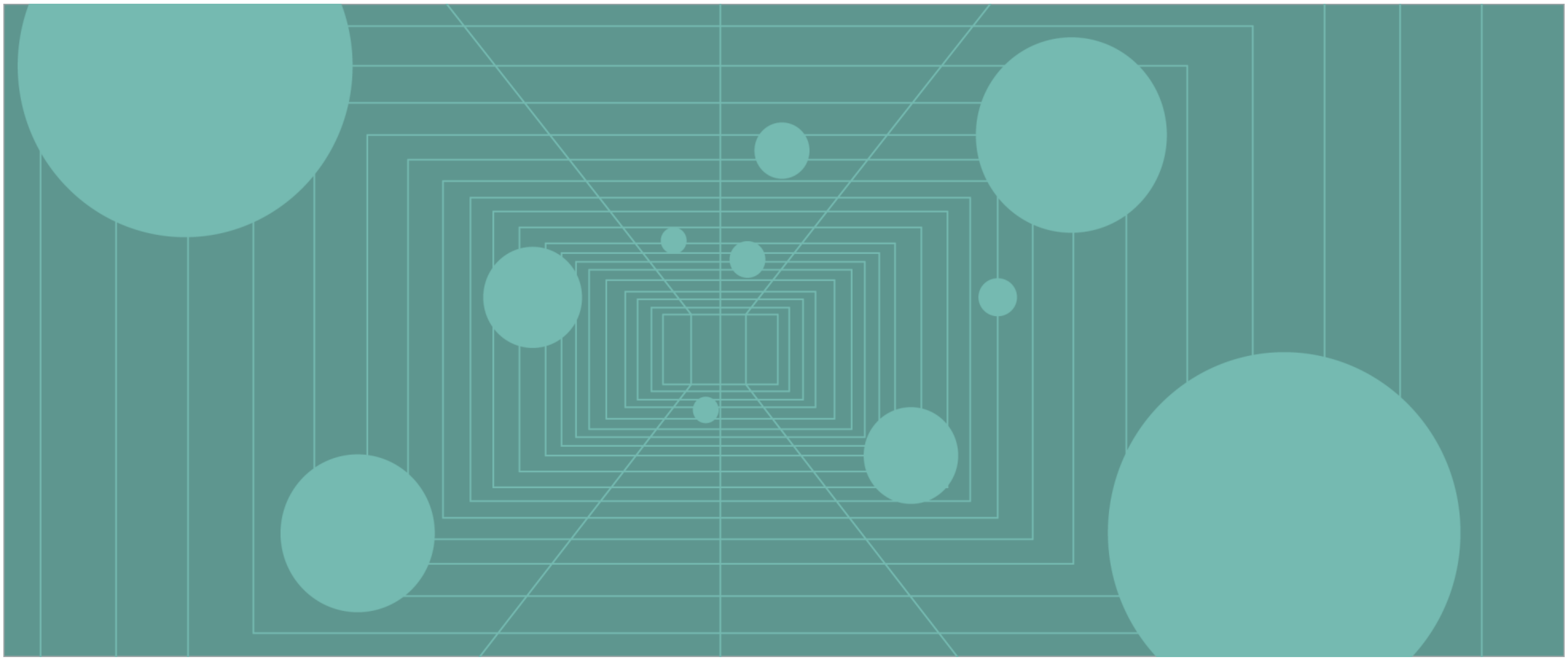
US MID- TO LARGE-CAP EQUITY MANAGER PERFORMANCE

ANALYSIS OF 2018 AND PERFORMANCE SINCE 2000



CAMBRIDGE ASSOCIATES

2019

Summary Observations

- For the fifth straight year, the majority of active mid- to large-cap managers underperformed in 2018, with 61.1% underperforming (gross of fees) in 2018. The median manager underperformed the Russell 1000® Index by 136 basis points (bps) for the year. Taking fees into account (using a proxy of 60 bps), the percentage of underperformers increases to 64.6%. Style preference had a big impact: the median growth manager in our universe performed very well against the Russell 1000®, but slightly underperformed the Russell 1000® Growth Index, whereas the median value manager (a larger constituent of our overall universe) underperformed the Russell 1000® *and* significantly underperformed the Russell 1000® Value Index's -8.3% return. Overall, roughly one-fifth of managers outperformed the fee-adjusted index by 250 bps or more.
- Growth stocks once again bested value stocks in 2018. The performance gap between growth and value was 879 bps, a wide margin by historical standards. Through third quarter 2018, active growth managers had their best rolling four-quarter period (8.93 percentage points above the CA overall manager median) since 2000, before giving back some of the gains through fourth quarter to end the year 5.09 percentage points above median. Conversely, value managers had their worst rolling four-quarter performance versus the composite median since 2000 through third quarter, before clawing back some of the underperformance by year end.
- The success of active managers is cyclical and affected by several factors. Favorable factors include larger companies underperforming, US stocks underperforming other developed market peers, and cash outperforming stocks. In recent years, most of these factors have been absent. In 2018, cash did outperform stocks, but the presence of this factor alone was not enough to help the median manager outperform. In fact, 2018 was the first time in five instances during the 2000–17 period that the median US mid- to large-cap manager lagged the Russell 1000® Index, even as cash outperformed stocks. Style may have also played a role; value managers had outpaced the broader market in each of the four other periods when cash outperformed the index, but lagged in 2018.

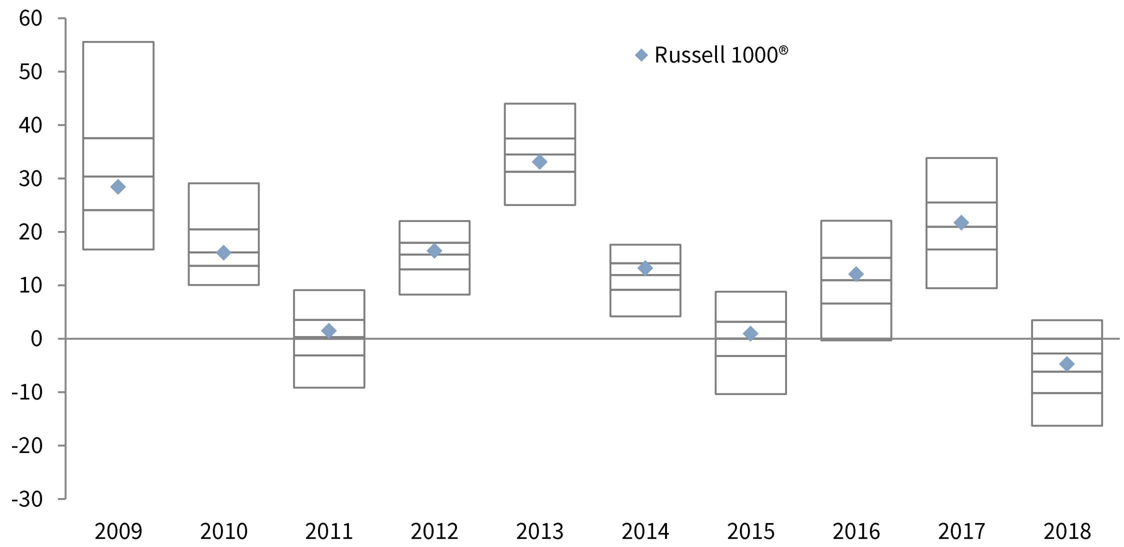
Summary Observations (continued)

- Sector allocation can also play a role in relative performance. Managers were overweight two of the worst-performing sectors (industrials and materials) which together accounted for nearly -200 bps of the Russell 1000® Index's -4.79% return in 2018. Hefty underweights to utilities and real estate, which both outperformed the broader index, were also a drag on manager performance.
- High dispersion in stock returns is often thought to mean more managers will outperform. In fact, the relationship is weak. Rather, stock dispersion increases the dispersion of managers' excess returns—greater stock dispersion gives managers more of an opportunity to separate from the pack, but this can be to the upside or the downside. In 2018, the dispersion of stock returns was in line with ten-year averages, as was dispersion in manager excess returns. Stock dispersion has been markedly low since the global financial crisis, but there is still plenty of room for skilled active managers to deliver appealing returns.
- Persistence in manager outperformance is rare, and movement among performance quintiles is fairly common. Of the top-performing quintile of US mid- to large-cap equity managers in the 2009–13 period, more than half placed in the bottom two quintiles over the subsequent five-year period (2014–18). Long term, more than half of managers in the top-performing quintile over the past ten years found themselves in the bottom quintile for at least one three-year period, a factor that endures regardless of investment style.

