



Methodology Summary: U.S. Equity Mutual Fund Study

April 2019

We examined the performance of 18 of T. Rowe Price's current lineup of active diversified U.S. equity funds over a 20-year period beginning December 31, 1998, and ending December 31, 2018, or since their inception. The funds included in the study, and the benchmarks used to measure their relative performance, are

shown in Figure 1. Diversified funds were defined as those that had the ability to invest across one or more U.S. equity categories, such as large-cap growth and large-cap value; mid-cap growth and mid-cap value; small-cap growth and small-cap value; or the core large-, mid-, and small-cap universes. One of the 18 funds, the Capital Appreciation Fund, also has the ability to invest in

(Fig. 1) The Performance Study Universe

T. Rowe Price funds, benchmarks, and inclusion dates

Strategy	Mutual Fund Name	Designated Benchmark	Inclusion Date
US Growth Equity	Growth Stock Fund	Russell 1000 Growth Index	12/31/1998
US Small-Cap Growth Equity	New Horizons Fund	Russell 2000 Growth Index	12/31/1998
US Growth & Income Equity	Growth & Income Fund	S&P 500 Index	12/31/1998
US Large-Cap Equity Income	Equity Income Fund	Russell 1000 Value Index	12/31/1998
US Capital Appreciation	Capital Appreciation Fund	S&P 500 Index	12/31/1998
US Small-Cap Value Equity	Small-Cap Value Fund	Russell 2000 Value Index	12/31/1998
US Mid-Cap Growth Equity	Mid-Cap Growth Fund	Russell Midcap Growth Index	12/31/1998
US Small-Cap Core Equity	Small-Cap Stock Fund	Russell 2000 Index	12/31/1998
US Dividend Growth Equity	Dividend Growth Fund	S&P 500 Index	12/31/1998
US Large-Cap Core Growth Equity	Blue Chip Growth Fund	Russell 1000 Growth Index	12/31/1998
US Value Equity	Value Fund	Russell 1000 Value Index	12/31/1998
US Structured Research Equity ¹	Capital Opportunity Fund	S&P 500 Index	12/31/1998
US Mid-Cap Value Equity	Mid-Cap Value Fund	Russell Midcap Value Index	12/31/1998
US Structured Active Small-Cap Growth Equity	QM U.S. Small-Cap Growth Equity Fund ²	Russell 2000 Growth Index	12/31/1998
US Large-Cap Value Equity	Institutional Large-Cap Value Fund	Russell 1000 Value Index	3/31/2000
US Multi-Cap Growth Equity	New America Growth Fund	Russell 1000 Growth Index	4/30/2000 ³
US Large-Cap Growth Equity	Institutional Large-Cap Growth Fund	Russell 1000 Growth Index	10/31/2001
US Structured Active Mid-Cap Growth Equity	Diversified Mid-Cap Growth Fund	Russell Midcap Growth Index	12/31/2003

Source: T. Rowe Price.

¹ The Capital Opportunity Fund transitioned from a U.S.-unconstrained all-cap strategy to a U.S. structured research strategy on 4/30/1999. T. Rowe Price's US Structured Research Equity Strategy uses a portfolio construction process that emphasizes stock selection by the firm's industry-focused analysts. While the majority of the Capital Opportunity Fund's assets are invested in U.S. large-cap stocks, U.S. small- and mid-cap and foreign stocks may also be purchased in keeping with the fund's objectives. The fund's sector weightings are approximately the same as for the S&P 500 Index.

² Formerly the Diversified Small-Cap Growth Fund.

³ The New America Growth Fund inceptioned in September 1985 but was added to the study as of the date of an investment program change that broadened its objective to include investing in a diversified portfolio of U.S. growth companies.

fixed income assets but is primarily an equity portfolio and is benchmarked to the S&P 500 Index. The 18 funds included in the study represented almost 78% of total U.S. equity assets in the domestic and global equity mutual funds advised by the firm as of December 31, 2018.

