SUMMARY OF OUR VIEWS: ACTIVE VS. PASSIVE EQUITY

by the Global Equity Research Team
Pavilion Advisory Group®

Introduction

One of the most difficult philosophical questions to consider in the traditional equity markets is whether to use "active" or "passive" management. While outperforming the index in efficient market segments can be challenging for active managers, there are market environments in which they should be able to add alpha over their benchmarks. There is an inherent momentum bias built into market capitalization-weighted indices that makes it difficult to beat an index when markets are steadily rising, and explains why active management does much better when markets are falling. For example, technology stocks dominated the equity indices just before the Tech bubble burst in 2000.

Using the methodology described at the end of this article, we evaluated how managers have historically performed in different market return environments and considered other compelling quantitative and qualitative evidence for and against active management, including the cyclicality of active management and the inefficiencies of the broad and less-covered small cap and international equity markets. Our analysis suggests that, during periods of muted returns, both positive and negative, active managers should add value across the domestic and international equity markets, but historically have struggled in strongly upward trending markets, similar to what we have seen in recent years.

U.S. Large Cap Equity

Over the past two decades, there has not been a defining trend to make the long-term choice between active or passive management easy. Recent years have brought a very challenging market for active large cap managers. The fourth quarter of 2016 was the first time since the fourth quarter of 2011 where the rolling three-year

What is Passive Management?

"Passive" management (also widely known as indexing) refers to investing in a broadly diversified market proxy, such as the Russell 2000 Index or MSCI EAFE Index, with no attempt to select individual securities that will outperform the proxy. The emphasis is on market participation, or beta exposure, with minimal tracking error.

The management fees for these types of strategies are usually significantly lower than the fees charged by active managers. Since there is no team researching individual stocks and making allocation decisions, the organizational or "key man" risk also is reduced greatly.

What is Active Management?

"Active" management refers to strategies that attempt to build portfolios by identifying securities of companies that exhibit attractive traits (e.g., financial strength, valuation, or cash flow) that should result in above-market returns. Active managers seek to exploit inefficiencies that exist in market prices, partially due to information flow. Active managers also have the ability to shift holdings from different sectors or regions when the managers believe economic and political situations make the shifts advantageous. International active managers also are able to diversify currency risks.

annualized return for the fee-adjusted indices shown in Table 1 fell below 10%.

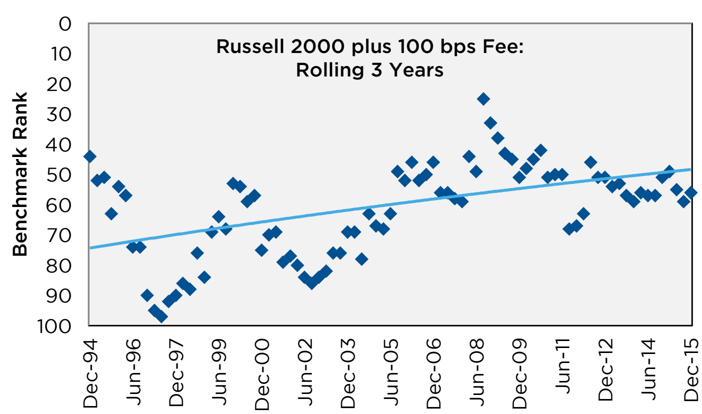
The greater the market returns, the more difficulty active managers have in adding value over the benchmark. As shown in Table 1, for the core and style benchmarks in large cap, there were no periods when more than half of the active managers outperformed the benchmark when the annualized market return exceeded 20%. The historical track record for active management is very poor when the market rises more than 10% annually over three years, which has been the case for the Russell 1000 Index in 20 out of the previous 21 rolling three year quarterly observations, through the fourth quarter of 2016. When the three-year annualized market return is 5% or lower, the benchmark almost always ranks in the lower half of the universe across all three styles, though core managers have a more difficult time. When equity markets are negative on a rolling-three year basis, active large cap managers are more adept at protecting capital for the Core, Growth and Value styles.

U.S. Small Cap Equity

The small cap market has a much larger universe of companies than the large cap market. The small cap market appears to display substantial inefficiencies, facilitated by less Wall Street analyst coverage. These differences historically have enabled diligent small cap managers to gain an information edge, leading to better than benchmark risk/return characteristics.