61% of active US equity managers underperformed the index in 2018

US MID- TO LARGE-CAP EQUITY MANAGER ANNUAL RETURNS BY QUARTILES

2009–18 • Percent (%)



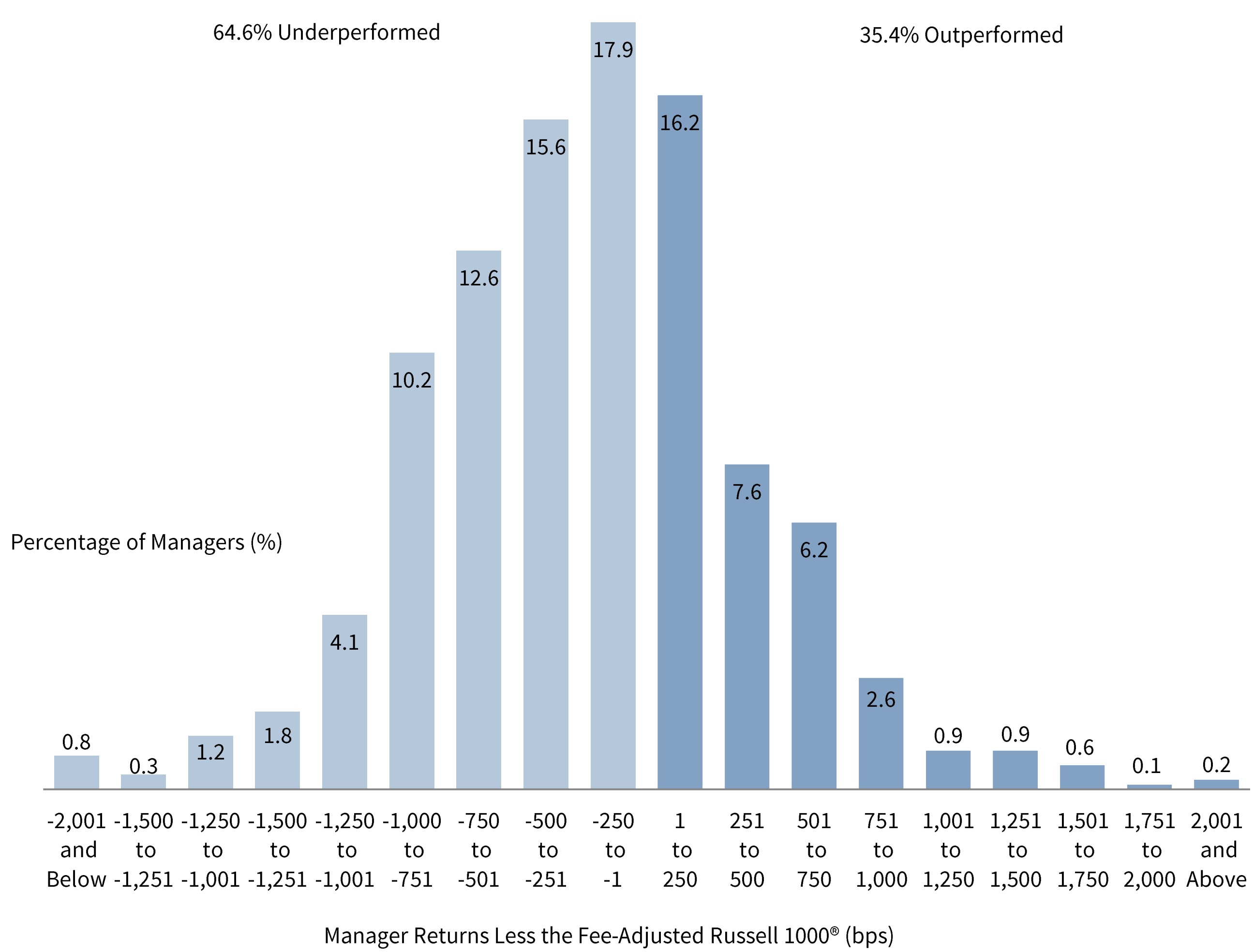
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
5th Percentile	55.6	29.1	9.1	22.0	44.0	17.6	8.8	22.1	33.8	3.5
25th Percentile	37.5	20.5	3.6	18.0	37.5	14.1	3.2	15.2	25.5	-2.8
Median	30.4	16.2	0.3	15.7	34.5	11.9	0.1	11.0	21.0	-6.1
75th Percentile	24.1	13.7	-3.1	13.0	31.3	9.2	-3.2	6.6	16.7	-10.2
95th Percentile	16.7	10.1	-9.2	8.3	25.1	4.2	-10.4	-0.3	9.5	-16.3
Russell 1000®	28.4	16.1	1.5	16.4	33.1	13.2	0.9	12.1	21.7	-4.8
# of Managers	*1,322*	*1,289*	*1,270*	*1,248*	*1,212*	*1,207*	*1,196*	*1,149*	*1,078*	*882*
% Outperforming	**57.0**	**50.6**	**39.3**	**42.1**	**60.9**	**35.3**	**42.9**	**42.8**	**45.4**	**38.7**
% Underperforming	**42.8**	**49.4**	**60.6**	**57.9**	**39.1**	**64.5**	**57.1**	**57.1**	**62.2**	**61.1**

The median manager has underperformed the index in five straight years, and seven of nine years since the global financial crisis. Median manager performance can be skewed by style, as value managers make up the largest proportion of the dataset. Value managers massively lagged the broader index in 2017 and 2018, while growth managers outperformed.

Sources: Cambridge Associates LLC, Frank Russell Company, and Thomson Reuters Datastream.
Notes: Cambridge Associates LLC's (CA) manager universe statistics are derived from CA's proprietary Investment Manager Database. Managers that do not report in US dollars, exclude cash reserves from reported total returns, or have less than $50 million in product assets are excluded. Performance is generally reported gross of investment management fees. To be included in analysis of any period longer than one quarter, managers must have had performance available for the full period.

Adjusted for fees, the percentage of underperformers in 2018 was 65%

US MID- TO LARGE-CAP EQUITY MANAGER RETURNS RELATIVE TO THE FEE-ADJUSTED RUSSELL 1000® INDEX
Calendar Year 2018 • *n = 882*



Just over one-third of managers outperformed the index, yet one-fifth of managers outperformed by 250 bps or more, representing meaningful value add.

Sources: Cambridge Associates LLC, Frank Russell Company, and Thomson Reuters Datastream.
Notes: Cambridge Associates LLC's (CA) manager universe statistics are derived from CA's proprietary Investment Manager Database. Managers that do not report in US dollars, exclude cash reserves from reported total returns, or have less than $50 million in product assets are excluded. Performance is generally reported gross of investment management fees. We have added 60 bps to the Russell 1000® Index return as a proxy for manager fees. Only managers with performance available for the entire period measured are included.

