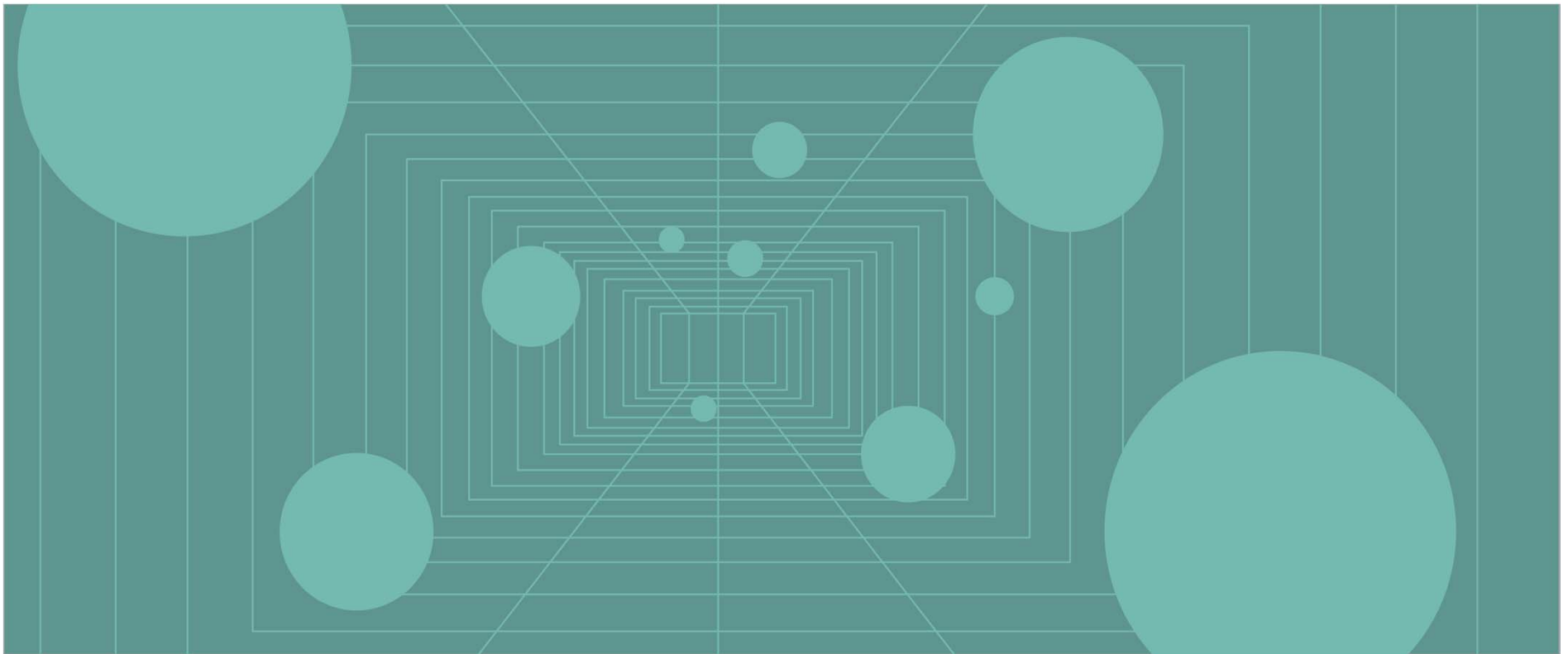


GLOBAL EQUITY MANAGER PERFORMANCE

ANALYSIS OF 2017 AND PERFORMANCE SINCE 2000



Summary Observations

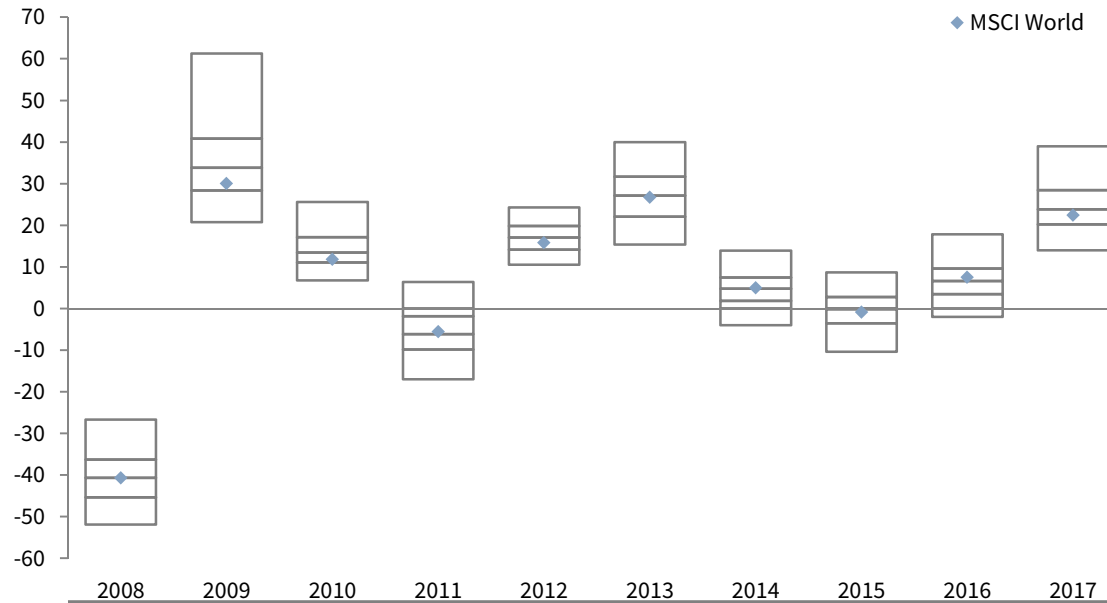
- In 2017, the median active global equity manager outperformed the MSCI World Index by 150 basis points (bps), gross of fees. This represents a reversal of 2016 losses, and is the seventh time in ten years that the median manager outperformed the MSCI World Index.
- Even after incorporating a fee proxy of 70 bps, more than half of active managers outperformed the index, with 38.6% outperforming by more than 250 bps, representing significant value-add. Post-2007, the percentage of managers outperforming has been lower than during the 2000–07 period. On average, about 50% of managers outperformed the fee-adjusted index from 2008 to 2017, versus an average of 59% from 2000 to 2007.
- In 2017, the median growth manager had the strongest outperformance of any style versus the MSCI World Index, beating it by nearly 1,000 bps. The median growth manager also outperformed versus the MSCI World Growth Index by about 440 bps. Value managers were the only style managers that underperformed the headline index (by about 90 bps), but the median manager in our value universe outperformed the MSCI World Value Index by about 440 bps. Over a ten-year period, opportunistic managers actually have the highest returns, while growth managers have been in favor more recently and have the strongest returns over one-, three-, and five-year periods.
- Managers' sector allocations can differ substantially from the index. On an average and median basis, managers were overweight three sectors versus the MSCI World Index—IT, consumer discretionary, and industrials (in rank order)—and all three outperformed the overall index. The most significant overweight was a small 38 bps to IT, but even a small overweight would have provided big benefits as the sector outperformed the overall index by almost 1,600 bps. The biggest median underweights were to real estate, energy, and consumer staples (in rank order), all three of which underperformed the overall index.

