Tracking Market Factors' Impact On Stocks

We live for better or worse in a world where every conceivable market factor has its Warholian fifteen minutes of fame. One day it is crude oil prices, another day it is the dollar, another day it is an economic pronouncement. We sense certain of these developments have greater impact on specific economic sectors and industry groups within the stock market, but making this assessment on a rigorous and emotionally detached basis is difficult when the impact goes beyond the obvious.

Stock traders do not need anything fancy to know higher crude oil prices are good for the oil service industry and bad for airlines. But anything above and beyond that can be surprisingly difficult to assess, and the profusion of instant commentary services on the Internet and television only worsens the problem: The premium in these media tends to be on speed and surface appeal, not on any rigorous statistical analysis.

Is there a way around the problem of assessing objectively what matters and what does not when the world of futures, both financial and physical, collides with the world of stocks? Yes, and it is likely you will not simply look at the broad indices such as the Nasdaq 100 or S&P 500 the same way again once you start thinking in these terms.

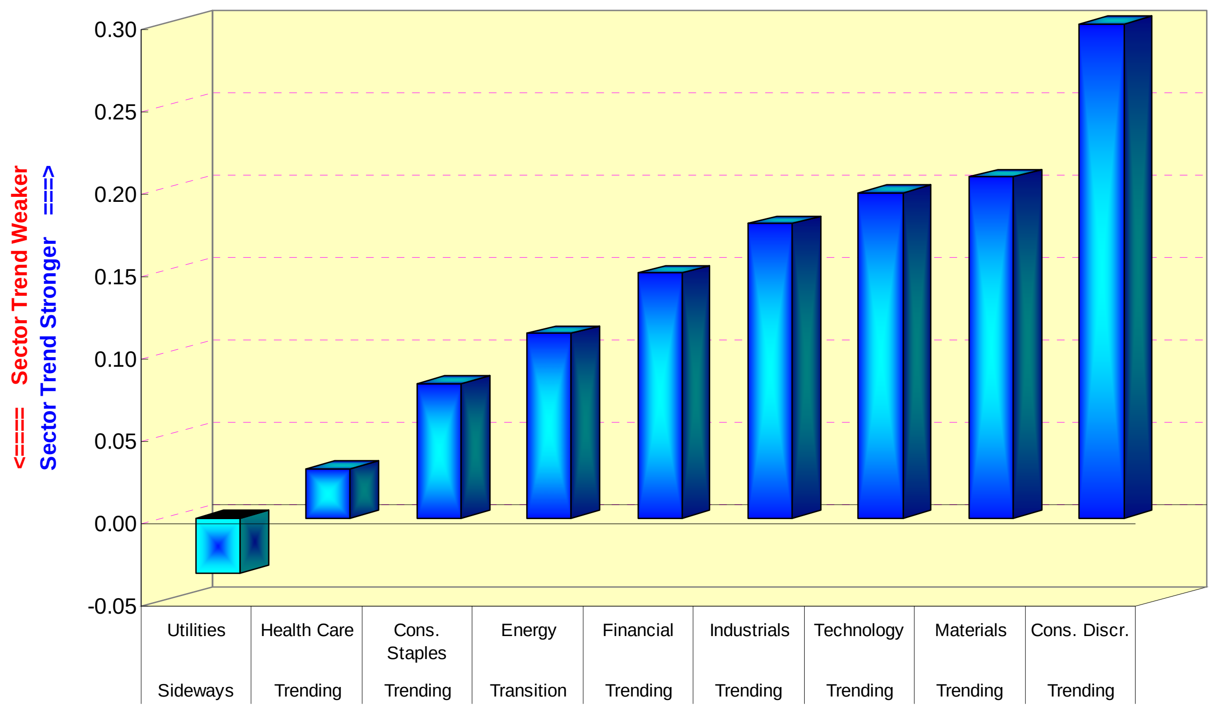
Sectors And Groups
The S&P 500 is divided into ten different economic sectors and into as many as 139 different industry groups. Not all of these industry groups are active at all times; mergers, bankruptcies and other corporate events empty group slots. Even the simple math of dividing 500 stocks into the 119 active groups at the time of this writing tells you there are a large number of industry groups with only one or two stocks in them.

