Denali Advisors

Quarter I, 2019 Performance Review

Denali Network Value International Small

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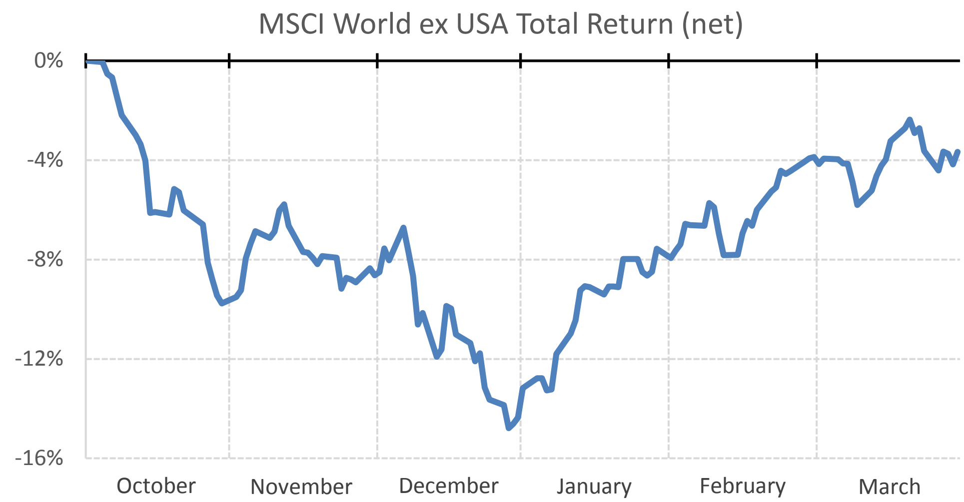
International Markets

Developed economies abroad generally continued to slow into the first quarter, according to *The Economist*'s latest quarterly estimates for year-on-year growth, while holding steady in the United States. The few exceptions showing faster growth included Scandinavia and Japan, while Asia ex Japan slowed the most. Growth in the biggest emerging markets also declined except for Russia. The U.S. remains the fastest growing major developed economy, followed closely by Israel at just under 3%, with Australia/New Zealand and the Nordic countries next at 2% or more. The UK, euro zone, Switzerland and Canada all grew between 1.2 and 1.6% for Q4, while Japan's reported growth revived a bit to 0.3%.

Reported growth for the developed world (OECD) for 2018 as a whole was 2.3%, down slightly from 2.4% in 2017. One encouraging note was that the average unemployment rate across these countries dipped below 5% at year-end for the first time since this data begins in 1983. Corporate profits have slowed along with economic growth. Reported earnings for companies in the MSCI World ex-US Index for the first quarter declined about 5% from the year ago quarter, while earnings over the past year grew just 1% over the year before in dollar terms. With central banks disclaiming any plans for monetary policy normalization, lowered growth forecasts and disappointing economic data in Europe, long-term interest rates in developed government bond markets dropped across the board; Germany joined Switzerland and Japan with negative 10-year yields at quarter's end. Italian rates also declined but remained the highest among developed markets.

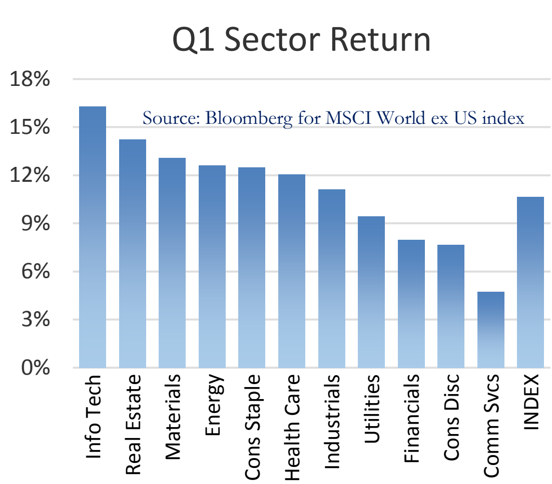
Oil prices also continued to see large movements in the quarter. The price of crude rebounded sharply into January from the fourth quarter collapse, then climbed steadily through the quarter as production is expected to grow slower than consumption, while Venezuela and some other producers struggle. U.S. benchmark crude rose 32% in the quarter to finish about $60 per barrel, but this only regained about half the price decline in Q4. One fairly stable factor in the quarter was the U.S. dollar's foreign exchange rate, which has traded in a fairly narrow range since October and rose just about 1% in the quarter.

