Quarter IV, 2018 Performance Review

Denali Network Value International

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International Markets

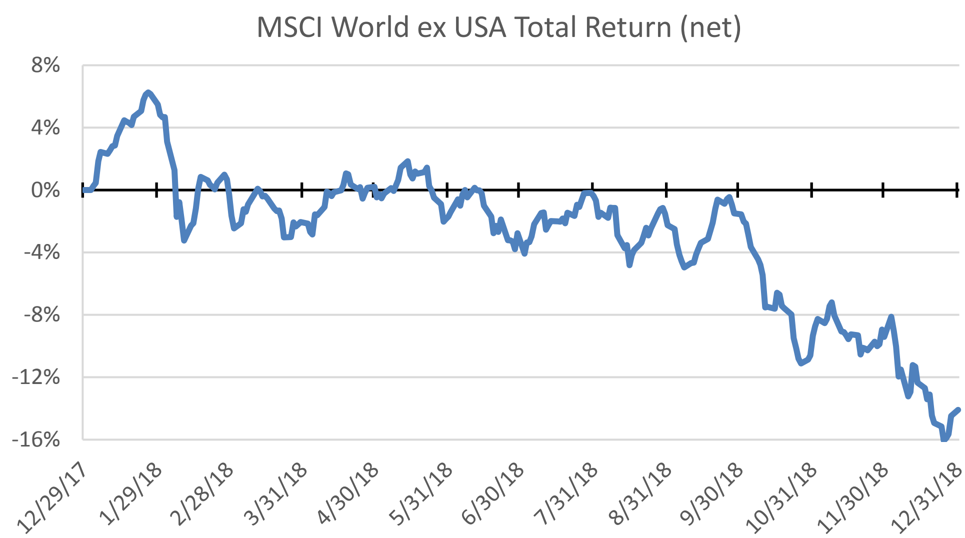
The fourth quarter brought continued signs of economic slowing outside the United States. While *The Economist*'s latest quarterly estimates for year-on-year growth show the U.S. rate ticked up to 3.0% for Q3, growth declined almost everywhere else in the developed world. The notable exceptions were U.S.-linked Canada, rebounding Denmark, and surprisingly Britain, despite the Brexit mess. Reported Chinese growth also declined. The U.S. is now the fastest growing major developed economy, followed closely by the Pacific ex-Japan region and Israel at just under 3%, then Switzerland and Canada at above 2%, with the UK and euro zone about 1.5%. Italy's political troubles continued to drag on its economy, now barely growing at 0.7%, while Japan's reported growth for Q3 fell to basically nil.

Consensus estimates of 2018 growth for the developed world declined again during the quarter to 2.3%, while the average unemployment rate estimate remained about 5%. Despite the slowing, corporate earnings growth for companies in the MSCI World ex-US Index remained healthy, with profits as of the end of Q4 seen increasing about 15% over the prior year in dollar terms. With any monetary tightening by central banks on hold for the foreseeable future and less upward pressure from U.S. Treasury yields, which fell by over 35 bp in Q4, long-term interest rates in developed government bond markets dropped, falling back to zero in Japan and -0.3% in Switzerland. Italian rates dropped the most, as concerns over runaway deficit spending were somewhat allayed, but remained the highest among developed markets.

One of the more dramatic developments in the fourth quarter was the plunge in the price of crude oil. With lowered global demand expectations, steady U.S. production growth and little confidence in the will of other producers to restrict supply, the price of the U.S. crude oil benchmark fell by almost 40% in the quarter, ending near $45 per barrel. This coincided with a modest rise of about 1% for the U.S. dollar's exchange rate in the quarter, with the dollar remaining near the middle of its trading range against other major currencies over the past four years.