Managers' sector tilts can affect relative performance

US MID- TO LARGE-CAP EQUITY MANAGER MEDIAN SECTOR ALLOCATIONS VERSUS INDEX WEIGHT
As of December 31, 2018 • Percent (%) • *n = 574*

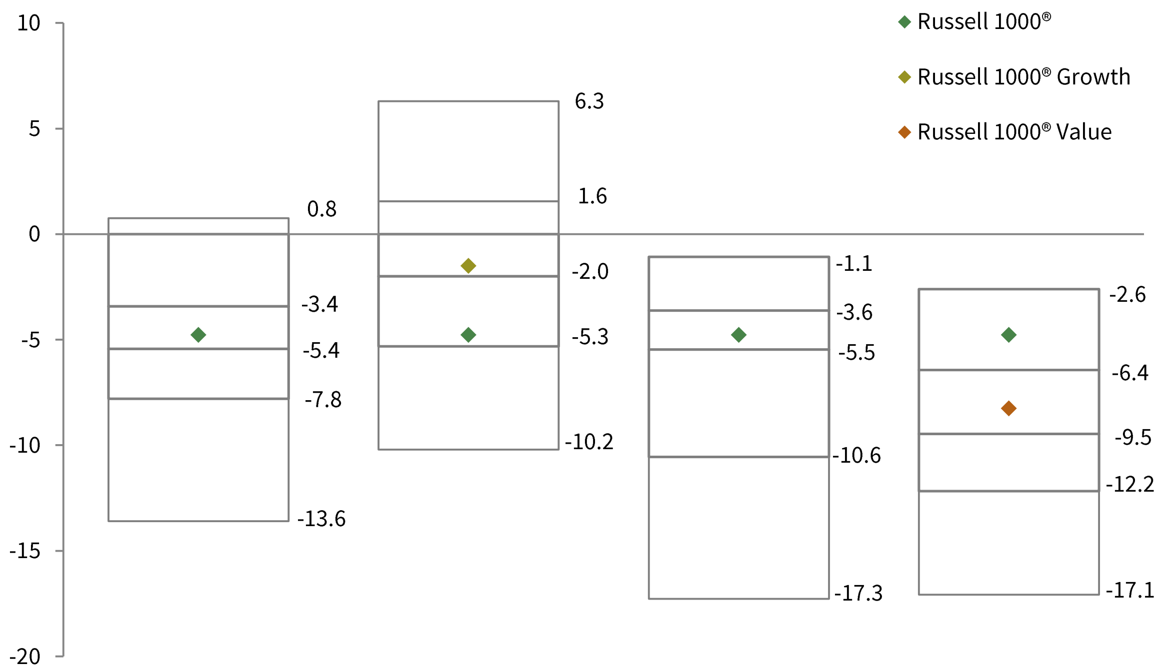
	Manager Median vs Index (bps) Underweight vs Index / Overweight vs Index	12/31/2017 Index Weight (%)	CY 2018 Index Returns	Net Allocation Effect (+/-)
Cons Disc	9	12.5	-0.1	+
Cons Staples	-127	7.7	-8.6	+
Energy	-137	5.9	-18.8	+
Financials	-22	14.9	-13.1	+
Healthcare	37	13.1	5.4	+
Industrials	49	10.5	-13.7	-
IT	37	23.4	3.2	+
Materials	13	3.4	-17.0	-
Real Estate	-189	3.6	-3.6	–
Telecomm*	-163	2.0	-6.3	+
Utilities	-233	2.9	4.5	–
		Russell 1000®	-4.8	

On a median basis, managers started 2018 with overweight positions to industrials and materials—two of the worst-performing sectors for the year. Underweights to utilities and real estate, which both outperformed the broader index, were also a drag on manager performance.

* The Telecommunication Services sector was renamed and expanded to become the Communication Services GICS sector on December 3, 2018.
Sources: Cambridge Associates LLC, Factset Research Systems, Frank Russell Company, and Thomson Reuters Datastream.
Notes: Includes data for the 574 managers that provided sector allocations as of year-end 2017. Index weights represent year-end 2017 GICS sector allocations of the Russell 1000® Index. Cambridge Associates LLC's (CA) manager universe statistics are derived from CA's proprietary Investment Manager Database. Managers that do not report in US dollars, exclude cash reserves from reported total returns, or have less than $50 million in product assets are excluded. Performance is generally reported gross of investment management fees. Underweight and overweight positions do not sum to zero due to cash and out of index bet positions.

The median growth manager significantly outperformed other styles in 2018

US MID- TO LARGE-CAP EQUITY MANAGER UNIVERSE RETURN QUARTILES BY INVESTMENT PHILOSOPHY
Calendar Year 2018 • Percent (%)



	Diverse	Growth	Opportunistic	Value
High	16.5	20.0	8.7	10.0
Manager Median	-5.4	-2.0	-5.5	-9.5
Low	-23.1	-21.6	-24.3	-34.9
Index*	-4.8	-1.5	-4.8	-8.3
Number of Managers	*144*	*266*	*41*	*328*

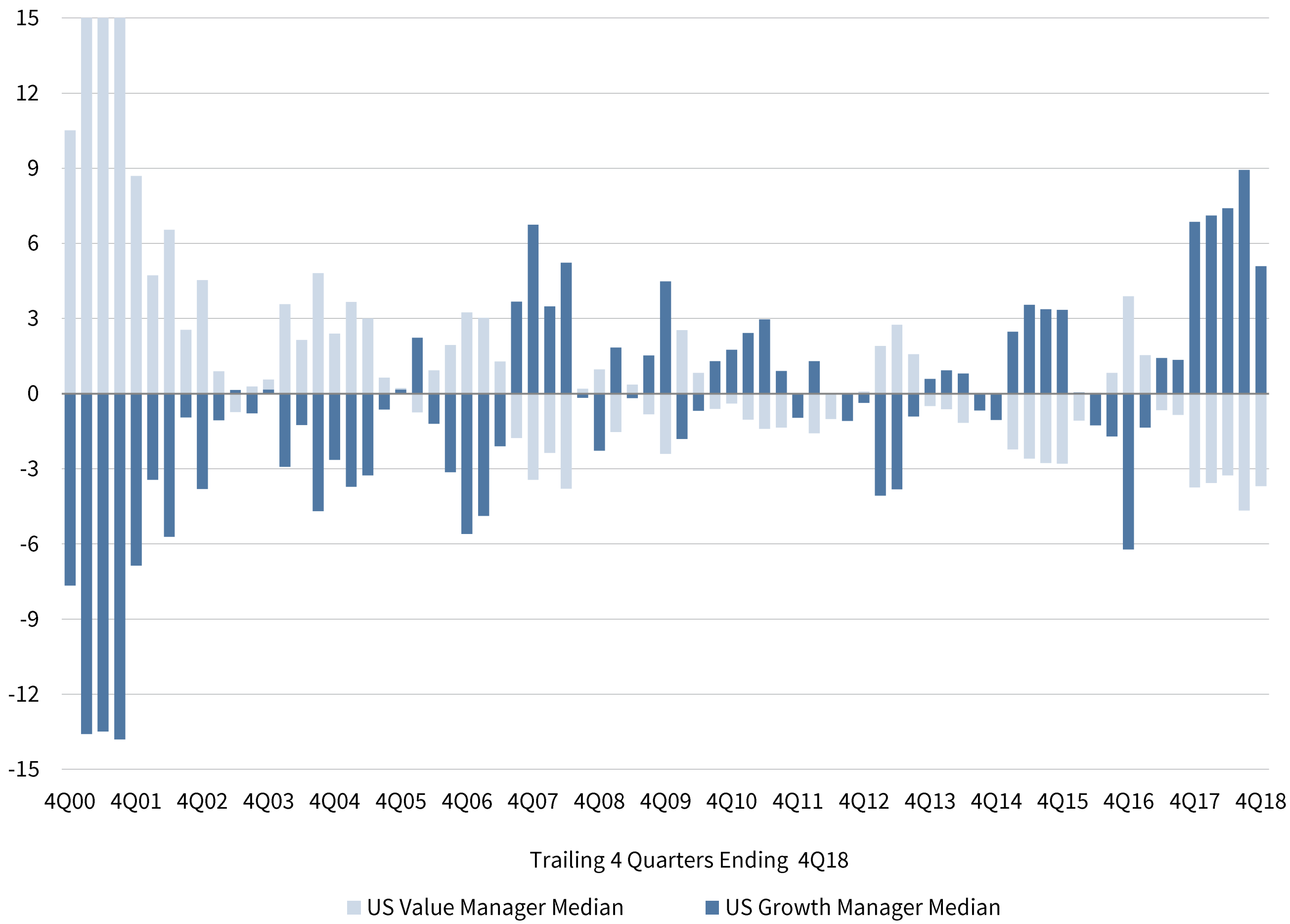
The growth outperformance was a continuation of the trend seen in 2017. Value managers lagged other strategies, as well as their benchmark; the median value manager trailed the value index.