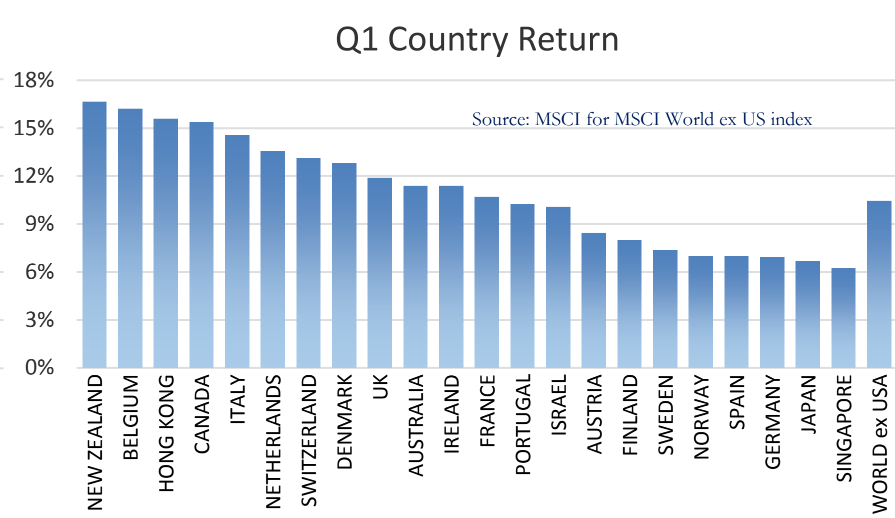
Similar to and led by the U.S. market, the international equity markets' performance as a whole in the first quarter largely represented a reversal from the steep drop in the prior quarter. The quarterly gain of 10.45% for the MSCI World ex US index was the largest since 2013, but still fell short of recovering all of the 12.8% loss in Q4. The global rally began in the U.S., sparked by direct efforts by Federal Reserve officials to address investors' concerns about interest rate risks. Strong employment reports and reported progress in U.S.-China trade negotiations also eased investors' risk perceptions. Daily volatility fell by 30% in Q4 compared to Q1.



The fall in long term interest rates in the quarter supported increased valuation multiples, and this also theoretically increases the relative value of stocks whose price is based more on earnings further in the future (growth stocks), which tend to have lower current earnings/price ratios. The Growth style index outperformed Value by almost 4% in the quarter, comparable to the spread in the U.S. market (and leaving Growth ahead by about 1.8% for the past two quarters). The small cap index outgained the large caps by about half a percent.

Dispersion in performance between sectors was somewhat less pronounced than last quarter. Some sectors reversed their relative performance from the prior period: Technology led as growth stocks rebounded, Energy stocks rose with the oil price and Materials were lifted by trade optimism (though less global Materials small caps lagged). The defensive/income-oriented Utilities and Communications sectors which held up better in Q4 lagged in Q1 (but did better among small caps). However, falling interest rates buoyed Real Estate, again the second strongest sector, and depressed Financials, which trailed again. Discretionary stocks continued to underperform, reflecting slow growth. Less economically sensitive Staples and Health Care stocks continued to outperform, also reflecting large exposures to the U.S. and other growing markets, while Staples small caps, lacking this support, were the weakest sector.





Return differences between countries were also somewhat narrower in Q1. The Pacific ex-Japan was again the strongest region as a whole but encompassed the best and worst performing markets. Agriculture and resource producers New Zealand and Australia outperformed and Real Estate heavy Hong Kong was strong, but Singapore's market, dominated by banks, was the quarter's worst performer, just behind slow-growing Japan. Belgium and Canada also benefited from Materials exposure and rebounded to outperformance. Europe as a whole again produced returns in line with the index, with wide internal dispersion. Italy's political crisis calmed a bit and its market rebounded strongly, but political uncertainties continued in Spain and Germany, which were the weakest markets in Europe. Oil, Health Care and Staples benefited the outperforming Dutch, Swiss, Danish and British markets, with the UK also surprisingly gaining from Real Estate despite the messy Brexit process. The euro markets slightly trailed the index again, with the Nordic countries again a bit further behind.