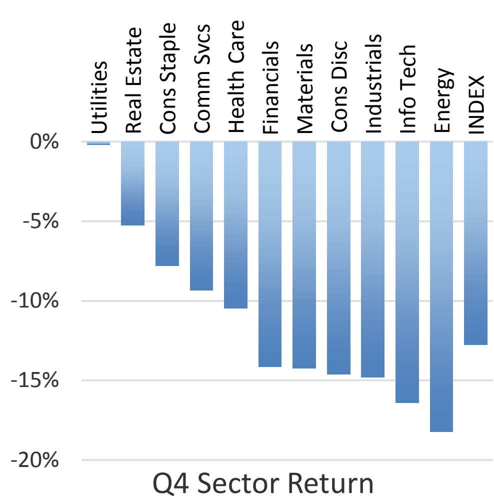
After falling off from a record peak in January, the international developed equity market spent most of the first three quarters of 2008 within about a 5% trading range. In early October, however, investor confidence was rocked by a combination of rising U.S. interest rates, global economic slowing, ongoing trade disputes and political instability in several European countries, including the prospect of a chaotic exit of Britain from the EU. Developed equity markets, including the U.S., fell steeply during October and again during December, with the

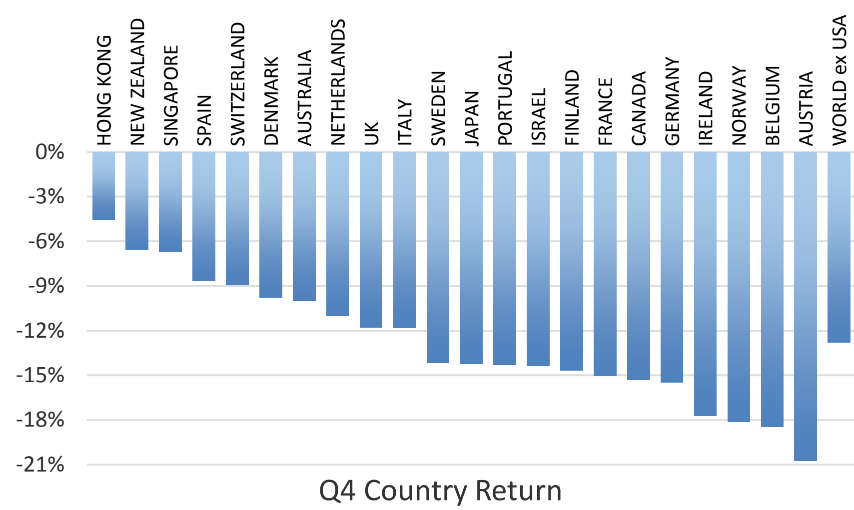
MSCI World ex-US Index dropping more than 20% from its January peak before bouncing more than 2% in the week between Christmas and New Year's. The index ended the quarter with a loss of 12.8% for the quarter and a negative total return of 14.1% for 2018 (in dollar terms, net of withholding taxes).



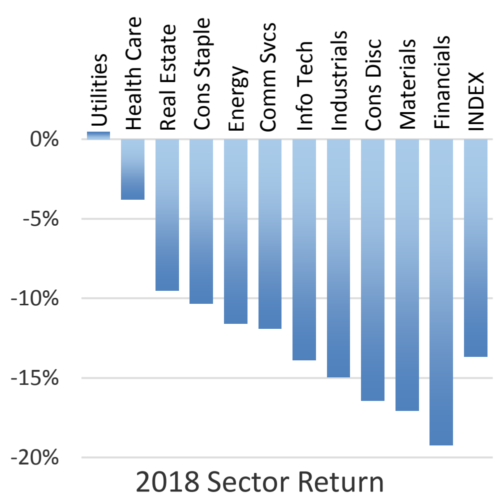
As in the U.S., Value stocks held up better than Growth during the fourth quarter downturn, but the Growth style index still led for the year. Again, these style spreads were not as wide as in the American markets; Value led Growth in the MSCI World ex US indexes by about 1.4% for Q4 and trailed by about 2% for 2018, roughly a third of the U.S. Russell 1000 style differential. Larger market cap international stocks fell less than smaller caps in both the quarter and year.

Dispersion in performance between sectors was very wide for the quarter. All sectors lost, but the traditional defensive/income-oriented sectors (Utilities, Real Estate, Staples, Health Care) and the newly-organized Communications (dominated by Telecom) held up much better than more cyclical sectors. The energy sector was unsurprisingly the worst performer, while the expensive Technology sector was the next worst.

