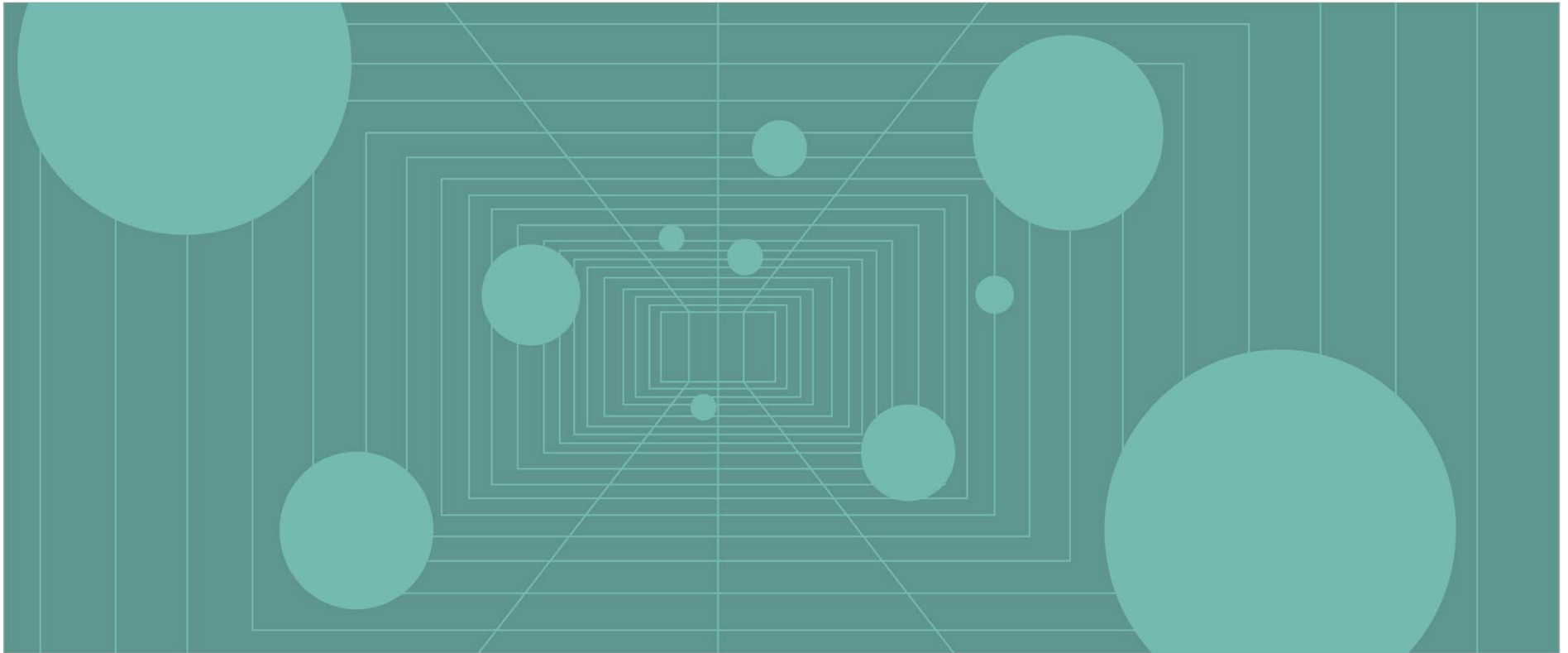


EMERGING MARKETS EQUITY MANAGER PERFORMANCE

ANALYSIS OF 2019 AND PERFORMANCE SINCE 2000



Summary Observations

- Of active emerging markets equity managers, 64% outperformed the MSCI Emerging Markets Index gross of fees in 2019, after three consecutive years of underperformance. The median manager outperformed the index by 155 basis points (bps). After applying a fee proxy of 90 bps, only 55% of managers outperformed. However, 42% of managers outperformed the index by more than 250 bps, representing significant value-add.
- Active managers tend to make off-benchmark bets and hold some cash, so three factors can create a better environment for active management: outperformance of small-cap stocks, outperformance of stocks in frontier markets, and outperformance of cash over the index. None of these factors were present in 2019. The MSCI Emerging Markets Small Cap Index and the MSCI Frontier Markets Index both lagged the MSCI Emerging Markets Index (by 696 bps and 54 bps, respectively), and T-Bills lagged the MSCI Emerging Markets Index by 17 percentage points.
- Managers' sector allocations can differ substantially from the index. The median manager held a slight overweight position to the IT and consumer discretionary sectors, which had the highest returns and largest return contributions among sectors in 2019; those two sectors alone accounted for more than half of the MSCI Emerging Markets Index performance. Managers were significantly underweight the communication services sector, which lagged the index.