Summary Observations (continued)

- US equities are by far the largest weight in MSCI World; when the return of World beats US, managers have consistently outperformed as they tend to be underweight US equities. US equities underperformed MSCI World in 2017, so managers' underweights here—an average of over 1,000 bps at the end of 2017—may have contributed to relative performance. Of the index's remaining six largest country weights, managers were only overweight to France, which outperformed the MSCI World Index in USD terms. Their underweights to Japan, Germany, and Switzerland likely cost them, as all three countries outperformed the MSCI World.
- Exposure to emerging markets has historically provided a tailwind to active global equity managers, and 2017 was no exception as the MSCI Emerging Markets Index outperformed the MSCI World Index by more than 1,500 bps, and most managers had some emerging markets exposure. China, where the largest number of managers had exposure and where average and median exposure was highest, outperformed MSCI World in USD terms by almost 3,170 bps, providing a palpable tailwind to the 63% of global managers with exposure to the country. The remaining three countries where over 30% of managers had exposure were South Korea, Brazil, and India, all of which outperformed the World index.
- Persistence in manager performance is rare, and movement among performance quintiles is fairly common. Only 8.3% of bottom quintile-performing managers in the five-year period 2008–12 remained in the bottom quintile in the five-year period 2013–17, while a quarter of bottom quintile managers in 2008–12 moved into the top quintile of managers in 2013–17.

Over 60% of managers outperformed the index in 2017

GLOBAL EQUITY MANAGER ANNUAL RETURNS BY QUANTILES
2008–17 • Percent (%)



