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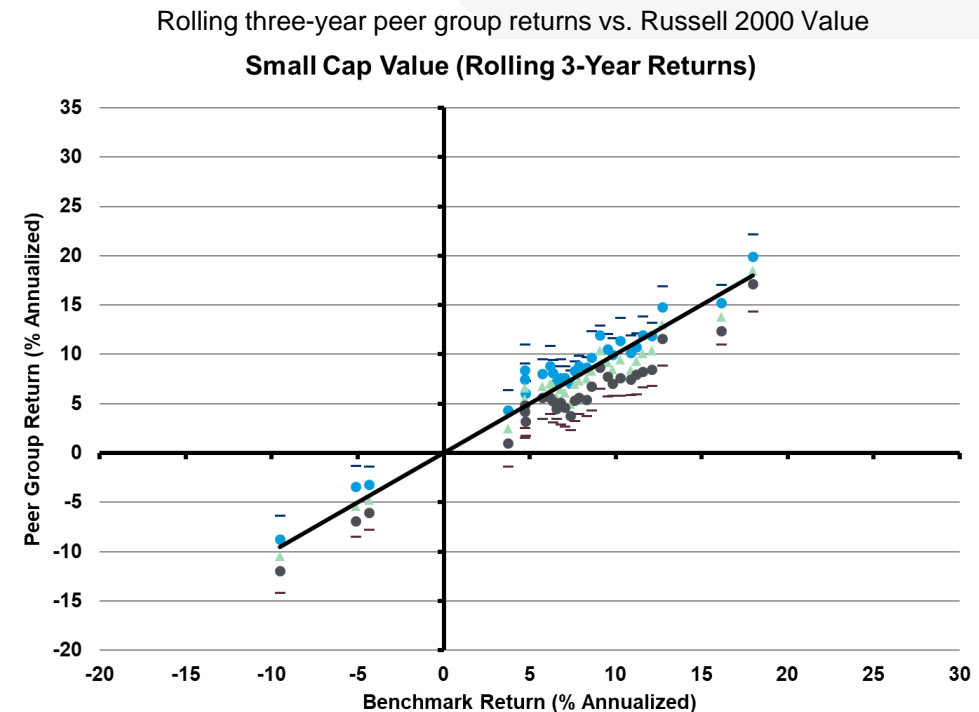
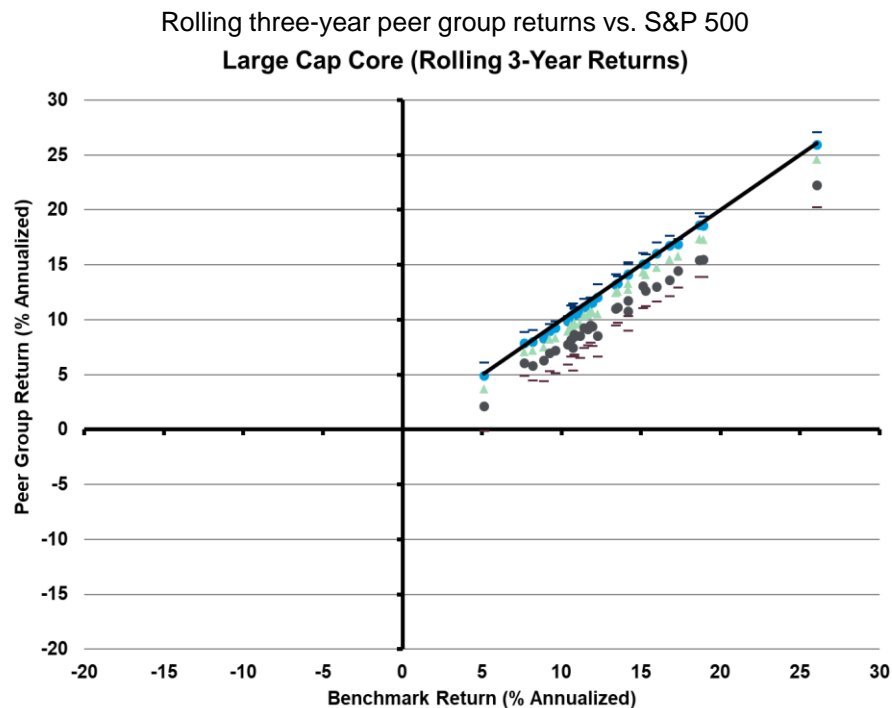
The Next Chapter in the Active vs. Passive Debate