There is a clear trend showing that the benchmark is becoming more difficult to beat over time. The blue diamonds in Graphs 1 through 3 show the rolling three-year return rankings of the fee-adjusted index within the stated universes, with the trend particularly noticeable within U.S. small cap growth. In recent years, small cap core and small cap growth active managers have struggled to add value over the benchmark, while small cap value managers have benefited from being able to underweight sectors experiencing difficulties such as

Graph 1: Russell 2000 plus 100 bps Fee: Rolling 3 Years



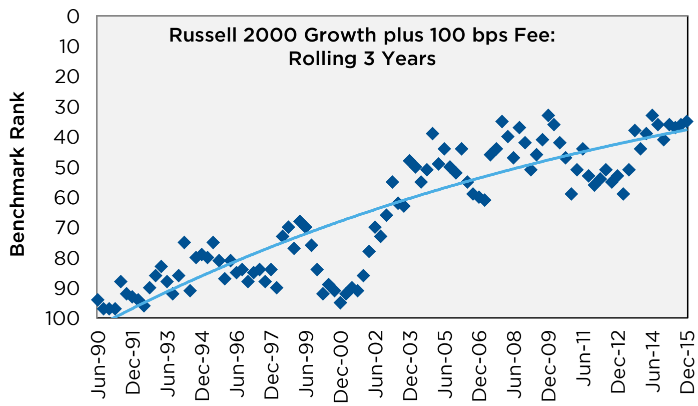
eVestment (eA Universes): eA US Small Cap Core Equity
Observations through December 31, 2016

Table 1: U.S. Large Cap Equity rankings

	Russel 1000 plus 70 bps Fee: Rolling 3 Years				Russel 1000 Growth plus 70 bps Fee: Rolling 3 Years				Russel 1000 Value plus 70 bps Fee: Rolling 3 Years			
		Median manager: Excess return				Median manager: Excess return				Median manager: Excess return		
Market return	Median benchmark ranking	25th percentile	50th percentile	# of times benchmark ranks in lower half of universe	Median benchmark ranking	25th percentile	50th percentile	# of times benchmark ranks in lower half ofuniverse	Median benchmark ranking	25th percentile	50th percentile	# of times benchmark ranks in lower half of universe
<0%	67	3.57	1.14	17/18	67	4.62	1.58	12/20	70	4.40	1.64	15/15
0% to 5%	51	2.14	0.10	6/12	69	4.00	1.51	8/9	58	2.85	0.59	9/11
5% to 10%	49	1.57	-0.05	3/8	62	2.63	0.84	12/17	49	1.83	-0.05	5/12
10% to 15%	44	1.31	-0.36	5/25	55	2.44	0.24	9/16	42	1.44	-0.55	8/28
15% to 20%	35	0.68	-0.89	2/26	32	0.63	-1.06	4/21	32	0.58	-1.14	3/24
>20%	37	0.87	-1.15	0/18	35	1.06	-1.64	0/24	28	0.27	-2.03	0/17
	eVestment (eA Universes): eA US Large Cap Core Equity				*eVestment (eA Universes): eA US Large Cap Growth Equity*				*eVestment (eA Universes): eA US Large Cap Value Equity*			

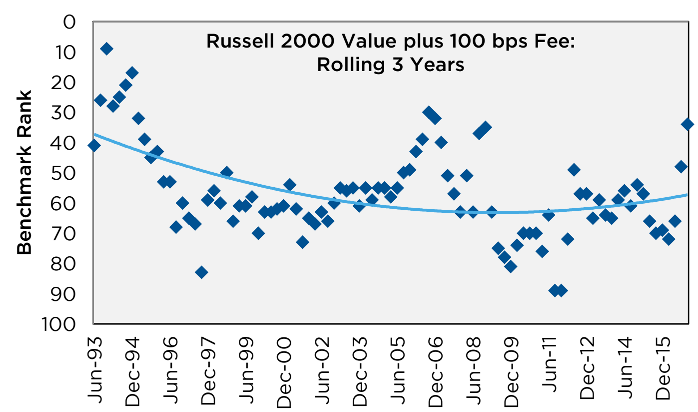
Note: in the eVestment universe, a ranking of 100 is poor, 1 is good.
For the universe, the index's return fell in the range of 0% to 5% 12 times out of 107 observations. During the 12 periods, the median excess return of the manager ranked as the 25th percentile and 50th percentile was 2.14 and 0.1, respectively. The median benchmark ranking during these periods was 51, out of a possible 100 (1 is the highest rank, 100 is the lowest). Manager reported returns are gross of fees. Observations through December 31, 2016

