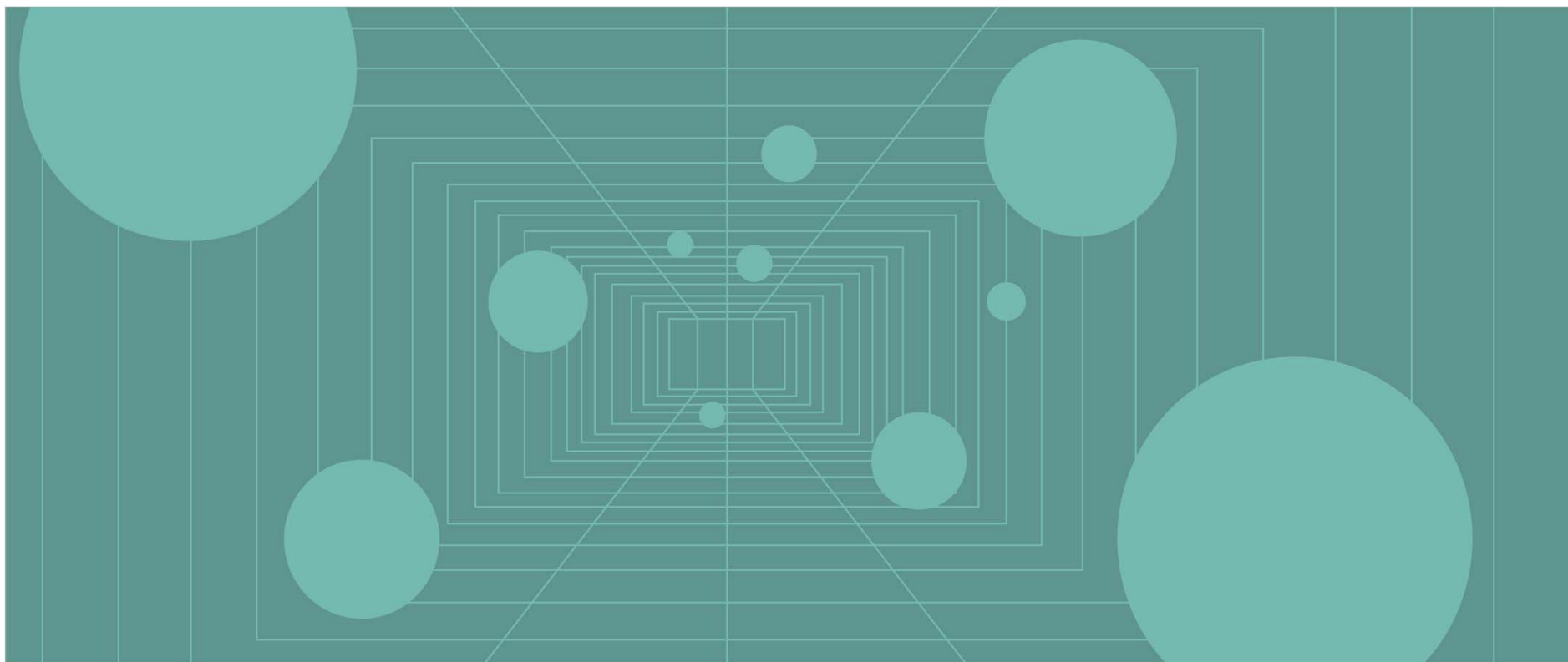


GLOBAL EQUITY MANAGER PERFORMANCE

ANALYSIS OF 2019 AND PERFORMANCE SINCE 2000



Summary Observations

- In 2019, 54% of active global managers underperformed the MSCI World Index (gross of fees), with the median manager underperforming by 44 basis points (bps). The shortfall was worse than 2018, when active managers also underperformed the benchmark, but by a smaller margin. After incorporating a fee proxy of 70 bps, 56% of active managers underperformed the index, but 30% outperformed by more than 250 bps, representing significant value-add. Post-2010, the percentage of managers outperforming has been significantly lower than during the 2000–10 period. On average, 46% of managers outperformed the fee-adjusted index annually from 2011 to 2019, versus an average of 58% from 2000 to 2010.
- In 2019, the median growth manager bested the MSCI World Index by 398 bps. However, the median growth manager underperformed versus the MSCI World Growth Index by 203 bps. Value struggled; the median value manager underperformed the headline index by 224 bps, but outpaced the MSCI World Value Index by 368 bps. Growth managers have been in favor recently, and have the strongest returns over three-, five-, and ten-year periods.
- Managers' sector allocations can differ substantially from the index. Information technology was far and away the top-performing sector in 2019, besting the overall index by nearly 20 percentage points, yet managers held underweight positions to the sector at the beginning of the year. Nine of the other ten sectors lagged the broader index. Managers were underweight energy, which was by far the worst-performing sector for the year.

