.com/targetdate](http://troweprice.com/targetdate).



### Glide Path

How the strategic allocations in a target date fund change over time. A fund far from its target date typically will feature higher equity allocations. A fund close to its target date typically will increase the weight to bonds or other less volatile investments.



### Active Success Rate

The active success rate records the percentage of times a fund beat its designated benchmark, net of fees and trading costs, over a specified time period (e.g., 10 years). Think of this as a measure of how often a client might look at his or her monthly statement and find that a fund has outperformed for that time period.

To demonstrate that T. Rowe Price's target date investment process historically has created value for our clients, we conducted a rigorous study of the performance of all of our RFs that had at least 10-year track records as of December 31, 2017 (Figure 1). These 11 RFs held virtually all (more than 99%) of the RF assets managed by the firm as of that date.<sup>2</sup>

We examined fund performance at three different levels to quantify the following:

- 1. The value added by T. Rowe Price's tactical allocation process.** Returns were calculated based on each fund's fixed strategic asset allocations and then compared with actual returns, which reflect tactical allocation changes.
- 2. The value added by security selection.** Excess returns—net of fees and other costs—were calculated for the underlying funds in each RF relative to each underlying fund's asset class, sector, or style benchmark. These fund-level returns were then aggregated to show the total excess returns achieved by each RF.
- 3. The total value added by T. Rowe Price's implementation.** RF returns were compared with combined index benchmarks constructed by T. Rowe Price that track the strategic allocations of each fund as it moves along its glide path. (See page 3 for an explanation of how the combined benchmarks are constructed.)

For each level of fund performance, two measures were calculated:

- **Active success rates:** The percentage of total rolling periods in which the RF added value at the performance level being measured.
- **Excess returns:** The value added by each RF at the performance level being measured. Excess returns were calculated for each rolling period and then averaged across all the periods in each time frame.

T. Rowe Price believes strongly that longer time horizons provide the most meaningful measures of target date implementation, as they smooth out the effects of shorter-term factors that can produce a distorted picture of relative performance. Accordingly, our analysis focused primarily on performance over rolling five-year and rolling 10-year periods, rolled monthly.<sup>3</sup>

To provide a summary of the effectiveness of T. Rowe Price's target date process, we also calculated performance averages for all 11 RFs across all three levels of our analysis (total value added, tactical allocation, and security selection). To account for the differing longevity of each RF, these averages were time weighted—the results are based on the percentage of the total performance periods in each time frame provided by each RF.



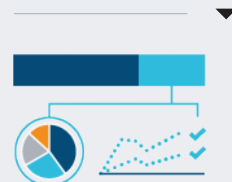
### Tactical Allocation

Managers of target date funds may seek to add value by adjusting the asset allocation to the underlying portfolios to try to take advantage of especially attractive valuations or other short-term market conditions.



### Security Selection

Managers of active investment portfolios typically seek to add value by picking stocks, bonds, or other securities that they believe will outperform broad market indexes.



### Total Implementation

The full value added by efforts to improve target date strategy returns through tactical allocation, security selection in the underlying funds, or both.

<sup>2</sup> One Retirement Fund with a relatively distant target date (2060) was excluded from the study because of its relatively short performance track record.

<sup>3</sup> Performance results over rolling 1- and 3-year periods for the 11 funds included in our analysis can be found at [troweprice.com/targetdate](https://www.troweprice.com/targetdate).

# 100%

Positive active success rates for total implementation for all 11 RFs over 10-year rolling periods.

**“Annualized excess returns were consistently positive across all time frames for all funds.”**

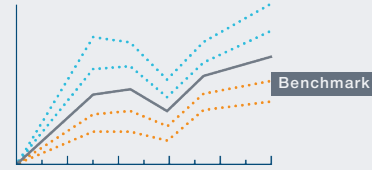
## Study Results

By and large, the time-weighted averages reflect the same results as for the individual Retirement Funds: The total value added by T. Rowe Price's implementation and the contributions made by tactical asset allocation and security selection were all positive and relatively stable across different time periods (Figures 2 and 3).<sup>4</sup>

Individual performance results for the 11 RFs in our study also were strongly positive across both 5- and 10-year time frames:

- **Tactical asset allocation:** The performance contribution from tactical allocation was positive in every 10-year rolling period for every fund (i.e., a 100% active success rate). Active success rates were overwhelmingly positive across five-year rolling periods (averaging 99%). Value added was positive across all time frames (Figure 4, page 5).<sup>5</sup>
- **Security selection:** Excess returns were positive in every 10-year rolling period for every RF and strongly positive (averaging 85%) across five-year rolling periods. Excess returns were positive across all time frames for all funds (Figure 5, page 5).
- **Total implementation:** Active success rates were positive in every 10-year rolling period for every RF and averaged 88% across five-year rolling time periods. Annualized excess returns were consistently positive across all time frames for all funds (Figure 6, page 5).