Our study was limited to diversified U.S. equity funds primarily for two reasons:

- Many of T. Rowe Price’s international and global equity products have significantly more limited performance records than our diversified U.S. equity offerings. This could have significantly skewed average performance comparisons over shorter and longer rolling time periods and between the early and later years of the study.
- U.S. equity markets are widely regarded as the world’s most efficient, transparent, and intensively researched, making them particularly formidable tests of active management skill.

More specialized sector portfolios—such as T. Rowe Price’s Health Sciences Fund and our Communications & Technology Fund—were excluded from the study because the narrow, sector-specific performance benchmarks used by these funds made direct comparisons to diversified funds inappropriate, in our view. It is our belief that including these funds would not have had a materially negative impact on the study’s conclusions, as most T. Rowe Price sector funds showed positive average excess returns against their specialized benchmarks that, in many cases, are larger than for the firm’s diversified U.S. equity funds.

Four of T. Rowe Price’s diversified U.S. equity funds were excluded from the study. The Large-Cap Core Fund inceptioned in June 2009 and thus had an extremely limited longer-term performance track record consisting of only 55 five-year rolling periods—a statistically invalid sample. Two recently inceptioned funds—the QM U.S. Small & Mid-Cap Core Equity Fund and the QM U.S. Value Equity Fund—had even shorter performance histories. Given that the purpose of the study was to examine

T. Rowe Price active performance over longer time frames, we believe inclusion of these funds would have been inappropriate.

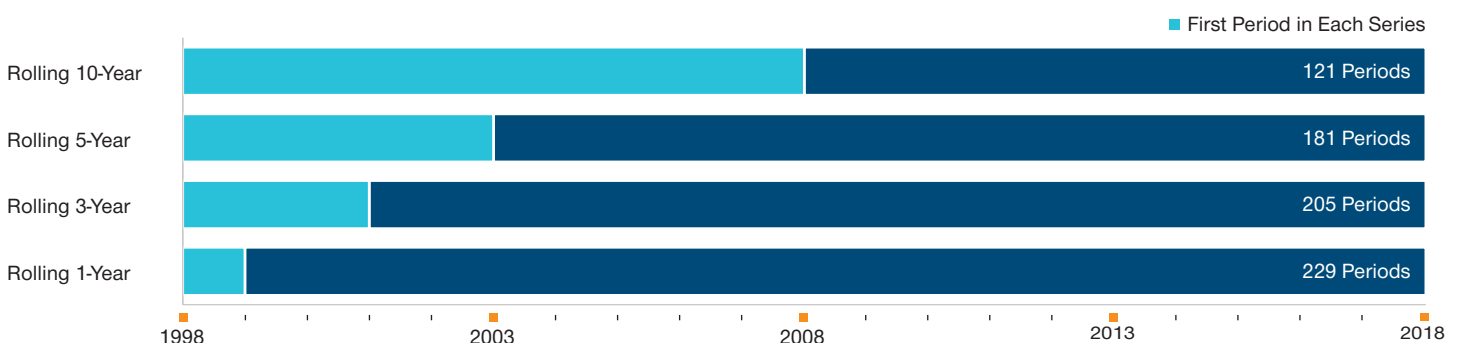
The T. Rowe Price Tax-Efficient Equity Fund was also excluded from the study. The fund’s objective of seeking to maximize after-tax portfolio growth results in an active management process that is fundamentally different from funds focused on before-tax performance and makes comparisons of active success rates and average excess returns relative to taxable benchmarks inappropriate, in our view.

Funds were included in the study universe as of December 31, 1998, or, for funds without full 20-year track records for the period covered by the study, as of the date of their inception. An exception was the New America Growth Fund, which inceptioned October 31, 1985, but was included in the study as of April 30, 2000. Prior to its study inclusion date, the New America Growth Fund was a specialized sector fund focused on the U.S. services sector. The fund was added to the study as of the date of an investment program change that broadened its objective to include investing in a diversified portfolio of U.S. growth companies.