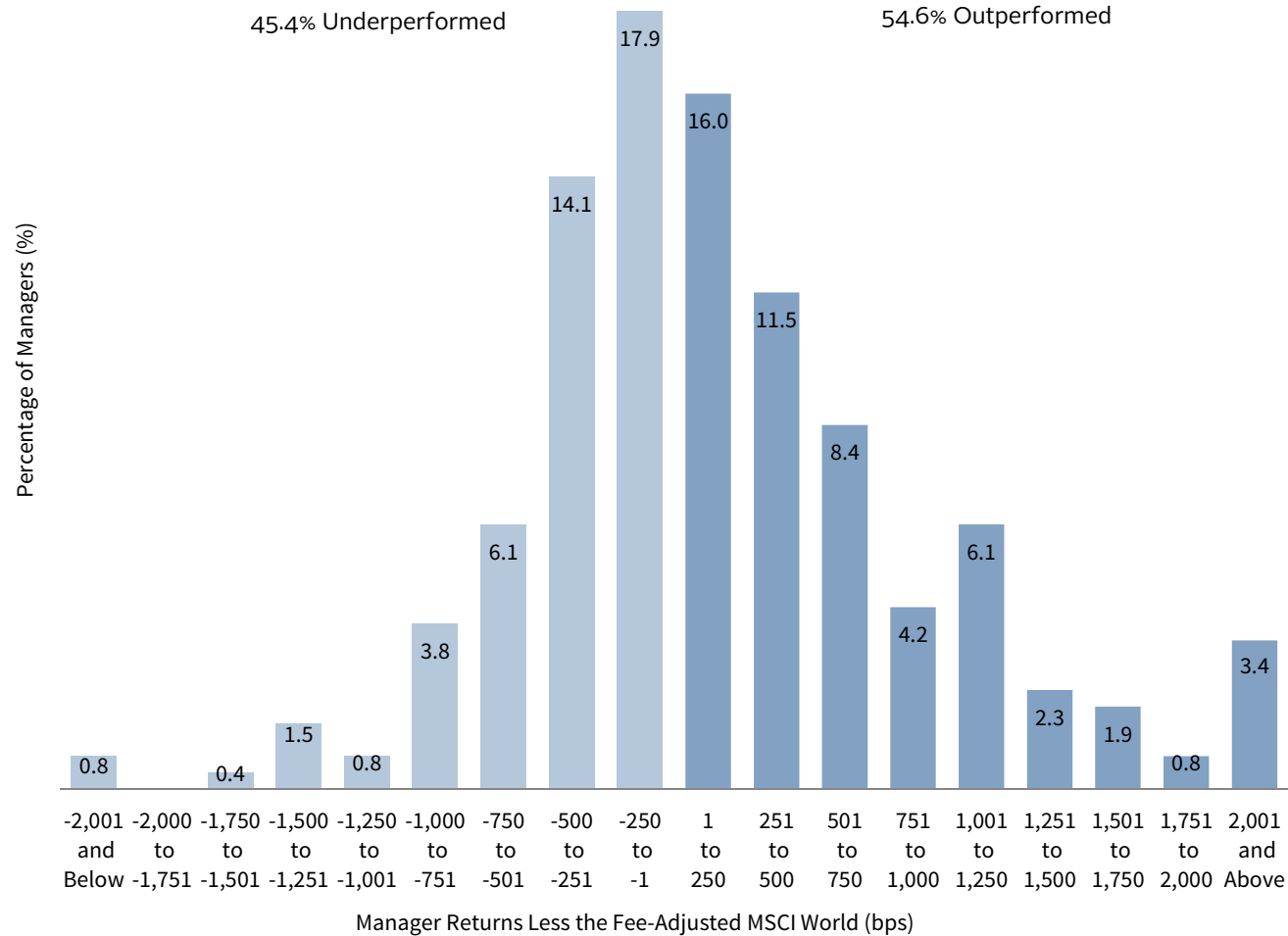
The majority of active managers have outperformed the index gross of fees in six of the last ten years

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
5th Percentile	-26.7	61.3	25.6	6.3	24.3	40.0	13.9	8.7	17.8	39.0
25th Percentile	-36.3	40.8	17.1	-1.8	19.8	31.7	7.5	2.8	9.6	28.4
Median	-40.7	33.8	13.5	-6.1	17.1	27.1	4.8	-0.2	6.6	23.9
75th Percentile	-45.4	28.4	11.0	-9.8	14.2	22.0	1.9	-3.5	3.5	20.2
95th Percentile	-51.9	20.8	6.8	-17.0	10.5	15.4	-4.0	-10.4	-2.0	14.0
MSCI World	-40.7	30.0	11.8	-5.5	15.8	26.7	4.9	-0.9	7.5	22.4
# of Managers	218	241	259	277	281	302	314	325	318	262
% Outperforming	50.0	65.1	71.4	47.3	60.1	52.3	48.4	55.4	42.5	61.5
% Underperforming	50.0	34.9	28.6	52.7	39.9	47.7	51.6	44.6	57.5	38.5