Nine of the ten economic sectors support exchange-traded funds called Select Sector SPDRs. The tenth, Telecommunications, includes Dow Jones Industrial Average members Verizon Communications and SBC Communications, but does not support a Select Sector SPDR. The nine Select Sector SPDRs and their tickers are:

1. Basic Materials (XLB)
2. Energy (XLE)
3. Financials (XLF)
4. Industrials (XLI)
5. Technology (XLK)
6. Consumer Staples (XLP)
7. Utilities (XLU)
8. Health Care (XLV)
9. Consumer Discretionary (XLY)

Each of these Select Sector SPDRs can be analyzed independently along the dimensions of trend strength (see http://www.simonsresearch.com/resources.asp) to identify which sectors are leading or lagging the entire market. In the chart below the Consumer Discretionary sector, which contains stalwarts such as Home Depot, Time Warner, Comcast and Viacom, has the strongest uptrend, while Utilities is in a weak downtrend.

Chart 1: Large Capitalization (S&P 500) Economic Sector Trend Oscillators
Close of Business, July 22, 2005

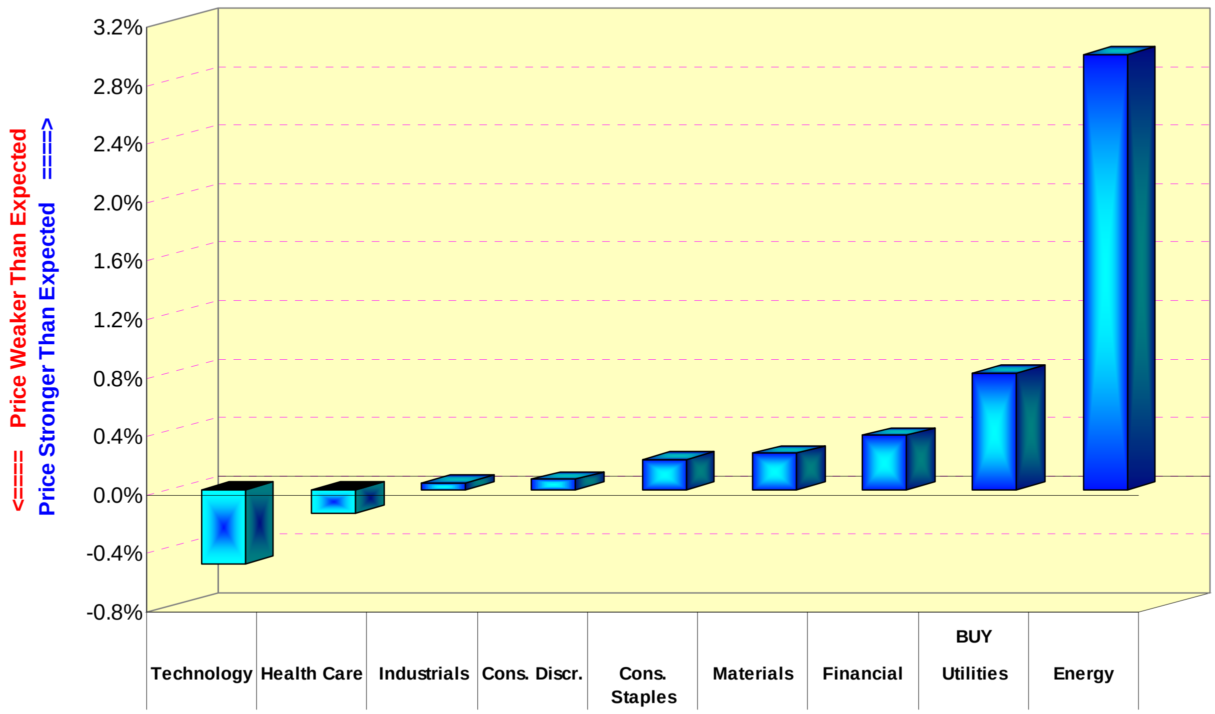


Market Factors
Now let's bring various market factors into the picture. These include:

Interest Rates	**Financial Factors**
Two-Year Notes	Yield Curve
Ten-Year Notes	VIX
TIPS Breakeven Rate	Gold
Currencies	**Industrial Commodities**
Canadian dollar	Crude oil
Japanese yen	Natural gas
Euro	Copper

We can put these variables into an econometric model along with the Sector Select SPDRs to solve the entire market system simultaneously. The precise impact of each one of these factors on each of the S&P 500's economic sectors is captured into a single concise picture. In the chart below, we can see how the price of the XLE is nearly 3% stronger than the model's expectations. The XLU also is stronger than expected, and given its technical structure, is in a buy signal for the next trading day.

Chart 2: Large Capitalization (S&P 500) Economic Sectors:
Valuation Relative To Expectation, Close of Business, July 22, 2005



The Significant Others

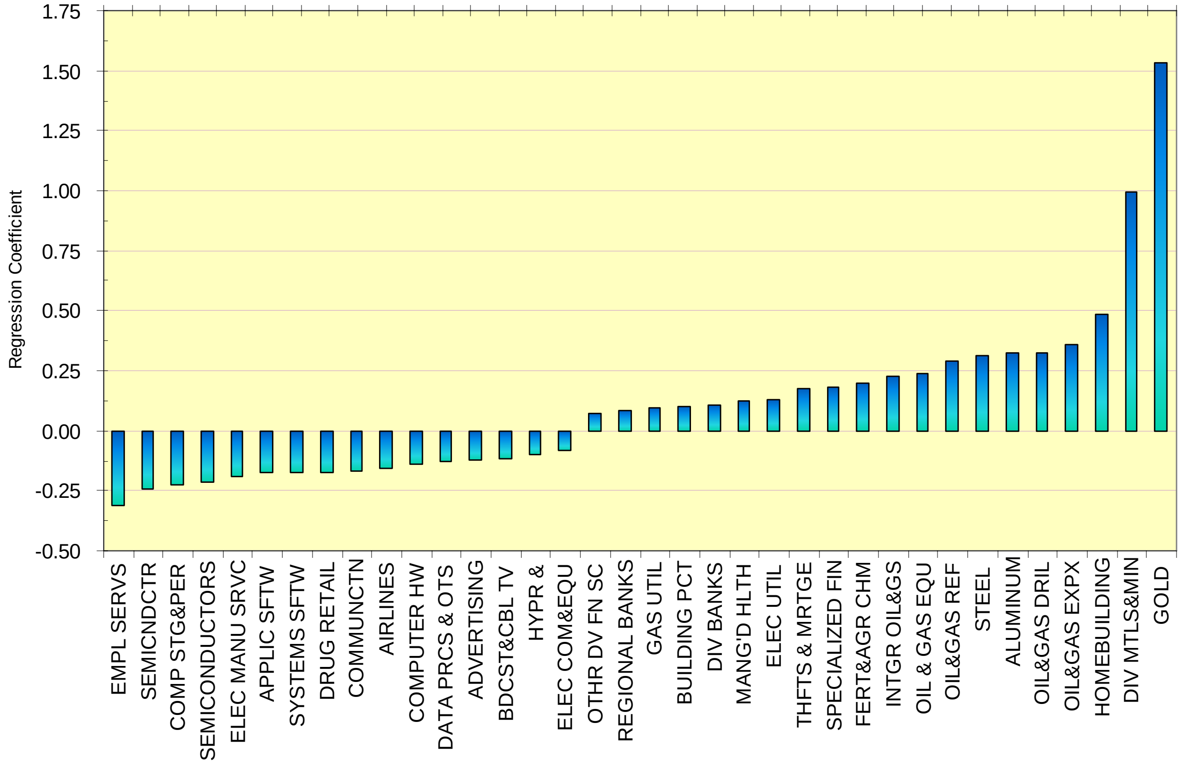
Everyone likes finding relationships in data; not only is it fun, kind of like a crossword puzzle, but a good deal of psychological research suggests our brains actually are wired to recognize patterns. This impulse to find relationships is so strong we all find relationships where they either do not exist or where the simplest statistical tests can prove what you have discovered is little more than random.