The Active vs. Passive Debate

- The question of whether active management can benefit investor returns can not be answered with a simple yes or no, but rather with:
 - Where: In which asset classes?
 - When: In which market environments?
 - How: What type of active managers should be selected?
- We believe the use of active management should focus on areas of the market estimated to be less efficient. This is often measured by examining how the respective peer group of active managers performs versus its benchmark over various time periods
- In our opinion, to increase the odds of success in utilizing active management investors should seek to:
 - Use active managers in asset classes where the benchmark regularly falls near or below the median active manager
 - Prioritize asset classes where the magnitude of outperformance by active managers has the potential to be meaningful
 - Favor asset classes where effective manager selection can enhance results to an even greater degree
 - Understand that patience is required as even the great long-term performing managers will trail their benchmarks over shorter time periods

Variation by Asset Class

- Active managers have had a more difficult time in efficient asset classes (large cap core) while faring better in less efficient areas (small cap value). Strong, top quartile, manager selection has enhanced results to a greater degree.



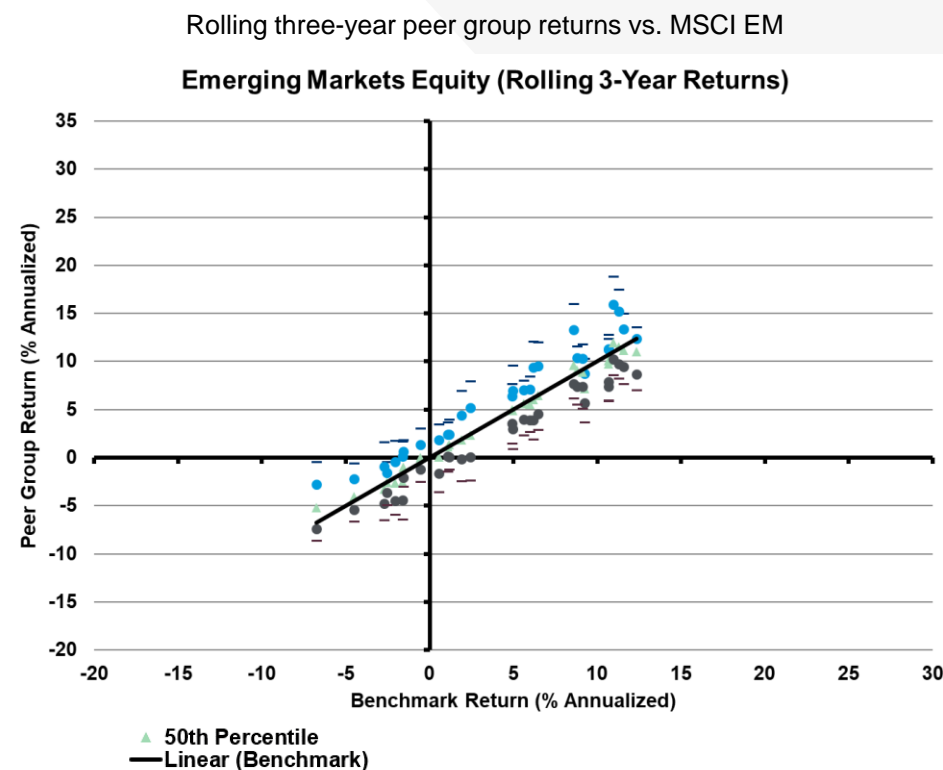
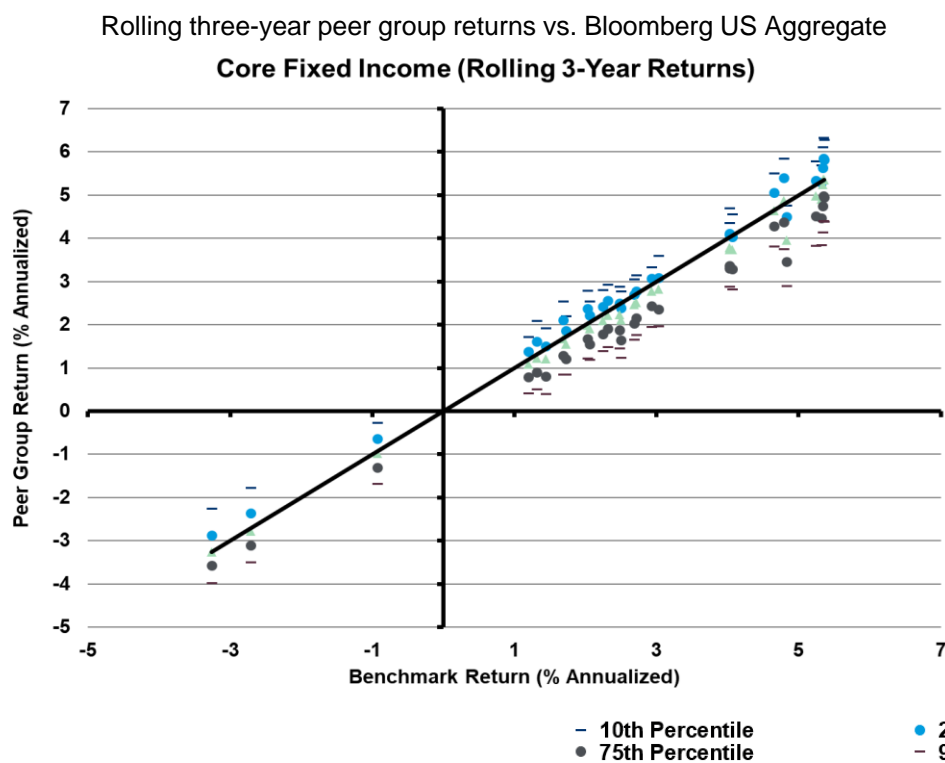
— 10th Percentile ● 25th Percentile ▲ 50th Percentile
● 75th Percentile — 90th Percentile — Linear (Benchmark)

Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2022.

Use of Indices and Benchmark Return Indices cannot be invested in directly. Index performance is reported gross of fees and expenses and assumes the reinvest dividends and capital gains. Past performance does not indicate future performance and there is a possibility of a loss. See disclosure page for indices representing each asset class.

Impact of Manager Selection

- Top quartile managers in both Core Fixed Income and Emerging Markets Equity outperformed in virtually all benchmark return environments.
- The dispersion of active manager results further supports the need for strong manager selection.



Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2022.

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Finding the Top Quartile

- Maximizing the odds of selecting a top quartile manager matters.
- Intermediate Bond and Large Cap Core managers that ranked below the top quartile consistently underperformed.
- Selecting top quartile managers in Small Cap Value, was crucial to success, with the median manager only adding value 28% of the time.
- The median manager in emerging markets underperformed more times than it outperformed while top quartile performers show the ability to add significant value.
- Before investing, investors need to make a concerted effort to understand a manager's investment process, sub-style, and whether they possess competitive advantages over their peers that improve the odds of ranking in the top quartile.

Batting averages of rolling three-year periods over the last ten years

	% of Rolling 3-year periods:					
	Below -4% excess return	Between -2% and -4% excess return	Between 0% and -2% excess return	Between 0% and +2% excess return	Between +2% and +4% excess return	Above +4% excess return
Intermediate Bond						
25% percentile			14%	86%		
50% percentile			93%	7%		
75% percentile			100%			
Large Cap Core						
25% percentile			93%	7%		
50% percentile			100%			
75% percentile		97%	3%			
Small Cap Value						
25% percentile			17%	62%	21%	
50% percentile		10%	62%	28%		
75% percentile		52%	45%	3%		
Emerging Markets						
25% percentile			3%	59%	31%	7%
50% percentile		3%	52%	45%		
75% percentile		45%	55%			

Manager adds value

Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2022.

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Patience Required

- Even the best managers will go through periods of underperformance; patience continues to be a prerequisite for success.
- 89% of ten-year top quartile mutual funds were unable to avoid at least one three-year stretch in the bottom half of their peer group.
- 62% of ten-year top quartile mutual funds were unable to avoid at least one five-year period in the bottom half of their peer group.
- Top quartile mutual funds with three-year stretches in the bottom half of their peer group spend, on average, six consecutive quarters below the median.

Ten-year top quartile funds that fell below median during one or more three- and five-year periods

