



Global Equity Manager Performance

Analysis of 2016 and Performance Since 2000

CAMBRIDGE C A ASSOCIATES

Contributors to this publication include Andrew Pavloff, Daniel Day, Casey Heikes, Amanda Rohrer, and Annie Weichert.

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- In 2016, the median active global equity ex small cap manager underperformed the MSCI World Index by 130 basis points (bps) gross of fees. This marked only the third time in the past ten years that the median manager underperformed the index gross of fees.
- Incorporating a fee proxy of 70 bps, just under one-third of active managers outperformed the index, the lowest level of outperformance in the years since 2000. Post-2007, the percentage of managers outperforming has been lower than the 2000–07 period. On average, about 50% of managers outperformed the fee-adjusted index from 2008 to 2016, versus an average of 59% from 2000 to 2007.
- In 2016, the median value manager outperformed the median diverse, opportunistic, and growth managers as well as the MSCI World Index, but underperformed the MSCI World Value Index. More than 85% of growth managers underperformed the MSCI World Index, but the median growth manager outperformed the MSCI World Growth Index by 55 bps. Over the trailing ten years, the median average annual compound returns (AACRs) for both value (4.9%) and growth (5.2%) managers exceeded MSCI World (3.8%) by over 100 bps. Over the trailing three years, the median value, growth, and opportunistic managers have all slightly underperformed the MSCI World Index on an AACR basis.



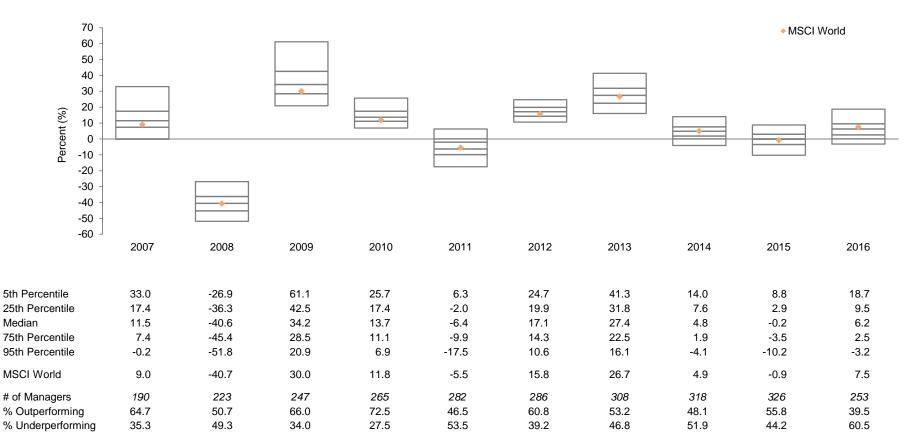
- Managers' sector allocations can differ substantially from the index. On an average and median basis, managers were overweight three sectors versus the MSCI World Index: health care, industrials, and IT. The first of these trailed the overall index return by over 1,400 bps. On an average and median basis, managers were underweight three sectors: energy, financials, and real estate. The energy sector is only 7% of the index, but posted the best return for the year: 26.6% vs 7.5% for the index as a whole.
- Output ties 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 significantly outperformed MSCI World in 2016, so managers' underweights here—an average of 870 bps at the end of 2016—may have detracted from relative performance. Of the index's remaining six largest country weights, managers were overweight two countries on an average and median basis—France and Switzerland. Both equity markets underperformed MSCI World in USD terms.
- Exposure to emerging markets has historically provided a tailwind to active global equity managers, but not in 2016. The MSCI Emerging Markets Index outperformed the MSCI World Index, but the median manager trailed the World Index. At least 30% of managers had exposure to six off-benchmark countries. China, where the largest number of managers had exposure and where average and median exposure was highest, underperformed MSCI World in USD terms.
- Persistence in manager performance is rare, and movement among performance quintiles is fairly common. Only 4.5% of bottom quintile-performing managers in the five-year period 2007–11 remained in the bottom quintile in the five-year period 2012–16, while almost a quarter of bottom quintile managers in 2007–11 moved into the top quintile of managers in 2012–16.