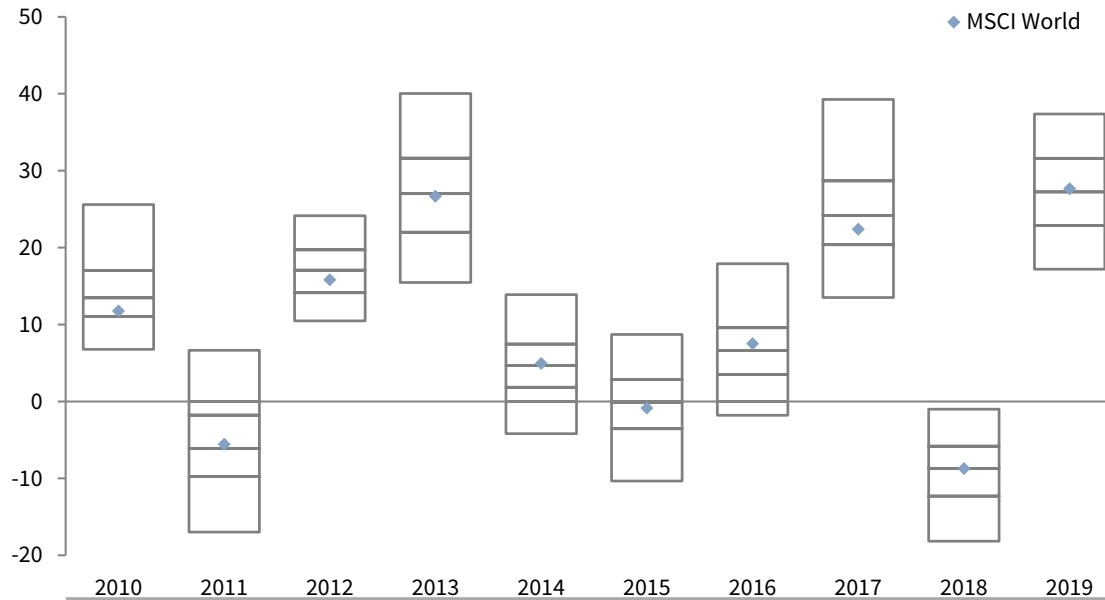
Summary Observations (continued)

- US equities hold the largest weight in the MSCI World Index; when MSCI World Index outperforms the MSCI USA Index, managers have consistently outperformed as they tend to be underweight US equities. US equities outperformed the MSCI World Index by 321 bps in 2019, yet managers were nearly 1,000 bps underweight to the MSCI USA Index, which was a likely driver of relative underperformance. Of the index's remaining five largest country weights, managers were overweight United Kingdom and France, which both underperformed the MSCI World Index in USD terms.
- Out-of-benchmark exposure to emerging markets has historically provided a tailwind to active global equity managers, but in 2019, the MSCI Emerging Markets Index underperformed the MSCI World Index by 930 bps, impacting global managers with emerging markets exposure. China, where the largest number of managers had exposure and where average and median exposure was highest, underperformed the MSCI World Index in USD terms by 421 bps, creating a drag on returns. The remaining three countries where more than 20% of managers had exposure were South Korea, Brazil, and India, which all also lagged the MSCI World Index.
- Persistence in manager performance is rare, and movement among performance quintiles is fairly common. However, global managers in the top-performing initial quintile have shown recent consistency, as nearly half of the top-performing managers from 2010 to 2014 remained in the top quintile in the 2015–19 period. Only 7% of top quintile-performing managers in the five-year period from 2010 to 2014 fell to the bottom quintile during the five-year period from 2015 to 2019.

54% of managers underperformed the index in 2019

GLOBAL EQUITY MANAGER ANNUAL RETURNS BY QUANTILES

2010-19 • Percent (%)