Denali Performance Analysis

	Q1 2019		One Year		Since inception		
Strategy	Net	Bench	Net	Bench	Net	Bench	months
Network Value International*	7.57%	10.45%	-4.22%	-3.14%	8.45%	5.35%	40
Network Value International Small*	6.02%	10.92%		-8.66%	-5.47%	-7.00%	6
Network Value Int'l Small Value*	6.97%	9.17%		-9.28%	3.15%	1.32%	5

After outperforming strongly during the markets' drop in Q4, Denali's Network Value International strategies trailed their benchmarks during the rally this quarter but were still ahead for the two quarters combined.

- Our Network Value International Small composite gained 6.02% in the period after fees, while the benchmark MSCI World ex US Small Cap Index gained 10.92% (net of tax withholding), an active return of -4.9%.
- For the past six months, which is the period since inception for this composite, Denali Network Value International Small lost 5.47% net of fees vs. 7% (after withholding) for the benchmark, outperforming by 1.53%.
- Our large cap Network Value International composite outperformed by 0.74% over the past six months, while our NV International Small Value portfolio outperformed by 1.83% in the five month period since its inception.
- For the forty months since its inception, Denali Network Value International has returned 8.45% annualized after fees, outperforming the index's 5.35% gain (net of withholding) by 3.10%. This return ranks in the third percentile among all developed international equity strategies reported to the eVestment database for this period.*

Our **Network Value Index** for the International small cap asset class, a basic component of our strategy, returned 8.99% in the quarter, trailing the benchmark by about 1.9% and accounting for about 40% of our underperformance, with the other elements of our forecasting and portfolio construction process responsible for the balance.*

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* Please refer to the disclosures for the Denali Network Value International, Denali Network Value International Small and Denali Network Value International Small Value Composites, Peer % eVestment peer ranking, and Denali Network Value International Index, beginning on page 8.

Our investment process combines two long-horizon return forecast models based on fundamental effects that tend to work in the same direction over time, with two short-horizon models that take account of trending or cyclical effects which might impact returns in the short-term. Our long-term forecasts were unsuccessful overall this quarter, but this was mitigated by positive performance of the short-term forecasts, fulfilling the basic purpose of their inclusion.

Long term:

- The cross-sectional predictive performance of the **Network Value Alpha** forecast model was negative in Q1, reflecting the broad underperformance of value stocks, particularly those with lower P/E ratios.
- The predictive performance of our **intrinsic value** forecast was also negative in Q1, consistent with the general negative performance of Value.

Short term:

- Our **detailed estimate revision** forecast had modestly positive results in Q1. Performance has been positive in six of the past seven quarters, last quarter being the exception.
- The **Characteristics Trend** model also produced modestly successful forecasts in Q1, as there was sufficient persistence in factor return trends, as detailed below, despite two major reversals in market direction in the past six months.

Our composite relative return forecast incorporating these four elements produced moderately negative predictive performance for the first quarter overall.

Characteristic Trend Model Factors:
Despite the predictive success of the Characteristics Trend model this quarter, the net effect of our exposures to the "style" factors included in the model was quite negative.

- One trend that has been very persistent is the negative effect of exposure to stocks with higher sales-to-price ratios. Our exposure to this factor had the biggest negative impact in the quarter. However, our correct forecast of this negative factor return helped us mitigate our adverse exposure to this factor.
- Our exposure to higher book-to-price ratios, the most positive factor impact in Q4, had a negative impact this quarter, consistent with the underperformance of Value.
- Interestingly, the *linear* effect of our exposure to higher current earnings-to-price ratios was only a slightly negative impact in the quarter, net of the effects of other factors in our model (very positive in January, but quite negative in February and March).
- Our higher average return on equity had the most positive factor impact on returns.
- Our exposure to lower ratios of capital expenditures to sales also had a positive impact for the quarter.

The portfolio's exposures to our Country Group factors were neutral in effect in the first quarter. Our overweight to Israel and Canada had a notable positive impact, but this was largely offset by negative impacts from other Country Group exposures.

Our Industry Group factor exposures were a net negative due to overweights to Banks, Transportation, and Insurance, and an underweight to Software, though all these positions except Transportation were mitigated by correct forecasts. Our negative exposures to

Materials and to the Food Beverage & Tobacco Industry Group had beneficial impacts in the quarter.

