SelectAlts
Wisely Managed Absolute Return Portfolios

THE STOCK BUYBACK EFFECT

I spent most of my career managing institutional assets (pension funds, mutual funds, hedge funds, etc.) using a quantitative technique called *factor tilting*. Essentially, this involves identifying certain factors—characteristics or attributes generally measured using financial, technical, analyst sentiment, and other data—that are believed to be associated with risk-adjusted excess return or alpha. While it is possible to identify such factors using a methodology that might be described as "try everything you can think of and see what works" (aka "data mining" or "back-fitting"), the best practitioners of this approach start with a solid theory concerning why a market inefficiency associated with a factor might exist, and only if that criteria is satisfied will they then attempt to confirm the existence, persistence, and strength of the anomaly with careful empirical testing.

One of my favorite factors over the years has been ***net stock buyback*** (stock buyback less stock issuance), as measured by the change in shares outstanding over the preceding twelve months. The basic idea behind this factor is that companies buy back their stock when they believe it is cheap, and issue stock when they believe it is dear. The impetus to a large buyback program (say, over 5% of outstanding shares) is almost always a precipitous decline in stock price. Corporate insiders generally have an advantage in making the rich/cheap assessment compared to outside investors. Of course, you might be thinking, managements have a tendency to *always* think that their stock is too cheap. Truly, you will never hear them say their stock is too high—they will just keep their mouths shut at such times, and maybe issue stock if they can. On the other hand, it is going out on a limb for a CEO or CFO to go to the board and get approval for a large stock repurchase program and then announce it to the world. (The small and frequent buyback programs used to offset the issuance of stock options are different, and are normally too small to be of interest here.) Management will not want to buy back stock and then be criticized because the stock price fell further indicating that they paid too much. In essence, they are attempting to time the market with respect to the company's stock price. This is risky business. Management is not likely to pursue this line if they know that there may be information on the horizon that will cause the price to decline further.

In a **buyback,** a corporation repurchases outstanding shares, thereby increasing the pro-rata ownership of all remaining shareholders. In an **open market purchase** (the most common method), the corporation repurchases shares over an extended period and is not obligated to repurchase any certain number of shares. In a **tender offer**, all shareholders are given the opportunity to sell (or tender) their shares at a certain time under a specific formula regarding price and conditions.

Academics who study buybacks generally do so using *event studies*, which compare how the stocks of firms that *announce* a buyback program performed compared to comparable stocks. Of course, not all buyback announcements have the same meaning, even though they all have the same weight in an event study. Being academics, many (though not all) ignore real-world finer points such as whether the company followed through on its announcement and actually bought back stock, the company's history in this regard and the frequency of its announcing buybacks, the size of the announced buyback, and the proffered purpose of the buyback. The buyback event studies universally find that a company's stock price jumps almost immediately in response to an announced buyback, but the surprising fact is that a substantial minority (particularly among those who do a better job with the finer points) find that the stock often continues to perform inexplicably well months or even years into the future after a buyback announcement. That is, the market seems to *underreact* to the announcement, a finding that flies in the face of market efficiency. A *signaling effect*—by announcing a buyback management is signaling that based upon its insider knowledge of the company it believes the stock is undervalued—would explain the immediate pop in stock price, but why does the market fail to fully appreciate the long-term effects of this information?

I always believed that there might be several reasons why the market would be somewhat slow to fully appreciate the benefits of stock buyback, resulting in excess returns for those who pay close attention to it and react early. First, *skepticism* regarding whether the company will actually follow through on its announced buyback program may lead investors to wait for proof of its execution. Second, a reduction in share count is likely to boost future reported EPS, prompting a positive secondary reaction in stock price due to *future earnings surprises*, but the surprises will only show up after the buybacks have been executed and the company has issued its quarterly financial reports. This often takes several quarters. Third, investors generally fail to fully appreciate the impact of *agency costs* in how a stock is valued in the market. Significant net stock buybacks are an indication that a corporation's management is willing to forego the (empire building) urge to keep excess cash within the corporation to fund future capital expenditures or acquisitions (which studies show on average reduce value for shareholders), and instead is willing to return cash to shareholders in fulfillment of their fiduciary duty to maximize shareholder wealth. The value that such behavior adds for shareholders (particularly relative to most other corporations that may not be as shareholder-oriented) is likely to show up in stock price only over time, not right away, as the market

