

Nasdaq Select Leaders Index Family

A Multi-Factor Approach to Investing

Selecting stocks based on factors such as sustainable yield, earnings growth and value, and momentum can significantly enhance a portfolio's return over the long run. This research will cover the indexes noted below and provide a deep dive into their methodology. First, the piece will cover three strategies, Shareholder Yield, Price Setters, and Sustainable Momentum, which are at the crux of these indexes. Then the piece will discuss the indexes below and show the reasons as to why these indexes and the products tied to them can potentially provide investors superior returns.

- Nasdaq US Small Cap Select Leaders Index (NQUSSL)
- Nasdaq Developed Select Leaders Index (NQDMSL)
- Nasdaq Emerging Select Leaders Index (NQEMSL)

Smart Selection

Shareholder Yield

Shareholder Yield is a strategy that selects stocks based on a combination of companies that pay dividends, buy back stock, and generate positive cash flow. The importance of this is that companies that consistently provide shareholders with all three of these categories not only offer a great yield to investors but also show the ability to continue to have those yields going forward. The factors used in determining whether or not a company adheres to these three categories are as follows:

#	FACTOR	#	FACTOR
1	Buyback Yield	6	Free Cash Flow to Price
2	Dividend Yield	7	Free Cash Flow Growth 3-Year Sharpe Ratio
3	Dividend Payout Per Share	8	Free Cash Flow Growth (1-Year, 3-Year, & 5-Year)
4	Dividend Yield Historical Valuation (3-Year & 5-Year)	9	EBITDA to Debt
5	Dividend Growth (1-Year, 3-Year, & 5-Year)		

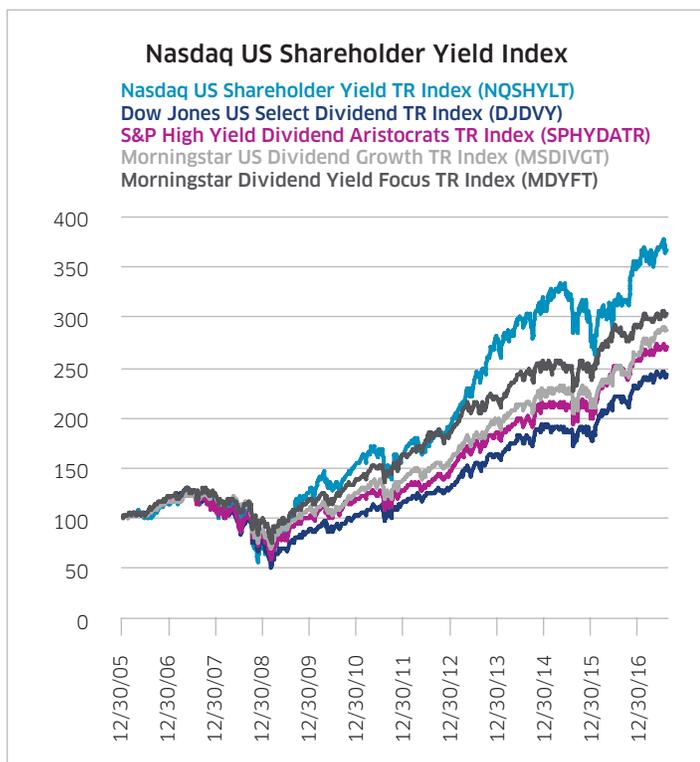
BY GAURAV PENDSE, SENIOR PRODUCT DEVELOPMENT ANALYST,
NASDAQ GLOBAL INFORMATION SERVICES

These nine factors encompass this strategy and are the basis of the Nasdaq US Shareholder Yield Index. Although this index consists of US large and mid-cap stocks, it is also applied in the indexes mentioned below to determine stocks that are best positioned to maximize yield to investors. This is potentially a huge benefit in further improving the returns when investing in different markets/sizes.

For further research on the Shareholder Yield strategy, please refer to the following:

Business.Nasdaq.com/ShareholderYieldResearch

An excerpt from the aforementioned research, to show the strength of the shareholder yield factor from a performance perspective, here is the chart of the Nasdaq US Shareholder Yield TR Index vs competing dividend indexes:



From 12/30/2005 – 8/31/2017

Price Setters

Price Setters is a strategy that selects companies that exhibit sustainable pricing power. Various factors are used to determine those companies which provide margin resilience as well as consistent sales growth and earnings quality. The following table summarizes these factors:

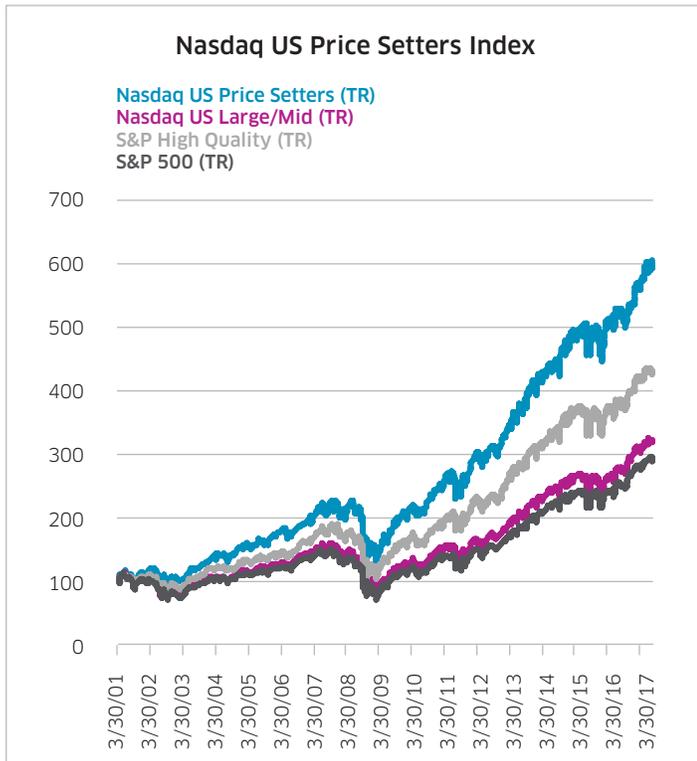
#	MARGIN RESILIENCE
1	1-Year EPS Growth
2	3-Year EPS Growth
3	Operating Margin
4	1-Year Operating Margin Growth
5	3-Year Sales Growth
QUALITY FACTORS	
1	Return on Equity
2	Earnings Smoothness
3	Earnings Quality
4	Operating Margin Stability
5	Earnings Dispersion
6	12-Month Return Volatility