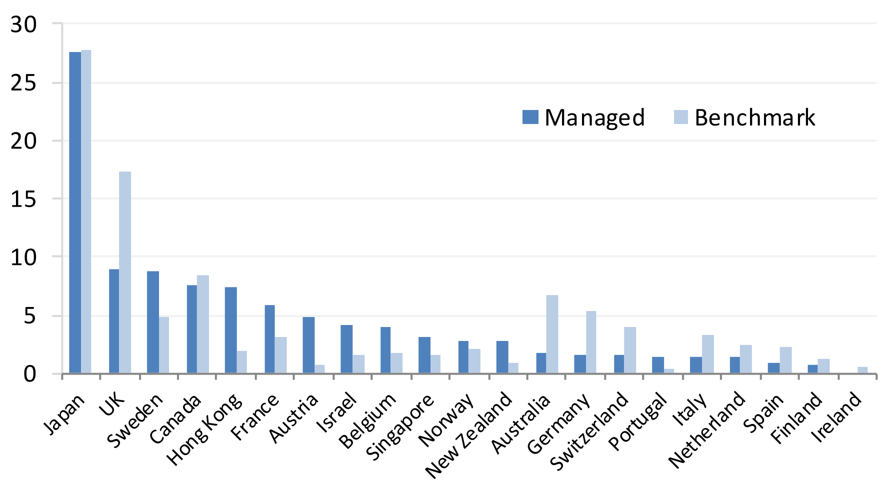
Denali Network Value International Small Portfolio Characteristics
as of 3/31/2019*

Characteristics:	NV Intl Small	MSCI World ex US Small	Relative
Wgt Avg Mkt Cap	1,839	2,596	-29%
30 Day Dollar Weighted Volume	2.3	9.6	-76%
P/E trailing 12m	8.1	14.7	-45%
P/E forward 12m	9.9	14.9	-34%
# Names	167	2541	-93%

Barra's linear factor attribution model shows that for Q1 the most important systematic factor effects were negative impacts from our positive exposure to Value and the lower average volatility of our holdings. Our lower average liquidity also had a negative impact. Our exposures to both industry and country factors were seen as modest net detractors. About a quarter of our underperformance was attributed to a negative impact from specific asset selection rather than from systematic effects. Cash drag slowed return by about 25 bp.

The effect of our active allocation among countries accounted for less than 10% of our negative active performance for the quarter, with the remainder due to underperformance within countries. Underweighting the UK accounted for most of the negative impact from country allocation. Japan and Canada produced the biggest negative impacts from stock selection within countries, with negative results also in New Zealand, Austria and Switzerland. We did benefit significantly from successful stock selection within Sweden and Hong Kong.

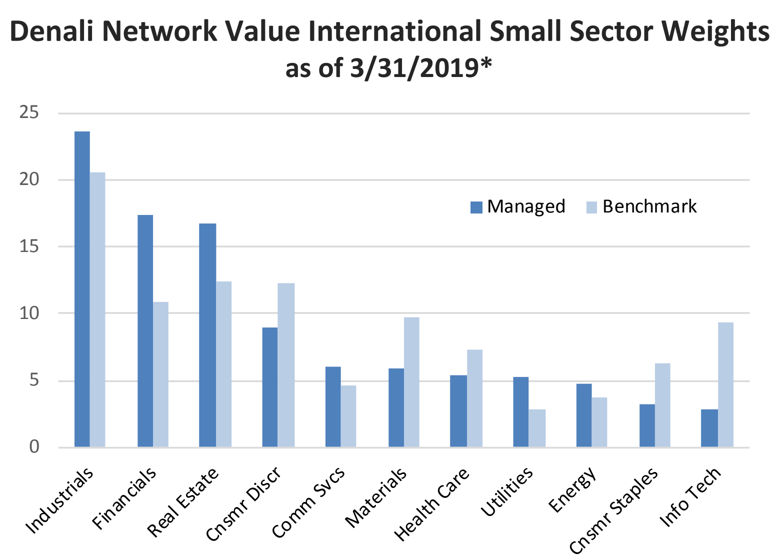
Denali Network Value International Small Country Weights
as of 3/31/2019*



*Please refer to the Denali Network Value International Small Composite disclosure at the end of this commentary.

Our portfolio's active sector positioning also generated only a small negative performance impact in Q1, with the great majority from adverse stock selection results within sectors. The bulk of the impact from sector allocation came from our underweight position in the best performing sector, Technology, and from overweighting Financials, but we benefited from underweighting Consumer Staples. The biggest negative impact from stock selection came from the Industrials, with significant impacts also from Energy, Materials, Communications, Discretionary and Health Care. We outperformed only in Real Estate, but that did produce a significant benefit.

