AthenaInvest™

Forecasting Market Returns

July 19, 2011

C. Thomas Howard, Ph.D.
CEO and Director of Research
AthenaInvest Advisors, LLC

Investors are showered with stock market predictions addressing the ever-present question of where the market is headed.

Many of these forecasts are based on historical price and volume data and use concepts such as overbought and oversold. Others use economic and market data to ascertain where the market is headed based on the current state of the economy. Still others try to gauge market sentiment by surveying investors to determine if they are more bullish or bearish.

I propose an alternative method for predicting future market movements, which I call the strategy market barometer (SMB). The SMB is calculated by measuring the extent to which investors are rewarding specific investment strategies being pursued by active equity managers. My research reveals that equity strategy performance ranking is a useful predictor of future market returns, and tests confirm that market returns vary in line with SMB measurements.

Equity Strategies Capture Which Factors are Driving Market Returns

Aggregate stock market returns are driven by the collective buy and sell decisions of individual and institutional investors. Many market factors enter into investor decisions, and the relative importance of each factor evolves over time. At various times, investors will place more importance on economy-wide data, stock market activity or specific industry sectors or stocks.

When estimating overall market expected returns, it is important to know the current mixture of factors operating in the market. AthenaInvest identified 10 equity strategies that active equity managers pursue to generate superior returns. Each strategy represents a set of market factors. For example, competitive position (CP) managers might focus on innovative companies, building an investment process around factors such as strong management and defensible market positions.

A strategy's performance rank relative to the other strategies varies over time because investors collectively focus on a changing mix of strategies and market factors. However, investment managers usually pursue their investment strategies regardless of whether they are in favor with investors or not. Managers keep doing the same thing while investors change their focus, which provides a stable prism for viewing what is being favored by investors at a given time.

The SMB captures the factors that investors are rewarding at a specific time. A high SMB means that market participants favor a high-value return mix of factors, while a low SMB means participants favor a low-value return factor mix. Consequently, a high SMB predicts high future market returns, and a low SMB predicts low future returns.

Instead of revealing whether returns are positive or negative, the SMB focuses on relative strategy performance rank. The SMB can be high or low regardless of recent market performance. Empirical tests confirm that SMB predictions are independent of trailing 6- and 12-month market returns. Thus, the SMB is independent of technical concepts that are often used for predicting future market returns, such as momentum and mean reversion.

Additionally, the SMB is not a measure of market sentiment. Instead, it captures actual investor behavior. Strategy ranks are the result of collective investment activity, so they reflect what investors do rather than how they feel about current market conditions. The SMB is a "put your money where your mouth is" type of measure.

Monthly strategy index returns are calculated by averaging the monthly returns for all funds in a given strategy. (I used 2,000 US active equity mutual fund returns reported by Thomson Reuters, net of management, operating, 12b-1 and other automatically deducted fees.)

The SMB is calculated using trailing 12-month strategy rank absolute deviations from the 1988-2007 ranks shown in Figure 1. The top performing US equity strategy over this 20-year period was future growth, while the bottom performer was risk.

As a final step, the SMB is rescaled to average 10 to produce a range of -2 to 22.

Figure I   US EQUITY STRATEGY RANKS
1988 - 2007

| Strategy	Rank
Future Growth	1
Competitive Position	2
Opportunity	3
Profitability	4
Quantitative	5
Valuation	6
Market Conditions	7
Economic Conditions	8
Social Considerations	9
Risk	10

Source: AthenaInvest

Expected market returns vary dramatically from the long-term average of 10%. At times expected return is twice the long-term average, while at other times it falls to zero or even turns negative. This means a portfolio managed using the SMB has the potential of significantly outperforming a simple buy-and-hold strategy.

Figure 2 provides a graphical representation of the relationship between strategy ranks and expected market returns. If current strategy ranks align with long-term ranks, then expected returns are high. This means investors are currently favoring strategies in the same way they have performed over the long run. More specifically, investors are favoring future growth stocks and competitive position stocks. This is a positive sign for the market and leads to expected returns well above the 10% long-term average.
On the other hand, if ranks are inverted in relationship to long-term ranks, investors are not favoring future growth and competitive position stocks and instead are flocking to risk, social considerations, economic conditions and market conditions stocks — historically weaker strategies. This is a bad sign for the market because it indicates investors are taking a defensive position rather than focusing on long-term stock-market drivers. As a result, the expected market return is weak or even negative. For example, social considerations, risk, and market conditions were top relative strategies in 2008, a bad sign for the market. And we know what happened in 2008.