Adjusted for fees, more than half of managers outperformed the index in 2017

MANAGER RETURNS RELATIVE TO THE FEE-ADJUSTED MSCI WORLD INDEX

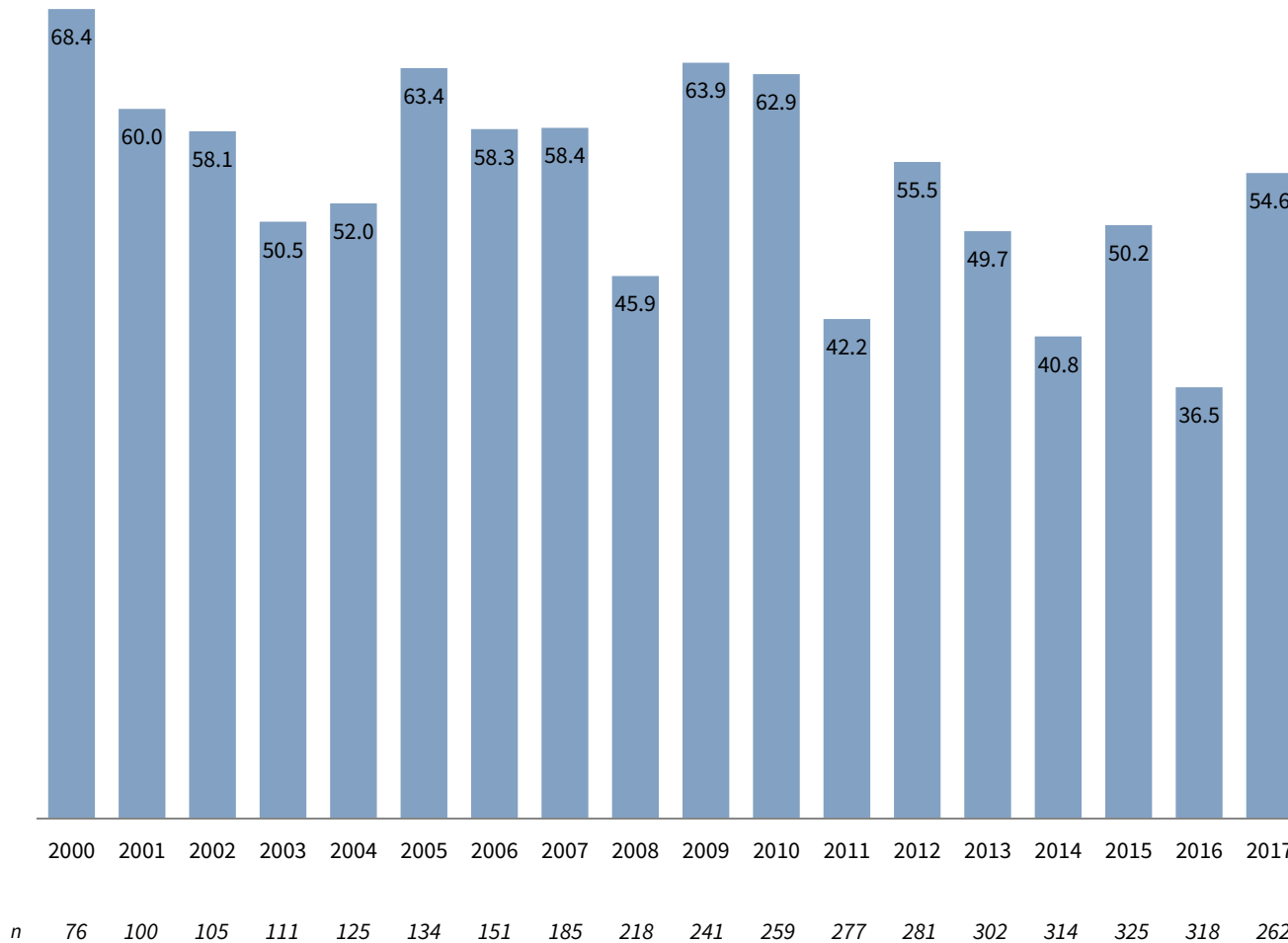
Calendar Year 2017 • n = 262



38.6% of managers outperformed the fee-adjusted index by more than 250 bps

Active manager performance is cyclical

PERCENTAGE OF GLOBAL EQUITY MANAGERS OUTPERFORMING THE FEE-ADJUSTED MSCI WORLD INDEX
2000–17 • Percent (%)