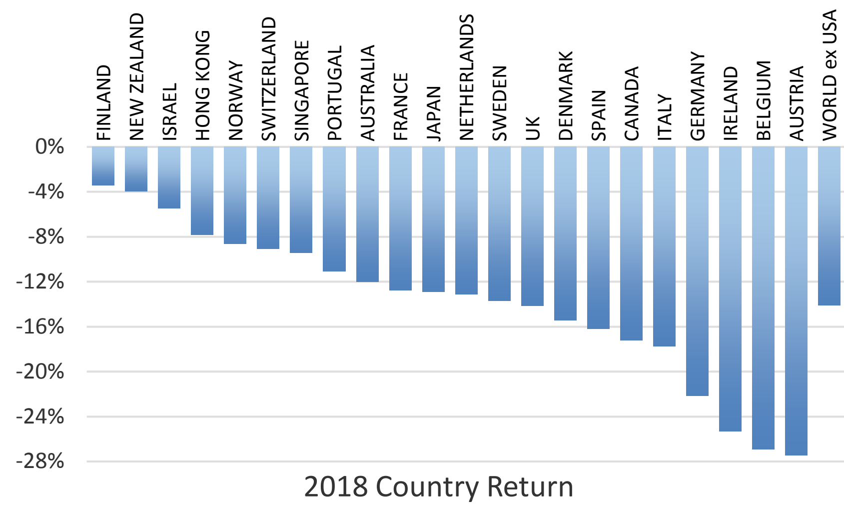




The fourth quarter returns tended to dominate the year, so that the defensive sectors also outperformed for the whole year, while surprisingly resilient performance earlier in the year allowed the Energy sector to finish 2018 ahead of the market as well. Only Utilities managed a gain for the year. The Financial sector was the laggard for 2018, dragged down by losses exceeding 20% for Banks and weak performance by investment companies.



Source: Bloomberg for MSCI World ex US index



Source: Bloomberg for MSCI World ex US index

All of the constituent national developed markets suffered losses for both for the fourth quarter and consequently for the year. Markets in the Pacific ex-Japan group fared the best, consistent with their stronger growth. Switzerland continued to outperform and proved something of a safe haven in the decline. Europe as a whole performed in line with the index, with the euro markets slightly trailing. Spain, Italy and the UK, losers in Q3, declined less than average in Q4 despite continuing political tumult. On the other hand, Ireland and Belgium continued to underperform, hindered by exposure to the Materials and Discretionary sectors. Norway's market sank with the price of oil, and Austria's also suffered from exposure to Energy, as well as to Materials, Banks and eastern Europe.

Austria, Belgium and Ireland were also the worst-performing markets for the year, but Norway's strong performance through Q3 enabled it to outperform for 2018. The euro zone as a whole underperformed for the year; Germany, heavily dependent on trade and the auto industry and with growing political uncertainty, lost over 22%, and markets in Spain and Italy also suffered from political instability. The U.K. market, though, performed in line with the index despite the Brexit mess. Canada's market suffered from heavy Materials exposure and from uncertainty over U.S. trade. Japan was less troubled by trade disputes and saw smaller than average losses. The other Asia-Pacific markets all outperformed, helped by good domestic growth. Switzerland and Israel benefited from heavy Health Care exposure and outperformed significantly. The year's leader was Finland, driven by Nokia's strong return.

Denali Performance Analysis

	Q4 2018		Year 2018		Since inception		
Strategy	Net	Bench	Net	Bench	Net	Bench	months
Network Value International	-9.77%	-12.79%	-11.80%	-14.09%	6.61%	2.43%	37
Network Value International Small	-10.84%	-16.16%		-18.07%	-10.84%	-16.16%	3

The active performance of Denali's Network Value International strategy was very strong amid the markets' drop this quarter, lifting us to a positive active performance for the year.