This strategy is currently utilized in the Nasdaq US Price Setters Index (which consists of US large and mid-cap stocks). A similar strategy, utilizing the factors above, is used in the indexes mentioned below. As the research conducted on the Nasdaq US Price Setters Index highlights, companies that display high earnings quality can remain competitive in the market as inflation and interest rates move higher, thus revealing that they exhibit sustainable pricing power relative to their peers. As such, in addition to the Shareholder Yield strategy mentioned above, selecting companies from various sizes and markets that have strong earnings and sales qualities as well as margin resilience can provide investors with not only yield growth moving forward but also strong capital appreciation.

For further research on the Price Setters strategy, please refer to the following:

Business.Nasdaq.com/PriceSettersResearch

An excerpt from the aforementioned research, to show the strength of the Price Setters factor from a performance perspective, here is the chart of the Nasdaq US Price Setters TR Index vs competing indexes:

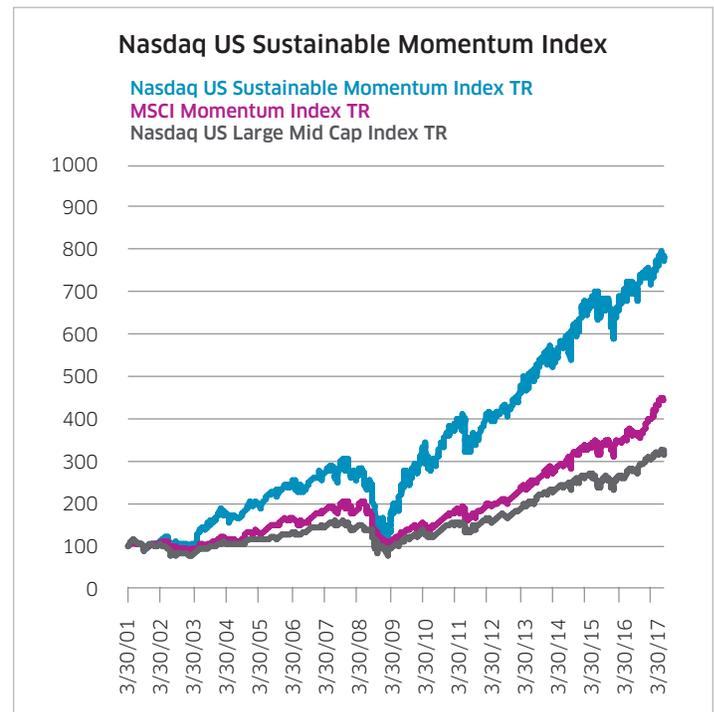


From 3/30/2001 - 8/31/2017

Sustainable Momentum

Momentum refers to the tendency of a certain asset which has outperformed in the recent past, to continue to outperform in the future. While some people view momentum as an “alpha” strategy, research conducted by Salient Partners demonstrates that the Arbitrage Pricing Theory (APT), a variation of the CAPM model, utilizes momentum as an “alternative beta” factor rather than an “alpha” factor¹. In other words, the returns generated from a momentum strategy are only generated from systematic exposure to a particular risk factor rather than any excess returns from beating the market (“alpha”). So, similar to the market size of a company or value, momentum is an alternative risk factor that can be utilized to select companies that display high degrees of price momentum relative to their own risk factor.

This momentum strategy is utilized in the Nasdaq US Sustainable Momentum Index (which consists of US large and mid-cap stocks). There are various intermediate term momentum and long term mean reversion factors that are used within the strategy to score companies for their overall momentum. A similar strategy can be applied to the various indexes mentioned below. The chart below shows the Nasdaq US Sustainable Momentum Index versus MSCI Momentum Index and the Nasdaq US Large Mid Cap Index benchmark, and it’s explicitly clear that the Nasdaq US Sustainable Momentum Index vastly outperforms the competitor index. This shows that this strategy is excellent at identifying securities that exhibit strong momentum. As a result, layering the Momentum strategy along with the Shareholder Yield and Price Setters strategies for companies has the potential to provide investors with superior risk-adjusted returns.

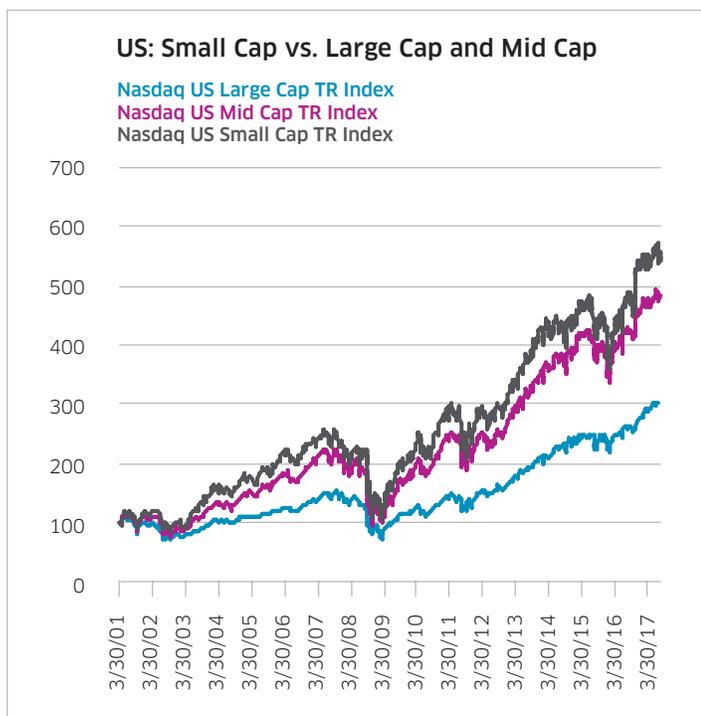


From 3/30/2001 - 8/31/2017

Nasdaq US Small Cap Select Leaders Index

The Case for Small Cap Stocks

When investors decide to allocate funds to various investments, one area that's often overlooked is small cap stocks, as they are perceived to be too risky. While the risk level is there, small cap stocks, as the chart below highlights, have historically outperformed large cap and mid cap stocks.



