

Controlling Market Risks in Equity ETFs

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(article 2 out of 4)

EXECUTIVE SUMMARY

Market risk is undoubtedly the most significant risk component for the equity investor. When the market falls, almost everything dives with it. When it rises, it pulls up some bad apples as well. The savvy investor should recognize this reality and act according to the famous quote by Warren Buffett: “Look at market fluctuations as your friend rather than your enemy”. Naturally, this is easier said than done, but with recently introduced data driven tools, this daunting task can become more manageable and disciplined.

In this paper we will examine some past market events and explore new possibilities available today for monitoring and acting on market behavior. Some of these tools are incorporated today by some leading ETF issuers in their new, innovative offerings, and thus are readily available for the general investors community.

SCOPE

This is a second 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. In this article, we delve deeper into the market risk and show how data driven tools can provide some protection in extreme market situations.

DEMONSTRATION OF THE MARKET RISK

Per Investopedia, market risk (aka systematic risk) is the possibility for an investor to experience losses due to factors that affect the overall performance of the financial markets in which he is involved.

The reasons for market declines can vary. In the last 15 years, we can identify multiple cases where the accumulated market decline was more than 5%. The reasons, however, varied greatly.

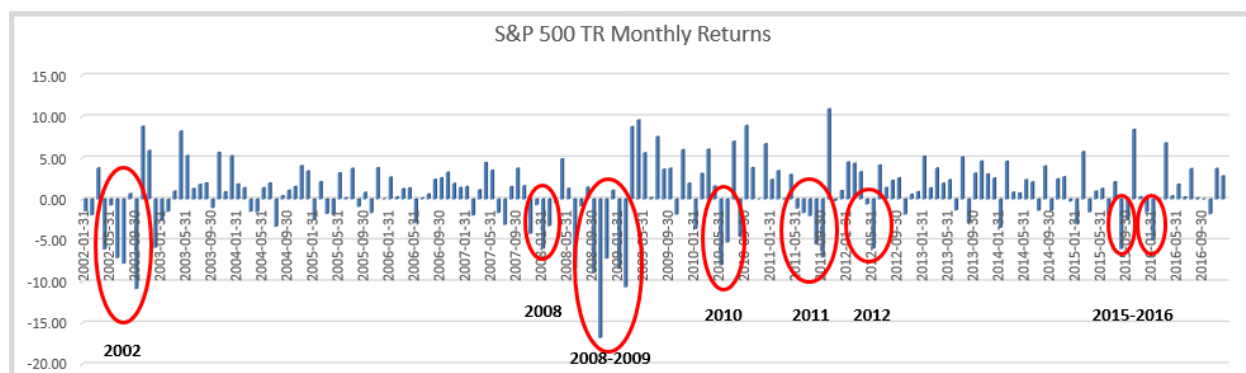


Chart 1

As can be seen in chart 1, the market declines were as follows:

- **2002 –**

The bear market started in 2001 with what many believe was a counter-reaction to the bull market of the '90s. Bankruptcy of large internet companies, accounting scandals and fear of terrorism have all contributed to higher pessimism and risk aversion.

- **2008 (into 2009) –**

The largest fall, caused mainly by the sub-prime mortgages crisis and its devastating effect on generations-old financial institutions and consequently on consumer sentiment.

- **2010 –**

The beginning of the sovereign debt crisis (Greece seeks bailout), the flash crash in May 2010 and poor job reports have all contributed to this decline.

- **2011 –**

The peak of the sovereign debt crisis, with the US being downgraded and fears for a world-wide default looming.

- **2012 –**

More fears of European sovereign debt have affected the global markets.

- **2015 (into 2016) –**

Oil prices dropping and general weakness of emerging economies caused the markets to sharply correct after several years of steady incline.

Despite the fact that each decline has its own characteristics, one observation which can be deduced from observing a large amount of company data, is that the companies' fundamentals have worsened prior to the market declines. This claim will be demonstrated in the next section, but in a sense, it substantiates the fact that Wall Street is an imperfect reflection of Main Street.

It is clear that these occurrences have contributed significantly to investors anxiety and have resulted with sell offs, which in turn reduced the AUM held in equity ETFs. One of the main goals of a successful equity ETF is to minimize the market risk and protect its assets.

CONTROLLING THE MARKET RISK

Most tools used for controlling the market risk are based on technical analysis or on market valuation. Technical analysis is mainly concerned with market price behavior and relies on understanding the psychology behind it. Market valuation looks at the market price/earnings multiples and deduces whether the market is "expensive" or "cheap".