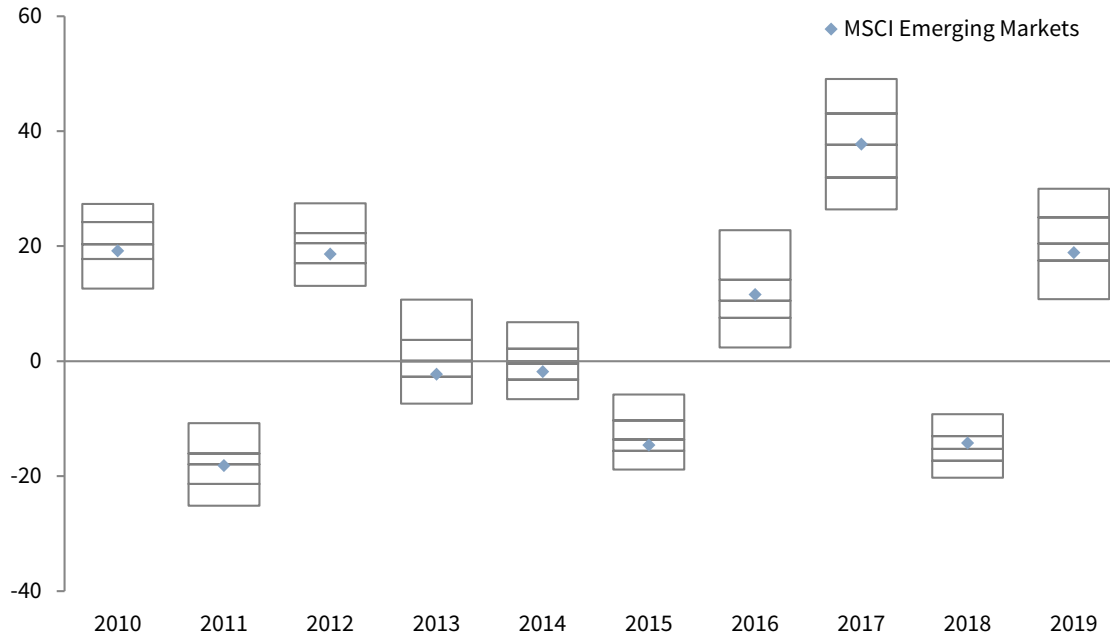
Summary Observations (continued)

- Country bets can also impact relative performance. The median manager held a more than 600 bp underweight to China, which was likely a headwind to manager returns since China outperformed the broader index by 504 bps in 2019. However, the median manager likely benefited from an overweight position to Brazil, as well as out-of-benchmark bets to Argentina and the United Kingdom, which all bested the MSCI Emerging Markets Index.
- Persistence in manager outperformance is rare, and movement among performance quintiles is fairly common. More than 40% of bottom quintile-performing managers in the five-year period from 2010 to 2014 subsequently moved into the top quintile from 2015 to 2019.

64% of managers underperformed the index in 2019

EMERGING MARKETS EQUITY MANAGERS ANNUAL RETURNS BY QUANTILES

2010-19 • Percent (%)



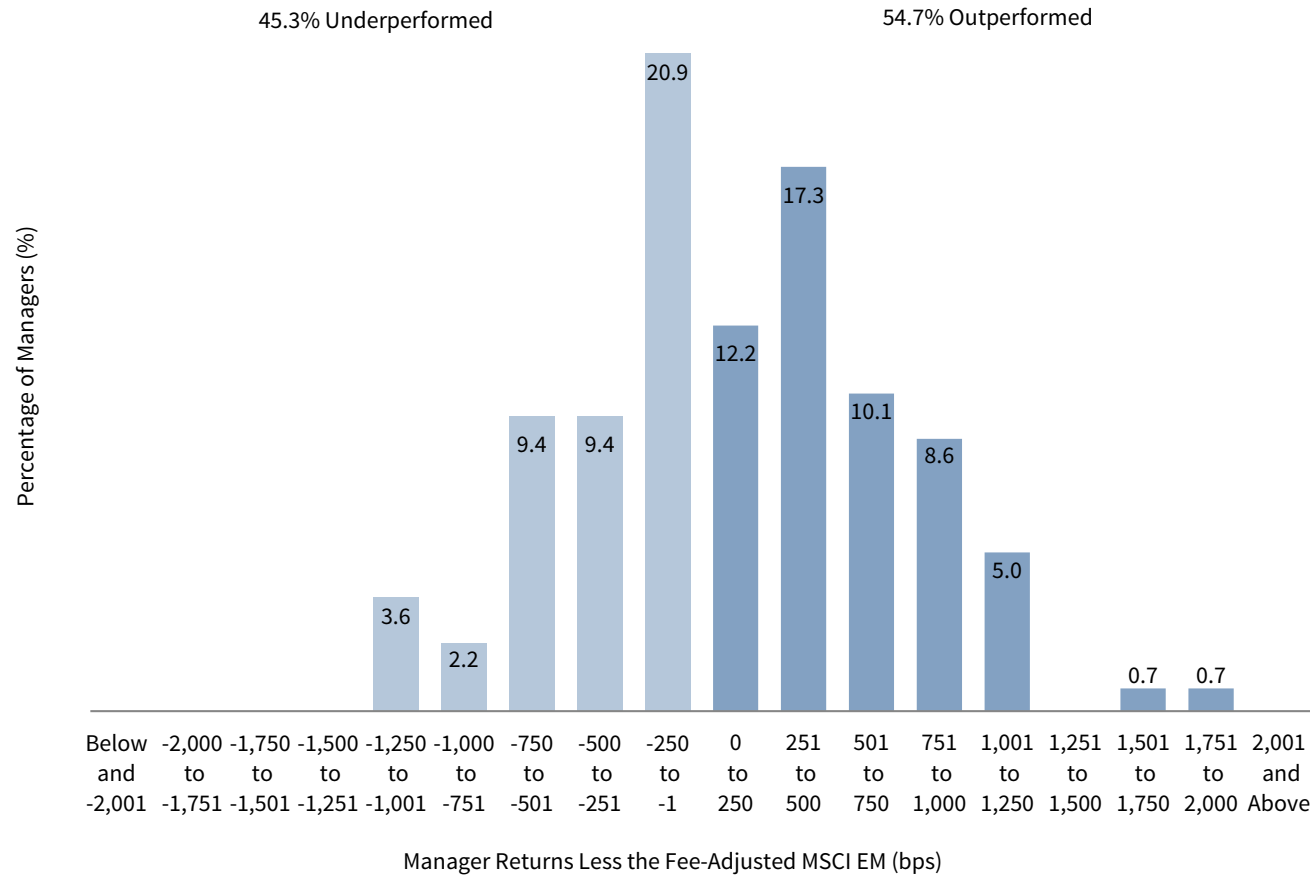
On a median basis, active managers bested the index for the first time in four years, after having outperformed in six consecutive years from 2010 to 2015.