Category	Number of Funds with 10-Year Track Records	Number of 10-Year Top Quartile Active Managers	Number of 10-Year Top Quartile Active Managers Below Median For a 3-Year Period	Percent of 10-Year Top Quartile Active Managers Below Median For a 3-Year Period	Average Number of Consecutive Quarters Spent In Bottom Half of Peer Group	Number of 10-Year Top Quartile Funds Below Median For a 5-Year Period	Percent of 10-Year Top Quartile Active Managers Below Median For a 5-Year Period
Intermediate Bond	84	23	18	78%	4.7	14	61%
High Yield Bond	130	34	30	88%	5.4	20	59%
International/Global Bond	38	10	9	90%	6.4	7	70%
Large Cap Value	241	60	48	80%	4.0	32	53%
Large Cap Core	227	51	46	90%	6.0	34	67%
Large Cap Growth	256	60	49	82%	7.2	34	57%
Mid Cap Value	80	21	20	95%	5.6	12	57%
Mid Cap Core	68	21	19	90%	4.4	16	76%
Mid Cap Growth	113	30	30	100%	6.9	22	73%
Small Cap Value	99	25	23	92%	6.8	18	72%
Small Cap Core	120	29	27	93%	8.2	20	69%
Small Cap Growth	131	34	32	94%	6.4	20	59%
International Value	63	15	15	100%	6.6	13	87%
International Core	116	33	31	94%	5.7	20	61%
International Growth	71	18	17	94%	3.8	7	39%
Emerging Markets	123	33	32	97%	8.0	23	70%
Real Estate	45	12	7	58%	4.0	2	17%
Total	2005	509	453				
Weighted Average				89%	6.0	314	62%

Source: Morningstar, Fiducient Advisors' analysis; as of December 31, 2022.

Many fund families offer multiple versions of the same fund, but with variations of the fees that are charged and investor qualifications.

Morningstar's "distinct portfolio only" feature removes all duplicate options. Morningstar normally designates the oldest share class as the distinct portfolio.

Morningstar data is not immune to survivorship bias. Each mutual fund that survived the ten-year stretch was captured regardless of performance. In addition, the Morningstar data generates returns net of expenses.

All ten-year calculations across the paper reflect the period from December 31 2023 – December 31 2022.

The Active vs. Passive Debate

For more information, please see our white paper: [The Next Chapter in the Active vs. Passive Debate.](#)

Material Risks & Limitations

Fixed Income securities are subject to interest rate risks, the risk of default and liquidity risk. U.S. investors exposed to non-U.S. fixed income may also be subject to currency risk and fluctuations.

Domestic Equity can be volatile. The rise or fall in prices take place for a number of reasons including, but not limited to changes to underlying company conditions, sector or industry factors, or other macro events. These may happen quickly and unpredictably.

International Equity can be volatile. The rise or fall in prices take place for a number of reasons including, but not limited to changes to underlying company conditions, sector or industry impacts, or other macro events. These may happen quickly and unpredictably. International equity allocations may also be impacted by currency and/or country specific risks which may result in lower liquidity in some markets.

Private Real Estate involves higher risk and is suitable only for sophisticated investors. Real estate assets can be volatile and may include unique risks to the asset class like leverage and/or industry, sector or geographical concentration. Declines in real estate value may take place for a number of reasons including, but are not limited to economic conditions, change in condition of the underlying property or defaults by the borrower.

Disclosures – Index & Benchmark Definitions

Comparisons to any indices referenced herein are for illustrative purposes only and are not meant to imply that actual returns or volatility will be similar to the indices. Indices cannot be invested in directly. Unmanaged index returns assume reinvestment of any and all distributions and do not reflect our fees or expenses.

Fixed Income

- **Bloomberg 1-3 Month U.S. Treasury Bill Index** is designed to measure the performance of public obligations of the U.S. Treasury that have a remaining maturity of greater than or equal to 1 month and less than 3 months.
- **Bloomberg U.S. Aggregate Index** covers the U.S. investment grade fixed rate bond market, with index components for government and corporate securities, mortgage pass-through securities, and asset-backed securities.
- **Bloomberg Global Aggregate ex. USD Indices** represent a broad-based measure of the global investment-grade fixed income markets. The two major components of this index are the Pan-European Aggregate and the Asian-Pacific Aggregate Indices. The index also includes Eurodollar and Euro-Yen corporate bonds and Canadian government, agency and corporate securities.
- **Bloomberg U.S. Corporate High Yield Index** covers the universe of fixed rate, non-investment grade debt. Eurobonds and debt issues from countries designated as emerging markets (sovereign rating of Baa1/BBB+/BBB+ and below using the middle of Moody's, S&P, and Fitch) are excluded, but Canadian and global bonds (SEC registered) of issuers in non-EMG countries are included.
- **Bloomberg US Government/Credit 1-3 Year Index** is the 1-3 year component of the U.S. Government/Credit Index, which includes securities in the Government and Credit Indices. The Government Index includes treasuries and agencies, while the credit index includes publicly issued U.S. corporate and foreign debentures and secured notes that meet specified maturity, liquidity, and quality requirements.
- **Bloomberg US Government/Credit Long Index** is the Long component of the U.S. Government/Credit Index, which includes securities in the Government and Credit Indices. The Government Index includes treasuries and agencies, while the credit index includes publicly issued U.S. corporate and foreign debentures and secured notes that meet specified maturity, liquidity and quality requirements.
- **Bloomberg US Treasury Inflation Protected Securities Index** consists of Inflation-Protection securities issued by the U.S. Treasury.
- **Bloomberg Muni Index** is a rules-based, market-value-weighted index engineered for the long-term tax-exempt bond market. Bonds must be rated investment-grade by at least two ratings agencies.
- **Bloomberg High Yield Municipal Bond Index** covers the universe of fixed rate, non-investment grade debt.
- **Bloomberg Intermediate U.S. Gov't/Credit** is the Intermediate component of the U.S. Government/Credit index, which includes securities in the Government and Credit Indices. The Government Index includes treasuries and agencies, while the credit index includes publicly issued U.S. corporate and foreign debentures and secured notes that meet specified maturity, liquidity, and quality requirements.
- **JPMorgan GBI-EM Global Diversified** tracks the performance of local currency debt issued by emerging market governments, whose debt is accessible by most of the international investor base.