## Benchmarking Target Date Strategies



T. Rowe Price uses combined index benchmarks to measure the relative performance of the firm's Retirement Funds. These benchmarks are constructed from four indexes that reflect the broad asset classes in the underlying RF portfolios:

- **U.S. Equity:** The Russell 3000 Index.
- **Non-U.S. Equity:** The MSCI All Country World Index ex USA.
- **Fixed Income:** The Bloomberg Barclays U.S. Aggregate Bond Index.
- **Inflation Focused Fixed Income:** The Bloomberg Barclays U.S. 1–5 Year Treasury TIPS Index.

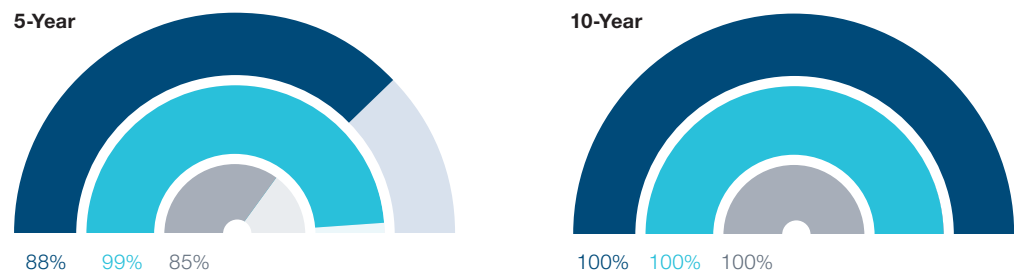
The combined benchmarks mirror the strategic allocations for each fund, isolating the contributions made by tactical allocation and security selection. This means the weights assigned to different asset classes in the benchmarks will change over time as the funds move along their glide paths. The combined index benchmarks for the 11 funds included in our analysis can be found at [troweprice.com/targetdate](http://troweprice.com/targetdate).

**Figure 2**

Fund Inceptions Through December 31, 2017

**Total Implementation** ■  
**Tactical Asset Allocation** ■  
**Security Selection** ■

### Time-Weighted Average Active Success Rates for T. Rowe Price Retirement Funds



**Figure 3**

Fund Inceptions Through December 31, 2017

**Sources:** Bloomberg Barclays, MSCI, Russell, and T. Rowe Price; data analysis by T. Rowe Price.

### Time-Weighted Average Annualized Value Added (in Basis Points) for T. Rowe Price Retirement Funds



<sup>4</sup> Certain types of assets are not represented in the combined index benchmarks of the Retirement Funds. These out-of-benchmark allocations may include high yield bonds; floating rate bank loans; emerging markets bonds; international bonds; dynamic global bonds; U.S. long-term Treasury securities; and a "real asset" allocation consisting of natural resources, metals and mining, and real estate stocks. As a result of the returns contributed by RF out-of-benchmark allocations, the value added by tactical allocation and security selection does not exactly equal the value added by total implementation shown in Figure 3.

<sup>5</sup> The out-of-benchmark allocations in T. Rowe Price's combined index benchmarks may materially affect RF excess returns relative to those benchmarks. For more information on the excess returns attributable to out-of-benchmark allocations, please visit [troweprice.com/targetdate](http://troweprice.com/targetdate).

**Figure 4 Active Success Rates and Average Value Added by Tactical Allocation**Fund Inceptions Through  
December 31, 2017**Active Success Rates**

Rolling periods

**Average Annualized Value Added (Basis Points)**

Rolling periods

Fund	5-Year	10-Year	5-Year	10-Year
RF 2005	100%	100%	20	19
RF 2010	100	100	21	21
RF 2015	100	100	20	21
RF 2020	100	100	22	21
RF 2025	100	100	18	18
RF 2030	100	100	18	17
RF 2035	99	100	14	14
RF 2040	99	100	15	14
RF 2045	99	100	12	11
RF 2050	96	100	12	6
RF 2055	99	100	14	8