From 3/30/2001 - 8/31/2017

As research conducted by Lazard Asset Management highlights, the reasons for small cap outperformance challenged the traditional Capital Asset Pricing Model (CAPM). The CAPM model valued a company only by its systematic risk. Valuing a company on additional factors, however, such as its market size and value, introduces a more robust technique for valuation. According to the research, the outperformance of small cap stocks versus large caps was due to an element of risk unique to small cap stocks, as small cap stocks do not generally have the same funding options as larger companies do and they are more dependent on bank and equity financing². Investors are, therefore, compensated for this additional level of risk.

PERFORMANCE STATISTICS	NASDAQ US LARGE CAP TR INDEX	NASDAQ US MID CAP TR INDEX	NASDAQ US SMALL CAP TR INDEX
Return	204.18%	386.74%	457.75%
Annualized Return	7.01%	10.11%	11.03%
Average Daily Return	0.03%	0.05%	0.05%
Volatility	18.96%	20.99%	23.31%
Sharpe Ratio	0.37	0.482	0.473
Max Drawdown	-53.33%	-58.22%	-59.99%

From 3/30/2001 - 8/31/2017

The table above shows that while small cap stocks are riskier, due to their higher annualized volatility, the annualized returns are higher than those of large cap and mid cap stocks (although the Sharpe Ratio is slightly lower for small cap stocks than it is for mid cap stocks) because investors are being compensated for the incremental risk and volatility undertaken for investing in small cap stocks versus large cap stocks.

The chart and table above illustrate that the consistency of small cap outperformance over large cap and mid cap stocks reveals that investors should consider allocating more resources to these stocks.

Constructing the Nasdaq US Small Cap Select Leaders Index

The Nasdaq US Small Cap Select Leaders Index combines the Shareholder Yield, Price Setters, and Sustainable Momentum strategies described above on the small cap universe (Nasdaq US Small Cap Index). In order to be eligible in this index, a company must be part of the Nasdaq US Small Cap Index (NQUSS), be in the top 90th percentile of the Nasdaq US Benchmark Index (NQUSB) in terms of 3-month average daily dollar volume, and have a minimum 3-month trading history. In addition, a company has to be in the top 20th percentile of the Final Rank (process explained below) or be in the top 50th percentile of the Final Rank, if and only if the company was in the index in the prior period.

In order to combine the three aforementioned strategies into this index, all the companies in NQUSS are ranked according to their individual Shareholder Yield, Price Setters, and Momentum ranks. These three ranks determine the degree in which a security in NQUSS exhibits high degrees of shareholder yield (value factor), pricing power (quality growth factor), and sustainable momentum, respectively. After the individual ranks are calculated for each security in NQUSS, the ranks are normalized by the ICB industry classification of each security, which enables the three individual ranks to be sector-neutral. These three normalized ranks are then averaged to determine a preliminary score for each security. A Final Rank is calculated by ranking the preliminary Score for each security within each industry, where the higher average daily dollar volume breaks any ties in the preliminary score. The Final Rank is used in the eligibility screen, as described above, to determine the final basket of securities in the index.

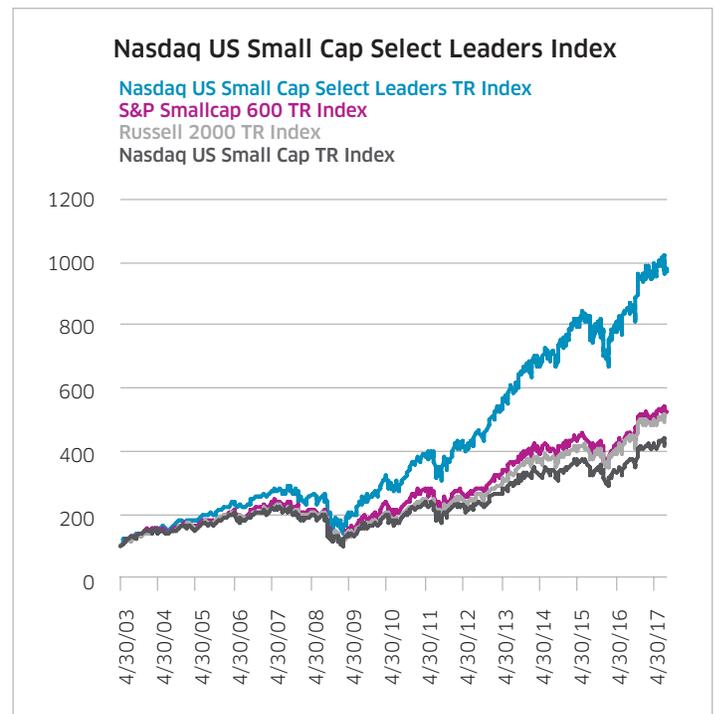
After the basket is selected, the index then employs a modified liquidity weighting methodology. This is derived by first calculating a liquidity-volatility score: multiplying the 3-month average daily dollar volume of each security by the average 3-month volatility of the Nasdaq US Small Cap universe and dividing that by the 3-month annualized volatility of the corresponding security. Next, the liquidity-volatility score is then used to determine the preliminary weight of each security. Ensuring that securities that have the higher liquidity and lower volatility get the higher weight shows that this strategy is implementable from a trading perspective. The final weight modifies the preliminary weight so that the industry weights match the NQUSS Benchmark Industry Weights and the weight of each company is capped at 0.7%, with redistribution of excess weight evenly across all securities within the same industry.