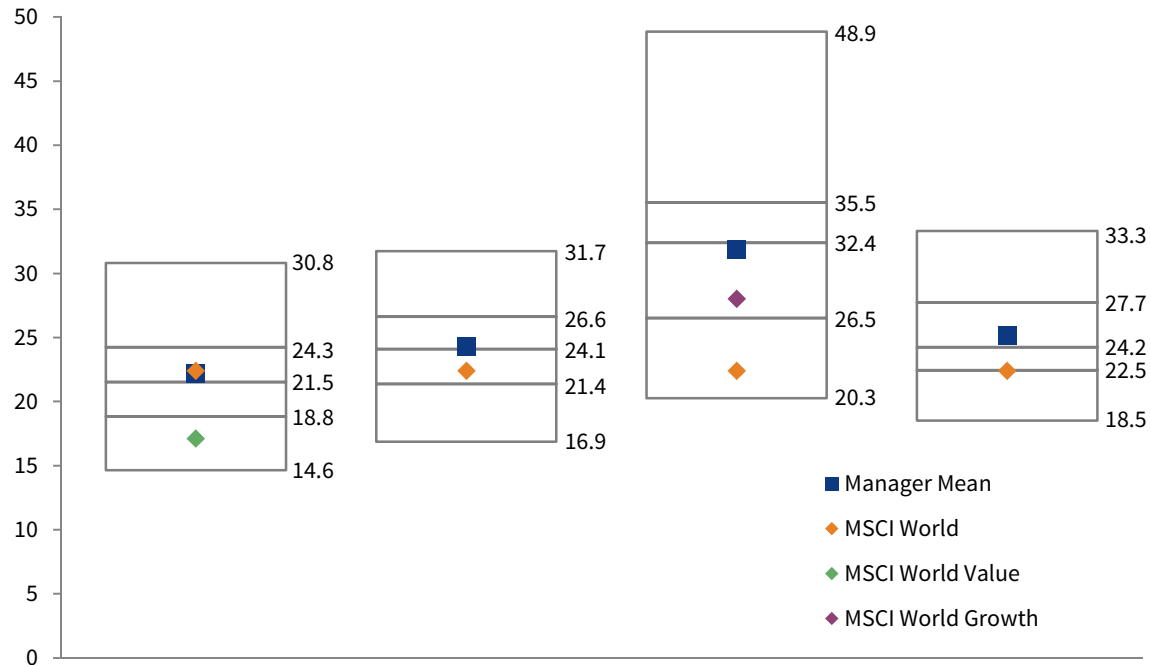


Post-2007, the percentage of managers outperforming has been lower than the 2000–07 period, though outperformance is more frequent across the full span

Value was the only factor that underperformed the overall MSCI World Index

GLOBAL EQUITY MANAGER UNIVERSE RETURN QUANTILES BY INVESTMENT PHILOSOPHY

Calendar Year 2017 • Percent (%)



But the median value manager significantly outperformed the MSCI World Value Index, while growth managers were strong against both the MSCI World and the MSCI World Growth indexes

	Value	Diverse	Growth	Opportunistic
High	54.9	46.6	54.3	36.3
Manager Mean	22.2	24.3	31.9	25.2
Low	0.1	11.8	13.3	17.2
MSCI World Index	22.4*	22.4	22.4*	22.4
Number of Managers	81	40	47	17



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.

* The MSCI World Value Index returned 17.1% in 2017; the MSCI World Growth Index returned 28.0%.

Investment styles go in and out of favor over time

THE CYCLICAL NATURE OF GLOBAL EQUITY INVESTMENT PHILOSOPHIES

2000-17 • 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	52	22.6	13	20.1
2007	14.6	35	7.2	60	13.9	18	9.0
2008	-44.2	42	-39.4	67	-43.1	18	-40.7
2009	35.3	48	33.5	75	39.5	16	30.0
2010	15.5	54	12.8	79	15.0	17	11.8
2011	-7.6	55	-5.3	86	-7.9	17	-5.5
2012	16.9	54	17.0	86	17.1	17	15.8
2013	25.2	59	28.1	93	28.8	16	26.7
2014	5.0	62	3.8	97	4.3	20	4.9
2015	2.5	64	-2.8	97	-0.6	20	-0.9
2016	3.9	58	9.0	94	3.9	19	7.5
2017	32.4	47	21.5	81	24.2	17	22.4

Growth returned to favor in 2017 after a brief stint of value outperformance in 2016

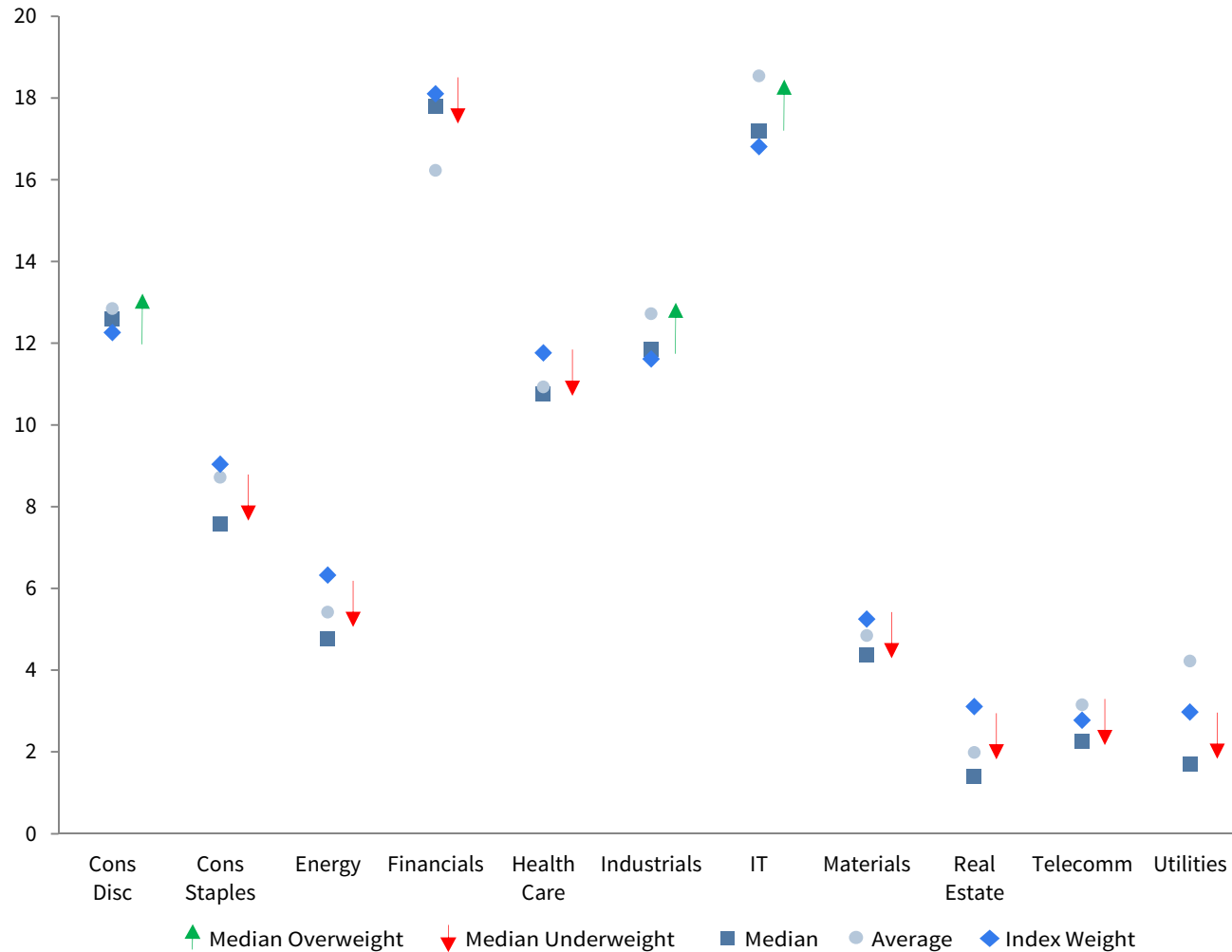
Average Annual Compound Returns: Periods Ended December 31, 2017