5th Percentile	27.3	-10.8	27.5	10.7	6.8	-5.8	22.8	49.1	-9.2	30.0
25th Percentile	24.2	-16.1	22.3	3.7	2.2	-10.3	14.2	43.1	-13.0	25.0
Median	20.3	-17.9	20.5	0.1	-0.4	-13.6	10.5	37.6	-15.3	20.4
75th Percentile	17.8	-21.4	17.0	-2.7	-3.2	-15.6	7.6	31.9	-17.3	17.5
95th Percentile	12.6	-25.2	13.1	-7.4	-6.6	-18.9	2.4	26.4	-20.3	10.8
MSCI EM	19.2	-18.2	18.6	-2.3	-1.8	-14.6	11.6	37.8	-14.2	18.9
# of Managers	102	110	124	146	153	163	167	164	165	139
% Outperforming	63.7	51.8	67.7	71.2	65.4	62.6	40.7	49.4	38.2	64.0
% Underperforming	36.3	48.2	32.3	28.8	34.6	37.4	59.3	50.6	61.8	36.0

Relative to the fee-adjusted index, 55% of managers outperformed

MANAGER RETURNS RELATIVE TO THE FEE-ADJUSTED MSCI EMERGING MARKETS INDEX

Calendar Year 2019 • *n* = 139



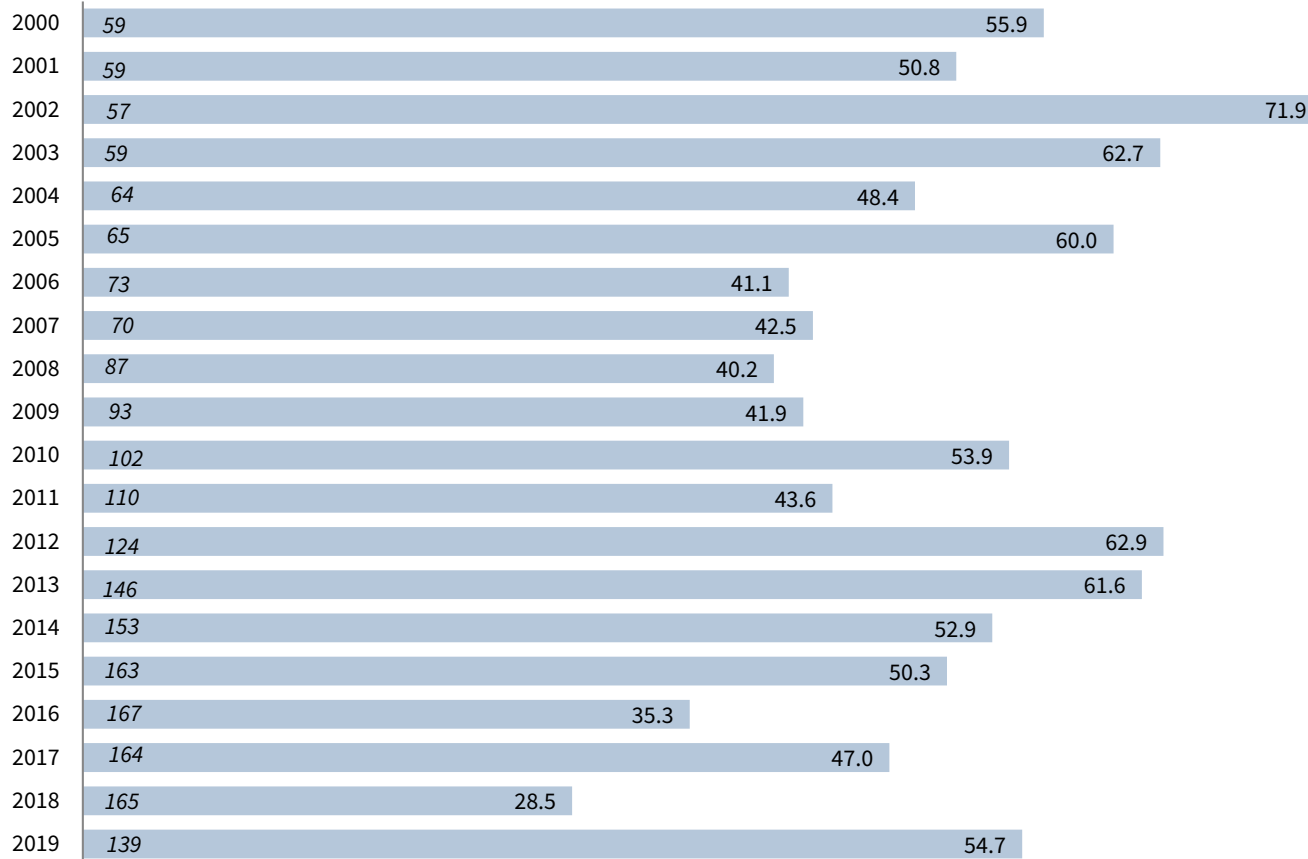
More than 40% of managers bested the index by 250 bps or more.