Equity

- **The S&P 500 Index** is a capitalization-weighted index designed to measure performance of the broad domestic economy through changes in the aggregate market value of 500 stocks representing all major industries.
- **Russell 3000 Value Index** measures the performance of those Russell 3000 companies with lower P/B ratios and lower forecasted growth values.
- **Russell 3000 Index** is a market-cap-weighted index which consists of roughly 3,000 of the largest companies in the U.S. as determined by market capitalization. It represents nearly 98% of the investable U.S. equity market.
- **Russell 3000 Growth Index** measures the performance of those Russell 3000 companies with higher P/B ratios and higher forecasted growth values.
- **Russell 1000 Value Index** measures the performance of those Russell 1000 companies with lower P/B ratios and lower forecasted growth values.
- **Russell 1000 Index** consists of the largest 1000 companies in the Russell 3000 Index.
- **Russell 1000 Growth Index** measures the performance of those Russell 1000 companies with higher P/B ratios and higher forecasted growth values.
- **Russell Mid Cap Value Index** measures the performance of those Russell Mid Cap companies with lower P/B ratios and lower forecasted growth values.
- **Russell Mid Cap Index** measures the performance of the 800 smallest companies in the Russell 1000 Index.
- **Russell Mid Cap Growth Index** measures the performance of those Russell Mid Cap companies with higher P/B ratios and higher forecasted growth values.
- **Russell 2000 Value Index** measures the performance of those Russell 2000 companies with lower P/B ratios and lower forecasted growth values.
- **Russell 2000** consists of the 2,000 smallest U.S. companies in the Russell 3000 index.
- **Russell 2000 Growth Index** measures the performance of the Russell 2000 companies with higher P/B ratios and higher forecasted growth values.
- **MSCI ACWI (All Country World Index) ex. U.S. Index** captures large and mid-cap representation across Developed Markets countries (excluding the United States) and Emerging Markets countries. The index covers approximately 85% of the global equity opportunity set outside the U.S.
- **MSCI ACWI Index** captures large and mid cap representation across Developed Markets and Emerging Markets countries. The index covers approximately 85% of the global investable opportunity set.
- **MSCI EAFE IMI Index** is an equity index which captures large, mid and small cap representation across Developed Markets countries around the world, excluding the U.S. and Canada. The index covers approximately 99% of the free float-adjusted market capitalization in each country.
- **MSCI EAFE Value Index** captures large and mid cap securities exhibiting overall value style characteristics across Developed Markets countries around the world, excluding the US and Canada. The value investment style characteristics for index construction are defined using three variables: book value to price, 12-month forward earnings to price and dividend yield.
- **MSCI EAFE Index** is an equity index which captures large and mid-cap representation across Developed Markets countries around the world, excluding the U.S. and Canada. The index covers approximately 85% of the free float-adjusted market capitalization in each country.