* Index represents: Russell 1000® Index for Diverse and Opportunistic; Russell 1000® Growth Index for Growth; and Russell 1000® Value Index for Value.
Sources: Cambridge Associates LLC, Frank Russell Company, and Thomson Reuters Datastream.
Notes: Cambridge Associates LLC's (CA) manager universe statistics are derived from CA's proprietary Investment Manager Database. Managers that do not report in US dollars, exclude cash reserves from reported total returns, or have less than $50 million in product assets are excluded. Performance is generally reported gross of investment management fees. Only managers with performance available for the entire period measured are included.

Growth trounced value in 2018

US GROWTH AND VALUE MANAGER MEDIAN RETURNS RELATIVE TO US EQUITY COMPOSITE MANAGER MEDIAN RETURNS

First Quarter 2000 – Fourth Quarter 2018 • Percentage Point Differential Above/Below Composite Median



The differential between median growth managers and the median value managers reached its widest margin in more than 18 years through third quarter 2018, before giving back some of those gains amid fourth quarter market volatility.

Source: Cambridge Associates LLC.

Notes: Y-axis scale capped for graphing purposes. In the rolling four-quarter periods ended first quarter, second quarter, and third quarter 2001, the median value manager outperformed the composite median by 20.98, 21.09, and 16.72 percentage points, respectively. Cambridge Associates LLC's (CA) manager universe statistics are derived from CA's proprietary Investment Manager Database. Managers that do not report in US dollars, exclude cash reserves from reported total returns, or have less than $50 million in product assets are excluded. Performance is generally reported gross of investment management fees. Number of managers included in medians varies from quarter to quarter. To be included in analysis of any period longer than one quarter, managers must have had performance available for the full period.

Investment styles go in and out of favor over time

CYCLICAL NATURE OF US COMMON STOCK INVESTMENT PHILOSOPHIES

2000–18 • Percent (%)

Annual Total Returns

Year	Median Growth Mgr	*n*	Median Value Mgr	*n*	Median Opportunistic Mgr	*n*	Large-Cap Stocks (Russell 1000®)
2000	-6.5	*1*	**11.7**	*2*	0.6	*2*	-7.8
2001	-16.2	*5*	**-0.6**	*5*	-9.1	*4*	-12.4
2002	-24.5	*15*	**-16.1**	*5*	-19.8	*6*	-21.7
2003	30.8	*18*	**31.1**	*9*	27.9	*10*	29.9
2004	10.6	*23*	**15.5**	*18*	13.4	*14*	11.4
2005	8.4	*27*	**8.4**	*28*	8.3	*17*	6.3
2006	9.3	*35*	**18.2**	*32*	15.3	*19*	15.5
2007	**14.2**	*37*	4.0	*42*	7.8	*22*	5.8
2008	-39.1	*44*	-35.9	*47*	**-34.8**	*25*	-37.6
2009	**34.9**	*53*	28.0	*53*	28.6	*25*	28.4
2010	**17.9**	*62*	15.7	*63*	16.1	*33*	16.1
2011	-0.6	*74*	-0.2	*77*	-0.7	*39*	**1.5**
2012	15.4	*82*	15.8	*96*	16.0	*42*	**16.4**
2013	35.1	*98*	34.0	*102*	**35.1**	*51*	33.1
2014	10.9	*107*	11.6	*112*	11.9	*57*	**13.2**
2015	**3.4**	*127*	-2.7	*130*	-0.1	*62*	0.9
2016	4.7	*142*	**14.8**	*158*	9.5	*64*	12.1
2017	**27.7**	*184*	17.3	*181*	20.9	*70*	21.7
2018	**-2.0**	*207*	-9.5	*206*	-5.5	*75*	-4.8

Average Annual Compound Returns: Periods Ended December 31, 2018

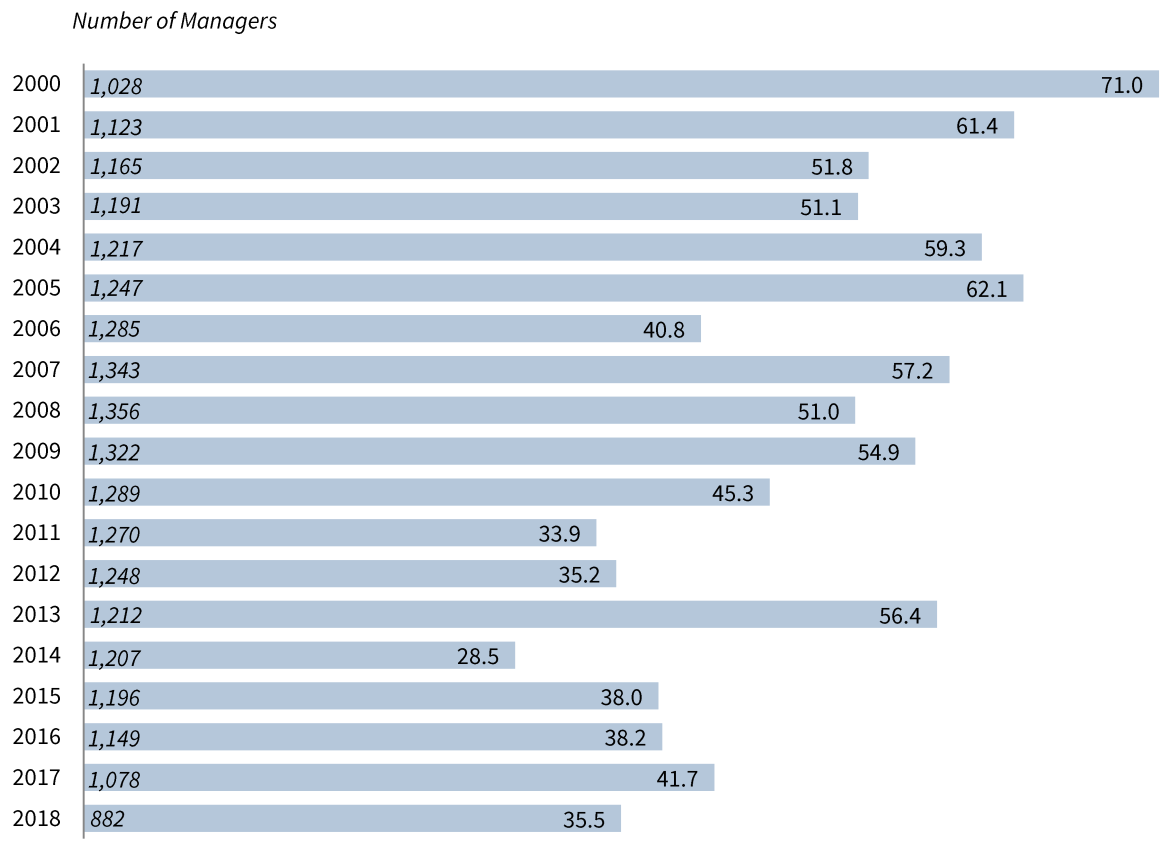
	Median Growth Mgr	*n*	Median Value Mgr	*n*	Median Opportunistic Mgr	*n*	Large-Cap Stocks (Russell 1000®)
Trailing 15-Yr	**9.0**	*145*	8.1	*182*	8.5	*24*	7.7
Trailing 10-Yr	**14.4**	*212*	12.2	*246*	12.7	*33*	11.7
Trailing 5-Yr	**8.7**	*253*	5.9	*313*	6.6	*36*	7.0
Trailing 3-Yr	**9.5**	*260*	7.0	*318*	7.2	*38*	7.6