Over 60% of managers underperformed the index in 2016

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



2007-16



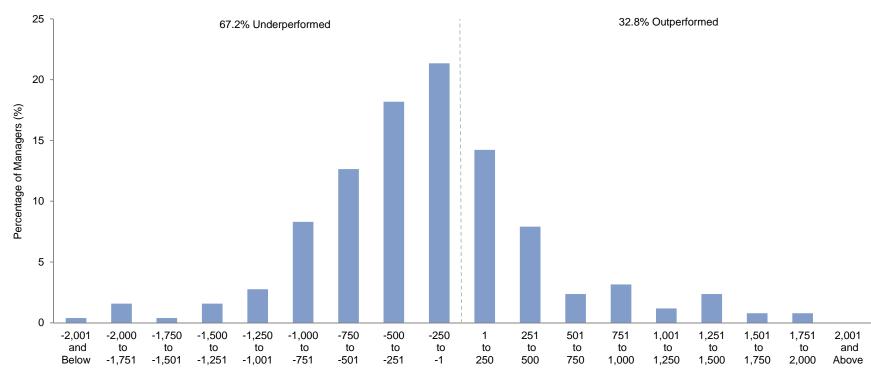
Sources: Cambridge Associates LLC, MSCI Inc., and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties. Notes: Cambridge Associates LLC's (CA) manager universe statistics are derived from CA's proprietary Investment Manager Database. Managers that do not report 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. 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, two-thirds of managers underperformed the index in 2016

18.6% of managers outperformed the fee-adjusted index by more than 250 bps

Manager Returns Relative to the Fee-Adjusted MSCI World Index

Calendar Year 2016 • n = 253



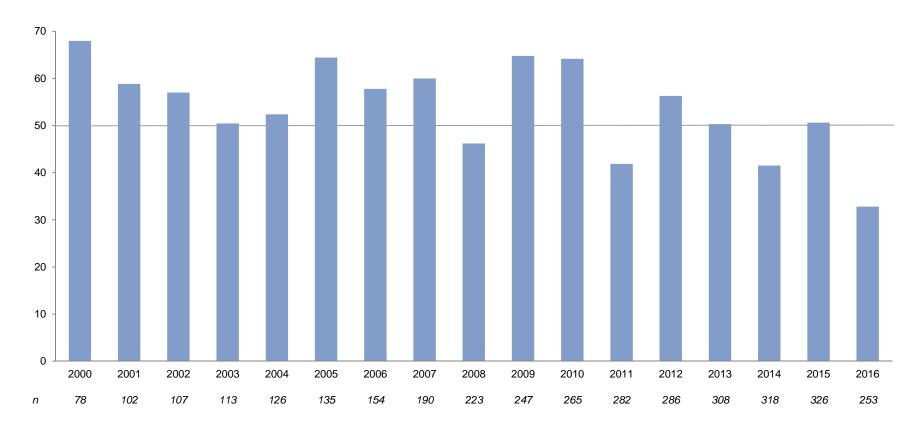
Manager Returns Less the Fee-Adjusted MSCI World (bps)

Sources: Cambridge Associates LLC, MSCI Inc., and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties. Notes: The dashed line represents the fee-adjusted MSCI EAFE 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. We have added 70 bps to the MSCI World Index return as a proxy for manager fees. Only managers with performance available for the entire period measured are included.



Post-2007, the percentage of managers outperforming has been lower than the 2000-07 period

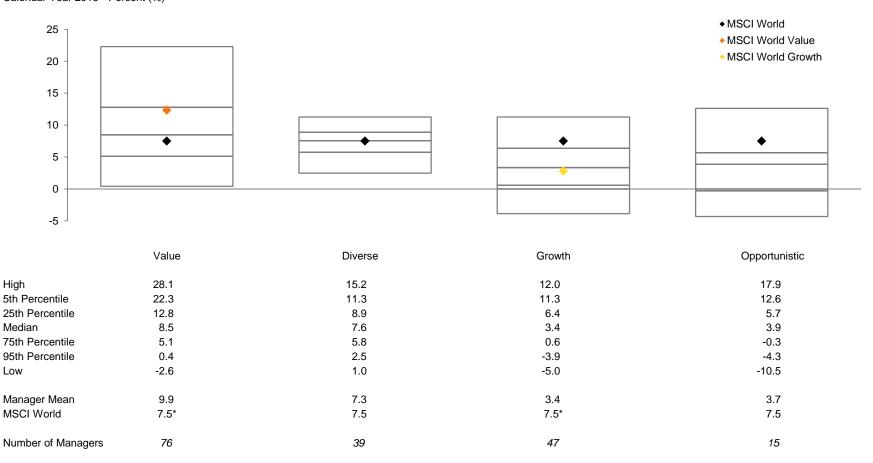




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Global Equity Manager Universe Return Quartiles by Investment Philosophy Calendar Year 2016 • Percent (%)



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 12.3% in 2016; the MSCI World Growth Index returned 2.8%.