Trailing 10-Yr	6.2	17	6.3	46	6.9	11	5.0
Trailing 5-Yr	13.1	37	12.3	69	12.5	13	11.6
Trailing 3-Yr	12.0	44	9.3	77	9.8	17	9.3

Managers' differing sector allocations can influence relative returns

GLOBAL EQUITY MANAGERS' SECTOR ALLOCATIONS VERSUS MSCI WORLD INDEX WEIGHT

As of December 31, 2017 • n = 221



All three sectors that the median manager was overweight in (IT, consumer discretionary, and industrials, in rank order) outperformed on an index basis

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

ASSESSING THE IMPACT OF US EQUITIES ON ACTIVE MANAGER PERFORMANCE

2000-17

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	Glo Equity Manager	Median n		
2006	20.1	14.7	21.4	151	5.4	1.3
2003	33.1	28.4	34.1	111	4.7	1.0
2004	14.7	10.1	15.5	125	4.6	0.8
2005	9.5	5.1	11.6	134	4.3	2.1
2009	30.0	26.3	33.8	241	3.7	3.8
2007	9.0	5.4	10.9	185	3.6	1.9
2002	-19.9	-23.1	-18.2	105	3.2	1.7
2017	22.4	21.2	23.9	262	1.2	1.5
2012	15.8	15.3	17.1	281	0.5	1.3
Mean	15.0	11.5	16.7		3.5	1.7

... and Outperformed the MSCI World Index 67% of the Time When the Index Has 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	Glo Equity Manager	Median n		
2000	-13.2	-12.8	-8.2	76	-0.3	5.0
2015	-0.9	0.7	-0.2	325	-1.6	0.7
2010	11.8	14.8	13.5	259	-3.0	1.7
2008	-40.7	-37.6	-40.7	218	-3.1	0.0
2016	7.5	10.9	6.6	318	-3.4	-0.9
2001	-16.8	-12.4	-13.4	100	-4.4	3.4
2013	26.7	31.8	27.1	302	-5.1	0.4
2011	-5.5	1.4	-6.1	277	-6.9	-0.6
2014	4.9	12.7	4.8	314	-7.8	-0.2
Mean	-2.9	1.0	-1.8		-4.0	1.1

US is the largest weight in MSCI World, but in 2017 managers were underweight to the US, which underperformed the MSCI World Index by 120 bps

Exposure to emerging markets was a positive factor in 2017

ASSESSING THE IMPACT OF EMERGING MARKET EQUITIES ON ACTIVE MANAGER PERFORMANCE

2000-17

Active Managers Have Outperformed the MSCI World Index 67% 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 Glo Equity Manager	<i>n</i>		
2013	26.7	-2.3	27.1	302	29.0	0.4
2000	-13.2	-30.6	-8.2	76	17.4	5.0
2015	-0.9	-14.6	-0.2	325	13.7	0.7
2011	-5.5	-18.2	-6.1	277	12.6	-0.6
2008	-40.7	-53.2	-40.7	218	12.5	0.0
2014	4.9	-1.8	4.8	314	6.8	-0.2
Mean	-4.8	-20.1	-3.9		15.3	0.9