Agency costs refer to the inefficiencies imposed upon the owners of a corporation—the shareholders—because of the separation of management from ownership and the divergent interests between the shareholder owners and their manager "agents." Any actions adverse to management's fiduciary duty to maximize wealth for the shareholder owners of a corporation would be examples, such as paying exorbitant salaries, giving out lavish stock options, maximizing short-term earnings at the expense of long-term value enhancement, pursuing growth-at-any-cost ("empire building") with foolish acquisitions or capital expenditures (including opulent headquarters buildings), even making corporate donations to their own favorite charities.

reduces the cost of capital for such firms because of reduced agency costs. (This third explanation is documented in Grullon and Michaely, 2002).[1]

A few academics who have studied the stock buyback effect have often found a large and significant level of long-term risk-adjusted excess return associated with stock buybacks. Ikenberry, Lakonishok, and Vermaelen (1995) studied buybacks announced from 1980 to 1990. They found that the announcement itself caused a 3% jump in stock price, and that the subsequent average buy-and-hold return over four years was 12% above other stocks with similar risks, for a total of 15% excess return, or nearly 4% per year. High book-to-market value firms (value stocks) saw their shares rise an average of 45% over four years compared to comparable size and book-to-market firms.[2] A more recent study by Yook (2010) covering buyback announcements from 1994 to 2007 found that firms that actually repurchase shares, as opposed to those that only announce an intention to repurchase shares, experienced an average risk-adjusted excess return of 4% per year for the following three years. (Those that did not follow through on their repurchase announcement experienced a negative average risk-adjusted excess return over the next three years.) Unlike some earlier studies that found the strongest buyback effect associated with high book-to-market (value) and low market capitalization (small) firms, Yook found no significant effects associated with these variables.[3]

My point is that the buyback effect is well-documented in the literature. Fortunately, today there is an ETF that nicely captures this effect in one convenient transaction, ***The PowerShares Buyback Achievers Portfolio (PKW).*** The fund tracks the NASDAQ US Buyback Achievers Index, which consists of those U.S. corporations that have reduced net shares outstanding (buyback less issuance) by at least 5% over the preceding twelve months and meet a minimum liquidity requirement of trading at least $500,000 per day on average. The constituents of the index, which has no fixed number of members, are reconstituted annually and their weights are rebalanced quarterly. Index weights are based on relative market capitalization and are capped at 5%.

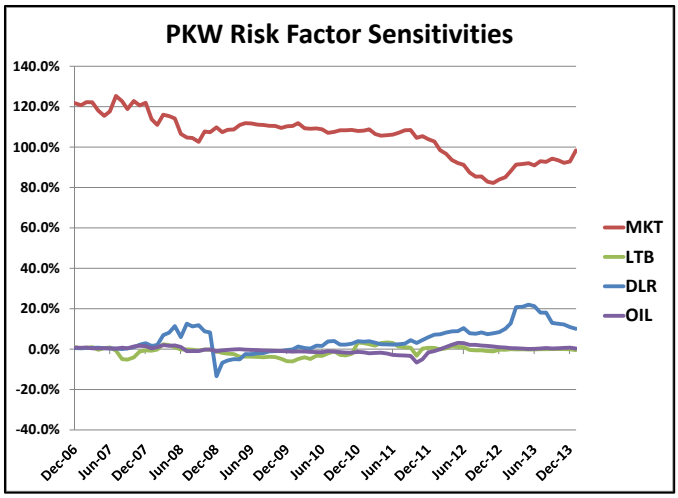
The original research for the index was done by Ford Equity Research in 1995. (Ford was subsequently purchased by Mergent, which was in turn purchased by NASDAQ, hence the NASDAQ moniker in the index name.) The most recent version of the white paper documenting this research (Ford, 2013) observes that larger buybacks of 5% or even 10% of outstanding shares produce the largest levels of outperformance relative to the S&P 500, and that the best relative performance tends to come in down markets.[4]

My analysis of the risk-adjusted returns for PKW and its underlying index shows strong evidence of alpha, or risk-adjusted excess return. I start by measuring the sensitivity of PKW's return to four risk factors that capture much of the risk common to most ETFs:

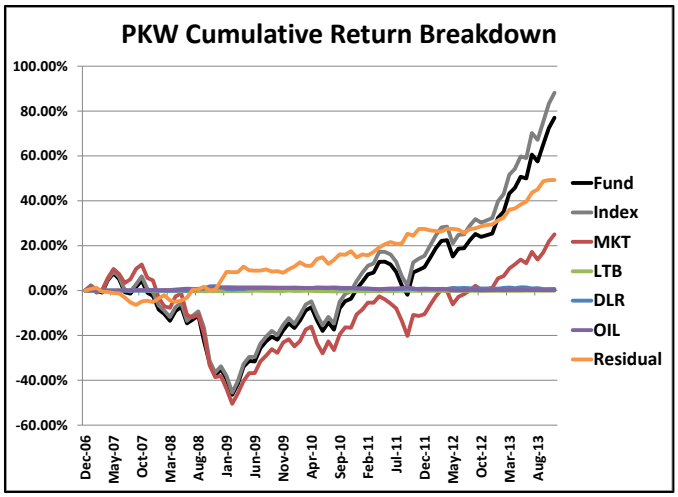
- Stock market risk (MKT), as measured by the S&P 500 Index
- Bond market risk (LTB), as measured by the 10 Year Treasury Benchmark Index
- Currency risk (DLR), as measured by the U.S. Dollar Index
- Commodity risk (OIL), as measured by the West Texas Intermediate Crude Oil Index

I use exponentially-weighted 36-month rolling multiple regressions to measure these risk factor sensitivities (often called *betas*). PKW started trading on December 20, 2006, but the underlying index goes back to February 1, 1996. I use the index returns to calculate risk factor sensitivities in order to take advantage of this longer history, since I know that as an index fund, PKW's returns will be very close to its underlying benchmark index (before the impact of the 0.70% fund expense ratio). This enables me to have a set of risk factor sensitivities right from the first day of the fund's live trading.

The graph at right shows that PKW's equity market beta (labeled MKT in red) is its only consistently significant risk factor. The historical equity market sensitivity has generally been between 80% and 120% (or a beta of .8 to 1.2) with a declining tendency until late 2012 when it began to climb back up to close to 100%. The other three risk factors are not very significant.



The graph at right tracks the cumulative return of PKW since its December 20, 2006 inception. The fund (black) slightly separates from the index (grey) over time as expected because of the expense ratio. Much of the fund's return is explained by its equity market sensitivity (red), as expected for an ETF with an average MKT sensitivity of around 100%. (To calculate the return from MKT sensitivity, I multiply the ETF's previous month-end MKT sensitivity times the monthly price return of the S&P 500. I use the same methodology for the other three risk factors. The *residual return* (orange) is the total return minus the return from the four risk factor sensitivities.)



What is NOT expected is the size and persistence of the fund's cumulative risk-adjusted residual return, or alpha. PKW's average rate of residual return has been running at ***5.6% per year*** since its inception just over seven years ago! Also, note how smooth the orange residual return line has been since its nadir around the end of 2007. Most ETFs have no discernible alpha—their return is entirely explained by risk factor sensitivities. Both the power of and the persistence of the risk-adjusted excess return for PKW are extremely impressive.

Fortunately for us, my clients and I have been long this ETF for some time. It continues to look like an excellent holding.

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Endnotes

[1] Grullon, G,. Michaely, R., and Swaminathan, B., (2002) "Are dividend changes a sign of firm maturity," Journal of Business, 35(3): 387-424. (Link: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=222730)

[2]Ikenberry, David, Joseph Lakonishok, Theo Vermaelen. 1995. "Market Underreaction to Open Market Share Repurchases." Journal of Financial Economics 39 (2-3): 181-208. (Link: http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.196.8147&rep=rep1&type=pdf)

[3]Yook, Ken C. (2010), "Long-run Stock Performance following Stock Repurchases," unpublished paper. (Link: http://www.fma.org/Hamburg/Papers/PostRepurchasePerformance_FMA.pdf)

[4]Ford Equity Research, "Share Buyback" (2013). Link: http://www.fordequity.com/docs/default-source/previoussite/sharebuyback0413AEC5F21500FB.pdf?sfvrsn=2)

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