Active manager outperformance is cyclical

PERCENTAGE OF EMERGING MARKETS EQUITY MANAGERS OUTPERFORMING THE FEE-ADJUSTED MSCI EMERGING MARKETS INDEX

2000-19

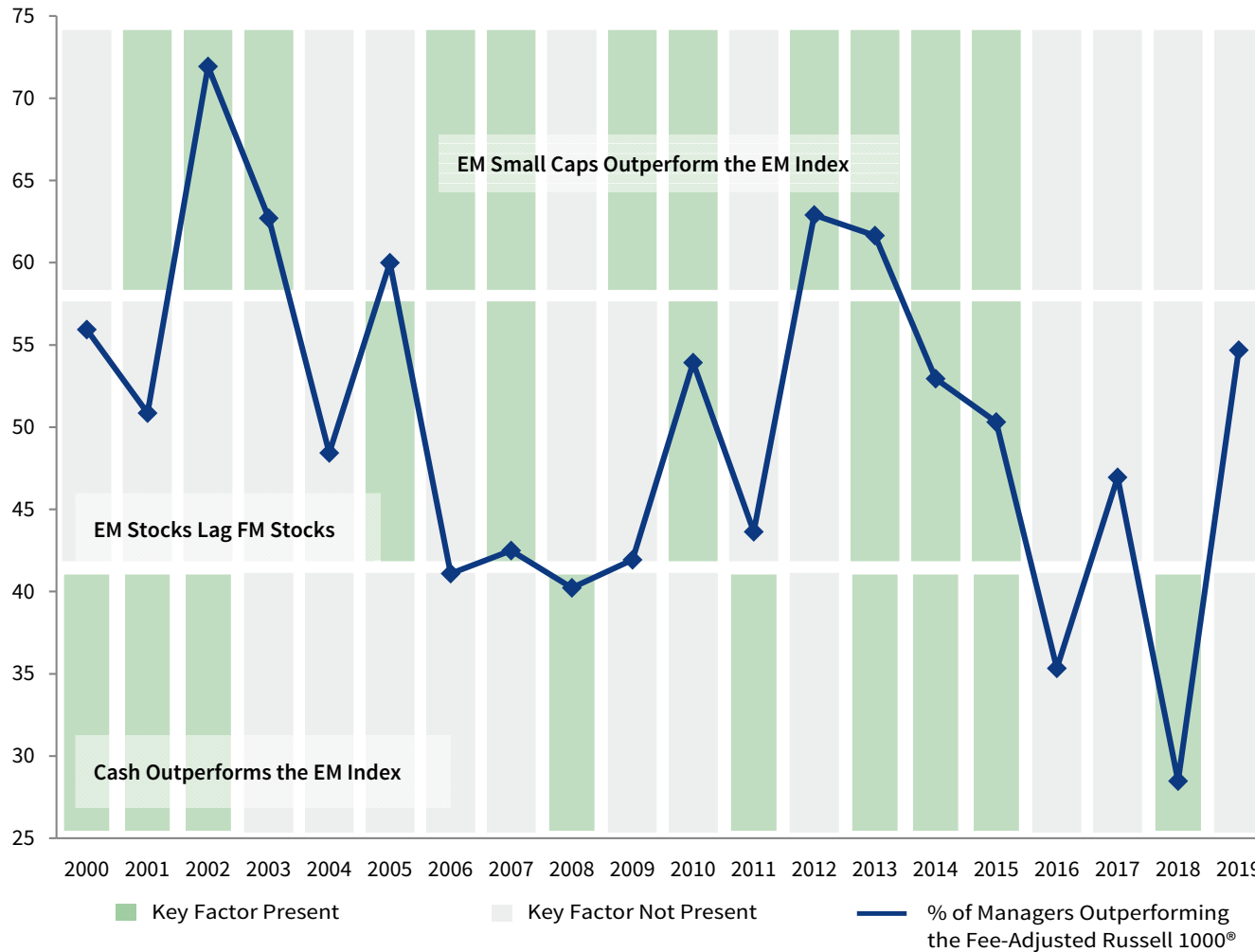
Number of Managers



In 2019, 55% of managers outperformed the fee-adjusted index, the highest percentage since 2013. In the 20-year history, the median manager has underperformed in nine years and outperformed in 11 years.