Because T. Rowe Price has not liquidated or merged any diversified U.S. equity funds offered to its clients since the beginning of the study period, there was no survivorship bias in the results.

Fund and benchmark return data were taken from T. Rowe Price’s internal performance database, which is used by T. Rowe Price to calculate returns for its quarterly, semiannual, and annual client reports; for marketing materials; and for regulatory disclosures. Benchmark returns in the T. Rowe Price database are collected from the index providers—in this case, the Standard & Poor’s Corporation and Frank Russell Company. All study results were based on total returns, including dividends reinvested. Fund returns are based on the reported net asset values (NAV) and SEC standardized returns for the T. Rowe Price mutual funds included in the composites for each strategy, from which management fees and operating expenses have been subtracted. In other words, the fund returns used in the study are based on the after-cost

(Fig. 2) Rolling Time Periods in Performance Study



Source: T. Rowe Price.

performance of the Investor Class for each fund. In recent years, some of the T. Rowe Price funds included in the study have launched additional share classes with different expenses. However, given the limited track records of these share classes, we believe it was more appropriate to base our study on performance results of the Investor Classes.

For each fund in the study, T. Rowe Price analysts calculated 1-, 3-, 5-, and 10-year rolling returns, rolled monthly. Returns for the 3-, 5-, and 10-year rolling periods were annualized. To ensure these periods all covered the equivalent two-decade slice of U.S. equity market history, each rolling series began on December 31, 1998 and ended on December 31, 2018 (Figure 2). This produced:

- 229 rolling one-year periods,
- 205 rolling three-year periods,
- 181 rolling five-year periods, and
- 121 rolling 10-year periods.⁴

For each rolling period, the returns for each fund's current size and/or style benchmark were subtracted from the fund return, producing an excess return. The percentage of rolling periods in each time series in which excess returns were positive was then calculated, producing an active success rate for each fund across each time horizon shown in Figure 3. Excess returns were averaged across every rolling period in each time frame for each fund to arrive at the results shown in Figure 4.

Positive Results for Most T. Rowe Price Diversified U.S. Equity Funds Over Longer Time Horizons

Rolling periods December 31, 1998, through December 31, 2018

(Fig. 3)

Active success rate: percentage of rolling periods with returns higher than benchmark (net of fees)

Fund	1-Year	3-Year	5-Year	10-Year
Growth Stock	68%	71%	78%	87%
New Horizons	79	92	99	100
Growth & Income	38	45	42	40
Equity Income	43	46	47	37
Capital Appreciation	49	58	65	91
Small-Cap Value	64	82	92	100
Mid-Cap Growth	67	84	97	100
Small-Cap Stock	65	74	83	100
Dividend Growth	48	55	60	90
Blue Chip Growth	66	77	76	100
Value	56	62	81	100
Capital Opportunity	56	60	73	83
Mid-Cap Value	54	57	60	81
QM U.S. Small-Cap Growth Equity	67	72	78	100
Institutional Large-Cap Value	58	62	69	100
New America Growth	65	72	79	100
Institutional Large-Cap Growth	64	77	93	100
Diversified Mid-Cap Growth	43	52	57	64

(Fig. 4)

Average annualized excess returns over benchmark (net of fees)

1-Year	3-Year	5-Year	10-Year
2.34%	2.18%	1.86%	1.41%
4.30	4.05	3.76	3.52
0.15	0.36	0.19	0.21
0.17	0.00	-0.16	0.19
3.37	3.91	3.30	3.38
1.56	1.76	1.65	1.94
1.68	3.04	2.67	2.61
1.88	1.91	1.70	1.98
0.50	1.00	0.78	0.88
1.91	1.77	1.52	1.11
1.41	1.03	1.03	1.15
0.44	0.30	0.26	0.27
0.92	0.79	0.56	0.89
1.09	1.35	1.24	1.37
1.09	0.63	0.58	0.72
1.95	1.34	1.26	1.35
2.33	1.50	1.33	1.28
-0.25	0.02	0.03	0.04

■ **Periods with positive active success rates or positive average excess returns.**

Sources: T. Rowe Price, Morningstar, Russell, and Standard & Poor's; data analysis by T. Rowe Price.