- In the **Industrial** sector, largest in the benchmark, our overweight to airlines hindered our return; however, non-air transportation holdings outperformed. Construction and engineering firm holdings were positive contributors. Our Japanese holdings had a negative impact.
- Within **Energy**, our holdings in the refining and marketing segment underperformed.
- In **Materials**, Canadian paper products had the portfolio's biggest negative impact.
- Within the **Discretionary** sector our Japanese holdings were also a hindrance to active return.
- In **Technology**, our underweight to software and IT services was a negative.
- Within the **Financials**, our overweight in banks was a negative, but our position in investment management outperformed.
- In **Real Estate**, holdings in Hong Kong, Sweden and Canada helped us outperform strongly.



*Please refer to the Denali Network Value International Small disclosure at the end of this commentary.

Outlook

Consensus economic growth estimates for the developed world for 2019 declined significantly during the first quarter, from about 2.1% to 1.8%, down from 2.3% for 2018. Given the faster growth in the U.S., this means closer to 1.2% growth in the rest of the developed world. Israel is projected to grow fastest, above 3%, with the Pacific ex Japan region and the U.S. estimated growing around 2.5%, Canada, Switzerland and the Nordic countries between 1.5 and 2%, and the euro zone, Britain and Japan continuing to trail with 1.0 to 1.3% growth. Italy is estimated to be in recession. China is also seen slowing from 6.6% growth last year to 6.3%. Major emerging markets continue to face challenges, but at least the prospect of dollar interest rate increases is off the table for now. Global monetary policy should continue to be very accommodative, and analysts are beginning to see growth bottoming out in Europe and China.

This slower but perhaps steadier economic environment, along with international firms' exposure to solid American economic growth, should allow for some growth in corporate profits. Earnings growth for the MSCI World ex US index is forecast at 6% for Q2 over the previous year and 13% for 2019 as a whole.

Some short-term risks to this outlook are readily identifiable. The chaotic Brexit process could yet damage European economies. Trade issues between the U.S. and China, intertwined with security issues, still pose a risk to growth and profit expectations. Energy prices remain volatile, although it now seems clear that the elasticity of U.S. shale production is proving an effective ceiling on prices. Other geopolitical events could pose less visible risks.

In the longer term, wage pressures from a tighter labor market, especially in the U.S., will tend to move inflation higher. We anticipate that without Fed actions, long term U.S. interest rates (e.g. 10-year Treasury notes) will gradually recover from current depressed levels back to the 3% range. The growing differential in interest rates could push up the dollar's exchange rates, creating a headwind for U.S. investors in international equities. However, stock valuation multiples in international developed markets largely remain lower relative to the U.S. market, despite the spread in interest rates. Developed market stocks should be able to produce worthwhile returns, and we expect volatility more moderate than in the past six months.

With the very sharp rebound in the market in Q1, it was not surprising that high valuation Growth stocks outperformed. However, we think that has largely played out for the short term; it was partly just the product of the falloff in long term rates, which would seem to have little room to run. Spreads in valuations are now larger than they were before the fourth quarter correction, and going forward, given these spreads we see plenty of scope for outperformance for stocks with lower multiples relative to earnings. In fact, higher U.S. long term interest rates should in the long run pull up rates in other markets, squeezing Growth stock valuation multiples. This can also benefit the Financial sector by steepening the yield curve, providing further impetus for Value stocks. Denali's constant focus on stocks with valuations solidly supported by current earnings should be beneficial in the environment we anticipate, with earnings growth, equity returns and volatility levels all more in line with historically typical levels than the extremes to both high and low that have been seen in the past two years, and normalization as well in the behavior of the effects we use to produce added value.

Disclosures:
Returns are presented net of management fees and include the reinvestment of all income. Past performance is not indicative of future results. Results are based on fully discretionary accounts under management, including those accounts no longer with the firm. Denali was established in 2001 and manages equity and alternative assets for primarily institutional clients. The U.S. dollar is the currency used to express performance.