The environment was not favorable for active managers in 2019

PERCENTAGE OF MANAGERS OUTPERFORMING FEE-ADJUSTED MSCI EMERGING MARKETS INDEX
2000-19



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. None of these factors were present in 2019.

Managers' different sector allocations can affect relative performance

EMERGING MARKETS EQUITY MANAGERS' MEDIAN SECTOR ALLOCATIONS VERSUS INDEX WEIGHT

Percent (%) • n = 149

	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		30	10.4	35.3	+
Cons Staples		62	6.7	11.0	-
Energy	-182		8.0	20.5	-
Financials		90	24.8	13.1	-
Healthcare	-31		2.8	3.8	+
Industrials		164	5.5	7.4	-
IT		7	14.2	42.5	+
Materials		-42	7.7	6.5	+
Real Estate		-56	3.0	24.2	-
Comm Svcs *	-351		14.1	11.4	+
Utilities		-51	2.7	8.2	+
			MSCI EM	18.9	

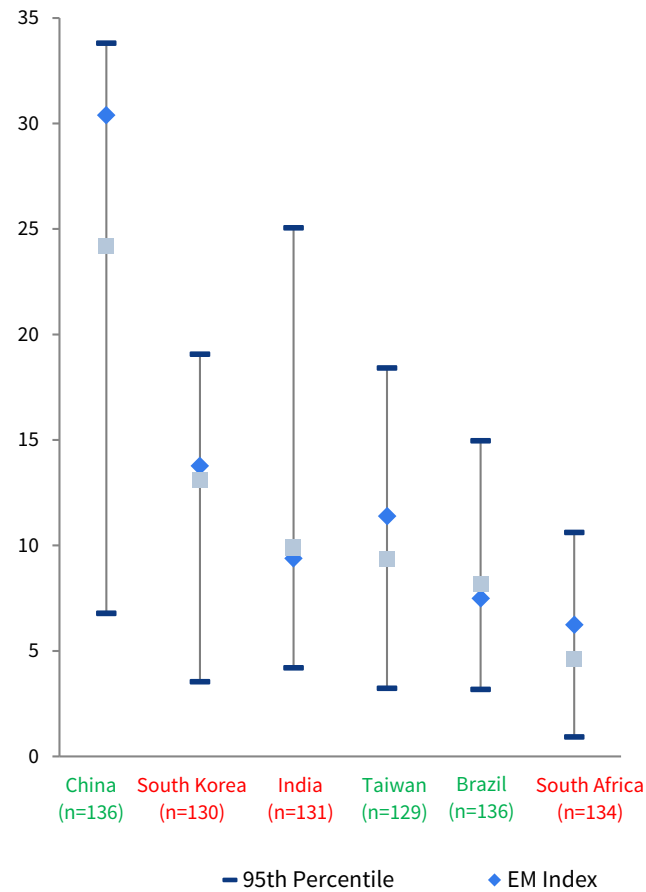
Sector allocation bets can have an impact on performance, particularly when managers underweight the top-performing sectors. This wasn't the case in 2019, as the median manager held a slight overweight position to the IT and consumer discretionary sectors, which had the highest returns and largest return contributions among sectors in 2019.