The above shows that the Nasdaq US Small Cap Select Leaders Index employs a very robust methodology for selecting companies from the small cap universe.

It adequately utilizes the individual Shareholder Yield, Price Setters, and Momentum strategies described above to determine securities that have strong momentum and have the highest chances of providing investors with sustainable yield and strong growth. Once this basket of securities is determined, the most liquid and least volatile components are then given the highest weight, providing investors with a tradable basket that reduces the overall volatility.

Index Performance

The outperformance of the Nasdaq US Small Cap Select Leaders Index is significant, as shown in the chart below, compared to the S&P Small Cap 600 Index, Russell 2000 Index, and the benchmark, the Nasdaq US Small Cap Index, back to the beginning of the back-test in 2003.



From 4/30/2003 - 8/31/2017

PERFORMANCE STATISTICS	NASDAQ US SMALL CAP SELECT LEADERS TR INDEX	S&P SMALLCAP 600 TR INDEX	RUSSELL 2000 TR INDEX	NASDAQ US SMALL CAP TR INDEX
Return	884.97%	429.87%	390.15%	319.59%
Annualized Return	17.30%	12.34%	11.73%	10.52%
Average Daily Return	0.07%	0.06%	0.05%	0.05%
Volatility	21.72%	23.19%	22.76%	23.96%
Sharpe Ratio	0.797	0.532	0.515	0.439
Max Drawdown	-53.53%	-59.99%	-58.30%	-58.89%
Information Ratio	0.514	0.137	0.045	--
Alpha	6.13%	1.64%	1.09%	--

From 4/30/2003 - 8/31/2017 (Benchmark for Alpha and Information Ratio comparison is Nasdaq US Small Cap Index)

Specifically, as shown in the table above, the risk-adjusted return for the Nasdaq US Small Cap Select Leaders Index is approximately 58% higher than the next best Sharpe ratio and the max drawdown is lower than the other indexes by 5 percentage points or more. Relative to the Nasdaq US Small Cap Index benchmark, the Nasdaq US Small Cap Select Leaders Index has a significantly better Information ratio and Alpha compared to the other indexes. This shows that the Nasdaq US Small Cap Select Leaders Index has consistently outperformed and generated significant positive excess returns over the Nasdaq US Small Cap Index as well as the S&P and Russell US Small Cap benchmarks.

ANNUALIZED RETURNS	NASDAQ US SMALL CAP SELECT LEADERS TR INDEX	S&P SMALLCAP 600 TR INDEX	RUSSELL 2000 TR INDEX	NASDAQ US SMALL CAP TR INDEX
1Y	15.02%	15.74%	10.97%	12.63%
3Y	10.81%	8.28%	8.70%	7.14%
5Y	17.22%	14.15%	13.96%	12.82%
10Y	13.74%	8.76%	8.47%	7.21%
Since Inception	17.30%	12.34%	11.73%	10.52%

From 4/30/2003 - 8/31/2017

The various financial metrics below show that the Nasdaq US Small Cap Select Leaders Index has better financials than the overall small cap universe. The components in the index have generated higher return on equity and return on assets, while being less leveraged and having more free cash flow relative to debt. This shows that applying the Price Setters, Shareholder Yield, and Momentum strategies led to selecting companies that had better financial metrics than those in the benchmark.

FINANCIAL METRICS	NASDAQ US SMALL CAP SELECT LEADERS TR INDEX	NASDAQ US SMALL CAP TR INDEX
Price/Book Ratio	5.894	6.937
Price/Earnings Ratio	10.790	1.494
ROE	13.56%	0.35%
ROA	5.92%	-0.99%
DEBT/EQUITY	1.094	2.317
FREE CASH FLOW/DEBT	9.597	1.578

As of 8/31/2017 (Negative component level values are included in calculations for all ratios unless otherwise stated)

Conclusion

The analysis in this piece reveals that even though small cap stocks have generated higher returns than large or mid-cap stocks, utilizing a smart selection methodology based on certain strategies generates significantly higher returns while reducing the volatility. The Nasdaq US Small Cap Select Leaders Index employs three such strategies: Shareholder Yield, Price Setters, and Sustainable Momentum. Together, these three strategies select components from the Nasdaq US Small Cap Index that have the most sustainable yield, strong earnings quality and margin resilience and trending price momentum. Once the combination of these strategies is used to select the basket in each period, a liquidity-volatility metric is used to weight the components so that the least volatile and most liquid components have the highest weight, leading to a more tradable basket of stocks. As is evident from the performance analysis, with this methodology, the Nasdaq US Small Cap Select Leaders Index has had far superior returns with lower max drawdown and volatility relative to the other small cap indexes. As a result, this analysis reveals that the strategies utilized in this index not only select components that have performed well historically but ones that are also poised to provide strong yield, earnings growth, and momentum moving forward.

Nasdaq Emerging Select Leaders Index

The Case for Emerging Market Stocks

In order for investors to have diversified solutions in their portfolio, it is imperative that they consider not only securities of different sizes (large, mid, and small cap) but also securities across different regions of the world. To that point, emerging markets can be a potential investment opportunity as it provides investors exposure to key markets in the world.



From 4/30/2003 - 8/31/2017

As the chart above shows, while emerging markets were moving sideways between 2010-2015, there were certain times historically, for example, from 2003-2007, in which having exposure to the emerging markets would have been far more beneficial. This shows that it is vital to have exposure to emerging markets in a portfolio to take advantage of economic developments in markets other than the US.

Further, as research by Oppenheimer Funds points out, emerging markets are estimated to be approximately 38% of the world economy in 2017³. The working age population of emerging markets is expected to grow 135% by 2035³. This massive influx of people in the labor forces of emerging economies is expected to help in growing the output of these countries as well. As such, emerging markets is expected to be 60% of the world economy by 2035³. This shows that the fundamental trends in population and demographics point to stronger growth going forward and emerging markets being a larger share of the world economy. As such, investors should consider allocating to this growing part of the world economy.