**Sources:** Bloomberg Barclays, MSCI, Russell, and T. Rowe Price; data analysis by T. Rowe Price.**Figure 5 Active Success Rates and Average Value Added by Security Selection**Fund Inceptions Through  
December 31, 2017**Active Success Rates**

Rolling periods

**Average Annualized Value Added (Basis Points)**

Rolling periods

Fund	5-Year	10-Year	5-Year	10-Year
RF 2005	64%	100%	21	16
RF 2010	56	100	15	16
RF 2015	78	100	26	22
RF 2020	79	100	26	26
RF 2025	96	100	37	32
RF 2030	90	100	36	36
RF 2035	100	100	48	43
RF 2040	91	100	41	41
RF 2045	100	100	49	44
RF 2050	100	100	45	41
RF 2055	100	100	45	42

**Sources:** Bloomberg Barclays, Credit Suisse, J.P. Morgan, MSCI, Russell, Standard & Poor's, and T. Rowe Price; data analysis by T. Rowe Price.**Figure 6 Active Success Rates and Average Value Added by Total Implementation**Fund Inceptions Through  
December 31, 2017**Active Success Rates**

Rolling periods

**Average Annualized Value Added (Basis Points)**

Rolling periods

Fund	5-Year	10-Year	5-Year	10-Year
RF 2005	86%	100%	52	43
RF 2010	85	100	43	43
RF 2015	87	100	49	41
RF 2020	86	100	49	48
RF 2025	89	100	50	42
RF 2030	90	100	49	49
RF 2035	91	100	51	43
RF 2040	90	100	49	49
RF 2045	91	100	52	39
RF 2050	89	100	47	35
RF 2055	89	100	48	34

**Sources:** Bloomberg Barclays, MSCI, Russell, and T. Rowe Price; data analysis by T. Rowe Price.

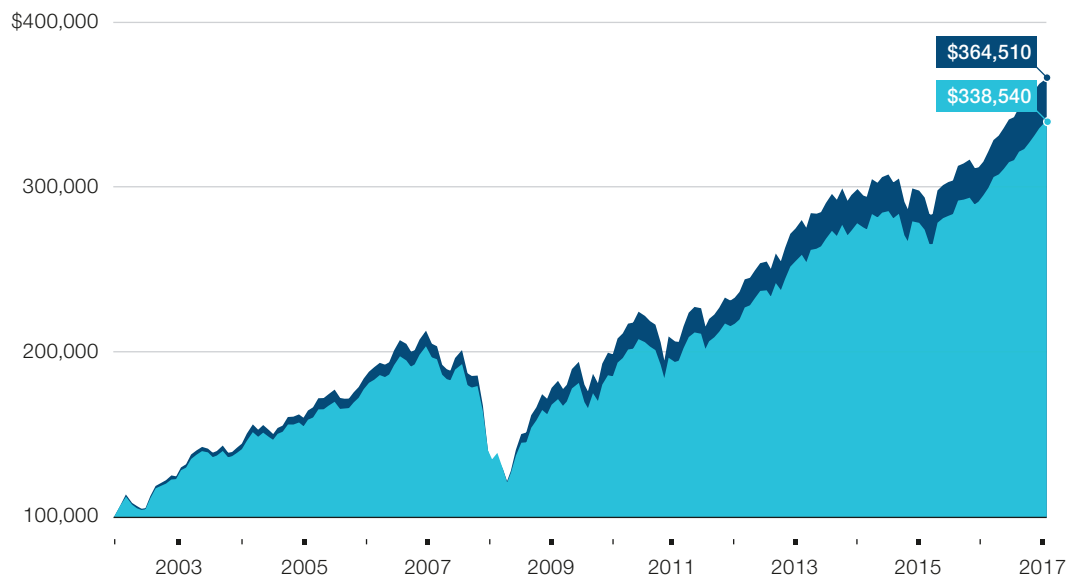
**Figure 7**

September 30, 2002,  
Through December 31, 2017

**T. Rowe Price Retirement  
2020 Fund**  
**Combined Index  
Benchmark**

**Example of the Benefits of T. Rowe Price's Strategic Investing Approach**

**Portfolio Growth Potential Relative to T. Rowe Price Combined Index Benchmark**



As of 12/31/2017, the fund's 1-, 5-, and 10-year average annual total returns were 15.74%, 9.09%, and 6.04%, respectively. Current performance may be higher or lower than the quoted past performance, which cannot guarantee future results. Share price, principal value, and return will vary, and you may have a gain or loss when you sell your shares. Average annual total return figures include changes in principal value, reinvested dividends, and capital gain distributions. To obtain the most recent month-end performance, please visit our website or contact a T. Rowe Price representative at 1-800-225-5132. The fund's expense ratio is **0.66%** as of its most recent fiscal year ended 5/31/2017.