Country bets can significantly affect relative performance

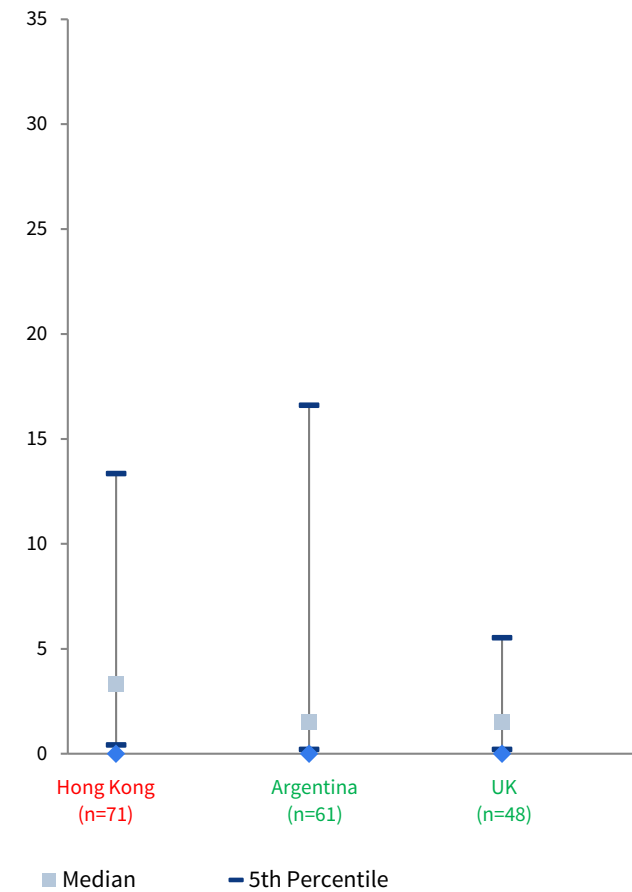
EMERGING MARKETS EQUITY MANAGERS' COUNTRY ALLOCATIONS VS THE MSCI EAFE INDEX

n = 147

Manager Allocations to Six MSCI EAFE Countries with > 5% Weight



Off-Benchmark Countries Where >20% Managers Have Allocations



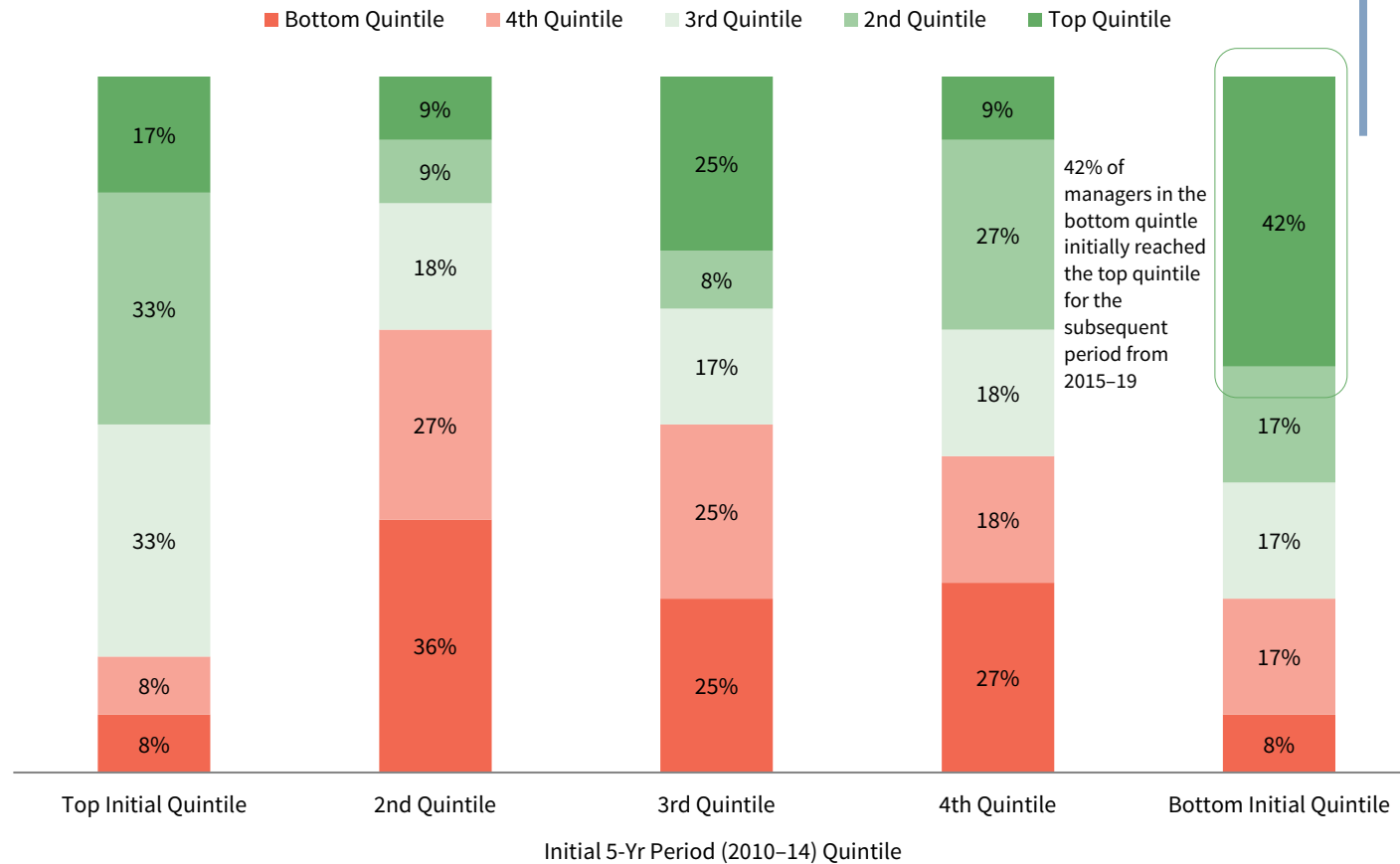
The median manager's underweight to China was a headwind in 2019, as the country outperformed the MSCI Emerging Markets Index by more than 500 bps.