As the table below shows, the Nasdaq Emerging Market Plus Korea Large Mid Cap Index is slightly better than other benchmark indexes. The following analysis, however, will show the ways in which smart selection can vastly improve the performance and provide a more sophisticated solution to the emerging markets for investors.

PERFORMANCE STATISTICS	MSCI EM INDEX TR	FTSE EMERGING INDEX TR	NASDAQ EMERGING MARKET PLUS KOREA LARGE MID CAP INDEX TR
Return	446.16%	466.78%	524.90%
Annualized Return	12.58%	12.87%	13.64%
Average Daily Return	0.06%	0.06%	0.06%
Volatility	19.86%	19.69%	19.79%
Sharpe Ratio	0.633	0.653	0.689
Max Drawdown	-65.14%	-64.46%	-65.44%

From 4/30/2003 - 8/31/2017

Constructing the Nasdaq Emerging Select Leaders Index

The Nasdaq Emerging Select Leaders Index combines the Shareholder Yield, Price Setters, and Sustainable Momentum strategies described above on the Emerging Markets plus Korea universe (Nasdaq Emerging Markets Plus Korea Large Mid Cap Index). In order to be eligible in this index, a company must be part of the Nasdaq Emerging Markets Plus Korea Large Mid Cap Index (NQEMKRLM), be in the top 90th percentile of NQEMKRLM in terms of 3-month average daily dollar volume, and have a minimum 3-month trading history. In addition, a company has to be in the top 20th percentile of the Final Rank (process explained below) or be in the top 50th percentile of the Final Rank, if and only if the company was in the index in the prior period. The index also excludes companies that are listed on certain exchanges (Shenzhen Stock Exchange, Shanghai Stock Exchange, Egyptian Exchange, and Casablanca Stock Exchange).

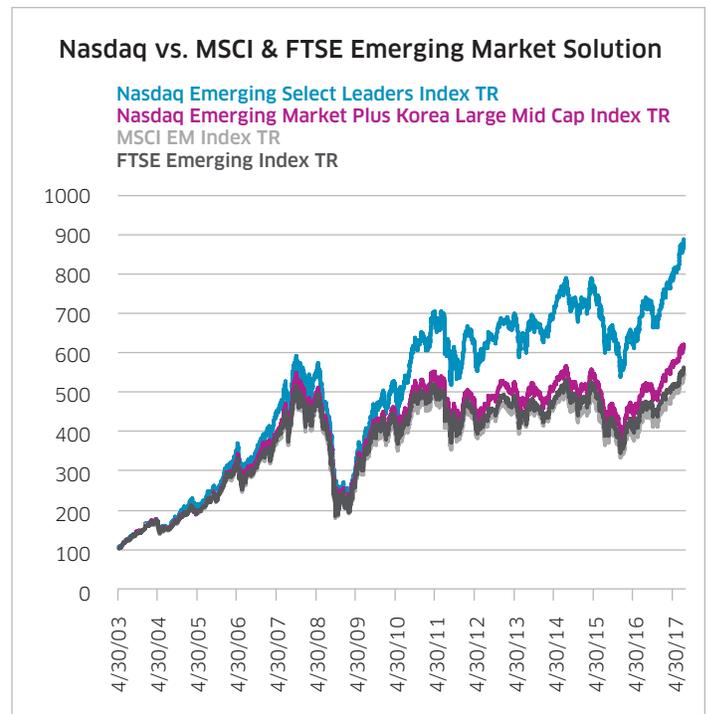
In order to combine the three aforementioned strategies into this index, all the companies in NQEMKRLM are ranked according to their individual Shareholder Yield, Price Setters, and Sustainable Momentum ranks. These three ranks determine the degree in which a security in NQEMKRLM exhibits high degrees of shareholder yield (value factor), pricing power (quality growth factor), and sustainable momentum, respectively. After the individual ranks are calculated for each security in NQEMKRLM, the ranks are normalized by the country classification of each security from the Nasdaq Global Index (a global all cap index benchmark consisting of 9,000 securities from 45 countries globally), which enables the three individual ranks to be country-neutral. These three normalized ranks are then averaged to determine a preliminary score for each security. A Final Rank is calculated by ranking the preliminary score for each security within each country. The Final Rank is used in the eligibility screen, as described above, to determine the final basket of securities in the index.

After the basket is selected, the index then employs a modified liquidity weighting methodology. This is derived by first calculating a liquidity-volatility score: multiplying the 3-month average daily dollar volume of each security by the average 3-month volatility of the NQEMKRLM universe and dividing that by the 3-month annualized volatility of the corresponding security. Next, the liquidity-volatility score is then used to determine the preliminary weight of each security, leading to a more liquid and tradable basket. The final weight modifies the preliminary weight so that the country weights match the NQEMKRLM country weights and the weight of each company is capped at 1.5%, with redistribution of excess weight evenly across all securities within the same country first and then across the index.

The above shows that the Nasdaq Emerging Select Leaders Index employs a very robust methodology for selecting companies from the developed markets universe. It adequately utilizes the individual Shareholder Yield, Price Setters, and Sustainable Momentum strategies described above to determine securities that have strong momentum and have the highest chances of providing investors with sustainable yield and strong growth. Once this basket of securities is determined, the most liquid and least volatile components are then given the highest weight, providing investors with a tradable basket that reduces the overall volatility.

Index Performance

As the chart to the right shows, the application of the above factors (Shareholder Yield, Price Setters, and Sustainable Momentum) on the emerging markets universe vastly improved the results. Specifically, the Nasdaq Emerging Select Leaders Index not only outperforms the Nasdaq Emerging Markets Plus Korea Large Mid Cap Index but the other benchmarks, as well.