The Cyclical Nature of Global Equity Investment Philosophies

Annual Total Returns • Percent (%)

Annual Total Returns

	Median		Median		Median		
Year	Growth Mgr	<u>n</u>	Value Mgr	n	Opportunistic Mgr	<u>n</u>	MSCI World
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	18.1	42			14.7
2005	13.4	35	10.2	44	12.9	10	9.5
2006	19.7	35	22.2	52	22.6	13	20.1
2007	14.8	36	7.7	61	13.9	18	9.0
2008	-44.4	43	-39.3	68	-43.1	18	-40.7
2009	35.6	49	33.5	75	39.5	16	30.0
2010	15.6	55	12.8	79	15.0	17	11.8
2011	-7.6	55	-5.5	87	-7.9	17	-5.5
2012	17.3	54	17.0	87	17.1	17	15.8
2013	25.4	60	27.9	94	27.5	17	26.7
2014	5.2	63	3.3	97	4.3	20	4.9
2015	2.2	63	-2.8	96	-0.6	20	-0.9
2016	3.4	47	8.5	76	3.9	15	7.5
Average Annu	al Compound R	eturns: Peri	ods Ended Decemb	er 31, 2016	i		
Trailing 10-Yr	5.2	17	4.9	41			3.8
Trailing 5-Yr	10.5	35	11.2	61	8.8	11	10.4
Trailing 3-Yr	3.5	46	3.3	73	3.1	15	3.8

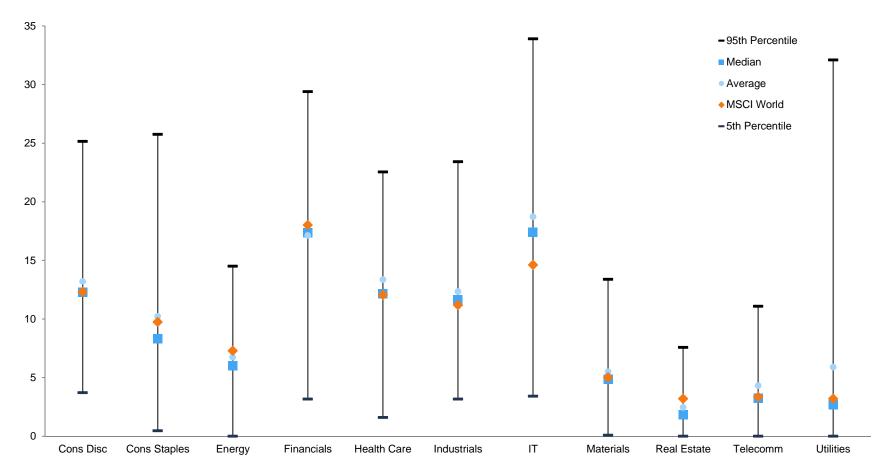
Sources: Cambridge Associates LLC, MSCI Inc., and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties. Notes: The philosophy with the highest return in each period is highlighted. Cambridge Associates LLC's (CA) manager universe statistics are derived from 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. Statistics are not shown for years with fewer than ten managers.

Managers' differing sector allocations can influence relative returns

On an average and median basis, managers were overweight the health care sector; on an index basis health care trailed the overall index return by more than 1,400 bps

Global Equity Managers' Sector Allocations versus MSCI World Index Weight

As of December 31, 2016 • *n* = 220



Sources: Cambridge Associates LLC, MSCI Inc., and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties. Notes: Only includes data for 220 managers that provided sector allocation as of year-end 2016. Index weights represent year-end sector allocations of the MSCI World Index. 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.