Movement between top and bottom quintiles is fairly common

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

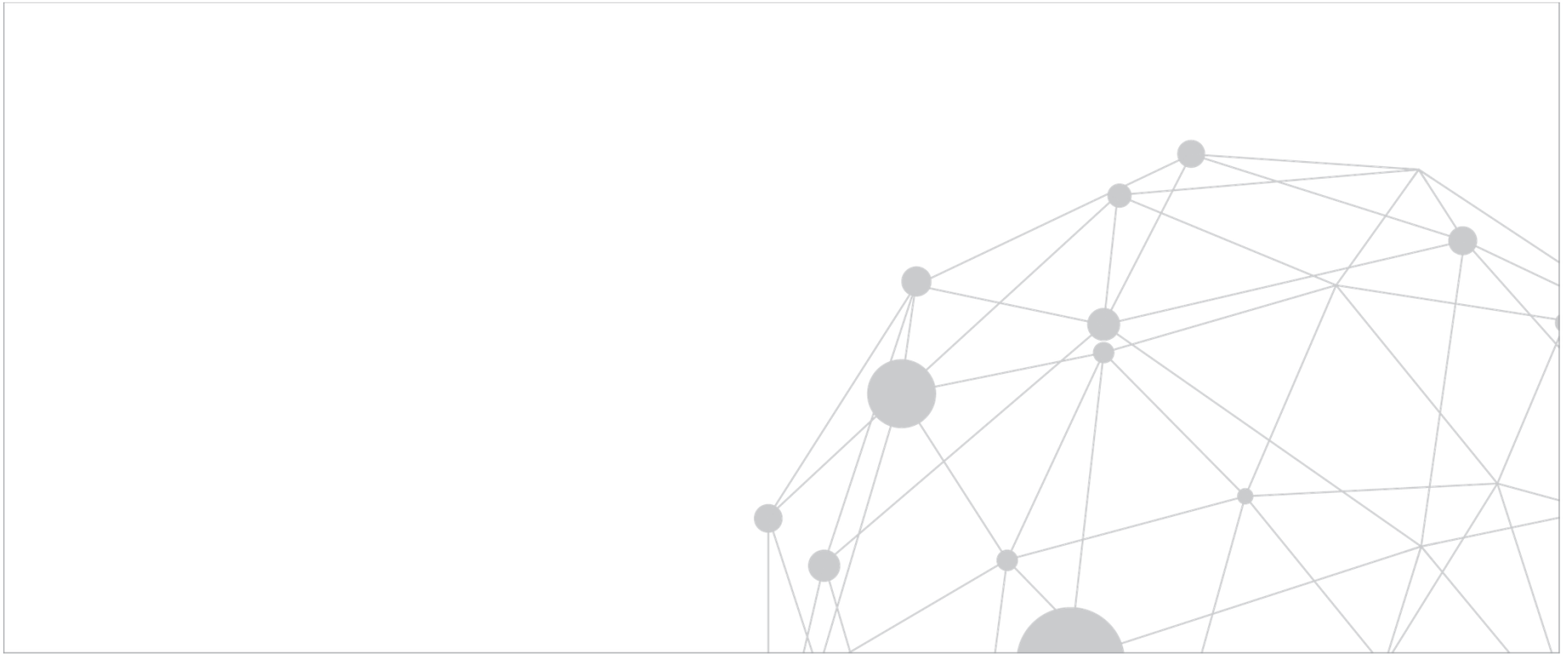
2010-19 • n = 58

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



More than 40% of bottom quintile-performing managers in the five-year period from 2010 to 2014 subsequently moved into the top quintile from 2015 to 2019.

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



Small company outperformance has consistently been a tailwind for active managers

In 2019, small-cap underperformance was likely a headwind, as the MSCI Emerging Markets Index bested the MSCI Emerging Markets Small Cap Index by 696 bps.

ASSESSING THE IMPACT OF CAPITALIZATION BIAS IN ACTIVE MANAGER PORTFOLIOS

2000-19

Active Managers Have Outperformed the MSCI EM Index 55% of the Time When the Index Has Beaten the MSCI EM Small Cap Index ...

Year	Total Return (%)				MSCI EM Minus MSCI EM SC (ppts)	Mgr Value Added vs MSCI EM (ppts)
	MSCI EM	MSCI EM SC	Median EM Equity Manager	<i>n</i>		
2016	11.6	2.6	10.3	187	9.0	-1.3
2011	-18.2	-27.0	-18.0	115	8.8	0.2
2019	18.9	11.9	20.2	187	7.0	1.3
2008	-53.2	-58.1	-53.9	91	4.9	-0.7
2000	-30.6	-35.1	-28.5	58	4.5	2.1
2018	-14.2	-18.3	-15.5	188	4.1	-1.2
2005	34.5	31.0	36.2	66	3.6	1.6
2017	37.8	34.2	37.6	187	3.5	-0.1
2004	26.0	24.7	26.1	64	1.3	0.1

Mean 1.4 -3.8 1.6 5.2 **0.2**

... and Outperformed the MSCI EM Index Every Year When the Index Lagged the MSCI EM Small Cap Index

Year	Total Return (%)				MSCI EM Minus MSCI EM SC (ppts)	Mgr Value Added vs MSCI EM (ppts)
	MSCI EM	MSCI EM SC	Median EM Equity Manager	<i>n</i>		
2006	32.6	33.1	33.1	75	-0.5	0.5
2007	39.8	42.3	39.9	82	-2.5	0.2
2001	-2.4	0.4	-1.4	58	-2.8	1.0
2014	-1.8	1.3	-0.2	168	-3.2	1.6
2013	-2.3	1.3	0.4	158	-3.6	2.7
2003	56.3	60.2	58.4	58	-3.9	2.1
2002	-6.0	-2.1	-3.5	56	-3.9	2.5
2012	18.6	22.6	20.6	130	-4.0	2.0
2015	-14.6	-6.6	-12.9	179	-8.0	1.7
2010	19.2	27.5	20.5	106	-8.3	1.3
2009	79.0	114.3	79.5	97	-35.3	0.5

Mean 19.9 26.8 21.3 -6.9 **1.4**

Off-benchmark holdings can benefit managers

The median manager has consistently outperformed when frontier equities outperform emerging markets. In 2019, frontier underperformed, but active managers still topped the index.