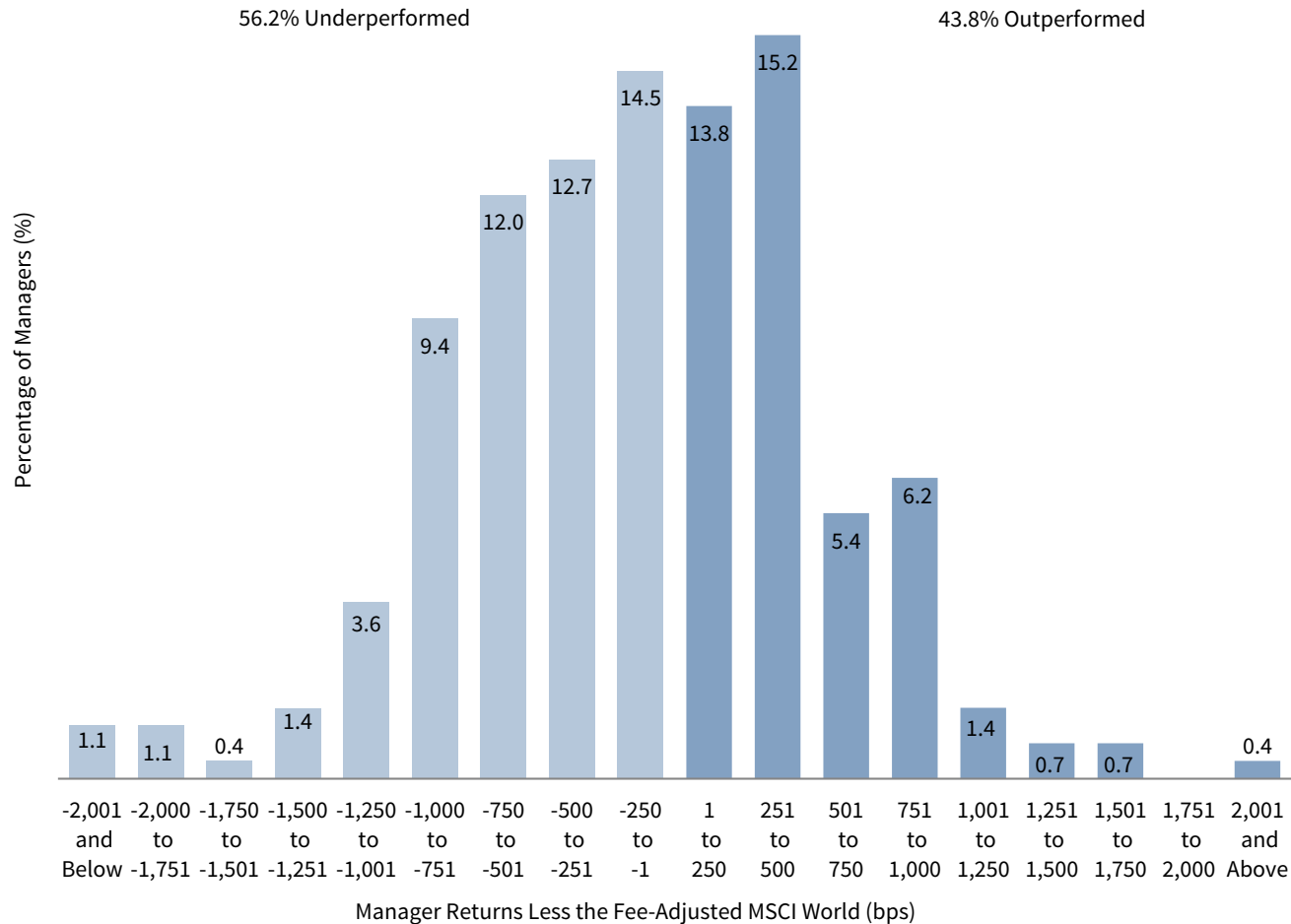
The majority of active managers underperformed the index in 2019, a continuation of the trend seen in 2018. Value managers, which represent a larger subset of the sample, lagged the broader index, while growth outperformed.

5th Percentile	25.6	6.7	24.1	40.0	13.9	8.7	17.9	39.3	-1.0	37.4
25th Percentile	17.0	-1.8	19.7	31.6	7.5	2.9	9.6	28.7	-5.8	31.6
Median	13.5	-6.1	17.1	27.0	4.7	-0.1	6.6	24.2	-8.7	27.2
75th Percentile	11.0	-9.7	14.1	22.0	1.9	-3.5	3.5	20.4	-12.3	22.9
95th Percentile	6.8	-17.0	10.5	15.5	-4.2	-10.4	-1.8	13.5	-18.2	17.2
MSCI World	11.8	-5.5	15.8	26.7	4.9	-0.9	7.5	22.4	-8.7	27.7
# of Managers	257	273	278	300	315	329	328	325	330	276
% Outperforming	72.0	47.3	59.4	51.7	47.3	55.9	42.7	60.9	49.7	46.4
% Underperforming	28.0	52.7	40.6	48.3	52.7	44.1	57.3	39.1	50.3	53.6