Graph 2: Russell 2000 Growth plus 100 bps Fee: Rolling 3 Years



eVestment (eA Universes): eA US Small Cap Core Equity
Observations through December 31, 2016

Graph 3: Russell 2000 Value plus 100 bps Fee: Rolling 3 Years



eVestment (eA Universes): eA US Small Cap Core Equity
Observations through December 31, 2016

Financials and Energy, which make up a larger portion of the value index. For growth managers, since the fourth quarter of 2011, when the significant downturn of the financial crisis rolled off the three-year return, two-thirds of the fee-adjusted, rolling three-year annualized returns for the growth index were greater than 15%. Growth stock returns have been robust and small cap growth active managers have struggled accordingly. Outside of the strong market performance, there are likely many factors creating headwinds for active managers, including:

- the role of hedge funds, which tend to exert more influence on stocks held by small core and growth managers;
- the increased use of quantitative or factor analysis across the entire universe of stocks;
- the slowdown in Initial Public Offerings of "high quality" companies, which typically exert influence on the small cap universe and can give active managers (especially small cap growth managers) a significant boost over the benchmark; and
- the large increase in the number of managers offering small cap mandates over the last 10 years.

Ultimately, while small cap managers have struggled in recent years, we continue to believe that the U.S. small cap market remains inefficient enough that astute active managers are able to add value relative to the benchmark, across all styles, over a full market cycle.

Global Equity

Global mandates have historically presented a compelling opportunity for investors. Active managers have added significant excess return above the benchmark, likely due to the expanded universe that includes U.S. and internationally based companies. Opportunistic managers are able to tilt their portfolios to areas of the market that are perceived to be more attractive as well as allow managers to invest in the best companies in the world, regardless of domicile. In a globally competitive business world, driven by improvements in technology, there is less importance placed on where a company is headquartered and more emphasis placed on where the company does business.

For all of the style universes, active global managers have consistently added value over the benchmark during the past decade. The few number of times the benchmark has fallen in the lower half of the universe is impressive, particularly in low return or negative return markets.

Consistent with our observations in other market segments, as global market returns increase, it becomes difficult for active managers to add value. With that said, the median manager excess return for the 25th percentile of the universe is substantial in all market environments, particularly within the core and growth universes (see Table 2 on next page). The strong outperformance in markets with an annualized three-year return greater than 20% happened during the Technology Bubble of the early 2000s. The key to investing in global mandates rests with the ability to identify managers that have the required resources and ability to execute these mandates successfully. Hiring the best managers with the necessary analytical capabilities, resources, firm stability, and risk management tools will greatly increase the chances for success.

Developed Non-U.S. Equity

In the developed non-U.S. equity realm, active managers tend to benchmark themselves versus the MSCI EAFE Index or the MSCI All Country World ex. United States Index. Similar to other indices, these indices are vulnerable to momentum trends, as MSCI weights the stocks in the indices by capitalization which, in turn, allocates more money to the largest global regions. For example, during the 1980s, the Japanese weighting in the MSCI EAFE Index exceeded 65%. Since traditional active managers could not justify such a large portfolio weighting to the country, nearly all managers underweighted Japan and significantly underperformed the MSCI EAFE Index. However, when the Japanese market fell in 1990, these managers substantially outperformed the index.

For the core and growth international universes, active managers have added consistent value over the benchmark during the past decade, as shown in Table 3 below.