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⁴Since not all funds had performance records covering the full 20-year study, the number of rolling periods was smaller for some funds.

Firmwide excess return averages were calculated for three capitalization categories in the study universe: large-cap funds, mid-cap funds, and small-cap funds. Managers were placed in these categories based on their designated benchmarks:

- Funds benchmarked to the S&P 500 Index, the Russell 1000 Value Index, or the Russell 1000 Growth Index were included in the large-cap category.
- Funds benchmarked to the Russell Midcap Growth Index or the Russell Midcap Value Index were included in the mid-cap category.
- Funds benchmarked to the Russell 2000 Index, the Russell 2000 Growth Index, or the Russell 2000 Value Index were included in the small-cap category.

To adjust for the fact that several funds had performance histories considerably shorter than the full 20-year period covered by the study, performance averages in each category were time weighted, meaning the results were adjusted to

reflect the percentage of the total performance periods in each category that were provided by each strategy. The capitalization categories and time weights used are shown in Figure 5.

Overall, time weighting had relatively little impact on average performance results for the large-cap and small-cap categories. However, average excess returns for the mid-cap category improved somewhat, especially over longer rolling time periods, reflecting the relatively shorter performance history of the Diversified Mid-Cap Growth Fund.

Due to the relatively small sample sizes in each capitalization category (11 large-cap funds, three mid-cap funds, and four small-cap funds), the results of this analysis are of limited statistical significance and should be regarded as indicative only.

(Fig. 5) Time Weights for T. Rowe Price Funds

Percentage of total rolling performance periods within each capitalization category
Rolling periods ended December 31, 2018

U.S. Large-Cap	Rolling Periods			
	1-Year	3-Year	5-Year	10-Year
Growth Stock	9.33%	9.36%	9.40%	9.56%
Growth & Income	9.33	9.36	9.40	9.56
Equity Income	9.33	9.36	9.40	9.56
Capital Appreciation	9.33	9.36	9.40	9.56
Dividend Growth	9.33	9.36	9.40	9.56
Blue Chip Growth	9.33	9.36	9.40	9.56
Value Stock	9.33	9.36	9.40	9.56
Capital Opportunity	9.33	9.36	9.40	9.56
Institutional Large-Cap Value	8.72	8.68	8.62	8.37
New America Growth	8.68	8.63	8.57	8.29
Institutional Large-Cap Growth	7.95	7.81	7.63	6.87
U.S. Mid-Cap				
Mid-Cap Growth	36.52	36.94	37.47	39.93
Mid-Cap Value	36.52	36.94	37.47	39.93
Diversified Mid-Cap Growth	26.95	26.13	25.05	20.13
U.S. Small-Cap				
New Horizons	25.00	25.00	25.00	25.00
Small-Cap Value	25.00	25.00	25.00	25.00
Small-Cap Stock	25.00	25.00	25.00	25.00
QM U.S. Small-Cap Growth Equity	25.00	25.00	25.00	25.00

Source: T. Rowe Price.

Past performance cannot guarantee future results.

