

## Single Stock Futures And The Alpha Bet

*Seasonally adjusted, there is no Santa Claus  
...Economist's knee-slapper*

One reason why trading is such a tough business, especially when compared to buy-and-hold investing, is that traders need to be right in order to make money. The extent to which we need to be right comes as something of a surprise to most. Even if we assume that we're perfectly unemotional traders, that we never jump in and take and quick profit and that we never let a loss ride in the hopes it will come back to profitability, and even if the distribution of our wins and losses is random and normal, we'll need to be right 75% of the time just to be breakeven.

Why so high, why not 50%? Since each loss counts twice - it's the loss we got and the gain we didn't get - we need to be right an extra time to overcome each loss. So,  $75\% - 25\% = 50\%$ . And, since we don't get to trade for free, we'd better add a few points to the mix to pay for overhead and trading expenses. Let's give ourselves a target of 80%, or being right four times out of five, day in and day out, to produce an actual trading gain.

Ninety percent of us can't do this; the remaining 10% are lying.

### **The Agency Problem**

In a perfect world, a barber would be an unbiased source of information on whether you need a haircut, and your professional money manager would have the same risk tolerance and investment goals you do. Neither condition obtains in my experience, although you're likely to get a more honest opinion out of the barber. After all, he's only playing for \$20, and your hair's going to grow eventually.

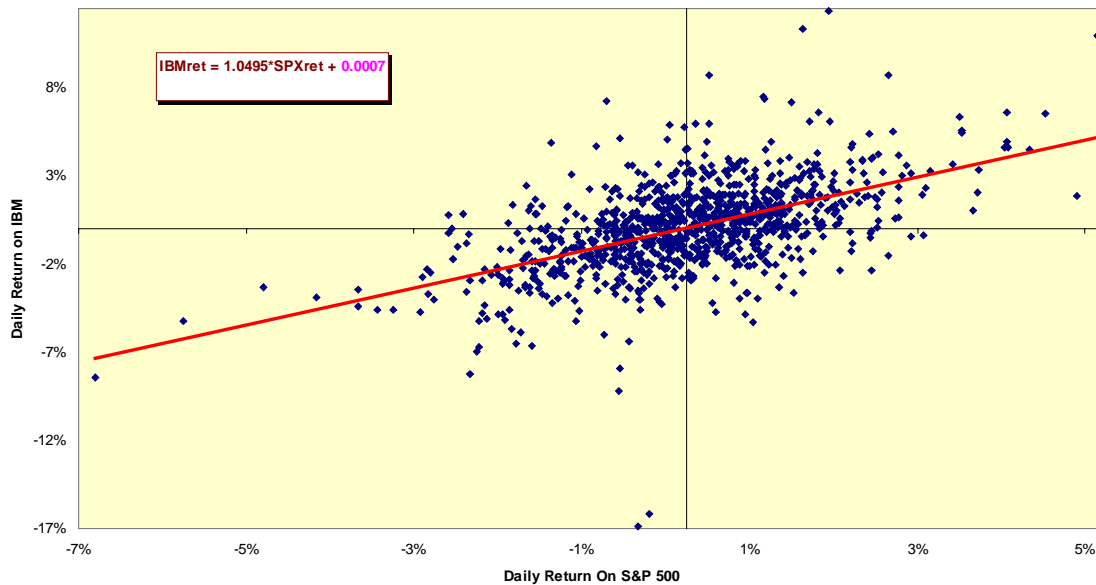
Before you lament your and your funds' inability to beat the S&P 500, the Nasdaq 100, or even the Brickyard 400, ask yourself what in your life will change if you don't. If your lifestyle depends on beating the S&P 500 by a few basis points, you are playing with money you can't afford to lose. Your fund manager cannot afford to be so cavalier. He or she gets paid on a management fee based on their asset base, known better as your hard-earned money, and the only way that asset base grows is raw performance. Try spending risk-adjusted return at the grocery store.

### **Adding Value Through Alpha**

Alpha can be defined as the net risk-adjusted premium return from a position or a portfolio. It's calculated by subtracting the portfolio's return from the asset's return, and can be conceived of as the average non-systematic deviation of a stock relative to an index. If we regress the daily returns for IBM against those of the S&P 500 over the December 1997 – December 2001 period, we find an alpha of .07% per day for IBM. The beta, or relative volatility of IBM over this period was 1.0495. In the graph below, alpha is where the red trendline intercepts the Y-axis, and beta is the slope of the red line.

Since both of these measures are based on statistical relationships, they may be unstable over time. For example, if we shrank the estimation period for IBM to a December 1998 start, alpha would change to .06% and beta to 1.0855. These time-dependent coefficients may represent one of the biggest adjustments futures traders will have to make when they start trading single stock futures (SSFs). Since commodities do not by definition change over time, intermarket spreads such as wheat-corn tend to be far more stable than the matched-pair spreads that will be common in the SSF world. Of course, this situation does nothing other than create a trading opportunity.

IBM's Alpha To The S&P 500, 1997-2001



Money managers ultimately earn their pay relative to the S&P 500 or another benchmark by adding or subtracting alpha. Here's where SSFs will make life easy for all of us. Let's say you want to delete a particular stock from an index, one that has a negative alpha. To sell this stock short in the cash market is cumbersome and expensive (see "Talking About A Revolution," November 20, 2001). It's far easier and cheaper to delete it from your portfolio by selling the SSF.

You can even do this in a market neutral manner if you so desire, even though you'll start to deal in institutional sizes. Let's say IBM's weight in the S&P 500 is 2.039%, and that the dollar value of the S&P Depository Receipt ("SPDR") is \$11,430 per round lot. This gives you an IBM exposure of  $.02039 * \$11,430$ , or \$233. If IBM is trading at \$121.34, each IBM SSF will be worth \$12,134 before basis adjustment. A fund manager could then delete IBM by selling one SSF against every 5,200 shares of SPDRs and have no exposure to the market's overall direction.

You will be able to juggle your exposures to give yourself exactly the mix of alpha and total market exposure you desire. If you'd like to see key market data such as index weights and recently calculated alphas once trading begins, just let me know. And, for those of you who are interested in the statistical analysis procedures above, I will be including them in my upcoming Internet course; drop a note to [info@clfm.iit.edu](mailto:info@clfm.iit.edu).