Controlling Stock Selection Risks in Equity ETFs

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Executive Summary

Stock Selection risk can be defined as the probability that the return of a portfolio composed of individual stocks will be worse from an expected benchmark. Historically, this type of risk has been the most commonly considered risk by investors. Modern investment tools, such as ETFs that follow the benchmark index, can now neuter this risk and let the investor concentrate on sector and market risks only (discussed in previous articles in this series).

Despite this trend, there is still a lot to be gained by controlling the stock selection risk. The legendary investor, Benjamin Graham, was quoted as saying: "invest only if you would be comfortable owning a stock even if you had no way of knowing its daily share price". His statement can be translated in modern terms to advocating fundamental analysis over technical analysis. Indeed, this is the preferable approach by professionals and it is the best method for controlling the stock selection risk.

In this article, the effect of fundamental analysis on risk is demonstrated and some new techniques for performing such analysis are reviewed.

Scope

This is the fourth and last article in a series which deals with controlling risks in equity investment with a focus on using Smart Beta ETFs. Over the past 15 years, the Smart Beta ETF industry has grown from nearly null to about half a trillion USD. The first article in the series reviewed four main risk components: Market, Sector, Currency and Stock Selection. The second and third articles reviewed the market and sector risks and how they can be controlled. In this article, we delve deeper into the stock selection risk and show how data driven tools can provide some protection against uncontrolled stock picking.

Demonstration of the Stock Selection Risk

In order to properly demonstrate the stock selection risk, one has to try and isolate it from the other risks demonstrated in previous articles in this series. To this end, we will select stocks from one particular sector and compare two methods of selection to the benchmark.

The sector selected for this demonstration is the Industrials sector. The benchmark is the S&P 500 INDUSTRIALS (TICKER : S5INDU) index. At the current time of writing, the index includes 69 US companies with market cap above $2.5B, and it is cap weighted. We used the Total Return version of the index (including dividends).

Chart 1 shows the S&P 500 INDUSTRIALS index (in green) together with two basic selection strategies (in red and blue). Both strategies use stocks with market cap $2B and above, and are also cap weighted. The number of stocks in each strategy is limited to 20.

The difference in the strategies lies in the factors used for stock selection. While the blue strategy selects companies with good revenue growth and low price multiples, the red one selects value companies with good Return on Assets (ROA), dividend yield and low volatility. Not advocating a specific factor, our goal here is to show how the selection criteria do make a difference: In this case over the last 5 years, the average compound annual growth rate (CAGR) of the strategies differ about 4%, but at a price of 5% difference in the monthly standard deviation.

Chart 1

Chart 2 shows the annual return of the index compared with the same two strategies. Again, one can note some significant differences over the last five years, favoring the growth strategy.

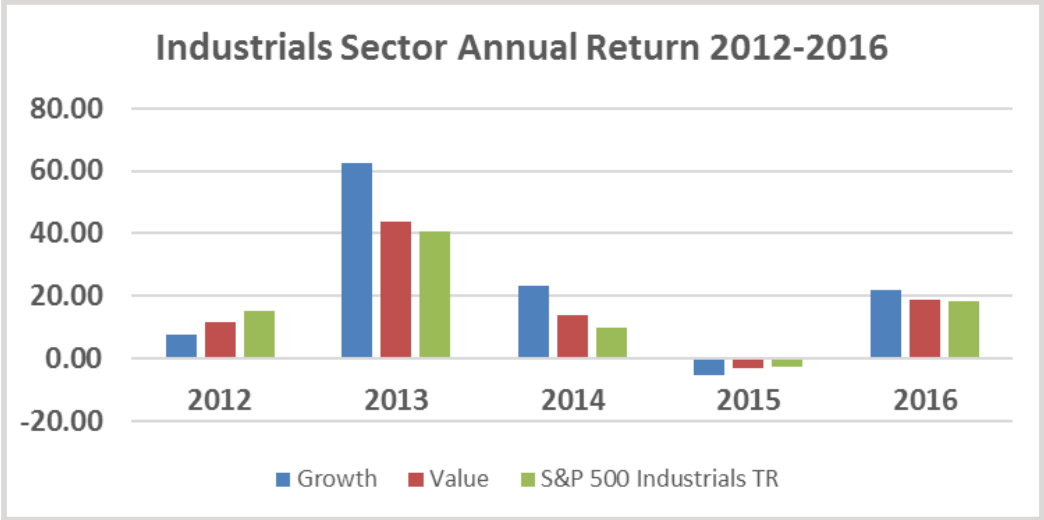


Chart 2

Controlling the Stock Selection Risk

After establishing that fundamental selection criteria do have an impact on the portfolio's risk, let us examine how one can control this risk.

Joel Greenblatt, one of the well-known investment gurus, says in his famous book, "The little book that beats the market" that over the short term, the market may price stocks based on emotion, but over the long term it prices them based on their value.

How do you select a good stock? Many investor look at the technical behavior of the stock price, but it is important to look into the quality of the company which stands behind the stock. By using multiple ratios derived from audited balance sheet data, usually called "factors", one can form an opinion about the quality and the value of a stock.

In order to be as predictable as possible, several guidelines should be maintained:

- **Multi factor approach**

  Look at several factors, not just one or two. This provides some checks and balances in case one of the factors is somewhat skewed.

- **Factors per sector**

  Look at the factors which match the sector or the industry to which the stock belongs. It makes no sense to rate hi-tech companies only by the dividends they distribute, and in the same token, it is not reasonable to evaluate stable, consumer staples companies only by their growth rate.