Adjusted for fees, 56% of managers underperformed the index in 2019

MANAGER RETURNS RELATIVE TO THE FEE-ADJUSTED MSCI WORLD INDEX

Calendar Year 2019 • n = 276



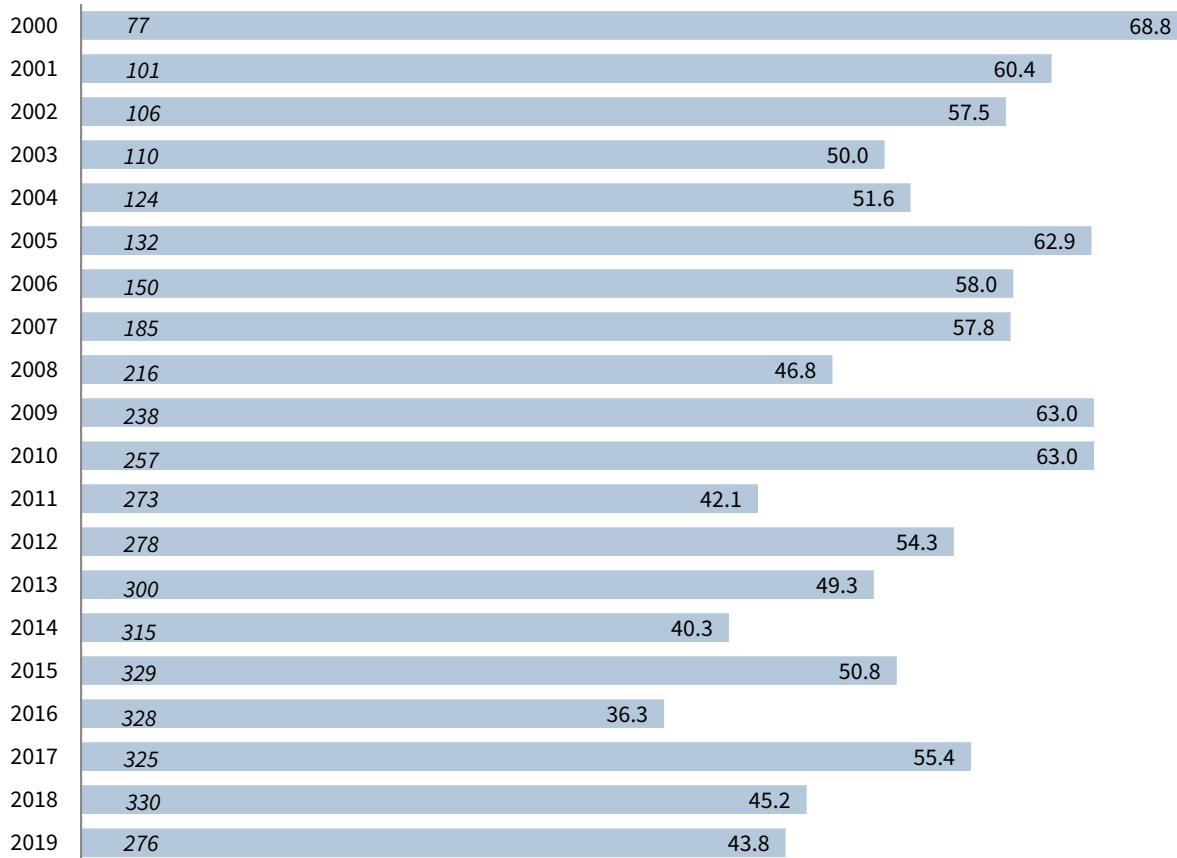
Of managers, 30% outperformed the fee-adjusted index by more than 250 bps, representing meaningful value-add.

Active manager performance is cyclical

PERCENTAGE OF GLOBAL EQUITY MANAGERS OUTPERFORMING THE FEE-ADJUSTED MSCI WORLD INDEX

2000–19 • Percent (%)