Let's take those 119 industry groups within the S&P 500 and ask whether their performance relative to the S&P 500 itself is a function of each of those twelve macroeconomic factors listed above. As an aside, we can duplicate this exercise for the S&P 400 Mid-Cap index and for the S&P 600 Small Cap index, but let's stick to the S&P 500 for the sake of brevity.

The actual test is very simple. Each industry group's performance relative to the S&P 500 can be converted to an index. The returns, or daily percentage price changes, of each index can then be regressed against each of the factors. If the beta, or slope of this regression line, is statistically significant at the 90% confidence level, we keep it. If not, into the trash it goes. Let's take a look at a sample run against the euro, a currency that certainly has had its ups and downs against the dollar.

Chart 3: S&P 500 Group Relative Performance:

Contribution Of The Euro



Which groups are correlated positively against the euro? At the very top, and by a wide margin, is Gold, which is a one-stock group consisting of Newmont Mining. This makes sense intuitively; gold prices rise when the euro appreciates against the dollar, and gold stocks tend to rise along with gold prices. We can say the same for Diversified Metals & Mining, Steel and Aluminum. Stocks whose prices rise when interest rates are low, such as Homebuilding, Specialized Finance, Thrifts & Mortgages, Diversified Banks and Electric Utilities have strongly positive betas to the euro. The oil-related groups have positive betas; some of this may be coincidental as crude oil and the euro enjoyed parallel bull markets from 2003 into early 2005.

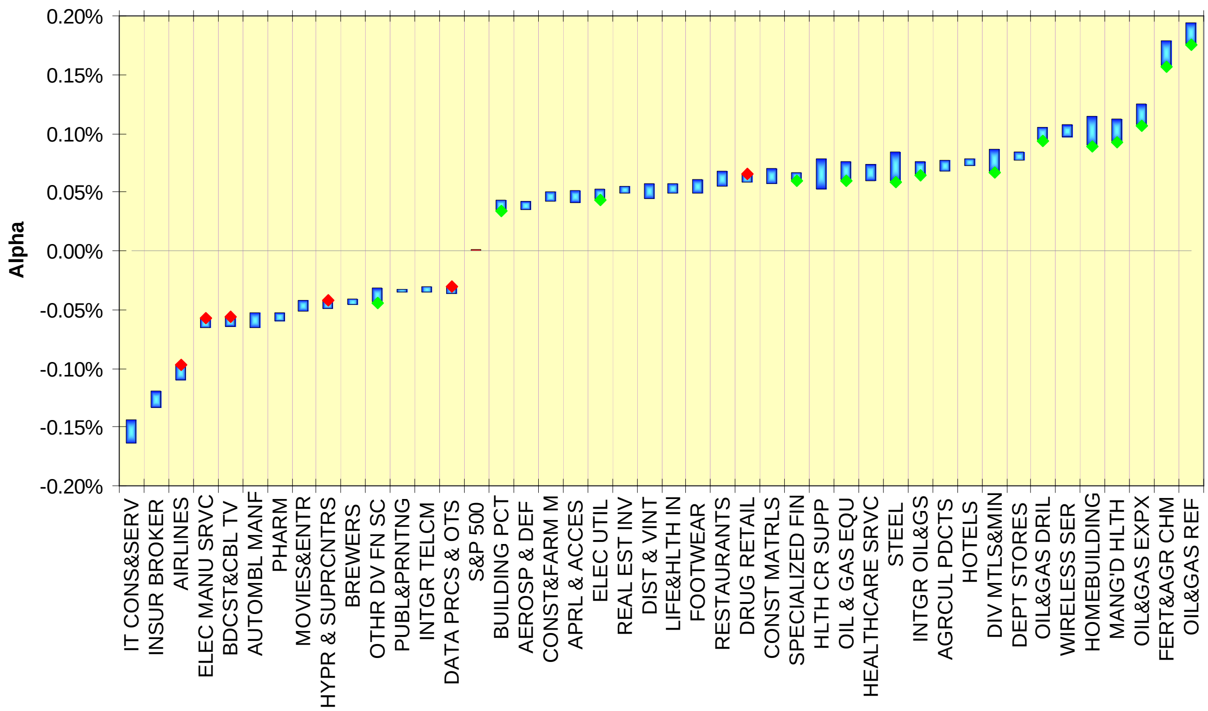
Which groups are correlated negatively against the euro? The list here is somewhat surprising at first blush; it is dominated by technology groups such as Semiconductors & Equipment, Computer Storage & Peripherals and both Application and System Software. These groups tend to rise when the economy is strong and are relatively impervious to interest rate increases. As an aside, that last statement is demonstrable by the group beta map against both two-year and ten-year note yields.