Growth has topped value in recent years, and markedly so over trailing three- and five-year lookback periods. Styles experience cyclical shifts; value outperformed growth for seven consecutive years from 2000–06.

Sources: Cambridge Associates LLC, Frank Russell Company, and Thomson Reuters Datastream.
Notes: The philosophy with the highest return in each period is highlighted. Cambridge Associates LLC's (CA) manager universe statistics are derived from CA's proprietary Investment Manager Database. Managers that do not report in US dollars, exclude cash reserves from reported total returns, or have less than $50 million in product assets are excluded. Performance is generally reported gross of investment management fees. To be included in analysis of any period longer than one quarter, managers must have had performance available for the full period.

Active US equity manager relative performance is cyclical

PERCENTAGE OF US MID- TO LARGE-CAP MANAGERS OUTPERFORMING THE FEE-ADJUSTED RUSSELL 1000® INDEX
2000–18



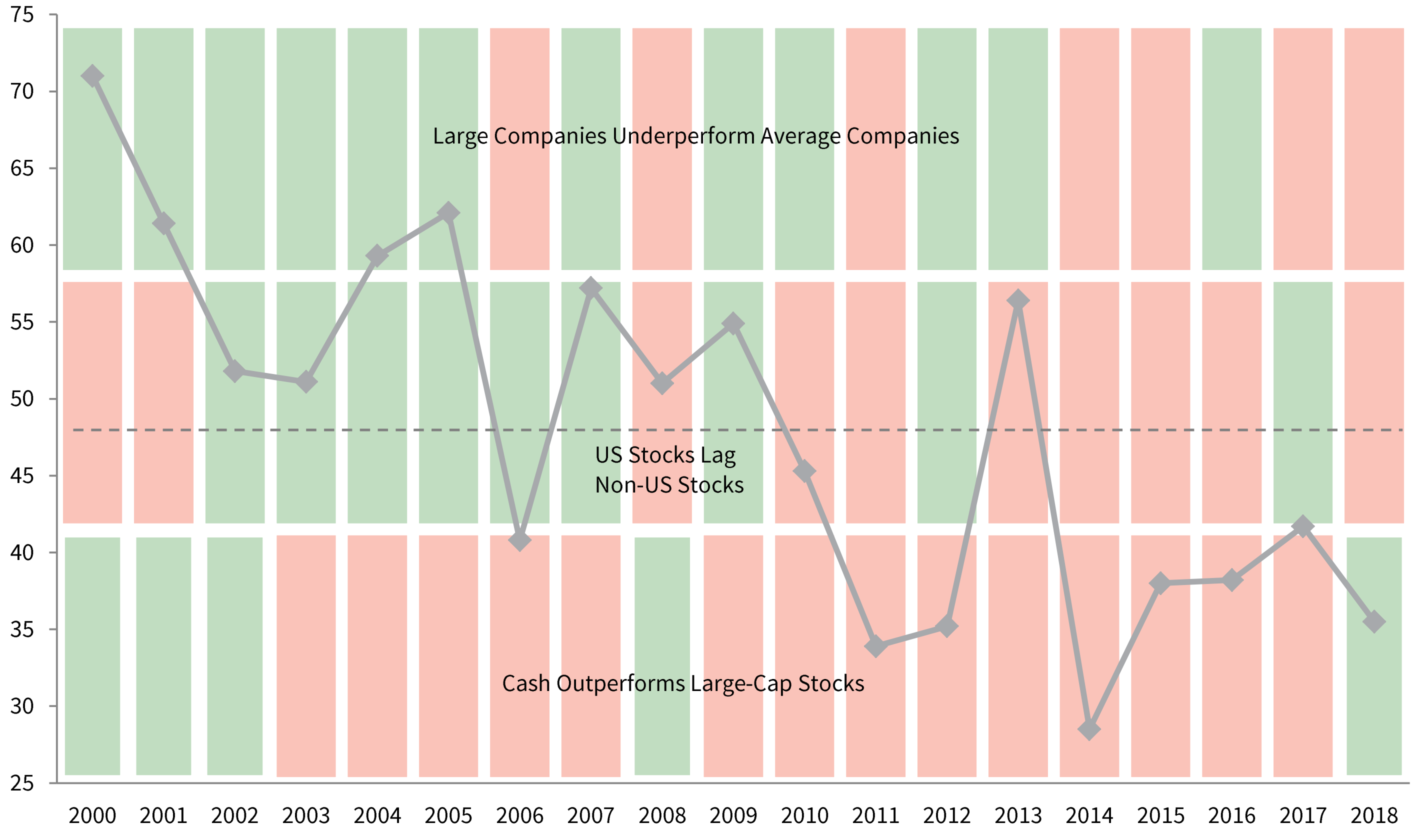
Since the global financial crisis, the percentage of managers under-performing the index has remained high.

Sources: Cambridge Associates LLC, Frank Russell Company, and Thomson Reuters Datastream.
Notes: Cambridge Associates LLC's (CA) manager universe statistics are derived from CA's proprietary Investment Manager Database. Managers that do not report in US dollars, exclude cash reserves from reported total returns, or have less than $50 million in product assets are excluded. Performance is generally reported gross of investment management fees. We have added 60 bps to the Russell 1000® Index return as a proxy for manager fees. To be included in analysis of any period longer than one quarter, managers must have had performance available for the full period.

Cash outperformance in 2018 alone was not enough to help a majority of active managers outperform

PERCENTAGE OF MANAGERS OUTPERFORMING FEE-ADJUSTED RUSSELL 1000® INDEX

2000–18 • Highlighted grid indicates presence of up to three factors contributing to a more favorable environment for active management



n	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
n	*1,028*	*1,123*	*1,165*	*1,191*	*1,217*	*1,247*	*1,285*	*1,343*	*1,356*	*1,322*	*1,289*	*1,270*	*1,248*	*1,212*	*1,207*	*1,196*	*1,149*	*1,078*	*882*

Many factors contribute to active manager outperformance, but the presence of three key factors can create a more favorable environment for active management in general. Only one (cash outperformance of large-cap stocks) was present in 2018.