Number of Managers

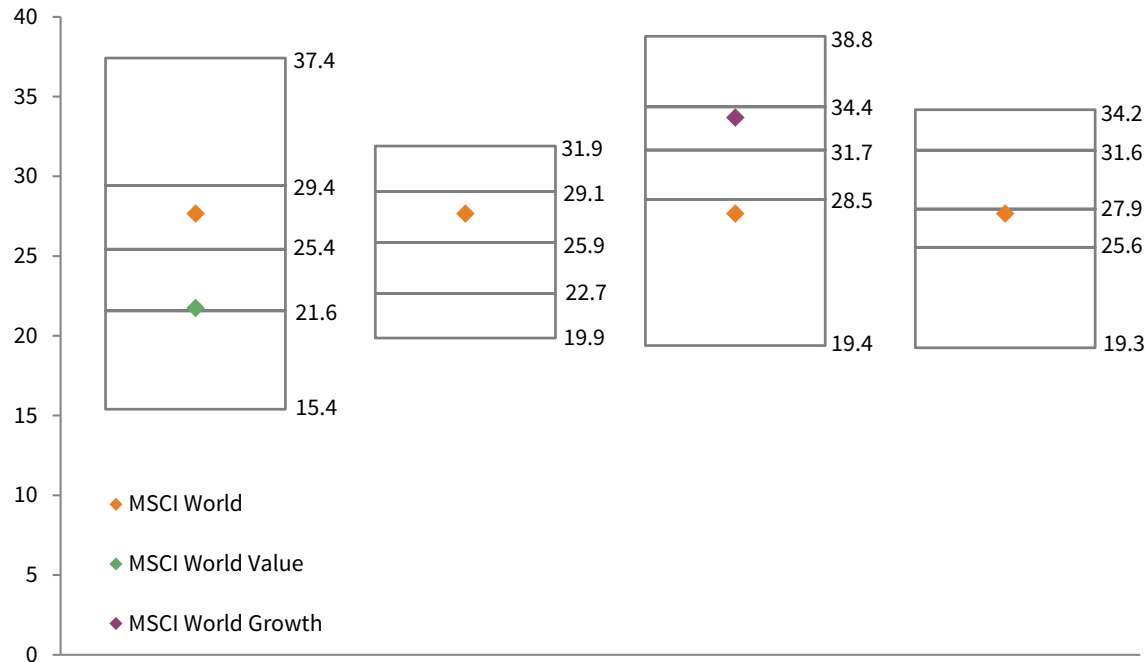


In six of the nine years since 2011, the majority of managers have underperformed the fee-adjusted index. This stands in sharp contrast to the 2000–10 period, when the lion’s share of active managers outperformed the fee-adjusted index in all but one year (2008).

Growth was the only style that outperformed the overall MSCI World Index

GLOBAL EQUITY MANAGER UNIVERSE RETURN QUANTILES BY INVESTMENT PHILOSOPHY

Calendar Year 2019 • Percent (%)



The median growth manager fared better than other styles in 2019 and topped the broad index, but trailed the growth index. Value managers lagged the broader index, but bested their value benchmark.

	Value	Diverse	Growth	Opportunistic
High	43.5	32.9	44.3	35.4
Manager Median	25.4	25.9	31.7	27.9
Low	-2.0	17.1	15.3	16.8
Index*	21.7*	27.7	33.7*	27.7
Number of Managers	80	45	62	16

* Index represents: MSCI World Value Index for Value; MSCI World for Diverse and Opportunistic; MSCI World Growth Index for Growth.

Sources: Cambridge Associates LLC, MSCI Inc., and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

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.

Investment styles go in and out of favor over time

THE CYCLICAL NATURE OF GLOBAL EQUITY INVESTMENT PHILOSOPHIES

2000–19 • Percent (%)

Annual Total Returns

Year	Median Growth Mgr		Median Value Mgr		Median Opportunistic Mgr		MSCI World
	Median	<i>n</i>	Median	<i>n</i>	Median	<i>n</i>	
2000	-13.8	29	1.4	22	-	-	-13.2
2001	-19.3	35	-7.2	31	-	-	-16.8
2002	-20.8	38	-13.9	34	-	-	-19.9
2003	30.9	37	38.9	38	-	-	33.1
2004	14.4	36	17.7	43	-	-	14.7
2005	13.4	35	9.9	45	12.9	10	9.5
2006	19.7	35	22.2	53	22.6	13	20.1
2007	14.8	36	7.6	61	13.9	18	9.0
2008	-44.4	43	-39.4	67	-43.1	18	-40.7
2009	35.3	48	33.3	75	39.5	16	30.0
2010	15.3	55	13.3	79	15.0	17	11.8
2011	-7.3	56	-5.4	85	-7.9	17	-5.5
2012	16.8	55	17.0	85	17.1	17	15.8
2013	25.2	60	28.1	92	28.8	16	26.7
2014	4.8	66	3.8	96	4.3	20	4.9
2015	2.4	70	-2.8	96	-0.6	20	-0.9
2016	4.0	67	9.0	93	3.9	19	7.5
2017	31.1	70	21.9	90	24.3	18	22.4
2018	-7.7	68	-10.5	94	-11.5	19	-8.7
2019	31.6	62	25.4	80	28.0	16	27.7

Growth has topped value in recent years, with higher median manager returns in each of the past three years. Styles can experience cyclical shifts; value outperformed growth for five straight years from 2000 to 2004.