While these methods have their advantages, we'd like to introduce a new, data rich method, which analyzes the underlying companies' quality trends.

The premise behind this new, innovative method is that a decline of the companies' basic P&L data will sooner or later reflect itself in the market behavior. To be statistically significant, the analysis should rely on several factors and include a large sample of the companies in the investment universe (500 or more). The quality analysis is based on averaging profitability and cashflow characteristics of the best performers in the universe.

An important observation is that when performing quality analysis, change is more important than absolute value. The market responds to changes, and an improvement from a low value is usually considered to be better than a decline from a high value. The quality indicator measure the degree of change in quality over a period of several months. Note that the indicator is **totally independent of market price**.

Chart 2 shows the comparative behavior of the quality indicator and the market price during the crucial years of 2008-2009. For clarity, both series were capped at $\pm 2\%$.

As can be seen, during most of this period, a positive quality indicator (in blue) preceded a good market return (in red) on the following month (and vice versa). Note that on March/April of 2009 the quality indicator was too slow to recover, following the devastation of the previous year. For such extreme cases, one has to consider a value indicator as well. This indicator identifies extraordinary situations when the market multiples (price to book/cashflow/earnings) are very low or very high.

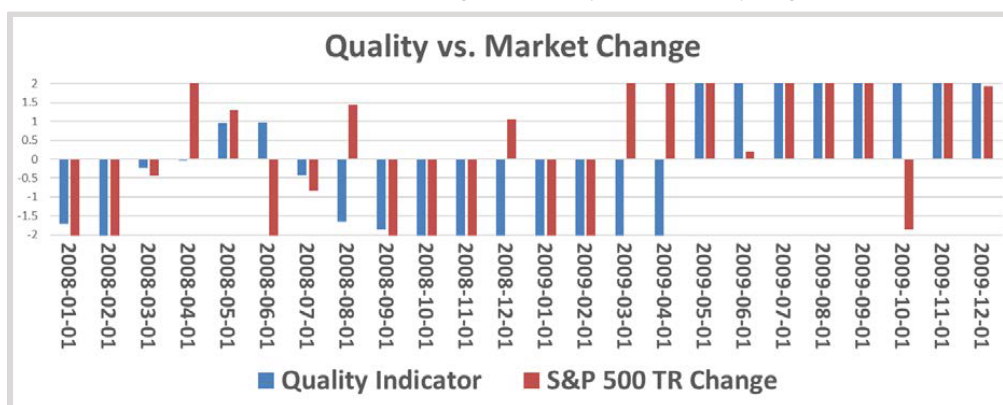


Chart 2

Several observations are very important:

- Quality indicators, like all market indicators, are not full proof. They may kick off early and be late to recover. However, a good indicator should be correct most of the time.
- There should be some tolerance as to the indicator negativity. A small negative value does not necessary indicate a bad market. Valuation considerations should be combined to give the full picture.
- A negative quality indicator at a time when the market goes sideways is also an advantage, as it helps us minimize volatility.

Charts 3 and chart 4 show two other periods during the last decade and the correlation between the quality indicator and the market price change.