Sources: BofA Merrill Lynch, Cambridge Associates LLC, Federal Reserve, Frank Russell Company, MSCI Inc., and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

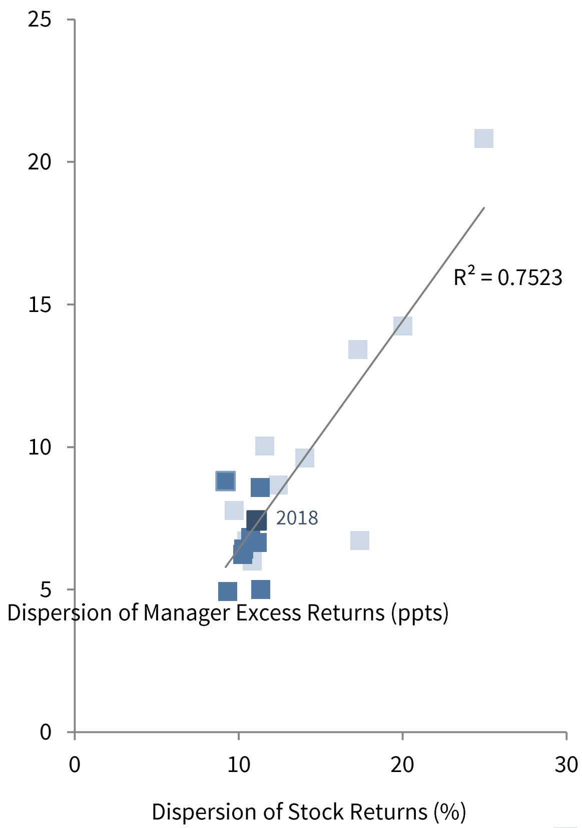
Notes: Factors are represented by: capitalization-weighted Russell 1000® Index ("large companies"), equal-weighted Russell 1000® Index ("average companies"), MSCI US Index ("US stocks"), MSCI EAFE Index ("non-US stocks"), BofA Merrill Lynch 91-Day Treasury Bills ("cash"), and Russell 1000® Index ("large-cap stocks"). For more detail on the impact of these factors in each year, see the Appendix. Cambridge Associates LLC's (CA) manager universe statistics are derived from CA's proprietary Investment Manager Database. Managers that do not report in US dollars, exclude cash reserves from reported total returns, or have less than $50 million in product assets are excluded. Performance is generally reported gross of investment management fees. We have added 60 bps to the Russell 1000® Index return as a proxy for manager fees. To be included in analysis of any period longer than one quarter, managers must have had performance available for the full period.

Lower dispersion of stock returns often leads to lower dispersion of excess returns

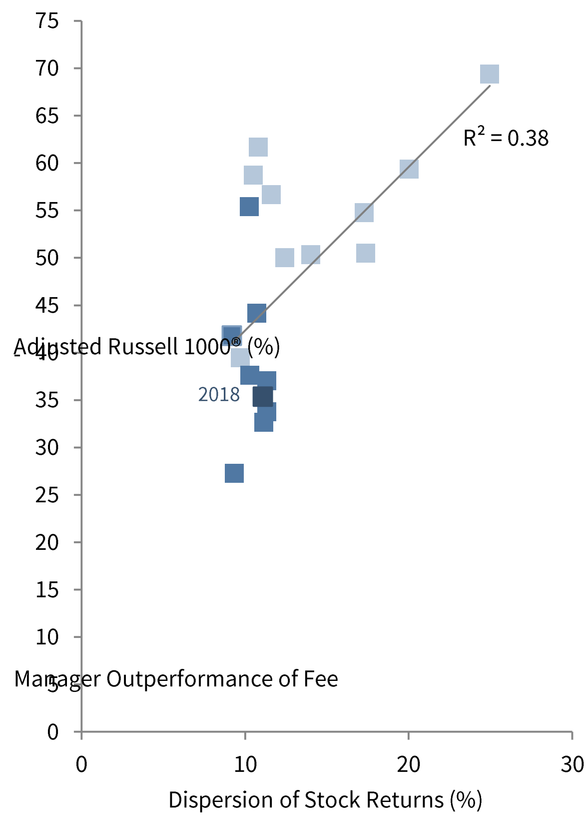
IMPACT OF ANNUAL DISPERSION OF US STOCK RETURNS ON DISPERSION OF MANAGER EXCESS RETURNS AND PERCENT OF MANAGERS OUTPERFORMING

2000–18

Dispersion of Stock Returns and Dispersion of Manager Performance



Dispersion of Stock Returns and Managers Outperforming



2000–09 2010–18

Both stock return dispersion and dispersion of manager returns were in line with ten-year averages in 2018, remaining low relative to the pre–global financial crisis period.

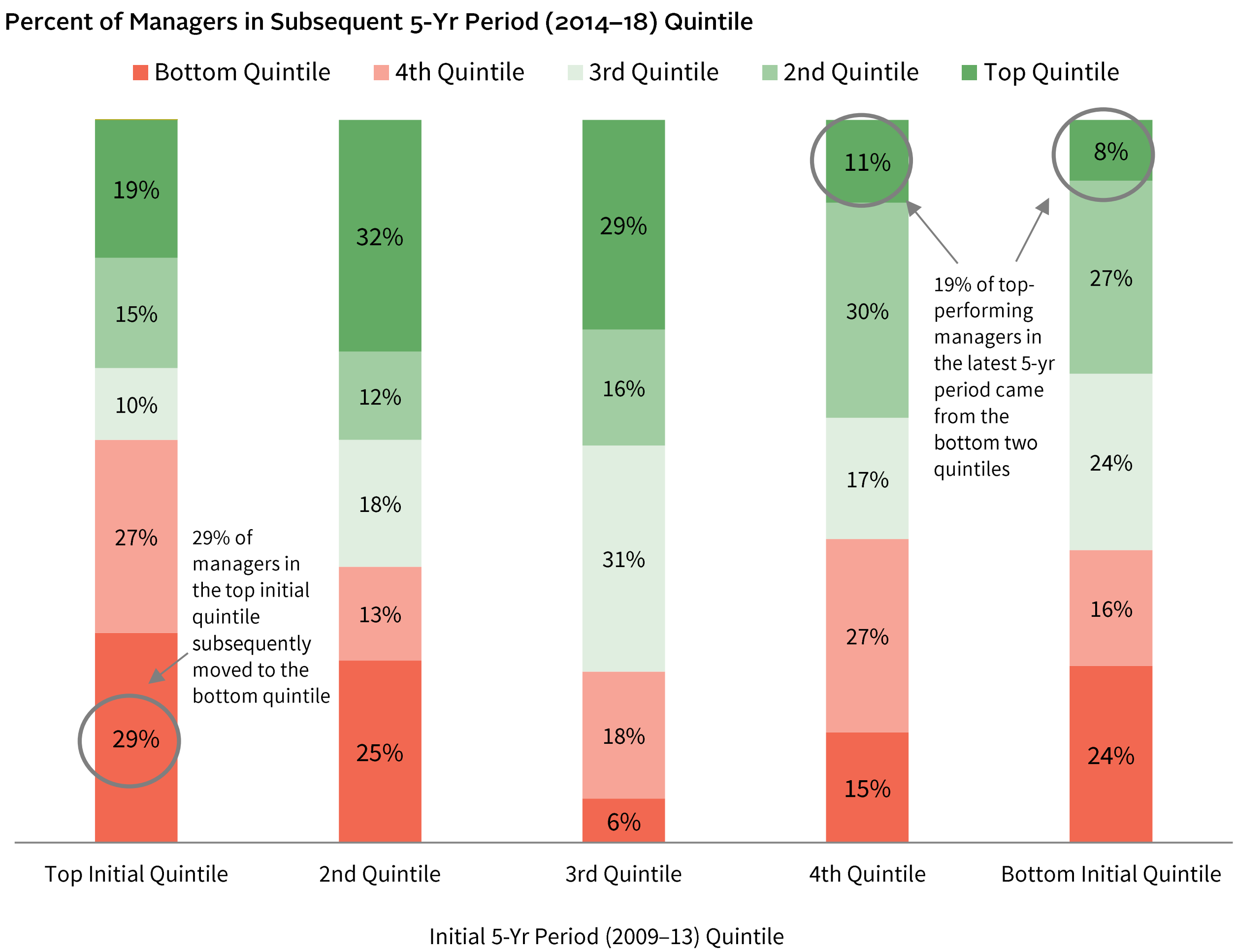
Sources: Cambridge Associates LLC, FactSet Research Systems, Frank Russell Company, and Thomson Reuters Datastream.