**Sources:** Bloomberg Barclays, MSCI, Russell, and T. Rowe Price; data analysis by T. Rowe Price.

**Benefits for Investors**

The excess returns historically achieved by T. Rowe Price's Retirement Funds may seem modest compared with the absolute returns that investors typically have been able to achieve on diversified asset portfolios over longer periods. However, compounded over time, even a small improvement in returns can make a significant difference in ending portfolio values.

Take, for example, the experience of the T. Rowe Price Retirement 2020 Fund.<sup>6</sup> From its inception on September 30, 2002, through December 31, 2017, the 2020 fund outperformed its combined index benchmark by more than 0.5 of a percentage point, annualized. In other words, if an investor had invested \$100,000 in the 2020 fund at inception, by the end of 2017 his or her portfolio could have been worth \$25,970 more than the same amount invested in a hypothetical portfolio that earned the same return as the fund's combined index benchmark (Figure 7).

A \$25,970 difference in ending portfolio values could be significant for some retirement investors. In our example, the investor who invested in the Retirement 2020 Fund would be able to withdraw an additional \$1,299 per year over a 20-year retirement time horizon compared with the investor who invested in the hypothetical combined benchmark portfolio—assuming no further portfolio growth after retirement (Figure 8). For some retirees, that \$1,299 difference could have a meaningful impact on living standards.

**Figure 8**

September 30, 2002, Through  
December 31, 2017

**Retirement 2020 Fund**  
**Combined Index Portfolio**

**Source:** T. Rowe Price.

**Potential Postretirement Annual Spending Amounts**

**Income From a \$100,000 Investment\***



\*Assumes no further portfolio growth after retirement.

<sup>6</sup>Retirement 2020 Fund inception date was 9/30/2002. The fund's combined index benchmark is composed of 60.50% stocks (42.35% Russell 3000 Index and 18.15% MSCI All Country World Index ex USA) and 39.50% bonds (32.00% Bloomberg Barclays U.S. Aggregate Bond Index and 7.50% Bloomberg Barclays U.S. 1–5 Year Treasury TIPS Index). Benchmark weightings as of December 31, 2017.

**“ We believe the value added by our target date implementation can meaningfully enhance retirement outcomes for investors.**

## **Our Approach to Strategic Investing**

T. Rowe Price's target date process seeks to improve outcomes for our target date clients at multiple levels—via glide-path design, long-term diversification, tactical asset allocation, and our strategic investing approach. We believe the value added by our target date implementation can meaningfully enhance retirement outcomes for investors.

Bottom-up fundamental research is at the core of how we manage the underlying strategies in our target date funds. That means that over 350 of our investment professionals go beyond the numbers by visiting senior corporate executives in their offices, touring their companies, and checking reality on the ground with suppliers and customers.<sup>7</sup> This enables them to ask the right questions to get a deeper understanding of where a company stands and where they think it could go in the future.

Our target date managers, backed by our committee of asset allocation experts from across multi-asset, equity, and fixed income, seek to get ahead of change by identifying attractive near-term asset valuations and using prudent tactical allocation adjustments to take advantage of those potential opportunities.

Experience has been a critical component of our success as well. Our skilled portfolio managers have deep experience—an average of 21 years in the industry and 16 years with T. Rowe Price.<sup>8</sup> Significantly, many of our analysts go on to become portfolio managers, which we believe creates a strong foundation on behalf of our clients.

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<sup>7</sup>Investment staff as of December 31, 2017. Includes 104 portfolio managers, 24 associate portfolio managers, 148 investment analysts, 47 associate analysts, 10 multi-asset specialists, 3 specialty analysts, 2 strategists, and 17 senior managers.

<sup>8</sup>As of December 31, 2017.

# Important Information

## STANDARDIZED PERFORMANCE

Annualized total returns for periods ended June 30, 2018.