When strategy ranks fall somewhere in between aligned and inverted, a mixed situation exists, and the expected market return is approximately equal to the long-term average of 10%.

Figure 2   MARKET BAROMETER ALIGNMENT
1998 - 2007
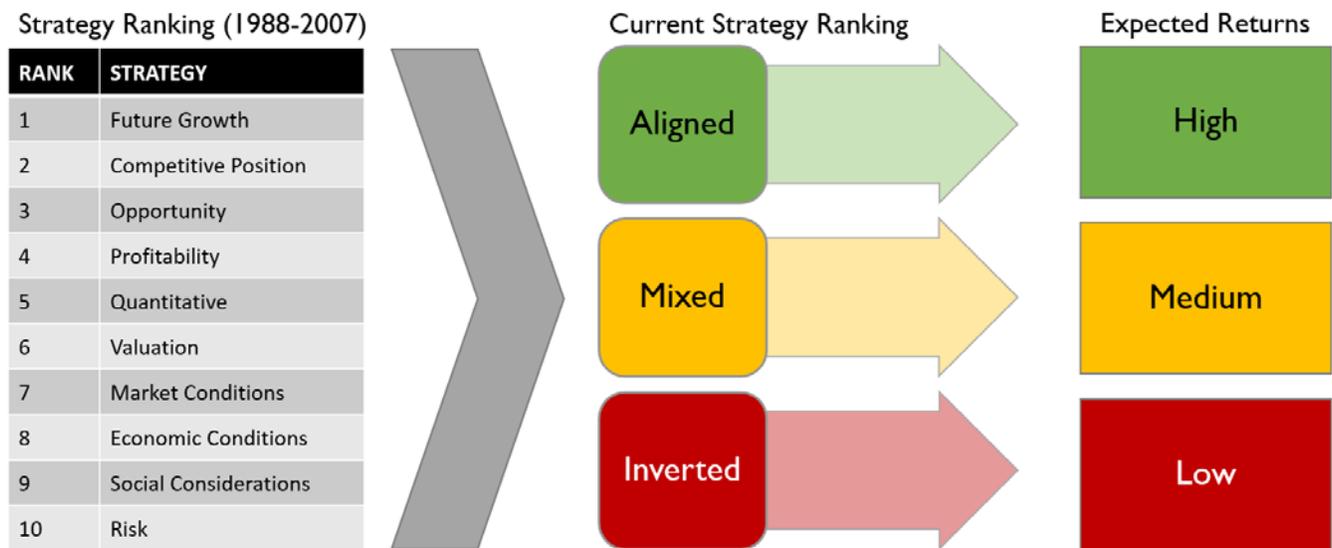
Source: AthenaInvest

During the first three months of 2011, the US SMB indicated a strong market, and since April it has shown a normal market. The International SMB indicated a normal market throughout the first half of the year. Both SMBs have been increasing in recent months.

Figure 3 below presents evidence regarding the SMB's predictive power. The beginning-of-month SMB is calculated for each of the 360 months between January 1981 and December 2010. For each SMB value from -2 through 22, the average subsequent S&P 500 annual returns are calculated. The SMB trend line results, reported in Figure 3, reveal that average returns increase as the SMB increases. The annual return increases by 1.18%, on average, for every one-unit increase in the SMB. That is, if recent strategy ranks match long-term strategy ranks because investors are favoring long-term performing strategies, subsequent market returns will on average be higher.