- Our composite lost 9.77% in the period after fees, while the benchmark MSCI World ex US Index lost 12.79% (net of tax withholding), an active return of 3.02.%.
- For the past twelve months, Denali Network Value International lost 11.80% net of fees vs. 14.09% (after withholding) for the benchmark, an active return of 2.29%.
- For the thirty-seven months since its inception, Denali Network Value International has returned 6.61% annualized after fees, outperforming the index's 2.43% gain (net of withholding) by 4.18%. This is the highest return among all developed international equity strategies reported to the eVestment database for this period.
- We launched a small cap version of our strategy this quarter, which also had very strong performance, 5.32% ahead of its benchmark after fees.

Our Network Value Index return exceeded the international benchmark by about 90 basis points this quarter, accounting for about 30% of our outperformance, with the other elements of our forecasting and portfolio construction process responsible for the balance. For the year, the NV Index led the benchmark by a little over 1%, accounting for 40% of active return.

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.

Long term:

- The cross-sectional predictive performance of the **Network Value Alpha** forecast model was fairly strong in Q4, reflecting the beneficial exposure to both stocks with lower P/E ratios and with lower trading activity. For the whole year the performance was only slightly positive, reflecting the underperformance of lower P/E stocks earlier in 2018.
- The predictive performance of our **intrinsic value** forecast was quite negative in Q4 despite a generally Value environment; this reflects the dependence of this model on long-term growth estimates. The performance was also fairly negative for the year, consistent with the general negative performance of Value.

Short term:

- Our **detailed estimate revision** forecast had moderately negative results in Q4, but slightly positive for the year.
- The **Characteristics Trend** model produced nicely positive performance in Q4, as there was more continuity than reversion in factor return trends. This model was moderately successful on average for the year.

Our composite relative return forecast incorporating these four elements produced good predictive performance for the fourth quarter, but just slightly positive for the year.

Characteristic Trend Model Factors:
This quarter, the effect of our exposures to the "style" factors included in the model was again very positive.

- Our exposure to higher book-to-price ratios had the most positive factor impact in again in Q4, and on average for the year. Our higher E/P ratios had the next most positive impact for the quarter and year
- Our higher cash flow yield was also a benefit for the quarter and the year.
- Interestingly, although Value outperformed, our exposure to stocks with higher sales-to-price ratios had a negative impact in the quarter and the year as a whole.
- Our lower average earnings volatility ("quality") was also a benefit for the quarter and the year.
- Our exposure to higher levels of accounting accruals in earnings had the most negative factor impact for the quarter and year.

The portfolio's exposures to our Country Group factors were also helpful in the fourth quarter, as the model correctly forecast outperformance for Asia ex Japan and underperformance for the core European markets.

Our Industry Group factor exposures were quite positive in overall impact. Our negative exposure to Energy and positive exposures to Utilities and Real Estate had the most beneficial impact in the quarter. Our positive exposures to the Diversified Financials and Automobiles & Components industry groups were detrimental; however, the model's correct forecasts of underperformance helped us to mitigate these adverse exposures.

Denali Network Value International Portfolio Characteristics

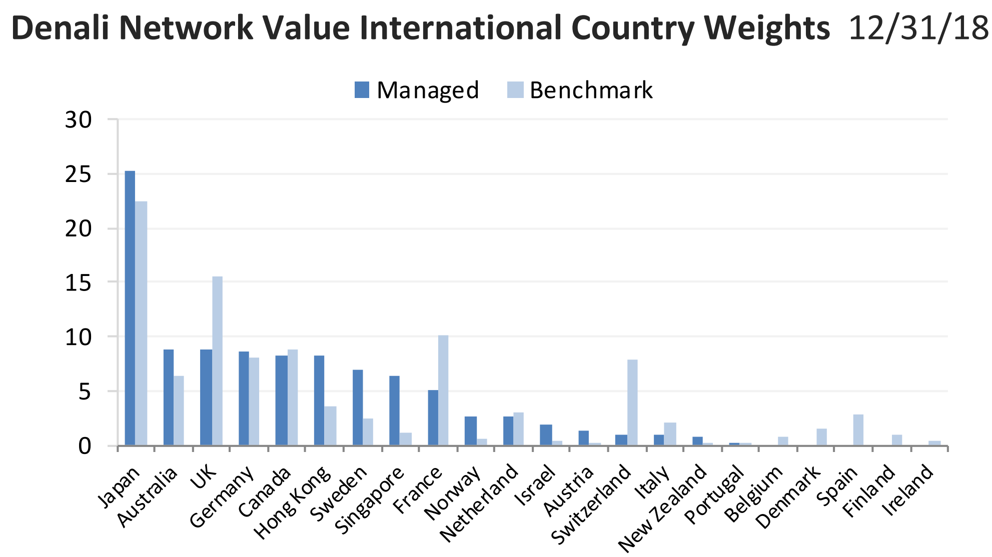
Characteristics:	NV INTL	MSCI World ex US	Relative
Wgt Avg Mkt Cap	21,102	54,739	-61%
30 Day Dollar Weighted Volume	38.3	164.1	-77%
P/E trailing 12m	8.1	12.5	-35%
P/E forward 12m	9.3	12.5	-26%
# Names	75	1011	-93%