Denali Network Value International: Composite consists of fully discretionary International (large and mid cap) portfolios that are designed to track the Denali Network Value International index, as created by Denali using the largest companies from 22 countries. Results are compared against the returns of the MSCI World ex-U.S. Index and intended to outperform this benchmark while maintaining similar sector, industry and security characteristics. The NV International portfolio construction is based on the analysis of earnings, liquidity and other characteristics of selected large and mid cap companies from developed international stock markets (e.g. the markets represented in the MSCI World ex-U.S. Index). The Denali NV International Composite was created November 30, 2015. As of October 18, 2017, it has been renamed the Denali Network Value International. The composite and benchmark performance is net of withholding taxes. Portfolio rebalancing is done monthly, or more frequently if judged to be advantageous. The fee schedule for this product is 0.75% on the first $50 million, 0.65% on the next $50 million, and 0.50% on the balance. Actual investment advisory fees incurred by clients may vary. There is a marketing minimum of $10 million. Client returns will be reduced by advisory and other expenses the client may incur. Net returns have been calculated by reducing gross returns by actual management fees incurred. Leverage is not used.

Denali Network Value International Small: Composite consists of fully discretionary International small cap portfolios that are designed to track the Denali Network Value International Small Index, as created by Denali using the investable small cap companies from 22 developed countries. The Denali Network Value International Small Composite was created September 30, 2018. Results are compared against the returns of the MSCI World ex-U.S. Small Cap Index and are intended to outperform this benchmark while maintaining reasonably similar sector, industry and security characteristics. The Denali Network Value International Small portfolio construction is based on the analysis of earnings, liquidity and other characteristics of selected small cap companies from developed international stock markets (e.g. the markets represented in the MSCI World ex-U.S. Index). Net returns have been calculated by reducing gross returns by actual management fees incurred. The composite and benchmark performance is net of withholding taxes. The fee schedule for this product is 1.00%. Client returns will be reduced by advisory and other expenses the client may incur. There is a marketing minimum of $10 million.

Denali Network Value International Small Value: Composite consists of fully discretionary International small cap portfolios that are designed to track the Denali Network Value International Small Index, as created by Denali using the investable small cap companies from 22 developed countries. The Denali Network Value International Small Value Composite was created October 31, 2018. Results are compared against the returns of the MSCI World ex-U.S. Small Cap Value Index and are intended to outperform this benchmark while maintaining reasonably similar sector, industry and security characteristics. The Denali Network Value International Small Value portfolio construction is based on the analysis of earnings, liquidity and other characteristics of selected small cap companies from developed international stock markets (e.g. the markets represented in the MSCI World ex-U.S. Index). Net returns have been calculated by reducing gross returns by actual management fees incurred. The composite and benchmark performance is net of withholding taxes. The fee schedule for this product is 1.00%. Client returns will be reduced by advisory and other expenses the client may incur. There is a marketing minimum of $10 million.

Network Value International Index: The results of the backtest presented reflect research returns of a historical simulation of the construction process for the Denali Network Value International Index beginning at the end of January 2001 and tested through September 2014, combined with the results of index portfolios constructed contemporaneously each month from October 2014 through the most recent month end. Index portfolios were formed each month of the historical period using historical data as input to Denali's proprietary Network Value index construction process. The security selection universe was developed by the Denali research team to represent the investable large cap stock universe in developed international markets. Data used in the historical simulation was sourced from FactSet and CapitalIQ, and the Barra Global Equity model was used for performance calculation. Real time performance presented as of October 1, 2014 through the most recent month is without the benefit of hindsight in model development. The results presented are the returns of a series of portfolios that are constructed and rebalanced according to the investment process developed for the Denali Network Value International index using the data available at the time of construction. This Index is not offered as an investment vehicle and is not directly investable, and the returns do not account for any transaction costs of rebalancing.

Peer % ranking is supplemental information. Denali pays to participate in the eVestment research and analytics platform. This allows Denali to participate in the rankings. Returns for Denali's Network Value International composite is presented gross of management fees. Inception is Nov. 30 2015. Please refer to disclosures above. eVestment creates and conducts the ranking. eVestment rankings are based on all managers assigned to the eVestment universe: EAFE Large cap core equity rating at the time the ranking is pulled 5/5/2019. The eVestment number of advisers surveyed for this slide is 122 since inception. There may be more than one adviser per ranking. The eVestment rating is not indicative of the adviser's future performance. The rating may not be representative of any one client's experience because the rating reflects an average of all, or a sample of all, of the experiences of the adviser's clients.