- **Grading vs. Screening**

  Aim for weighted grading. Binary decisions, as used by most screeners, can eliminate good companies from the mix. The best way is to grade each factor value and look at all the grades as a weighted average to achieve the optimal list.

- **Cleanse the data**

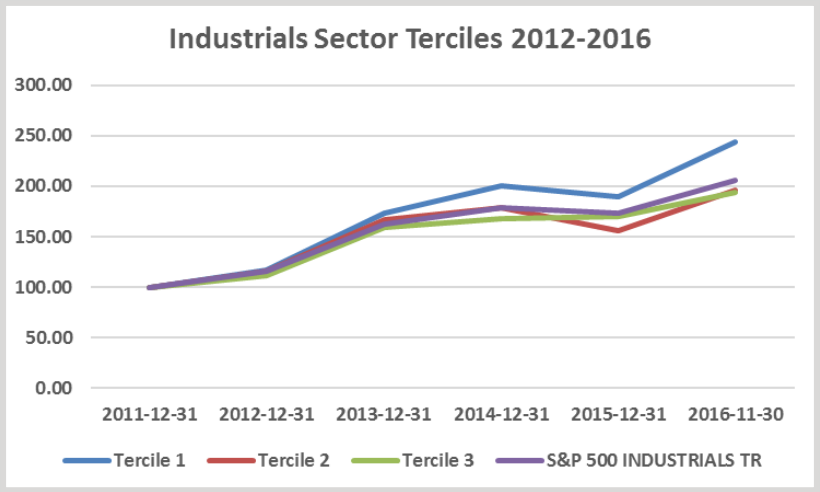
  Use a reliable and comprehensive data source, and since no data is perfect, apply sanity checks to make sure that the data is within reasonable boundaries.

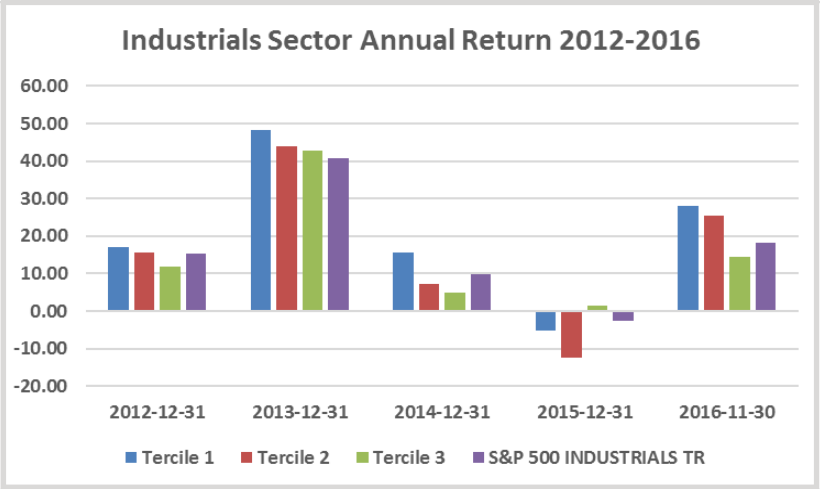
- **Distribute the risk**

  One stock can always decline, despite good data, because of unpredictable events which are only know a-posteriori. Therefore, a large portfolio is always a good idea for risk minimization.

One good way to examine the correlation between the factor composition and the risk vs. return performance is to divide the universe to equal groups, according to the grade calculated for each stock, and evaluating the relative performance of each group.

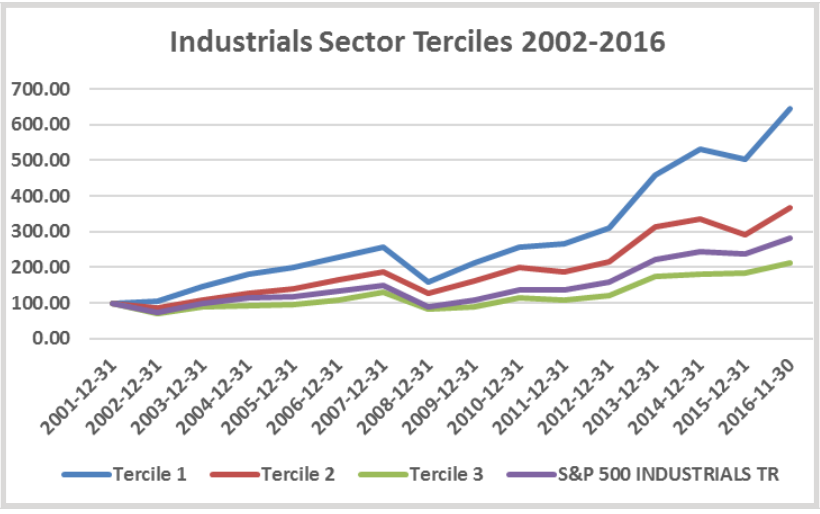
Here is an example of the terciles (*) comparison of the same sector demonstrated before over the last five years, using a sophisticated multi factor model:





(*) Terciles are used instead of quintiles when the universe is smaller

Checking the selection strategy over a longer period (15 years) shows the full picture:



Summary

Stock Selection risk is an inherent part of building an index. To examine it correctly, one has to isolate this risk from other dominant risks (market and sector). Changing the selection criteria may improve the return of the portfolio but may worsen the volatility. There are ways to control the risk by changing the selection factors based on deep data analysis and proper risk distribution. Meticulous strategy simulations using grouping methods are essential for building a successful, consistent strategy.

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