Table 2: Global Equity rankings

	MSCI World plus 75 bps Fee: Rolling 3 Years				MSCI World Growth plus 75 bps Fee: Rolling 3 Years				MSCI World Value plus 75 bps Fee: Rolling 3 Years			
		Median manager: Excess return				Median manager: Excess return				Median manager: Excess return		
Market return	Median benchmark ranking	25th percentile	50th percentile	# of times benchmark ranks in lower half of universe	Median benchmark ranking	25th percentile	50th percentile	# of times benchmark ranks in lower half ofuniverse	Median benchmark ranking	25th percentile	50th percentile	# of times benchmark ranks in lower half of universe
<0%	76	4.75	2.08	18/18	67	6.66	2.06	18/21	81	6.45	3.71	19/19
0% to 5%	70	4.11	1.31	9/10	57	3.64	0.99	7/8	76	6.68	2.24	8/9
5% to 10%	53	1.64	0.16	6/11	42	1.07	-0.34	3/7	58	2.97	0.62	8/12
10% to 15%	53	1.67	0.15	9/14	44	1.53	-0.37	9/19	46	1.61	-0.35	5/15
15% to 20%	71	4.96	1.84	9/11	70	6.94	3.03	6/10	45	1.93	-0.54	4/8
>20%	51	5.29	0.11	3/5	54	8.77	0.36	3/4	60	4.31	1.23	5/6
	eVestment (eA Universes): eA Global Core Equity				*eVestment (eA Universes): eA Global Growth Equity*				*eVestment (eA Universes): eA Global Value Equity*			

For the core universe, the index's return fell in the range of 0% to 5% 10 times out of 69 observations. During the 10 periods, the median excess return of the manager ranked as the 25th percentile and 50th percentile was 4.11 and 1.31, respectively. The median benchmark ranking during these periods was 69.5, out of a possible 100 (1 is the highest rank, 100 is the lowest). Manager reported returns are gross of fees. Global equity strategies are typically benchmarked against the MSCI World Index or the MSCI All Country World Index. We analyzed the global universe relative to the MSCI World Index since, historically, the majority of global managers have been structurally underweight the Emerging Markets region, relative to the MSCI All Country World Index. In the eVestment universe, a ranking of 100 is poor, 1 is good. Observations through December 31, 2016

Table 3: Developed Non-U.S. Equity rankings

	MSCI EAFE plus 85 bps Fee: Rolling 3 Years				MSCI EAFE Growth plus 85 bps Fee: Rolling 3 Years				MSCI EAFE Value plus 85 bps Fee: Rolling 3 Years			
		Median manager: Excess return				Median manager: Excess return				Median manager: Excess return		
Market return	Median benchmark ranking	25th percentile	50th percentile	# of times benchmark ranks in lower half of universe	Median benchmark ranking	25th percentile	50th percentile	# of times benchmark ranks in lower half ofuniverse	Median benchmark ranking	25th percentile	50th percentile	# of times benchmark ranks in lower half of universe
<0%	63	3.55	1.03	22/24	65	4.15	1.52	22/24	78	4.50	2.48	21/21
0% to 5%	66	2.85	1.02	9/9	57	3.02	0.67	5/6	75	3.94	1.66	10/12
5% to 10%	54	2.29	0.26	9/11	57	2.74	0.62	11/19	53	2.44	0.17	7/11
10% to 15%	61	2.72	0.60	11/12	59	1.73	0.17	3./5	49	2.00	0.09	5/11
15% to 20%	69	5.27	1.45	4/4	75	4.92	2.38	8/8	52	4.30	0.19	3/5
>20%	52	2.34	0.10	6/9	75	4.92	2.33	7/7	36	1.58	-1.54	0/9
	eVestment (eA Universes): eA Non-US Diversified Core Equity				*eVestment (eA Universes): eA Non-US Diversified Growth Equity*				*eVestment (eA Universes): eA Non-US Diversified Value Equity*			

For the core universe, the index's return fell in the range of 0% to 5% 9 times out of 69 observations. During the 9 periods, the median excess return of the manager ranked as the 25th percentile and 50th percentile was 2.85 and 1.02, respectively. The median benchmark ranking during these periods was 66, out of a possible 100 (1 is the highest rank, 100 is the lowest). Manager reported returns are gross of fees. We analyzed the international universe relative to the MSCI EAFE Index since, historically, the majority of international managers have been structurally underweight the Emerging Markets region, relative to the MSCI All Country World ex. United States Index. Observations through December 31, 2016

We questioned why the International Value universe would trend differently than the core or growth universes, especially during strong returning market environments. The MSCI EAFE Value Index experienced rolling three-year annualized returns greater than 20% during the third quarter 2005 to third quarter 2007 energy bull market. For a majority of that time, the Energy weight in the MSCI EAFE Value Index was almost double that of the MSCI EAFE Growth Index. Thus the MSCI EAFE Value Index was more difficult to beat during the Energy boom, especially for Value managers which, by definition, are more conscious of valuations and tend to sell into rallies, not buy into them. As a result of this period's anomaly, we do not put as much emphasis on the results, and believe active International Value managers likely would add value in normal return markets.