Figure 3   SUBSEQUENT S&P 500 AVERAGE ANNUALIZED RETURN VS US MARKET BAROMETER
JANUARY 1981 - DECEMBER 2010
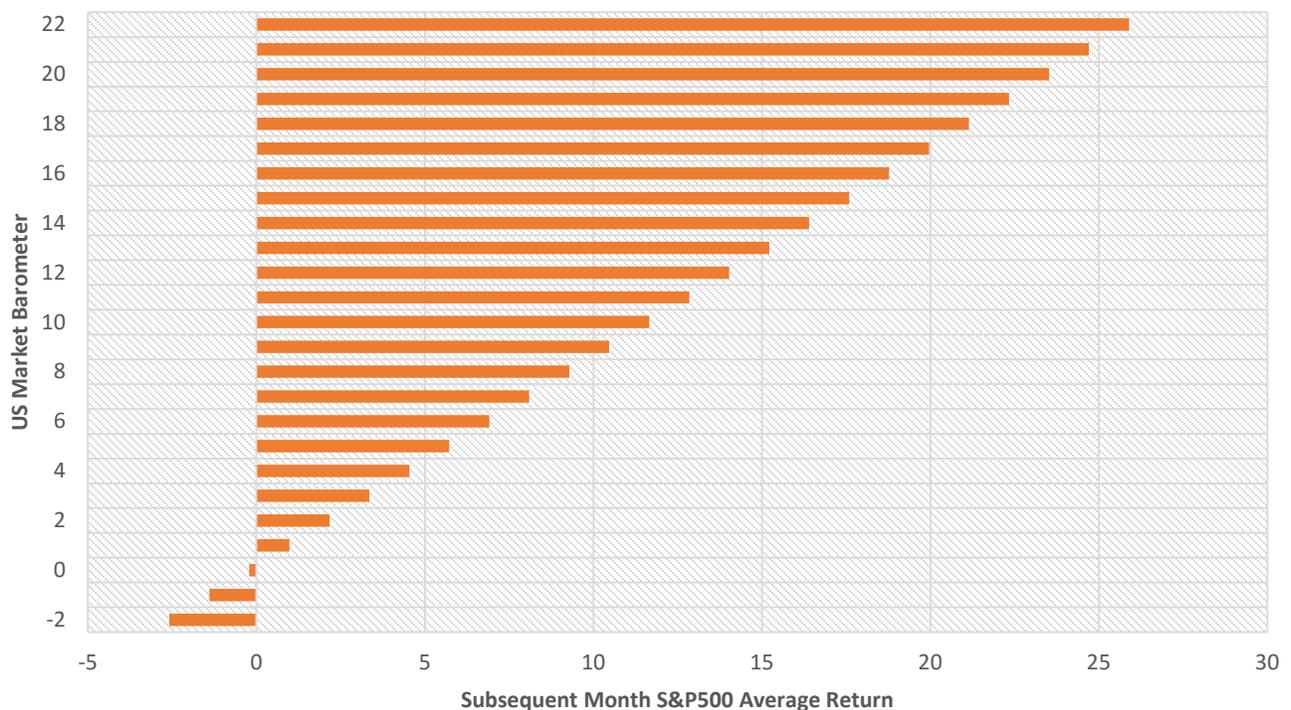
I conducted several additional tests to determine the robustness of these results. The SMB-S&P500 trend line regression reported in Figure 3 is both economically and statistically significant (p-value = 0.026). In addition, the probability of a positive monthly S&P 500 return increases as the SMB increases (baseline: 63% of the 360 months saw a positive S&P 500 return). Both average returns and the probability of positive returns increase as the SMB increases.

Monthly strategy returns from 1988-2007 were used to estimate the long-term strategy ranks for the SMB calculation. But out-of-sample results, comprised of monthly data before and after 1988-2007, display greater significance both economically and statistically than do the in-sample results, which provides additional support for the SMB's predictive power.

However, the SMB predicts expected returns, not actual returns. In any one month, there remains a significant chance of a negative return even when the SMB is high. Using the SMB allows investors to tilt the odds in their favor, but it does not allow them to eliminate negative returns altogether.

Using the SMB

I have just shown that the SMB, which is based on current strategy ranks, is useful for estimating the expected market return. The SMB's predictive power is independent of short-term momentum and mean reversion. The SMB represents an important step forward in the estimation of expected market returns and can be a useful addition to any investment strategy. SMBs are part of a growing body of research using behavioral metrics and active equity management to help investors and their advisors achieve superior investment performance.

Important Notes

Past performance does not guarantee future performance. These views represent the opinions of AthenaInvest, Inc. as of the publication of this article and are subject to change depending on subsequent developments. Nothing contained herein is a solicitation to buy or sell securities and should be used for informational purposes only.