Notes: Dispersion of return for stocks is represented by the square root of the sum of the squared differences between returns for each constituent and the index return multiplied by the weight of the constituent in the index. Dispersion of excess returns for managers represents managers in the middle 50% of the return range for US mid- to large-cap managers. Cambridge Associates LLC's (CA) manager universe statistics are derived from CA's proprietary Investment Manager Database. Managers that do not report in US dollars, exclude cash reserves from reported total returns, or have less than $50 million in product assets are excluded. Performance is generally reported gross of investment management fees. We have added 60 bps to the Russell 1000® Index return as a proxy for manager fees. Number of managers included in medians varies from quarter to quarter. To be included in analysis of any period longer than one quarter, managers must have had performance available for the full period.

Movement between top and bottom quintiles is fairly common

ANALYSIS OF US MID- TO LARGE-CAP MANAGER RETURNS BY QUINTILE OVER 5-YR PERIODS

2009–18 • *n = 655*



More than half of top-performing managers in the initial five-year period fell to the bottom two quintiles in the subsequent five-year period.

Source: Cambridge Associates LLC.

Notes: Cambridge Associates LLC's (CA) manager universe statistics are derived from CA's proprietary Investment Manager Database. Managers that do not report in US dollars, exclude cash reserves from reported total returns, or have less than $50 million in product assets are excluded. Performance is generally reported gross of investment management fees. Only managers with performance available for the entire period measured are included.

Long-term outperformers often underperform in shorter-term periods

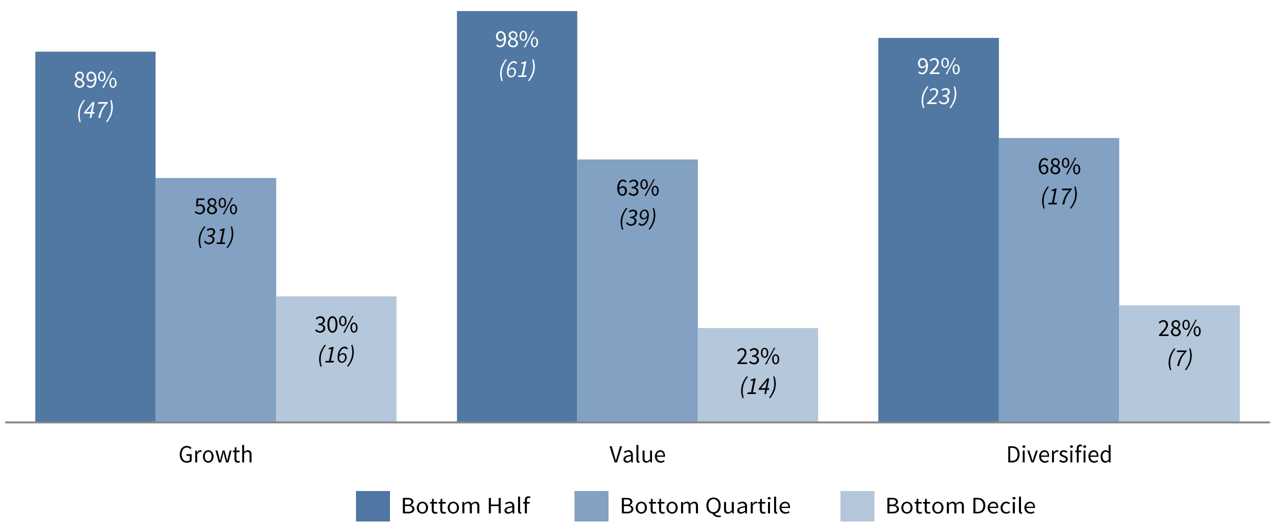
HOW MANY TOP US MID- TO LARGE-CAP MANAGERS UNDERPERFORM AT SOME POINT?
As of Fourth Quarter 2018

Sample Interpretation:

The graph shows that 89% of top quartile growth managers in this ten-year period endured at least one three-year period of below-median performance during the ten years in which they were one of the best-performing managers among their peers. 58% of top quartile managers fell into the bottom quartile of growth manager returns for at least one three-year period in this decade. Note that the data apply to the winners—the top quartile managers over ten years.

Percentage (Number) of Top Managers Whose Rolling 3-Year Ranking Fell at Least Once into the Bottom of the Managers' Respective Distribution

Top Quartile Over 10 Years
Percent (%)



Number Ranked in Top Quartile

Growth	Value	Diversified
53	62	25

More than half of all top quartile managers fell into the bottom quartile for at least one three-year period in the past ten years.

Source: Cambridge Associates LLC.
Notes: Top managers are selected based on cumulative wealth for the entire ten-year period. Cambridge Associates LLC's (CA) manager universe statistics are derived from CA's proprietary Investment Manager Database. Managers that do not report in US dollars, exclude cash reserves from reported total returns, or have less than $50 million in product assets are excluded. Performance is generally reported gross of investment management fees. Only managers with performance available for the entire period measured are included.

APPENDIX: YEAR BY YEAR ANALYSIS OF KEY FACTORS CONTRIBUTING TO A MORE OR LESS FAVORABLE ENVIRONMENT FOR ACTIVE MANAGEMENT

Small company outperformance has usually been a tailwind for active managers

The trend held true in 2018, when capitalization-weighted stocks handily outperformed the average company, and active managers underperformed the index.

ASSESSING THE IMPACT OF CAPITALIZATION BIAS ON ACTIVE MANAGER PERFORMANCE

2000–18

Active Managers Have Beaten the Russell 1000® Index 75% of the Time When the Largest Companies Have Underperformed the Average Company . . .

Year	Total Return (%) Cap-Wtd R1000®	Equal-Wtd R1000®	Median Mid-/ Large-Cap Manager	*n*	Cap-Wtd Minus Equal-Wtd (ppts)	Mgr Value Added vs R1000® (ppts)
2009	28.4	52.6	30.4	*1,322*	-24.2	2.0
2000	-7.8	12.4	1.2	*1,028*	-20.1	9.0
2001	-12.4	1.6	-9.3	*1,123*	-14.0	3.2
2003	29.9	42.9	30.6	*1,191*	-13.0	0.7
2004	11.4	19.7	13.2	*1,217*	-8.3	1.8
2005	6.3	14.0	8.3	*1,247*	-7.8	2.0
2010	16.1	23.8	16.2	*1,289*	-7.7	0.1
2016	12.1	16.4	11.0	*1,149*	-4.3	-1.1
2002	-21.7	-17.7	-20.7	*1,165*	-3.9	1.0
2007	5.8	9.5	7.5	*1,343*	-3.7	1.7
2013	33.1	35.3	34.5	*1,212*	-2.2	1.4
2012	16.4	16.5	15.7	*1,248*	-0.1	-0.7
Median	11.7	16.4	12.1		-7.8	1.5

. . . and Lagged the Index 83% of the Time When the Largest Companies Have Outperformed the Average Company