In Search Of Alpha

The beta measure described above is one for the relative performance of an industry group. If we want to find out about absolute expected over- or underperformance relative to the base case of simply buying the S&P 500, we need to turn to alpha. And once again, we need to run a statistical test to see whether each group's alpha is statistically significant or merely random; the 90% confidence interval will be used once again.

The chart below consolidates three concepts regarding alpha. The first is a sorting of statistically significant alpha by group; the strong and weak performers thus become easy to identify. Second, the height of the blue bar depicts the range of the measure over the last thirty trading days. A short bar indicates an industry group with a quiet performance, while a long bar indicates a group in flux. And finally, we can map the betas for each macroeconomic factor against alphas to see whether this factor is supporting or hurting the underperformers and overperformers. If the factor being illustrated, in this case the euro, has a positive beta to the group, it will be noted with a green diamond on the bottom of the bar. Negative betas are illustrated with red diamonds on top of the bar.

Chart 4: Industry Groups With Statistically Significant Alpha: Beta To Euro
Large Capitalization (S&P 500) Stocks Over Past Thirty Trading Days



How can you use this information? Let's say you are a value investor looking to buy weakness or sell strength and you believe for whatever reason the euro is going to strengthen. The one underperformer with a positive beta to the euro is Other Diversified Financial Services, which consists of Citigroup, JP Morgan Chase and Principal Financial. The one outperformer with a negative beta to the euro is Drug Retailers, which consists of Walgreen's and CVS.

A value investor would buy the financials and sell the drug retailers. The trade size for this matched-pair trade is given by the betas behind Chart 3 for the two groups, .0753 for the financials and -.1732 for the drug retailers, or 2.3:1 in favor of the financials before adjusting for their relative weights in the S&P 500. After this adjustment, you would buy .45 units of the financials and sell one unit of the drug retailers.

Momentum investors, those looking to buy strength and sell weakness, would use the information in a diametrically opposite manner. Here the large number of outperformers marked with green diamonds tells a simple story: If you think the euro is going to strengthen, buy these groups and sell the beaten-down underperformers such as Airlines and Electrical Manufacturing Services.

Opinions Matter
If you have strong opinions on the macroeconomic factors listed – and if you do not, just trade the broad market index – you can assemble the various factor dependent outlooks into a single portfolio to take advantage of your outlook. The tool described above can assimilate all of your opinions in an objective and quantifiable manner so that you can trade not just one aspect of the market, but the entire set of factors influencing the market simultaneously.