Barra's linear factor attribution model shows that for Q4 the most positive systematic factor impact was from the lower average volatility of our holdings, with our positive exposure to their Value factor and our lower average liquidity also significant positives. Our smaller average market cap was the biggest negative. Our exposures to both industry and country factors were also seen as net positives, with a negative impact from specific asset selection, mostly from larger cap benchmark stocks we did not hold.

For the year, our lower volatility and liquidity were again seen as significant positives and smaller size as significantly negative, but the Value factor was near neutral in impact, according to their framework. Our exposures to country factors was modestly beneficial and industry factors neutral, with about half of our outperformance attributed to specific asset selection rather than systematic effects.

The effect of our active allocation among countries accounted for about 30 bp of our active performance for the quarter, with the great majority due to outperformance within countries.

Overweighting Singapore had by far the most positive impact, whereas the biggest detractor was again our underweight in Switzerland. Within countries, our biggest benefit from good stock selection by far came from Japan, equivalent to about two thirds of our total active return. We also had significant positive selection impact within Singapore and Canada, with Sweden and Italy contributing as well. We had significant adverse stock selection results only in Germany and the UK.

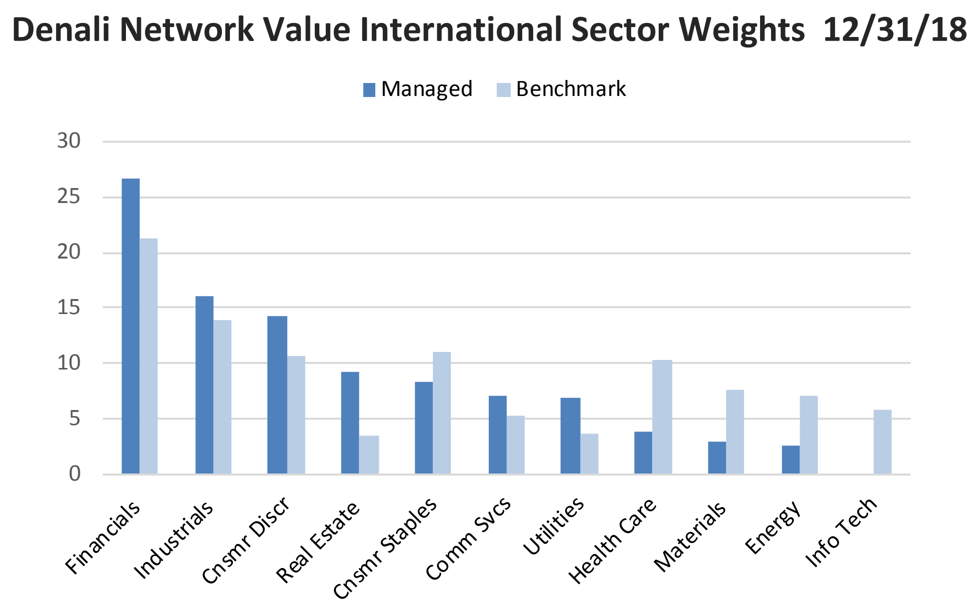


Our portfolio's active sector positioning had a positive effect of about 120 bp on our performance in the quarter, about a third of our active return, with the remainder from very good stock selection results within sectors. The bulk of the positive impact from sector allocation came from our overweights to the best performing sectors, Utilities and Real Estate. The biggest positive impact from stock selection came from the Industrials, with significant impacts also from Consumer Staples, Energy and Utilities. We had negative impacts from stock selection within Materials, Consumer Discretionary and Communications Services.