Year	Total Return (%) Cap-Wtd R1000®	Equal-Wtd R1000®	Median Mid-/ Large-Cap Manager	*n*	Cap-Wtd Minus Equal-Wtd (ppts)	Mgr Value Added vs R1000® (ppts)
2006	15.5	14.9	14.9	*1,285*	0.5	-0.5
2011	1.5	0.7	0.3	*1,270*	0.8	-1.2
2008	-37.6	-38.9	-36.8	*1,356*	1.3	0.8
2014	13.2	11.1	11.9	*1,207*	2.2	-1.3
2018	**-4.8**	**-8.8**	**-6.1**	***882***	**4.0**	**-1.4**
2017	21.7	17.4	21.0	*1,078*	4.3	-0.7
2015	0.9	-4.0	0.1	*1,196*	4.9	-0.8
Median	1.5	0.7	0.3		2.2	-0.8

Sources: Cambridge Associates LLC, Frank Russell Company, and Thomson Reuters Datastream.
Notes: The most recent year is bolded. Cambridge Associates LLC's (CA) manager universe statistics are derived from CA's proprietary Investment Manager Database. Managers that do not report in US dollars, exclude cash reserves from reported total returns, or have less than $50 million in product assets are excluded. Performance is generally reported gross of investment management fees. To be included in analysis of any period longer than one quarter, managers must have had performance available for the full period.

Off-benchmark holdings can benefit managers

When non-US stocks outperform US stocks, active managers have beaten the index more consistently. In 2018, non-US stocks underperformed US stocks, and active managers lagged the Russell 1000® Index.

ASSESSING THE IMPACT OF NON-US DEVELOPED MARKET STOCK PERFORMANCE ON ACTIVE MANAGER PERFORMANCE

2000–18

Active Managers Have Outperformed the Russell 1000® Index 67% of the Time When the Index Has Lagged the MSCI EAFE Index . . .

Year	Total Return (%) Russell 1000®	MSCI EAFE	Median Mid-/Large-Cap Manager	*n*	R1000® Minus MSCI EAFE (ppts)	Mgr Value Added vs R1000® (ppts)
2006	15.5	26.3	14.9	*1,285*	-10.9	-0.5
2004	11.4	20.2	13.2	*1,217*	-8.8	1.8
2003	29.9	38.6	30.6	*1,191*	-8.7	0.7
2005	6.3	13.5	8.3	*1,247*	-7.3	2.0
2002	-21.7	-15.9	-20.7	*1,165*	-5.7	1.0
2007	5.8	11.2	7.5	*1,343*	-5.4	1.7
2017	21.7	25.0	21.0	*1,078*	-3.3	-0.7
2009	28.4	31.8	30.4	*1,322*	-3.3	2.0
2012	16.4	17.3	15.7	*1,248*	-0.9	-0.7
Median	**15.5**	**20.2**	**14.9**		**-5.7**	**1.0**

. . . and Outperformed the Russell 1000® Index 50% of the Time When the Index Has Beaten the MSCI EAFE Index

Year	Total Return (%) Russell 1000®	MSCI EAFE	Median Mid-/Large-Cap Manager	*n*	R1000® Minus MSCI EAFE (ppts)	Mgr Value Added vs R1000® (ppts)
2015	0.9	-0.8	0.1	*1,196*	1.7	-0.8
2008	-37.6	-43.4	-36.8	*1,356*	5.8	0.8
2000	-7.8	-14.2	1.2	*1,028*	6.4	9.0
2010	16.1	7.8	16.2	*1,289*	8.3	0.1
2001	-12.4	-21.4	-9.3	*1,123*	9.0	3.2
2018	**-4.8**	**-13.8**	**-6.1**	***882***	**9.0**	**-1.4**
2013	33.1	22.8	34.5	*1,212*	10.3	1.4
2016	12.1	1.0	11.0	*1,149*	11.1	-1.1
2011	1.5	-12.1	0.3	*1,270*	13.6	-1.2
2014	13.2	-4.9	11.9	*1,207*	18.1	-1.3
Median	**1.2**	**-8.5**	**0.7**		**9.0**	**-0.4**

Sources: Cambridge Associates LLC, MSCI Inc., and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.
Notes: The most recent year is bolded. Cambridge Associates LLC's (CA) manager universe statistics are derived from CA's proprietary Investment Manager Database. Managers that do not report in US dollars, exclude cash reserves from reported total returns, or have less than $50 million in product assets are excluded. Performance is generally reported gross of investment management fees. To be included in analysis of any period longer than one quarter, managers must have had performance available for the full period.

Years of cash outperformance have been good for active managers

Active managers lagged the Russell 1000 ® Index in 2018, marking the first relative underperformance in five years where equities have lagged the 91-Day T-Bill.

ASSESSING THE IMPACT OF CASH DRAG ON ACTIVE MANAGER PERFORMANCE

2000–18

Active Manager Performance versus the Russell 1000® Index Has Been Mixed When the Index Has Beaten the 91-Day T-Bill . . .

Year	Total Return (%) Russell 1000®	91-Day T-Bill	Median Mid-/ Large-Cap Manager	*n*	R1000® Minus T-Bill (ppts)	Mgr Value Added vs R1000® (ppts)
2013	33.1	0.1	34.5	*1,212*	33.0	1.4
2003	29.9	1.1	30.6	*1,191*	28.7	0.7
2009	28.4	0.2	30.4	*1,322*	28.2	2.0
2017	21.7	0.9	21.0	*1,078*	20.8	-0.7
2012	16.4	0.1	15.7	*1,248*	16.3	-0.7
2010	16.1	0.1	16.2	*1,289*	16.0	0.1
2014	13.2	0.0	11.9	*1,207*	13.2	-1.3
2016	12.1	0.3	11.0	*1,149*	11.7	-1.1
2006	15.5	4.8	15.0	*1,285*	10.6	-0.5
2004	11.4	1.3	13.2	*1,217*	10.1	1.8
2005	6.3	3.1	8.3	*1,247*	3.2	2.0
2011	1.5	0.1	0.3	*1,270*	1.4	-1.2
2015	0.9	0.1	0.1	*1,196*	0.9	-0.8
2007	5.8	5.0	7.5	*1,343*	0.8	1.7
Median	14.3	0.3	14.1		12.5	-0.2

. . . But When the Russell 1000® Index Has Lagged the 91-Day T-Bill, Active Managers Have Outperformed the Index 75% of the Time

Year	Total Return (%) Russell 1000®	91-Day T-Bill	Median Mid-/ Large-Cap Manager	*n*	R1000® Minus T-Bill (ppts)	Mgr Value Added vs R1000® (ppts)
2018	**-4.8**	**1.9**	**-6.1**	***882***	**-6.7**	**-1.4**
2000	-7.8	6.2	1.2	*1,028*	-14.0	9.0
2001	-12.4	4.4	-9.3	*1,123*	-16.9	3.2
2002	-21.7	1.8	-20.7	*1,165*	-23.4	1.0
2008	-37.6	2.1	-36.9	*1,356*	-39.7	0.7
Median	-12.4	2.1	-9.3		-16.9	1.0

Sources: BofA Merrill Lynch, Cambridge Associates LLC, Federal Reserve, Frank Russell Company, and Thomson Reuters Datastream.
Notes: The most recent year is bolded. Cambridge Associates LLC's (CA) manager universe statistics are derived from CA's proprietary Investment Manager Database. Managers that do not report in US dollars, exclude cash reserves from reported total returns, or have less than $50 million in product assets are excluded. Performance is generally reported gross of investment management fees. To be included in analysis of any period longer than one quarter, managers must have had performance available for the full period.

Contributors to this report include Sean Duffin, Melanie Blum, Morgen Ellis, and Greg Gonsalves.