... and Outperformed the MSCI World Index 92% of the Time When the Index 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 Glo Equity Manager	<i>n</i>		
2012	15.8	18.6	17.1	281	-2.8	1.3
2016	7.5	11.6	6.6	318	-4.1	-0.9
2010	11.8	19.2	13.5	259	-7.4	1.7
2004	14.7	26.0	15.5	125	-11.2	0.8
2006	20.1	32.6	21.4	151	-12.5	1.3
2002	-19.9	-6.0	-18.2	105	-13.9	1.7
2001	-16.8	-2.4	-13.4	100	-14.5	3.4
2017	22.4	37.8	23.9	262	-15.4	1.5
2003	33.1	56.3	34.1	111	-23.2	1.0
2005	9.5	34.5	11.6	134	-25.1	2.1
2007	9.0	39.8	10.9	185	-30.7	1.9
2009	30.0	79.0	33.8	241	-49.0	3.8
Mean	11.4	28.9	13.1		-17.5	1.6

The outperformance of emerging markets over developed markets provided a strong tailwind for active managers

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

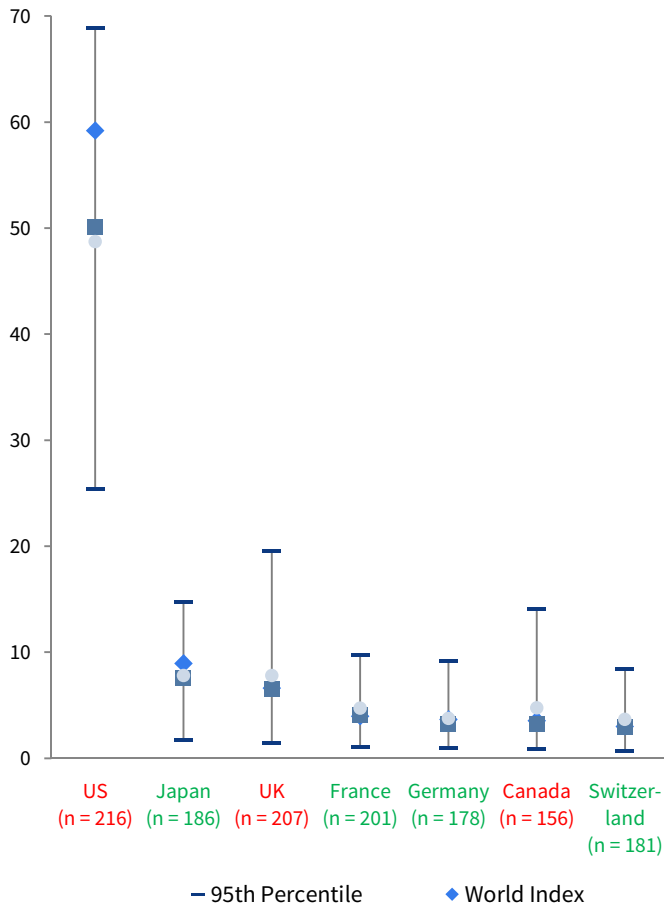
Notes: The most recent year is bolded. Cambridge Associates LLC's (CA) manager universe statistics are derived from CA's proprietary Investment Manager Database. Managers that do not report in US dollars, exclude cash reserves from reported total returns, or have less than \$50 million in product assets 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.

Country bets can significantly affect relative performance

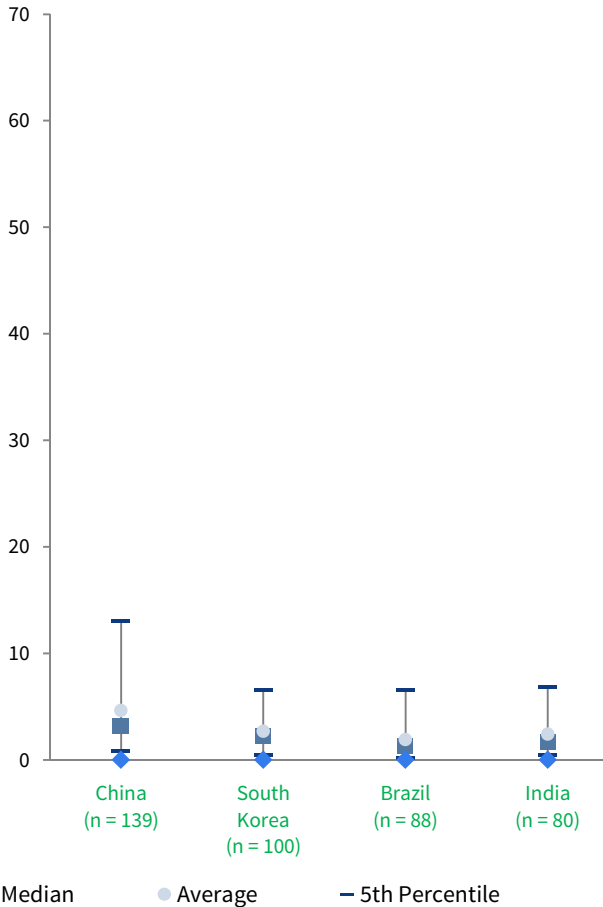
GLOBAL EQUITY MANAGERS' COUNTRY ALLOCATIONS VS THE MSCI WORLD INDEX

As of December 31, 2017 • n = 220

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



Off-Benchmark Countries Where >30% Managers Have Allocations



The median manager's 320 bps off-benchmark bet on China certainly added value in 2017, as the country outperformed the MSCI World Index by more than 3,100 bps