From 4/30/2003 - 8/31/2017

The table below explains this outperformance in more detail. The annualized return of the Nasdaq Emerging Select Leaders is about 3.9 percentage points higher than the MSCI benchmark, 3.61 percentage points higher than the FTSE benchmark, and 2.84 percentage points higher than the Nasdaq benchmark. Additionally, the Nasdaq Emerging Select Leaders Index has lower volatility, thereby leading to an almost 22% higher Sharpe Ratio than that of NQEMKRLM. Relative to the Nasdaq Emerging Markets Plus Korea Large Mid Cap Index benchmark, the Nasdaq Emerging Select Leaders Index has a significantly better Information Ratio and Alpha than the other two benchmark indexes. This shows that the Nasdaq Emerging Select Leaders Index has historically outperformed and generated significant positive excess returns over the Nasdaq Emerging Markets Plus Korea Large Mid Cap Index and the FTSE and MSCI benchmarks, as well.

PERFORMANCE STATISTICS	NASDAQ EMERGING SELECT LEADERS INDEX TR	MSCI EM INDEX TR	FTSE EMERGING INDEX TR	NASDAQ EMERGING MARKET PLUS KOREA LARGE MID CAP INDEX TR
Return	790.89%	446.16%	466.78%	524.90%
Annualized Return	16.48%	12.58%	12.87%	13.64%
Average Daily Return	0.07%	0.06%	0.06%	0.06%
Volatility	19.58%	19.86%	19.69%	19.79%
Sharpe Ratio	0.842	0.633	0.653	0.689
Max Drawdown	-65.04%	-65.14%	-64.46%	-65.44%
Information Ratio	0.648	-0.501	-0.251	--
Alpha	2.51%	-0.94%	-0.68%	--

From 4/30/2003 - 8/31/2017 (Benchmark for Alpha and Information Ratio comparison is Nasdaq Emerging Market Plus KR Large Mid Index)

FINANCIAL METRICS	NASDAQ EMERGING SELECT LEADERS INDEX TR	NASDAQ EMERGING MARKET PLUS KOREA LARGE MID CAP INDEX TR
Price/Book Ratio	2.489	2.315
Price/Earnings Ratio	14.434	36.641
ROE	14.54%	11.77%
ROA	5.40%	5.06%
DEBT/EQUITY	0.963	0.719
FREE CASH FLOW/DEBT	5.877	3.171

As of 8/31/2017 (Negative component level values are included in calculations for all ratios unless otherwise stated)

ANNUALIZED RETURNS	NASDAQ EMERGING SELECT LEADERS INDEX TR	NASDAQ EMERGING MARKET PLUS KOREA LARGE MID CAP INDEX TR	MSCI EM INDEX TR	FTSE EMERGING INDEX TR
1Y	24.54%	23.14%	24.88%	22.79%
3Y	4.44%	3.65%	2.75%	2.63%
5Y	7.80%	6.38%	5.68%	5.76%
10Y	6.16%	3.47%	2.76%	2.94%
Since Inception	16.48%	13.64%	12.58%	12.87%

From 4/30/2003 - 8/31/2017

The various financial metrics in the above table show that the Nasdaq Emerging Select Leaders Index has better financials overall than the other benchmarks. The components in the index have generated higher return on equity and return on assets, while having more free cash flow relative to debt. This shows that utilizing the "select leaders" approach, in combining the Price Setters, Shareholder Yield, and Momentum strategies, has led to better financial metrics for the Nasdaq Emerging Select Leaders Index compared to the benchmarks.

Conclusion

The analysis of this index reveals that it is important for investors to have a diversified portfolio not only across the market size of companies but also across different regions. Investing in emerging markets can give investors increased exposure to the economic developments in the emerging economies of global markets. Further, utilizing a smart selection methodology based on certain strategies generates significantly higher returns while reducing the volatility. The Nasdaq Emerging Select Leaders Index employs three such strategies: Shareholder Yield, Price Setters, and Sustainable Momentum. Together, these three strategies select components from the Nasdaq Emerging Markets Plus Korea Large Mid Cap Index that have the most sustainable yield, strong earnings quality and margin resilience and trending price momentum. Once the combination of these strategies is used to select the basket in each period, a liquidity-volatility metric is used to weight the components so that the least volatile and most liquid components have the highest weight. As is evident from the performance analysis, with this methodology, the Nasdaq Emerging Select Leaders Index has had far superior returns with lower max drawdown and volatility relative to the other benchmark indexes. As a result, this analysis reveals that the strategies utilized in this index not only select components that have performed well historically, but ones that are also poised to provide strong yield, earnings growth, and momentum moving forward.

Nasdaq Developed Select Leaders Index

The Case for Developed Market Stocks

Similar to the case outlined for emerging markets, in order for investors to have diversified solutions in their portfolio, it is imperative that they also consider the developed markets outside of the US. This market segment can be a potential investment opportunity as it provides investors exposure to key markets in the world.



From 4/30/2003 - 8/31/2017

As the chart above shows, while the US Large Mid Cap Index has outperformed developed markets overall since 2003, there are certain times historically, for example, from 2003-2007, in which having exposure to the developed markets would have been far more beneficial. This shows that it is vital to have exposure to the developed markets in a portfolio to take advantage of economic developments in markets other than US.

As research by Encompass Advisors points out, over half of the world's investing opportunities are based outside of the United States⁴. Further, the countries comprising the developed markets are very similar in nature to the United States. Meaning, they generally have strong regulatory bodies, large market capitalizations, and have liquid markets⁴. According to Bloomberg, approximately 69% of the capitalization of global markets falls outside of the United States. This shows that if investors do not allocate funds to developed markets, they are missing an opportunity to diversify their investments into markets that are similarly structured to the United States but may provide exposure to, for example, industries where other countries may have a comparative advantage. As such, investors should consider increasing their exposure to this market segment to diversify their investments and boost returns, as is shown in certain periods in the chart above.

As the table below shows, the Nasdaq Developed Market ex-US ex-Korea Large Mid Cap Index is in line with other benchmark indexes. The following sections, however, will show the ways in which applying the factor strategies outlined above can vastly improve the performance and provide a more sophisticated solution to the developed markets for investors.