Fund (Inception Date)	Gross Expense Ratio <sup>†</sup>	1-Year	3-Year	5-Year	10-Year
Retirement 2005 Fund (NAV) (2/27/2004)	<b>0.58%</b>	4.34%	5.61%	5.61%	5.67%
Retirement 2005 Combined Index Portfolio*		4.74	4.72	5.60	5.17
Retirement 2010 Fund (NAV) (9/30/2002)	<b>0.57</b>	4.94	5.27	6.20	5.92
Retirement 2010 Combined Index Portfolio*		5.39	5.16	6.18	5.55
Retirement 2015 Fund (NAV) (2/27/2004)	<b>0.59</b>	5.88	5.88	7.10	6.47
Retirement 2015 Combined Index Portfolio*		6.33	5.83	7.04	6.11
Retirement 2020 Fund (NAV) (9/30/2002)	<b>0.63</b>	7.02	6.64	8.06	6.98
Retirement 2020 Combined Index Portfolio*		7.55	6.66	7.94	6.60
Retirement 2025 Fund (NAV) (2/27/2004)	<b>0.67</b>	8.04	7.27	8.89	7.38
Retirement 2025 Combined Index Portfolio*		8.56	7.32	8.70	7.02
Retirement 2030 Fund (NAV) (9/30/2002)	<b>0.69</b>	8.99	7.88	9.61	7.76
Retirement 2030 Combined Index Portfolio*		9.56	7.95	9.38	7.38
Retirement 2035 Fund (NAV) (2/27/2004)	<b>0.72</b>	9.75	8.29	10.14	8.02
Retirement 2035 Combined Index Portfolio*		10.36	8.43	9.88	7.66
Retirement 2040 Fund (NAV) (9/30/2002)	<b>0.74</b>	10.37	8.62	10.52	8.26
Retirement 2040 Combined Index Portfolio*		11.02	8.82	10.27	7.89
Retirement 2045 Fund (NAV) (5/31/2005)	<b>0.74</b>	10.67	8.81	10.64	8.32
Retirement 2045 Combined Index Portfolio*		11.35	9.02	10.39	7.95
Retirement 2050 Fund (NAV) (12/29/2006)	<b>0.74</b>	10.64	8.82	10.63	8.31
Retirement 2050 Combined Index Portfolio*		11.35	9.02	10.39	7.95
Retirement 2055 Fund (NAV) (12/29/2006)	<b>0.74</b>	10.62	8.79	10.63	8.30
Retirement 2055 Combined Index Portfolio*		11.35	9.02	10.39	7.95

As of fiscal quarter that ended on 6/30/2018.

<sup>†</sup>Expense ratios are as of the most recent prospectus.

\*The combined index portfolio, which is the broad-weighted benchmark for each fund, is an unmanaged portfolio composed of the Russell 3000 Index, MSCI All Country World Index ex USA, Bloomberg Barclays U.S. Aggregate Bond Index, and Bloomberg Barclays U.S. 1–5 Year Treasury TIPS Index.

Source: T. Rowe Price.

**Current performance may be higher or lower than the quoted past performance, which cannot guarantee future results. Share price, principal value, and return will vary, and you may have a gain or loss when you sell your shares. Average annual total return figures include changes in principal value, reinvested dividends, and capital gain distributions. To obtain the most recent month-end performance, please visit our website or contact a T. Rowe Price representative at 1-800-225-5132.**

## INVEST WITH CONFIDENCE®

T. Rowe Price focuses on delivering investment management excellence that investors can rely on—now and over the long term.

To learn more, please visit [troweprice.com](http://troweprice.com).

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### Important Information

*Call 1-800-225-5132 to request a prospectus, which includes investment objectives, risks, fees, expenses, and other information that you should read and consider carefully before investing.*

The principal value of the Retirement Funds is not guaranteed at any time, including at or after the target date, which is the approximate year an investor plans to retire (assumed to be age 65) and likely stop making new investments in the fund. If an investor plans to retire significantly earlier or later than age 65, the funds may not be an appropriate investment even if the investor is retiring on or near the target date. The funds' allocations among a broad range of underlying T. Rowe Price stock and bond funds will change over time. The funds emphasize potential capital appreciation during the early phases of retirement asset accumulation, balance the need for appreciation with the need for income as retirement approaches, and focus on supporting an income stream over a long-term postretirement withdrawal horizon. The funds are not designed for a lump-sum redemption at the target date and do not guarantee a particular level of income. The funds maintain a substantial allocation to equities both prior to and after the target date, which can result in greater volatility over shorter time horizons.

The views contained herein are as of July 2018 and may have changed since then.

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**Note that past performance data throughout this material are not reliable indicators of future performance.**

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