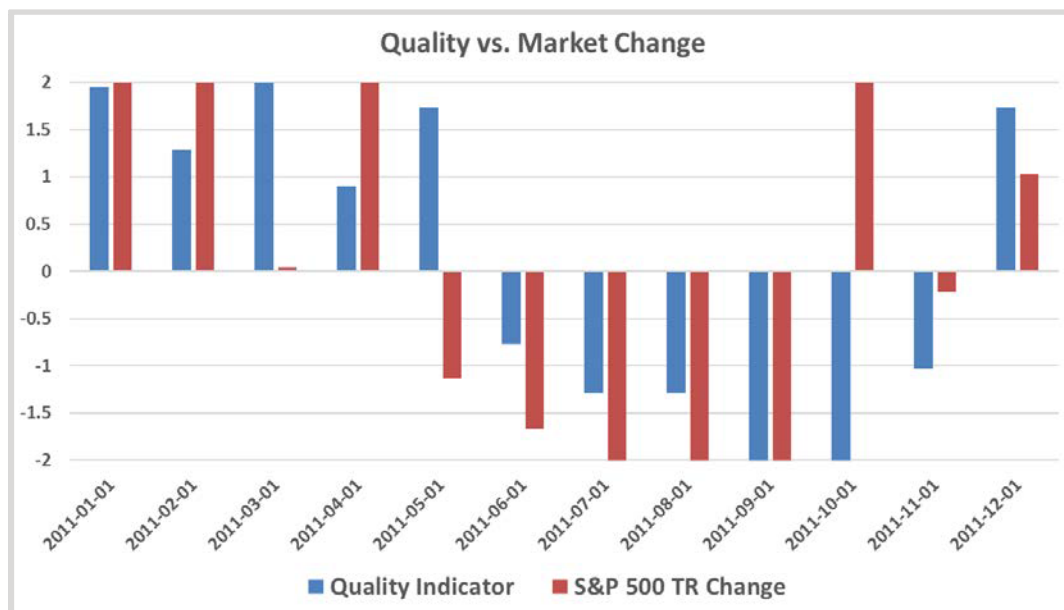


Chart 3 – 2011

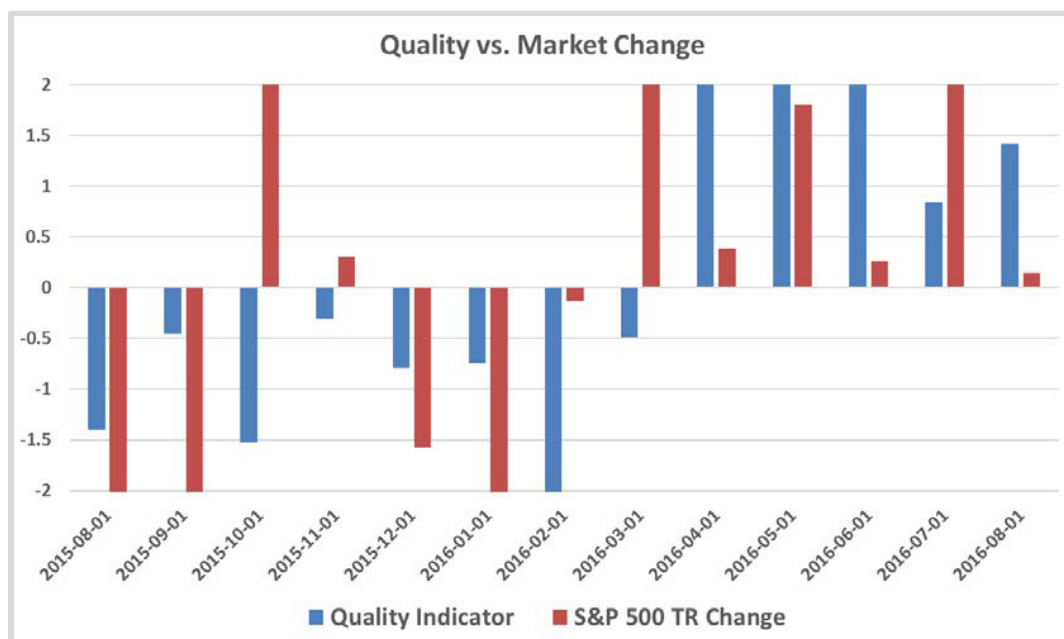


Chart 4 – 2015/2016

As far as the actions to be taken based on the quality and value indicators, here are some sample choices:

- Switching from a more aggressive stock selection strategy (e.g. growth based) to a more defensive one (e.g. dividend based).
- Changing cap limits or over/under weighting large cap stocks.
- Changing the assets mix – underweighting stocks and overweighting bonds (or even cash).
- Implied hedging (long stocks / short index) to rely more on alpha rather than on market return.
- Typically, one can look at this as an action matrix where the right strategy is selected based on the quality and value indicators. Table 1 shows such an example.

Quality ↓				
High	20% hedged	Long Only	Long Only	
Medium	50% hedged	40% Hedged	20% hedged	
Low	100% Hedged	80% Hedged	50% hedged	
	Low	Medium	High	← Value

Table 1 – An example of market risk actions

A good system should facilitate the testing of all these possibilities quickly and easily using a variety of market indicators, and provide sound statistics as to the performance from both risk and return perspectives.

SUMMARY

Market risk is the single most important component in risk evaluation. Though it cannot always be predicted correctly, using sound fundamental data to evaluate this component can greatly improve the ETF performance, which is a key for increasing the AUM invested in the fund. A system that produces strategies which considers market risk based on a deep data analysis can go a long way helping the ETF issuers to meet the needs of the investors community.

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