Average Annual Compound Returns: Periods Ended December 31, 2019

Trailing 10-Yr	11.5	29	9.7	53	10.4	11	9.5
Trailing 5-Yr	11.7	51	8.1	70	8.6	13	8.7
Trailing 3-Yr	17.5	58	10.8	74	13.4	13	12.6

Managers' differing sector allocations can influence relative returns

GLOBAL EQUITY MANAGERS' MEDIAN SECTOR ALLOCATIONS VERSUS INDEX WEIGHT

Percent (%) • *n* = 221

	Manager Median Underweight/Overweight vs Index (bps)		12/31/2018 Index Weight (%)	CY 2019 Index Returns	Net Allocation Effect (+/-)
	Underweight vs Index	Overweight vs Index			
Cons Disc		35	10.4	26.6	-
Cons Staples	-47		8.7	22.8	+
Energy	-137		5.9	11.4	+
Financials	-82		16.2	25.5	+
Healthcare		40	13.4	23.2	-
Industrials		4	10.9	27.8	+
IT	-55		14.9	47.6	-
Materials		-4	4.6	23.3	+
Real Estate	-155		3.2	23.0	+
Comm Svcs*		3	8.3	27.4	-
Utilities	-176		3.4	22.5	+
			MSCI World	27.7	

On a median basis, managers started the year with an underweight position to energy, which was by far the worst-performing sector for the year.

Managers are more likely to beat the index when developed markets outperform United States

ASSESSING THE IMPACT OF US EQUITIES ON ACTIVE MANAGER PERFORMANCE

2000-19

Active Managers Have Outperformed the MSCI World Index
100% of the Time When the Index Has Beaten the
MSCI US Index...

Year	Total Return (%)				MSCI World Minus MSCI US (ppts)	Mgr Value Added vs MSCI World (ppts)
	MSCI World	MSCI US	Global Eq Mgr	Median Global Eq <i>n</i>		
2006	20.1	14.7	21.4	150	5.4	1.3
2003	33.1	28.4	34.0	110	4.7	0.9
2004	14.7	10.1	15.5	124	4.6	0.8
2005	9.5	5.1	11.6	132	4.3	2.1
2009	30.0	26.3	33.7	238	3.7	3.7
2007	9.0	5.4	10.9	185	3.6	1.8
2002	-19.9	-23.1	-18.2	106	3.2	1.7
2017	22.4	21.2	24.2	325	1.2	1.8
2012	15.8	15.3	17.1	278	0.5	1.2
2000	-13.2	-12.8	-8.2	77	-0.3	5.0

Mean 12.2 9.1 14.2 3.1 **2.0**

...and Outperformed the MSCI World Index 70%
of the Time When the Index Lagged the MSCI US Index

Year	Total Return (%)				MSCI World Minus MSCI US (ppts)	Mgr Value Added vs MSCI World (ppts)
	MSCI World	MSCI US	Global Eq Mgr	Median Global Eq <i>n</i>		
2000	-13.2	-12.8	-8.2	77	-0.3	5.0
2015	-0.9	0.7	-0.1	329	-1.6	0.7
2010	11.8	14.8	13.5	257	-3.0	1.7
2008	-40.7	-37.6	-40.5	216	-3.1	0.2
2019	27.7	30.9	27.2	276	-3.2	-0.4
2016	7.5	10.9	6.6	328	-3.4	-0.9
2018	-8.7	-5.0	-8.7	330	-3.7	0.0
2001	-16.8	-12.4	-13.5	101	-4.4	3.4
2013	26.7	31.8	27.0	300	-5.1	0.3
2011	-5.5	1.4	-6.1	273	-6.9	-0.5

Mean -1.2 2.3 -0.3 -3.5 **0.9**

The United States is the largest weight in the MSCI World Index, but in 2019 managers were underweight United States on a median basis, which outperformed the MSCI World Index by 321 bps.

Exposure to emerging markets was a negative factor in 2019

ASSESSING THE IMPACT OF EMERGING MARKETS EQUITIES ON ACTIVE MANAGER PERFORMANCE

2000-19

Active Managers Have Outperformed the MSCI World Index
50% of the Time When the Index Has Beaten the
MSCI EM Index ...

Year	Total Return (%)				MSCI World Minus MSCI EM (ppts)	Mgr Value Added vs MSCI World (ppts)
	MSCI World	MSCI EM	Median			
			Global Eq Mgr	n		
2013	26.7	-2.6	27.0	300	29.3	0.3
2000	-13.2	-30.6	-8.2	77	17.4	5.0
2015	-0.9	-14.9	-0.1	329	14.0	0.7
2011	-5.5	-18.4	-6.1	273	12.9	-0.5
2008	-40.7	-53.3	-40.5	216	12.6	0.2
2019	27.7	18.4	27.2	276	9.2	-0.4
2014	4.9	-2.2	4.7	315	7.1	-0.3
2018	-8.7	-14.6	-8.7	330	5.9	0.0
Mean	-1.2	-14.8	-0.6		13.6	0.6

... and Outperformed the MSCI World Index 92%
of the Time When the Index Has Lagged the MSCI EM Index