CA

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

US is the largest weight in MSCI World, and any underweights would have detracted from relative performance in 2016 given MSCI US outperformed MSCI World by 338 bps

Assessing the Impact of US Equities on Active Manager Performance

Active Managers Have Outperformed the MSCI World Index 100%

2000–16

	of the Time When the Index Has Beaten the MSCI US Index							of the Time When the Index Has Lagged the MSCI US Index						
	Total Return (%)			MSCI World	Mgr Value	1		Total Return (%)			MSCI World	Mgr Value		
Year	MSCI World	MSCI US	Median Global Equity Manager	n	Minus MSCI US (ppts)	Added vs MSCI World (ppts)) Year	MSCI World	MSCI US	Median Global Equity Manager	n	Minus MSCI US (ppts)	Added vs MSCI World (ppts)	
2006	20.1	14.7	21.4	154	5.4	1.3	2000	-13.2	-12.8	-8.2	78	-0.3	5.0	
2003	33.1	28.4	34.1	113	4.7	1.0	2015	-0.9	0.7	-0.2	326	-1.6	0.7	
2004	14.7	10.1	15.6	126	4.6	0.8	2010	11.8	14.8	13.7	265	-3.0	1.9	
2005	9.5	5.1	11.7	135	4.3	2.2	2008	-40.7	-37.6	-40.6	223	-3.1	0.1	
2009	30.0	26.3	34.2	247	3.7	4.3	2016	7.5	10.9	6.2	253	-3.4	-1.3	
2007	9.0	5.4	11.6	190	3.6	2.5	2001	-16.8	-12.4	-13.6	102	-4.4	3.2	
2002	-19.9	-23.1	-18.3	107	3.2	1.6	2013	26.7	31.8	27.4	308	-5.1	0.8	
2012	15.8	15.3	17.1	286	0.5	1.3	2011	-5.5	1.4	-6.3	282	-6.9	-0.8	
							2014	4.9	12.7	4.8	318	-7.8	-0.1	
Mean	14.0	10.3	15.9		3.8	1.9	Mean	-2.9	1.0	-1.9		-4.0	1.1	

and Outperformed the MSCI World Index 67%

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.



Exposure to emerging markets did not help managers in 2016

2016 marked the first year in our dataset that the outperformance of emerging markets over developed markets did not provide a tailwind to active managers

Assessing the Impact of Emerging Market Equities on Active Manager Performance 2000–16

of	Active Managers Have Outperformed the MSCI World Index 67% of the Time When the Index Has Beaten the MSCI Emerging Markets Index …						and Outperformed the MSCI World Index 91% of the Time When the Index Lagged the MSCI Emerging Markets Index						
	Total Return (%)				MSCI World M	Mgr Value		Total Return (%)			MSCI World	d Mgr Value	
Year	MSCI World	MSCI EM	Median Global Equity Manager	n	Minus MSCI EM (ppts)	Added vs MSCI World (ppts)	Year	MSCI World	MSCI EM	Median Global Equity Manager	n	Minus MSCI EM (ppts)	Added vs MSCI World (ppts
2013	26.7	-2.3	27.4	308	28.9	0.8	2012	15.8	18.6	17.1	286	-2.8	1.3
2000	-13.2	-30.6	-8.2	78	17.4	5.0	2016	7.5	11.6	6.2	253	-4.1	-1.3
2015	-0.9	-14.6	-0.2	326	13.7	0.7	2010	11.8	19.2	13.7	265	-7.4	1.9
2011	-5.5	-18.2	-6.3	282	12.6	-0.8	2004	14.7	26.0	15.6	126	-11.2	0.8
2008	-40.7	-53.2	-40.6	223	12.5	0.1	2006	20.1	32.6	21.4	154	-12.5	1.3
2014	4.9	-1.8	4.8	318	6.8	-0.1	2002	-19.9	-6.0	-18.3	107	-13.9	1.6
							2001	-16.8	-2.4	-13.6	102	-14.5	3.2
							2003	33.1	56.3	34.1	113	-23.2	1.0
							2005	9.5	34.5	11.7	135	-25.1	2.2
							2007	9.0	39.8	11.6	190	-30.7	2.5
							2009	30.0	79.0	34.2	247	-49.0	4.3
Mean	-4.8	-20.1	-3.8		15.3	0.9	Mean	10.4	28.1	12.2		-17.7	1.7