- In **Materials**, our holdings in European steel companies experienced significant losses, causing most of our underperformance in the sector. Underweighting precious metals stocks also detracted
- In the new **Communications Services** sector, we had the most significant negative performance in the media industry.
- Within the **Discretionary** sector, auto industry holdings had the portfolio's biggest negative impact.
- Within the **Financials**, our position in European banks was the biggest detractor, but our holdings in Asian banks outperformed.
- In **Utilities**, our outperformance was generated in Japan.
- Within **Energy**, the natural gas infrastructure industry was our top contributor, while Canadian oil and gas production was a notable detractor.
- In the **Staples** sector, holdings in food production and retail outperformed, while avoiding tobacco also benefited performance.

- In the **Industrial** sector, our overweight to Transportation aided performance, with contributions from both airlines and rail; diversified Asian industrial firms produced the biggest positive impact to our return.

For the year as a whole we benefited from overweighting Utilities and Real Estate, and underweighting Banks, Semiconductors, and non-ferrous metals, whereas we suffered drags from overweights to Autos & Components and to Investment firms, and from underweights to Pharmaceuticals and Energy production.



Outlook

Consensus economic growth estimates for the developed world for 2019 have fallen a bit to around 2.0%, down from 2.3% for 2018. Israel, the Pacific ex Japan region and the U.S. are projected to continue growing fastest, with Britain, Europe and Japan slower. British growth is actually seen increasing this year while Ireland, Europe's fastest grower for the past two years as the prime Brexit beneficiary, slows significantly. Italy is forecast to continue to slow, falling behind Japan. Major emerging markets continue to face challenges, including the prospect of dollar interest rate increases, though perhaps more gradual. China's growth has slowed, and the government is taking steps to support its private sector economy; monetary policy should continue to be very accommodative.

This economic environment, including international firms' exposure to still solid American economic growth, should continue to enable decent corporate earnings. Profit growth for the MSCI World ex US index is forecast at 12-13% for Q1 over the previous year and for 2019 as a whole. However, significant "known unknowns" could affect this outlook:

- Trade issues between the U.S. and China, intertwined with security issues clearly pose a risk to growth and profit expectations.
- Energy prices may remain volatile, with major exporters trying hard to find ways to raise them.
- Wage pressures from a tighter labor market, especially in the U.S., will tend to move inflation higher.

- With the U.S. Federal Reserve proceeding, more gradually, with both rate increases and balance sheet reduction, and other large central banks unlikely to follow suit, the dollar's exchange rates could be pushed up, creating a headwind for U.S. investors in international equities. However, stock valuations in international developed markets largely remain attractive relative to the U.S. market, although the gap was reduced a bit by the Q4 market drop.

Overall, then, we continue to see a balance of positive and negative forces on the international equity markets which should allow for reasonable market returns driven by decent fundamental results while geopolitical factors have plenty of potential for both downside and upside surprises to this outlook.

Higher U.S. long term interest rates should in the long run pull up rates in other markets, squeezing valuation multiples. This can also benefit the Financial sector by steepening the yield curve, providing an additional impetus for Value stocks. As we expected to occur eventually, the underperformance of Value and in particular earnings yield as a factor in stock returns abated in the fourth quarter, with higher E/P ratio stocks outperforming. With the market's greater reluctance to pay up for anticipated earnings, we see plenty of scope for outperformance to continue for stocks with lower earnings multiples. Denali's constant focus on stocks with valuations solidly supported by earnings would position us advantageously for that environment.

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.