PERFORMANCE STATISTICS	MSCI EAFE INDEX TR	FTSE DEVELOPED EX-US INDEX TR	NASDAQ DEVELOPED MARKET EX-US EX-KR LARGE MID INDEX TR
Return	219.15%	246.05%	233.97%
Annualized Return	8.43%	9.05%	8.78%
Average Daily Return	0.04%	0.04%	0.04%
Volatility	18.13%	17.74%	18.06%
Sharpe Ratio	0.465	0.51	0.486
Max Drawdown	-60.15%	-60.47%	-59.57%

From 4/30/2003 - 8/31/2017

Constructing the Nasdaq Developed Select Leaders Index

The Nasdaq Developed Select Leaders Index combines the Shareholder Yield, Price Setters, and Sustainable Momentum strategies described above on the Developed Markets ex-US ex-Korea universe (Nasdaq Developed Markets ex-US ex-Korea Large Mid Cap Index). In order to be eligible in this index, a company must be part of the Nasdaq Developed Markets ex-US ex-Korea Large Mid Cap Index (NQDMXUSXKRLM), be in the top 90th percentile of NQDMXUSXKRLM in terms of 3-month average daily dollar volume, and have a minimum 3-month trading history. This allows for only seasoned securities (having sufficient trading history) as well as liquid securities to be eligible for inclusion. In addition, a company has to be in the top 20th percentile of the Final Rank (process explained below) or be in the top 50th percentile of the Final Rank, if and only if the company was in the index in the prior period.

In order to combine the three aforementioned strategies into this index, all the companies in NQDMXUSXKRLM are ranked according to their individual Shareholder Yield, Price Setters, and Sustainable Momentum ranks. These three ranks determine the degree in which a security in NQDMXUSXKRLM exhibits high degrees of shareholder yield (value factor), pricing power (quality growth factor), and sustainable momentum, respectively. After the individual ranks are calculated for each security in NQDMXUSXKRLM, the ranks are normalized by the country classification of each security, which enables the three individual ranks to be country-neutral. These three normalized ranks are then averaged to determine a preliminary Score for each security. A Final Rank is calculated by ranking the preliminary score for each security within each country, where the higher average daily dollar volume breaks any ties in the preliminary score. The Final Rank is used in the eligibility screen, as described above, to determine the final basket of securities in the index.

After the basket is selected, the index then employs a modified liquidity weighting methodology. This is derived by first calculating a liquidity-volatility score: multiplying the 3-month average daily dollar volume of each security by the average 3-month volatility of the NQDMXUSXKRLM universe and dividing that by the 3-month annualized volatility of the corresponding security. Next, the liquidity-volatility score is then used to determine the preliminary weight of each security, ensuring that the final basket is tradable and liquid the final weight modifies the preliminary weight so that the country weights match the NQDMXUSXKRLM country weights and the weight of each company is capped at 1.5%, with redistribution of excess weight evenly across all securities within the same country first and then across the index.

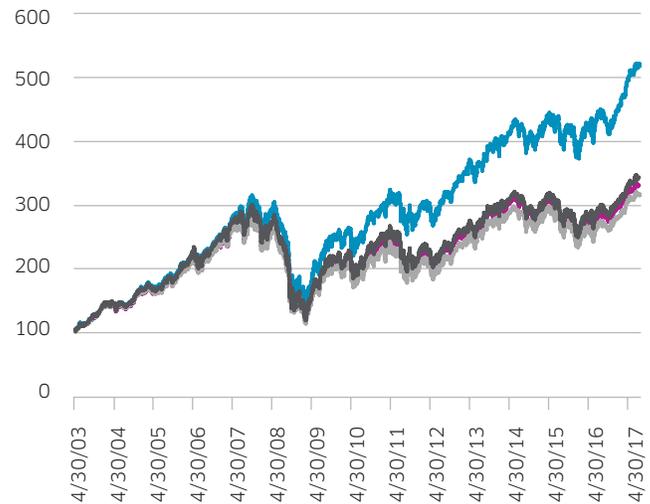
The above shows that the Nasdaq Developed Select Leaders Index employs a very robust methodology for selecting companies from the developed markets universe. It adequately utilizes the individual Shareholder Yield, Price Setters, and Sustainable Momentum strategies described above to determine securities that have strong momentum and have the highest chances of providing investors with sustainable yield and strong growth. Once this basket of securities is determined, the most liquid and least volatile components are then given the highest weight, providing investors with a tradable basket that reduces the overall volatility.

Index Performance

As the chart to the right shows, the application of the above factors (Shareholder Yield, Price Setters, and Sustainable Momentum) on the developed markets universe vastly improved the results. Specifically, the Nasdaq Developed Select Leaders Index not only outperforms the Nasdaq Developed Markets ex-US ex-Korea Large Mid Cap Index but the other benchmarks, as well.

Nasdaq vs. MSCI & FTSE Developed Market Solution

Nasdaq Developed Select Leaders Index TR
 Nasdaq Developed Market ex-US ex-KR Large Mid Index TR
 MSCI EAFE Index TR
 FTSE Developed ex-US Index TR



From 4/30/2003 - 8/31/2017

The table below explains this outperformance in more detail. The annualized return of the Nasdaq Developed Select Leaders is about 3.8 percentage points higher than the MSCI benchmark, about 3.18 percentage points higher than the FTSE benchmark, and about 3.45 percentage points higher than the Nasdaq benchmark. Additionally, the Nasdaq Developed Select Leaders Index has lower volatility, thereby leading to an almost 44% higher Sharpe Ratio than that of NQDMXUSXKRLM. Relative to the Nasdaq Developed Markets ex-US ex-Korea Large Mid Cap Index benchmark, the Nasdaq Developed Select Leaders Index has a significantly better Information Ratio and Alpha than the other two benchmark indexes. This shows that the Nasdaq Developed Select Leaders Index has historically outperformed and generated significant positive excess returns over the Nasdaq Developed Markets ex-US ex-Korea Large Mid Cap Index and the FTSE and MSCI benchmarks.