ASSESSING THE IMPACT OF FRONTIER MARKETS EQUITIES ON ACTIVE MANAGER PERFORMANCE

2003-19

Active Managers Have Outperformed the MSCI EM Index 64% of the Time When the Index Has Beaten the MSCI Frontier Index ...

Year	Total Return (%)				MSCI EM Minus MSCI FM (ppts)	Mgr Value Added vs MSCI EM (ppts)
	MSCI EM	MSCI Frontier	Median EM Equity Manager	<i>n</i>		
2009	79.0	11.7	79.3	98	67.3	0.3
2006	32.6	-8.9	32.9	76	41.4	0.4
2003	56.3	43.6	58.3	59	12.7	2.0
2012	18.6	9.2	20.6	131	9.4	2.0
2016	11.6	3.2	10.3	187	8.4	-1.3
2017	37.8	32.3	37.7	187	5.4	-0.1
2004	26.0	22.7	26.1	65	3.3	0.2
2018	-14.2	-16.2	-15.5	188	2.0	-1.2
2008	-53.2	-54.1	-53.9	92	0.9	-0.7
2019	18.9	18.3	20.1	158	0.5	1.2
2011	-18.2	-18.4	-18.0	116	0.2	0.1

Mean 17.7 4.0 18.0 13.8 **0.3**

... and Outperformed the MSCI EM Index Every Year When the Index Lagged the MSCI Frontier Index

Year	Total Return (%)				MSCI EM Minus MSCI FM (ppts)	Mgr Value Added vs MSCI EM (ppts)
	MSCI EM	MSCI Frontier	Median EM Equity Manager	<i>n</i>		
2015	-14.6	-14.1	-13.0	179	-0.5	1.6
2007	39.8	42.1	39.8	83	-2.3	0.1
2010	19.2	24.2	20.5	107	-5.0	1.3
2014	-1.8	7.2	-0.2	168	-9.0	1.6
2013	-2.3	26.3	0.4	158	-28.6	2.7
2005	34.5	72.7	36.3	67	-38.2	1.8

Mean 12.5 26.4 14.0 -13.9 **1.5**

Years of cash outperformance have generally been good for active managers

Equities lagged the 91-Day T-Bill in 2019, but managers still bested the broader index.

ASSESSING THE IMPACT OF CASH DRAG ON ACTIVE MANAGER PERFORMANCE

2000-19

Active Managers Have Beaten the MSCI Emerging Markets Index 73% of the Time When the Index Has Beaten the 91-Day T-Bill ...

Year	Total Return (%)				MSCI EM Minus T-Bill (ppts)	Mgr Value Added vs MSCI EM (ppts)
	MSCI EM	91-Day T-Bill	Median EM Equity Manager	<i>n</i>		
2009	79.0	0.2	78.7	93	78.8	-0.3
2003	56.3	1.1	58.3	59	55.1	2.0
2017	37.8	0.9	37.6	164	36.9	-0.1
2007	39.8	5.0	39.8	80	34.8	0.0
2005	34.5	3.1	36.6	65	31.5	2.0
2006	32.6	4.8	32.8	73	27.7	0.2
2004	26.0	1.3	26.1	64	24.6	0.2
2010	19.2	0.1	20.3	102	19.1	1.1
2012	18.6	0.1	20.5	124	18.5	1.9
2019	18.9	2.3	20.4	139	16.6	1.5
2016	11.6	0.3	10.5	167	11.3	-1.1

Mean 34.0 1.8 34.7 32.3 **0.7**

... And Beaten the MSCI Emerging Markets Index 78% of the Time When the Index Has Lagged the 91-Day T-Bill

Year	Total Return (%)				MSCI EM Minus T-Bill (ppts)	Mgr Value Added vs MSCI EM (ppts)
	MSCI EM	91-Day T-Bill	Median EM Equity Manager	<i>n</i>		
2014	-1.8	0.0	-0.4	153	-1.9	1.4
2013	-2.3	0.1	0.1	146	-2.3	2.3
2001	-2.4	4.4	-1.3	59	-6.8	1.1
2002	-6.0	1.8	-3.3	57	-7.8	2.7
2015	-14.6	0.1	-13.6	163	-14.7	1.0
2018	-14.2	1.9	-15.3	165	-16.1	-1.0
2011	-18.2	0.1	-17.9	110	-18.3	0.2
2000	-30.6	6.2	-28.5	59	-36.8	2.1
2008	-53.2	2.1	-53.6	87	-55.2	-0.4

Mean -15.9 1.8 -14.9 -17.8 **1.0**



**CAMBRIDGE
ASSOCIATES**

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