Year	Total Return (%)				MSCI World Minus MSCI EM (ppts)	Mgr Value Added vs MSCI World (ppts)
	MSCI World	MSCI EM	Median			
			Global Eq Mgr	n		
2012	15.8	18.2	17.1	278	-2.4	1.2
2016	7.5	11.2	6.6	328	-3.7	-0.9
2010	11.8	18.9	13.5	257	-7.1	1.7
2004	14.7	25.6	15.5	124	-10.8	0.8
2006	20.1	32.1	21.4	150	-12.1	1.3
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2001	-16.8	-2.6	-13.5	101	-14.2	3.4
2017	22.4	37.3	24.2	325	-14.9	1.8
2003	33.1	55.8	34.0	110	-22.7	0.9
2005	9.5	34.0	11.6	132	-24.5	2.1
2007	9.0	39.4	10.9	185	-30.4	1.8
2009	30.0	78.5	33.7	238	-48.5	3.7
Mean	11.4	28.5	13.1		-17.1	1.6

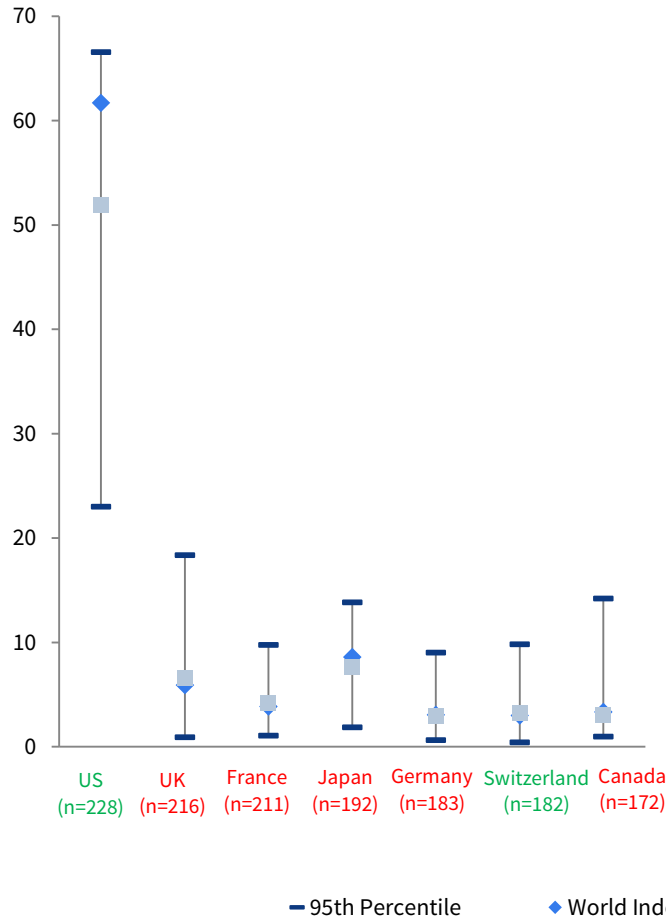
Emerging markets lagged developed markets substantially in 2019, which presented a challenge for active managers that place off-benchmark bets in emerging markets countries.