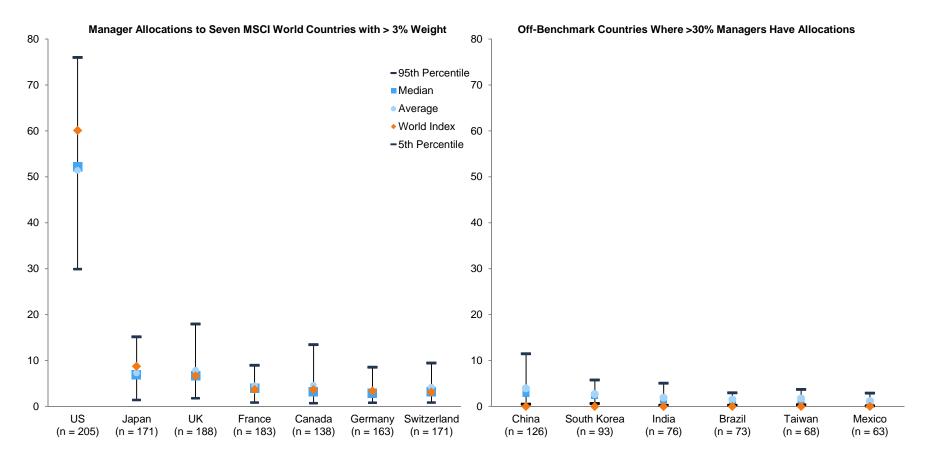
Sources: Cambridge Associates LLC, MSCI Inc., and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

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.

Managers' top off-benchmark exposure, China, significantly underperformed World

Global Equity Managers' Country Allocations vs the MSCI World Index

As of December 31, 2016 • *n* = 207



Sources: Cambridge Associates LLC, MSCI Inc., and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties. Notes: Only includes data for 207 managers that provided geographic allocation as of year-end 2016. Index weights represent year-end geographic allocations of the MSCI World Index. The *n* provided for each country represents the total number of products exposed to a given country as of year-end 2016, 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.

	Where Did They Go?		Where Did They Come From?						
Initial Five-Year	Subsequent Five-	Percent of Managers	Latest Five-Year	Previous Five-Year	Percent of Manager				
Period	Year Period	From Initial Quintile	Period	Period	From Initial Quintile				
(2007–11)	(2012–16)		(2012–16)	(2007–11)					
Quintile	Quintile		Quintile	Quintile					
	1	22.7%		1	22.7%				
	2	18.2%		2	27.3%				
1	3	18.2%	1	3	13.6%				
	4	9.1%		4	13.6%				
	5	31.8%		5	22.7%				
	1	28.6%		1	19.0%				
	2	14.3%		2	14.3%				
2	3	33.3%	2	3	28.6%				
	4	4.8%		4	9.5%				
	5	19.0%		5	28.6%				
	1	13.6%		1	18.2%				
	2	27.3%		2	31.8%				
3	3	13.6%	3	3	13.6%				
	4	31.8%		4	27.3%				
	5	13.6%		5	9.1%				
	1	14.3%		1	9.5%				
	2	9.5%		2	4.8%				
4	3	28.6%	4	3	33.3%				
	4	14.3%		4	14.3%				
	5	33.3%		5	38.1%				
	1	22.7%		1	31.8%				
	2	27.3%		2	18.2%				
5	3	9.1%	5	3	13.6%				
	4	36.4%		4	31.8%				
	5	4.5%		5	4.5%				

Analysis of Global Equity Manager Returns by Quintile Over Five-Year Periods

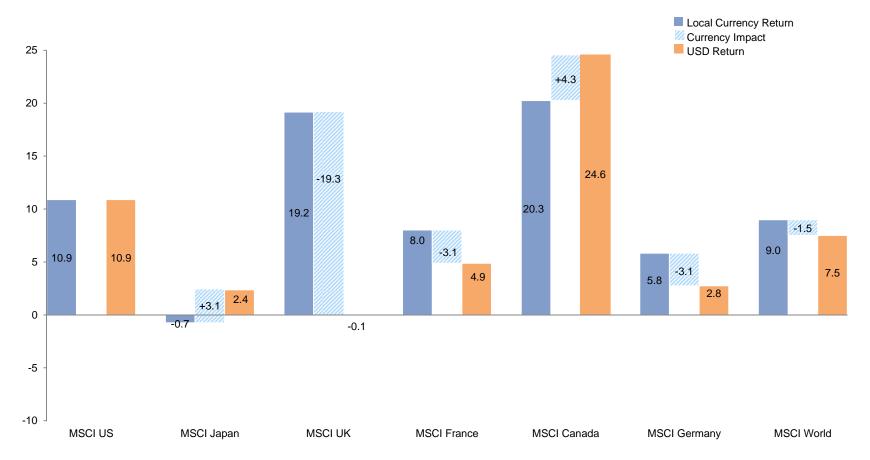
2007–16 • *n* = 108

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.







Sources: MSCI Inc. and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties. Note: Total returns for developed markets are net of dividend taxes.