Disclosures – Index & Benchmark Definitions

- **MSCI EAFE Growth Index** captures large and mid cap securities exhibiting overall growth style characteristics across Developed Markets countries around the world, excluding the US and Canada. The growth investment style characteristics for index construction are defined using five variables: long-term forward EPS growth rate, short-term forward EPS growth rate, current internal growth rate and long-term historical EPS growth trend and long-term historical sales per share growth trend.
- **MSCI EAFE Large Cap Index** is an equity index which captures large cap representation across Developed Markets countries around the world, excluding the US and Canada. The index covers approximately 70% of the free-float adjusted market capitalization in each country.
- **MSCI EAFE Small Cap Index** is an equity index which captures small cap representation across Developed Markets countries around the world, excluding the US and Canada. The index covers approximately 14% of the free float adjusted market in each country.
- **MSCI ACWI (All Country World Index) ex. U.S. Index** captures large and mid-cap representation across Developed Markets countries (excluding the United States) and Emerging Markets countries. The index covers approximately 85% of the global equity opportunity set outside the U.S.
- **MSCI Emerging Markets IMI Index** captures large, mid and small cap representation across 24 Emerging Markets countries. The index covers approximately 99% of the free-float adjusted market capitalization in each country.
- **MSCI Emerging Markets Value Index** captures large and mid-cap securities exhibiting overall value style characteristics across Emerging Markets countries. The value investment style characteristics for index construction are defined using three variables: book value to price, 12-month forward earnings to price and dividend yield.
- **MSCI Emerging Markets Index** captures large and mid-cap representation across Emerging Markets countries. The index covers approximately 85% of the free-float adjusted market capitalization in each country.
- **MSCI Emerging Markets Growth Index** captures large and mid-cap representation across Emerging Markets countries. The growth investment style characteristics for index construction are defined using five variables: long-term forward EPS growth rate, short-term forward EPS growth rate, current internal growth rate and long-term historical EPS growth trend and long-term historical sales per share growth trend.
- **MSCI Emerging Markets Index** captures large and mid-cap representation across Emerging Markets countries. The index covers approximately 85% of the free-float adjusted market capitalization in each country.
- **MSCI Emerging Markets (EM) Small Cap Index** includes small cap representation across Emerging Markets countries. The index covers approximately 14% of the free float-adjusted market capitalization in each country. The small cap segment tends to capture more local economic and sector characteristics relative to larger Emerging Markets capitalization segments.

Alternatives & Miscellaneous

- **S&P Real Asset Index** is designed to measure global property, infrastructure, commodities, and inflation-linked bonds using liquid and investable component indices that track public equities, fixed income, and futures. In the index, equity holds 50% weight, commodities 10%, and fixed income 40%.
- **FTSE Nareit Equity REITs Index** contains all Equity REITs not designed as Timber REITs or Infrastructure REITs.
- **FTSE EPRA Nareit Developed Index** is designed to track the performance of listed real estate companies and REITs worldwide.
- **FTSE EPRA Nareit Developed ex US Index** is a subset of the FTSE EPRA Nareit Developed Index and is designed to track the performance of listed real estate companies and REITs in developed markets excluding the US.
- **Bloomberg Commodity Index** is calculated on an excess return basis and reflects commodity futures price movements. The index rebalances annually weighted 2/3 by trading volume and 1/3 by world production and weight-caps are applied at the commodity, sector and group level for diversification.
- **HFR Index Weighted Composite Index** is a global, asset-weighted index comprised of single-manager funds that report to HFR Database. Constituent funds report monthly net of all fees performance in US Dollar and have a minimum of \$50 Million under management or \$10 Million under management and a twelve (12) month track record of active performance. The HFR Index Weighted Composite Index does not include Funds of Hedge Funds. The constituent funds of the HFR Index Weighted Composite Index are weighted according to the AUM reported by each fund for the prior month.
- **HFR Fund of Funds Composite Index** is a global, equal-weighted index of all fund of hedge funds that report to the HFR Database. Constituent funds report monthly net of all fees performance in U.S. Dollars and have a minimum of \$50 million under management or a twelve (12) month track record of active performance.
- **The Alerian MLP Index** is a float adjusted, capitalization-weighted index, whose constituents represent approximately 85% of total float-adjusted market capitalization, is disseminated real-time on a price-return basis (AMZ) and on a total-return basis.

Additional Information

- Equity sector returns are calculated by S&P, Russell, and MSCI for domestic and international markets, respectively. S&P and MSCI sector definitions correspond to the GICS® classification (Global Industry Classification System); Russell uses its own sector and industry classifications.
- MSCI country indices are free float-adjusted market capitalization indices that are designed to measure equity market performance of approximately 85% of the market capitalization in each specific country.
- Currency returns are calculated using FactSet's historical spot rates and are calculated using the U.S. dollar as the base currency.

Disclosures

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