Small cap: International small cap equity continues to be a segment of the market that encompasses substantial inefficiencies. While coverage of international small cap equities has gained considerable attention during the most recent market cycle, there remain a significant number of stocks at the lower-end of the market cap spectrum that are underfollowed relative to their larger capitalization brethren. The level of analyst coverage could shrink further as Europe institutes changes regarding how investment managers are able to pay for research.

Table 4: Developed Non-U.S. Small Cap Equity rankings

		MSCI EAFE Small Cap plus 75 bps Fee: Rolling 3 Years		
		Median manager: Excess return		
Market return	Median benchmark ranking	25th percentile	50th percentile	# of times benchmark ranks in lower half of universe
<0%	73	4.50	1.99	8/10
0% to 5%	43	2.54	-0.29	1/3
5% to 10%	51	1.95	0.06	4/7
10% to 15%	71	2.97	1.42	11/12
15% to 20%	61	3.29	0.75	4/6
>20%	49	4.15	0.04	7/14

eVestment (eA Universes): eA Non-US Diversified Small Cap Equity

The index's return fell in the range of 0% to 5% 3 times out of 52 observations. During the 3 periods, the median excess return of the manager ranked as the 25th percentile and 50th percentile was 2.54 and -0.29%, respectively. The median benchmark during these periods was 43, out of a possible 100 (1 is the highest rank, 100 is the lowest). Manager returns are gross of fees. Observations through December 31, 2016

Because of market inefficiencies, the success of active management within the international small cap segment has been less influenced by the return of the overall market segment. Both the 25th and 50th percentile managers have been able to add value in a variety of market environments, though strong returning markets have been more difficult for 50th percentile managers (see Table 4). As in other market segments, the key to investing in these mandates rests with the ability to identify managers that have the required resources and ability to execute these mandates successfully. Hiring the best managers with the necessary analytical capabilities, resources, firm stability, and risk management tools, that are willing to be different than the benchmark, will greatly increase the chances for success.

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Emerging Markets Equity

In a world of low growth opportunities, emerging markets have become an important component of international equity investing. The MSCI Emerging Markets Index includes 24 countries that represent approximately 10% of the world market capitalization, up from 10 countries and less than 1% of the world market capitalization when data was first compiled in 1988.

The MSCI Emerging Market Index is constructed on company market capitalization; meaning that companies that are larger dominate the index. Companies that are smaller have lower weights in the index. Active managers have the ability to allocate tactically to or away from the companies, regions or sectors that dominate the MSCI Emerging Markets Index but may not offer the best investment opportunities.

Similar to International Small Cap, another inefficient market segment, the historical success of active management within emerging markets has not been influenced by the return environment of the overall market. Both the 25th and 50th percentile managers have been able to add value in a variety of market environments and the median manager excess return for the 25th percentile of the universe is substantial in all market environments (see Table 5).

Table 5: Emerging Markets Equity rankings

MSCI Emerging Markets plus 100 bps Fee: Rolling 3 Years				
		Median manager: Excess return		# of times benchmark ranks in lower half of universe
Market return	Median benchmark ranking	25th percentile	50th percentile	
<0%	65	3.65	1.30	16/20
0% to 5%	62	3.34	1.28	14/16
5% to 10%	50	2.71	0.05	5/11
10% to 15%	61	3.21	0.89	3/3
15% to 20%	65	4.21	1.07	2/2
>20%	56	3.26	0.65	16/17
	eVestment (eA Universes): eA Emerging Mkts Equity			

For the Emerging Markets universe, the index's return fell in the range of 0% to 5% 16 times out of 69 observations. During the 3 periods, the median excess return of the manager ranked as the 25th percentile and 50th percentile was 3.34 and 1.28, respectively. The median benchmark during these periods was 62, out of a possible 100 (1 is the highest rank, 100 is the lowest). Manager returns are gross of fees. Observations through December 31, 2016

Methodology

The analysis was conducted using the eVestment Alliance database. eVestment Alliance provides returns gross of fees for its universes. To convert this study to a net-of-fees return equivalency, we increased the benchmark returns, using the median manager fee in each equity class, to estimate how the benchmark would rank in a net-of-fees universe. In other words, this analysis incorporates average manager fees. Each benchmark is analyzed within the appropriate style universe.