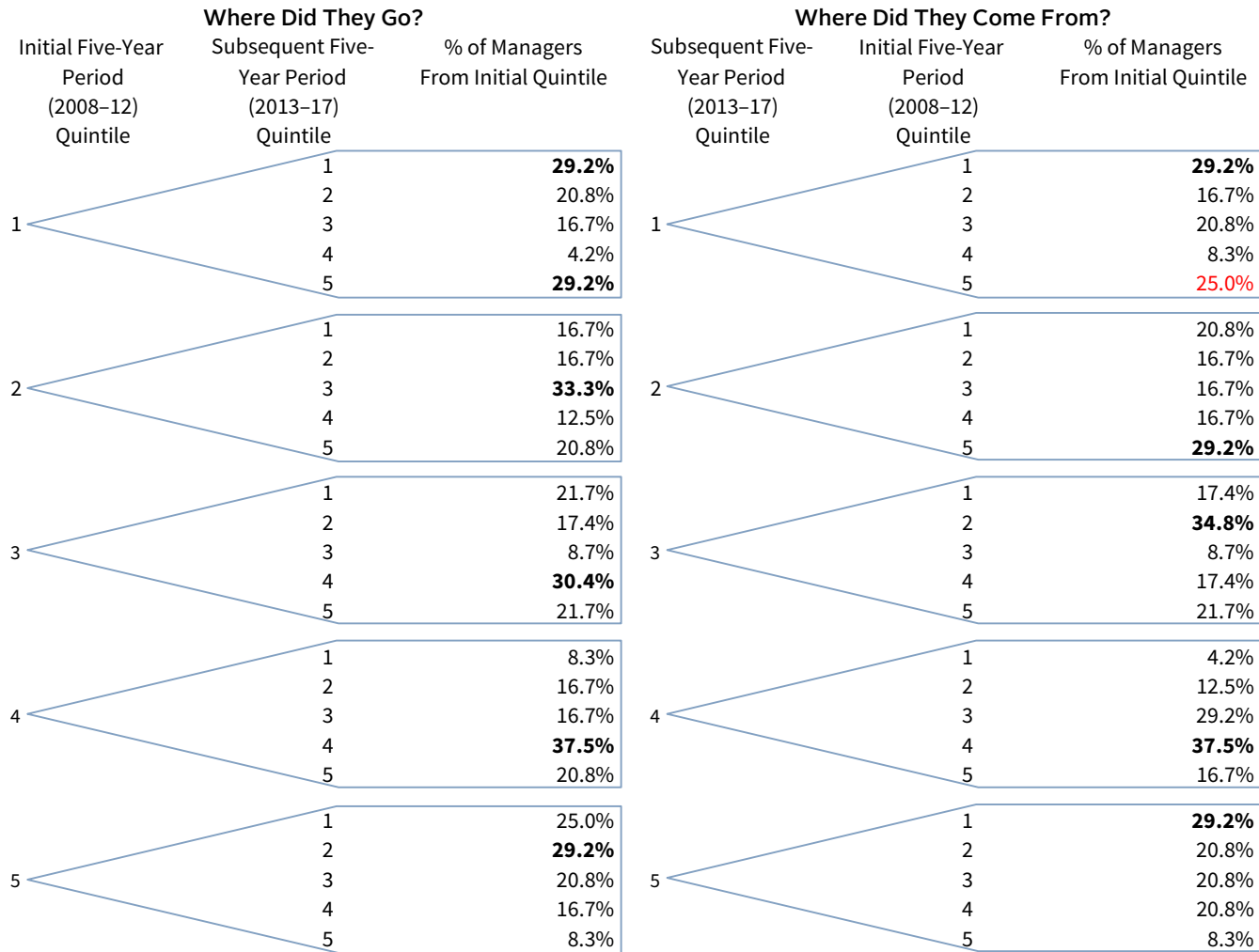
Sources: Cambridge Associates LLC, MSCI Inc., and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: A country name in red indicates that the country underperformed the MSCI EAFE Index, while green country names indicate outperformance. Only includes data for 220 managers that provided geographic allocation as of year-end 2017. Index weights represent year-end geographic allocations of the MSCI EAFE Index. The n provided for each country represents the total number of products exposed to a given country as of year-end 2017, and percentile, median, and average figures are calculated only from products with exposure to the country shown. Cambridge Associates LLC's (CA) manager universe statistics are derived from CA's proprietary Investment Manager Database. Manager 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.

Movement between top and bottom quintiles is common

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

2008–17 • n = 119



A quarter of managers in the bottom performing quintile from 2018–12 (in red at left) wound up in the top-performing quintile for the 2013–17 period



**CAMBRIDGE
ASSOCIATES**

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