Important Information

Standardized Performance

Annualized total returns for periods ended March 31, 2019

Fund	Inception Date	Gross Expense Ratio [†]	1-Year	3-Year	5-Year	10-Year	20-Year or Since Inception
TRP Growth Stock Fund (NAV)	(04/11/1950)	0.67%	10.48%	13.68%	13.68%	8.15%	8.15%
Russell 1000 Growth Index			12.75	16.53	13.50	17.52	5.51
TRP New Horizons Fund (NAV)	(06/03/1960)	0.78	18.27	22.91	14.19	22.09	12.03
Russell 2000 Growth Index			3.85	14.87	8.41	16.52	7.08
TRP Growth & Income Fund (NAV)	(12/21/1982)	0.66	9.43	12.28	10.39	15.17	6.48
S&P 500 Index			9.50	13.51	10.91	15.92	6.04
TRP Equity Income Fund (NAV)	(10/31/1985)	0.65	2.98	10.73	6.62	13.70	6.92
Russell 1000 Value Index			5.67	10.45	7.72	14.52	6.68
TRP Capital Appreciation Fund (NAV)	(06/30/1986)	0.71	12.12	11.28	10.10	14.28	10.43
S&P 500 Index			9.50	13.51	10.91	15.92	6.04
TRP Small-Cap Value Fund (NAV)	(06/30/1988)	0.91	1.45	12.26	6.65	15.06	11.38
Russell 2000 Value Index			0.17	10.86	5.59	14.12	9.40
TRP Mid-Cap Growth Fund (NAV)	(06/30/1992)	0.76	9.40	14.91	12.12	18.12	10.80
Russell Midcap Growth Index			11.51	15.06	10.89	17.60	7.98
TRP Small-Cap Stock Fund (NAV)	(06/01/1956)*	0.89	11.67	15.91	9.53	18.14	11.02
Russell 2000 Index			2.05	12.92	7.05	15.36	8.44
TRP Dividend Growth Fund (NAV)	(12/30/1992)	0.64	12.63	13.36	11.03	15.30	7.11
S&P 500 Index			9.50	13.51	10.91	15.92	6.04
TRP Blue Chip Growth Fund (NAV)	(06/30/1993)	0.70	12.10	20.02	14.95	18.91	7.66
Russell 1000 Growth Index			12.75	16.53	13.50	17.52	5.51
TRP Value Fund (NAV)	(09/30/1994)	0.81	4.04	10.15	7.63	15.78	7.89
Russell 1000 Value Index			5.67	10.45	7.72	14.52	6.68
TRP Capital Opportunity Fund (NAV)	(11/30/1994)	0.71	9.41	14.11	11.18	15.76	6.55
S&P 500 Index			9.50	13.51	10.91	15.92	6.04
TRP Mid-Cap Value Fund (NAV)	(06/28/1996)	0.79	-0.28	8.90	7.21	15.05	10.69
Russell Midcap Value Index			2.89	9.50	7.22	16.39	9.56
TRP QM U.S. Small-Cap Growth Equity Fund (NAV)	(06/30/1997)	0.79	7.04	14.94	10.16	18.52	8.64
Russell 2000 Growth Index			3.85	14.87	8.41	16.52	7.08
TRP Institutional Large-Cap Value Fund (NAV)	(03/31/2000)	0.57	3.79	10.48	7.87	14.58	8.02**
Russell 1000 Value Index			5.67	10.45	7.72	14.52	6.70***
TRP New America Growth Fund (NAV)	(09/30/1985)	0.79	12.28	18.88	13.97	17.72	7.09
Russell 1000 Growth Index			12.75	16.53	13.50	17.52	5.51
TRP Institutional Large-Cap Growth Fund (NAV)	(10/31/2001)	0.56	13.98	21.92	15.19	19.60	10.70**
Russell 1000 Growth Index			12.75	16.53	13.50	17.52	8.50***
TRP Diversified Mid-Cap Growth Fund (NAV)	(12/31/2003)	0.84	12.72	15.84	11.57	17.51	10.04**
Russell Midcap Growth Index			11.51	15.06	10.89	17.60	10.12***

TRP = T. Rowe Price.

[†]Most recent fiscal year as of 03/31/2019.

*Managed by T. Rowe Price effective 8/30/1992.

**Since inception.

***Since fund inception.

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