PERFORMANCE STATISTICS	NASDAQ DEVELOPED SELECT LEADERS INDEX TR	MSCI EAFE INDEX TR	FTSE DEVELOPED EX-US INDEX TR	NASDAQ DEVELOPED MARKET EX-US EX-KR LARGE MID INDEX TR
Return	422.51%	219.15%	246.05%	233.97%
Annualized Return	12.23%	8.43%	9.05%	8.78%
Average Daily Return	0.05%	0.04%	0.04%	0.04%
Volatility	17.50%	18.13%	17.74%	18.06%
Sharpe Ratio	0.699	0.465	0.51	0.486
Max Drawdown	-56.07%	-60.15%	-60.47%	-59.57%
Information Ratio	1.313	-0.206	0.223	--
Alpha	3.17%	-0.32%	0.25%	--

From 4/30/2003 - 8/31/2017 (Benchmark for Alpha and Information Ratio comparison is Nasdaq Developed Market ex-US ex-KR Large Mid Index)

FINANCIAL METRICS	NASDAQ DEVELOPED SELECT LEADERS INDEX	NASDAQ DEVELOPED MARKETS EX-US EX-KR LARGE MID INDEX
Price/Book Ratio	4.043	2.803
Price/Earnings Ratio	14.131	14.717
ROE	16.44%	10.62%
ROA	4.81%	3.36%
DEBT/EQUITY	0.854	0.951
FREE CASH FLOW/DEBT	1.411	1.062

As of 8/31/2017 (Negative component level values are included in calculations for all ratios unless otherwise stated)

ANNUALIZED RETURNS	NASDAQ DEVELOPED SELECT LEADERS INDEX TR	NASDAQ DEVELOPED MARKET EX-US EX-KR LARGE MID INDEX TR	MSCI EAFE INDEX TR	FTSE DEVELOPED EX-US INDEX TR
1Y	19.38%	17.39%	18.11%	18.19%
3Y	7.21%	2.80%	3.30%	3.27%
5Y	11.47%	8.63%	8.98%	8.77%
10Y	6.37%	2.47%	2.10%	2.42%
Since Inception	12.23%	8.78%	8.43%	9.05%

From 4/30/2003 - 8/31/2017

The various financial metrics in the above table show that the Nasdaq Developed Select Leaders Index has better financials overall than the other benchmarks. The components in the index have generated higher return on equity and return on assets, while being less leveraged and having more free cash flow relative to debt. This demonstrates the validity of the Price Setters, Shareholder Yield, and Momentum strategies in improving the underlying fundamentals of the Nasdaq Developed Select Leaders Index relative to the benchmarks.

Conclusion

The analysis in this piece reveals that it is important for investors to have a diversified portfolio not only across the market size of companies but also across different regions. Investing in developed markets outside of the US can give investors increased exposure to the economic developments in the developed countries of global markets. Further, utilizing a smart selection methodology based on certain strategies generates significantly higher returns while reducing the volatility. The Nasdaq Developed Select Leaders Index employs three such strategies: Shareholder Yield, Price Setters, and Sustainable Momentum. Together, these three strategies select components from the Nasdaq Developed Markets ex-US ex-Korea Large Mid Cap Index that have the most sustainable yield, strong earnings quality and inflation protection, and trending price momentum. Once the combination of these strategies is used to select the basket in each period, a liquidity-volatility metric is used to weight the components so that the least volatile and most liquid components have the highest weight, thereby ensuring a tradable basket. As is evident from the performance analysis, with this methodology, the Nasdaq Developed Select Leaders Index has had far superior returns with lower max drawdown and volatility relative to the other benchmark indexes. As a result, this analysis reveals that the strategies utilized in this index not only select components that have performed well historically but ones that are also poised to provide strong yield, earnings growth, and momentum moving forward.

Closing Remarks

This piece discussed three key strategies: Shareholder Yield, Price Setters, and Sustainable Momentum. It then discussed the ways in which combining these strategies was applied to different market segments. This multi-factor approach was applied to the Nasdaq US Small Cap Index, the Nasdaq Developed Markets ex-US ex-Korea Large Mid Cap index, and the Nasdaq Emerging Markets plus Korea Large Mid Cap Index. For all three indexes, the analysis revealed that utilizing this multi-factor approach with these three strategies leads to significantly higher performance and Sharpe Ratio.

FOOTNOTES

1. <http://www.salientpartners.com/wp-content/uploads/whitepaper-momentum-primer.pdf>
2. http://www.lazardnet.com/us/docs/sp0/14693/SmallCapsLargeOpportunity_LazardInvestmentFocus.pdf?pagename=Investment+Focus
3. https://www.oppenheimerfunds.com/investors/doc/The_Case_for_Emerging_Markets.pdf?dig_asset_metrics=done
4. <http://encompassadvisors.com/enlightenment-blog/international-investing>
5. All data from charts/tables is from Nasdaq, FactSet, or Bloomberg, unless otherwise stated.

Nasdaq® is a registered trademark of Nasdaq, Inc. The information contained above is provided for informational and educational purposes only, and nothing contained herein should be construed as investment advice, either on behalf of a particular security or an overall investment strategy. Neither Nasdaq, Inc. nor any of its affiliates makes any recommendation to buy or sell any security or any representation about the financial condition of any company. Statements regarding Nasdaq-listed companies or Nasdaq proprietary indexes are not guarantees of future performance. Actual results may differ materially from those expressed or implied. Past performance is not indicative of future results. Investors should undertake their own due diligence and carefully evaluate companies before investing. **ADVICE FROM A SECURITIES PROFESSIONAL IS STRONGLY ADVISED.**

© Copyright 2017. All rights reserved. Nasdaq, Inc. 2781-Q17

More Information

For more information, please visit business.nasdaq.com/indexes.