The eVestment Universes are constructed by eVestment Alliance, a provider of investment information and data analysis. To gain entry into the universe, a strategy must have a minimum of one year of performance history and have updated portfolio characteristics. All products meeting these criteria are evaluated for inclusion into the universe and the portfolio characteristics are analyzed to determine in which universe the strategy belongs. Since performance and portfolio characteristics are submitted to eVestment by managers and there is no systematic and rigorous verification function, there can be biases within the universes. By looking at shorter, rolling return periods instead of point-in-time, long-term returns, we hope to have mitigated the bias to some degree by still capturing historical return streams of managers that eventually stopped submitting returns, while maintaining an intermediate investment horizon. Further, these data are manager composite returns. Even with accepted standards of performance reporting, there is ample scope for creative construction of composites by the managers.

We required a minimum of 30 observations within the Universe for the rolling three-year period to be included, across all investment universes.

Definitions

Russell 1000 Index is a capitalization-weighted index of that measures the performance of the large-cap segment of the U.S. equity universe, created by Russell Investments. It includes approximately 1,000 of the largest securities in the U.S. equity universe. The Growth or Value indexes are a non-exclusive subset of the broader index, where growth or value is determined by valuation and growth characteristics, as defined by Russell Investments.

Russell 2000 Index is a capitalization-weighted index of that measures the performance of the small-cap segment of the U.S. equity universe, created by Russell Investments. It includes approximately 2,000 of the smallest securities within the 3,000 largest securities in the U.S. equity universe. The Growth or Value style indexes are a non-exclusive subset of the broader index, where growth or value is determined by valuation and growth characteristics, as determined by Russell Investments.

MSCI World Index represents large and mid-cap equity performance across developed markets countries, covering approximately 85% of the free float-adjusted market capitalization in each. This index offers a broad global equity benchmark, without emerging markets exposure. As of December 2016 the MSCI World Index consisted of the following 23 developed countries: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, United Kingdom, and the

United States. The index includes MSCI's assessment of the most "investable" stocks, determined by size, trading volume, and free float. Performance is shown net of foreign withholding tax on the dividends paid. The Growth or Value style indexes are a non-exclusive subset of the broader index, where growth or value is determined by valuation and growth characteristics, as defined by MSCI.

MSCI EAFE (Europe, Australasia and Far East) Index is a standard, capitalization-weighted representation of developed equity markets excluding the U.S. and Canada. As of December 2016 the MSCI EAFE Index consisted of the following 21 developed countries: Australia, Austria, Belgium, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, and the United Kingdom. The index includes MSCI's assessment of the most "investable" stocks, determined by size, trading volume, and free float. Performance is shown net of foreign withholding tax on the dividends paid. The Growth or Value style indexes are a non-exclusive subset of the broader index, where growth or value is determined by valuation and growth characteristics, as defined by MSCI.

MSCI EAFE (Europe, Australasia and Far East) Small Cap Index is a standard, capitalization-weighted representation of small cap companies in the developed equity markets excluding the U.S. and Canada. As of December 2016 the MSCI EAFE Small Cap Index consisted of the following 21 developed countries: Australia, Austria, Belgium, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, and the United Kingdom. The index includes MSCI's assessment of the most "investable" stocks, determined by size, trading volume, and free float. Performance is shown net of foreign withholding tax on the dividends paid.

MSCI Emerging Markets Index is a free float-adjusted, market capitalization-weighted index that is designed to measure equity market performance within emerging markets. As of December 2016 the MSCI Emerging Markets Index consisted of the following 23 emerging market countries: Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Peru, Philippines, Poland, Qatar, Russia, South Africa, Taiwan, Thailand, Turkey, and the United Arab Emirates. The index includes MSCI's assessment of the most "investable" stocks, determined by size, trading volume, and free float. Performance is shown net of foreign withholding tax on the dividends paid.

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