Country bets can significantly affect relative performance

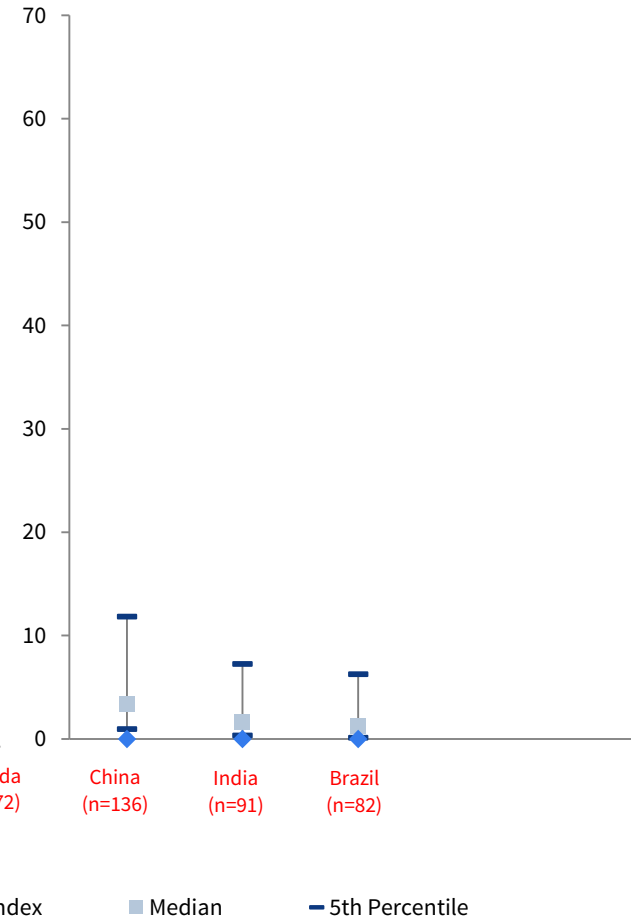
GLOBAL EQUITY MANAGERS' COUNTRY ALLOCATIONS VS THE MSCI WORLD INDEX

n = 238

Manager Allocations to Seven MSCI EAFE Countries with > 3 % Weight



Off-Benchmark Countries Where >20% Managers Have Allocations



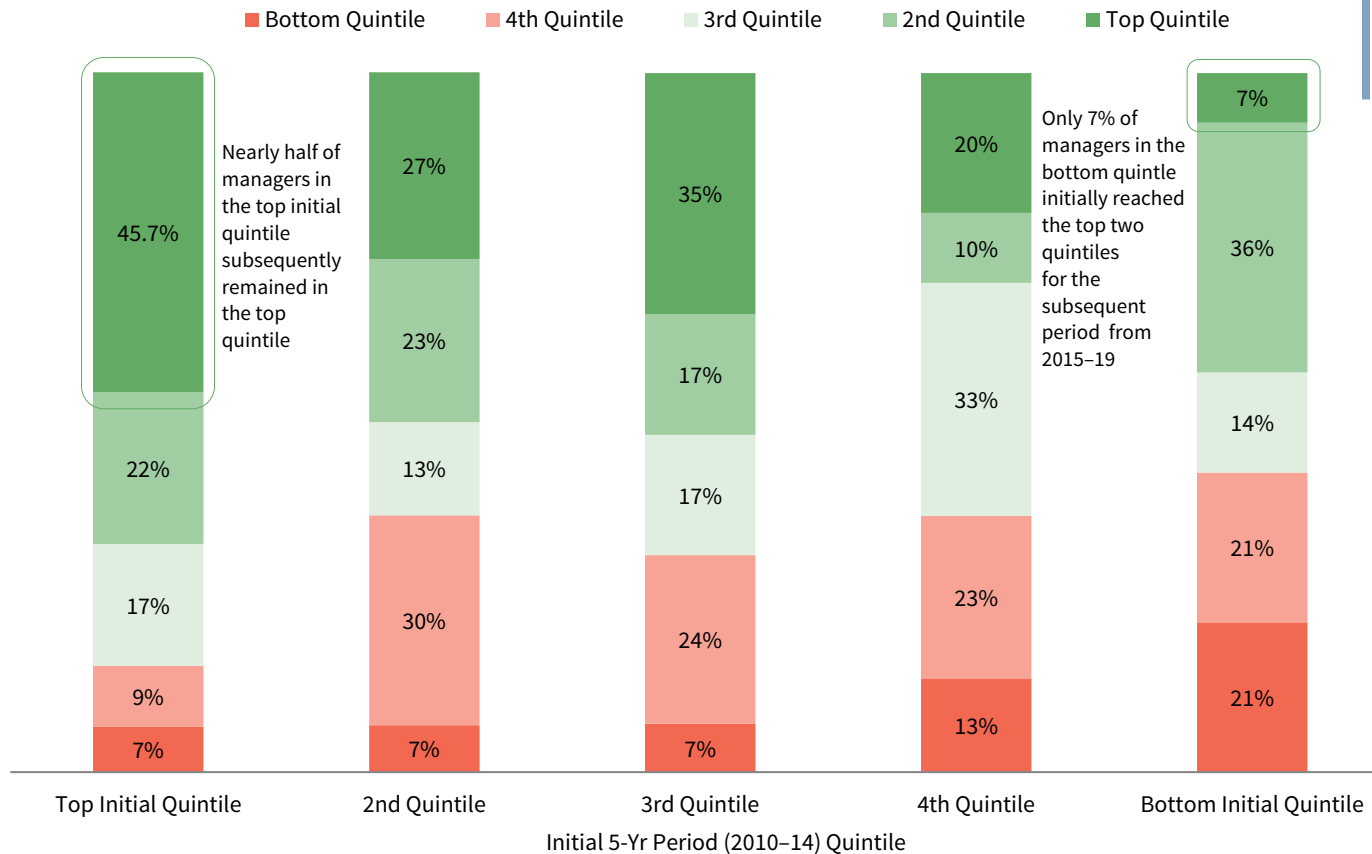
The median manager's 337 bp off-benchmark bet on China was a drag in 2019, as the country underperformed the MSCI World Index by 421 bps.

Managers typically move between top and bottom quintiles, but recently have shown consistency

ANALYSIS OF GLOBAL EQUITY MANAGER RETURNS BY QUINTILE OVER FIVE-YEAR PERIODS

2010-19 • n = 149

Percent of Managers in Subsequent 5-Yr Period (2015-19) Quintile



Of the top-performing managers in the initial five-year period, 46% remained in the top quintile in the subsequent five-year period.



CAMBRIDGE
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