



Under the Hood: What's in Your Index?

(An Ongoing Series, December 2015)

A New Bubble Indicator; Is One of Your Stocks In a Momentum ETF?

Yet another tell-tale of a bubble in progress, the world of passive management has discovered momentum investing. There now actually exist momentum indices. The central idea of momentum investing is to use the concept of relative strength to build a portfolio with the best-performing equities.

Modern financial theory cannot, though, explain momentum because, if the stock market is efficient, there should be no serial correlation (which is to say predictable pattern) observed in securities. Understanding this, the foundational idea of indexation was simply to passively participate in the returns of an asset class. Nevertheless, momentum investing, which is nothing other than presuming serial correlation, is now accepted practice, and has been bestowed with the emblem of acceptability by some in the academic community.

Specifically, the historical capital asset pricing model, the basis for the rise of indexation as the now dominant form of investing, was recently enhanced. The basic idea, which dates to the early 1960s, was to calculate the risk/reward ratio for any security in relation to the overall market. One charts an asset's return against its beta, a measure of the historical price variability of a stock relative to the stock market. After a time, though, it became apparent that a security could be very volatile yet, nevertheless, be less volatile than the market. This was because the single factor, market movement alone, did not fully explain a security's price movements.

In 1992, the Fama-French Three Factor Model¹ was developed, identifying two additional factors: size and value. In other words, the presence or absence of small capitalization stocks and low price-to-book value stocks explained much more of a given portfolio's performance. Among other recognition for his efforts in this regard, Professor Fama was awarded the 2013 Nobel Prize in Economics. No criticism of Professor Fama is implied in this discussion.

That model was modified in 1997 by Mark M. Carhart². The Carhart four-factor model added a momentum factor. Momentum, in this context, is defined as the tendency for the security to continue to appreciate if it already has appreciated or to continue to depreciate if it already has depreciated. It simply means buying stocks that have done well over the preceding 12 months. It was only a matter of time before an index and associated ETF were developed: the iShares MSCI USA Momentum Factor ETF (MTUM), created just a couple of years ago, in April 2013, and which now has \$1 billion of AUM. The index selects securities with high excess return, risk-adjusted for price momentum.

Perhaps unsurprisingly, MTUM is composed of stocks with an aggregate price-to-earnings ratio of 28.5x and a price-to-book-value ratio of 4.3x. One's understanding of the above-stated P/E ratio must be enlightened by two facts: as is normally the case with P/E calculations as averaged for index purposes, the P/E ratio of any stock that is above 60x is arbitrarily reset to 60; negative earnings are excluded. Amazon, as an example, had a 12-month trailing P/E of 958x. That would be adjusted downward to 60x. That's part of the overall P/E of 28.5x.

Top 10 Holdings of iShares MSCI USA Momentum Factor ETF

Amazon.com	Nike, Inc.
Facebook, Inc.	Eli Lilly & Co.
Visa Inc.	Alphabet Inc. (Google)
Starbucks Corp.	Allergan plc
Home Depot	Mondelez Int'l, Inc.

Source: iShares

¹ Fama, Eugene F. and French, Kenneth "The Cross-Section of Expected Stock Returns," *The Journal of Finance*, Vol. XLVII, no. 2 (June 1992).

² Carhart, Mark M. "On Persistence in Mutual Fund Performance," *The Journal of Finance*, Vol. LII, no. 1 (March 1997).



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And MTUM's assets are modest in comparison with the roughly \$4.5 billion of assets under management of the First Trust Dorsey Wright Focus 5 ETF (FV). In the one and a half years since its March 2014 inception, this fund has accumulated more than five times the AUM that the iShares Momentum Fund gathered in two and a half years. FV is comprised of five of the couple of dozen Dorsey Wright industry and sector based ETFs, whichever have the greatest price momentum. The five include the First Trust NYSE Arca Biotechnology Index Fund and First Trust Dow Jones Internet Index Fund, together 46% of FV.

Top 10 Holdings of Dorsey Wright Dow Jones Internet Fund (= 55.1% of fund)

Amazon.com	salesforce.com
Facebook, Inc.	PayPal Holdings, Inc.
Netflix, Inc.	LinkedIn Corp.
Alphabet Class A (Google)	eBay Inc.
Alphabet Class C (Google)	Yahoo! Inc.

Source: First Trust

So, it is now possible to raise substantial sums for almost any index if the performance is sufficiently high. It is nearly impossible to raise money for any index if the return is insufficiently high, let alone if it happens to be negative. If *diversification*, efficiently provided, were really the objective of the indexation industry, a period of negative performance would simply mean that the investment in question would have a lower weight. If *asset allocation* is the objective, the rebalancing process would ensure some degree of equilibration: underperforming assets would experience inflows in order to restore previously established weightings; dramatically outperforming assets would likewise be rebalanced for the same reason. This was the historical practice. The current environment is precisely the opposite:

Prima Facie Case #1: Talk About a Top-10 List

Here is a most extraordinary exhibit. It is based on the S&P 500 Index this year through November. Over 100% of the entire index return came from just 10 stocks; their cumulative weight in the index is just 13%. The S&P year-to-date return was 2.9%; without those 10 stocks: minus 0.6%. The 15-highest contributing stocks, with an aggregate weight of 16%, produced 144% of the S&P's return. That's how narrow it is. So when asked how 'the market' is doing, one should probably clarify with the questioner: do you actually mean the market or just these 10 or so companies?

Just to look at the other end of the index, the 100 companies at the bottom of the S&P 500, by weight, had a negative return; they amount to 3% of the index. The bottom 175 had an even bigger negative return; they amount to 7% of the index. The 400th largest company in the S&P 500 has a stock market value of \$6.7 billion and trades \$64 million worth of shares per day. Amazon trades \$64 million worth of shares every 8 minutes. What a strange coincidence.

This is not the asset allocation process. This is the momentum process: an increase in relative strength in an index component requires purchase, essentially without regard to subjective criteria such as valuation. The fundamental question with regard to capital markets turns on the fact that the stock market is ultimately an auction system. The buyer willing to pay the highest price can own the asset in question. Is there any restraint that can be placed upon a price that a momentum fund will pay for an asset?

For the moment, the appearance of billion-dollar momentum ETFs means that the most expensive stocks are being bid higher, and those that have not done well – that is, their relative momentum has abated, as it ultimately must – are being sold short, so the cheap are being sold cheaper. As evidence, there is, as an appendix, the unfortunate case of an excellent index vehicle that gets no respect.

Year to Date, through November 30 th	Total
<u>Top 10 Contributors to S&P Returns</u>	Return
Amazon.com	114.2%
Microsoft	20.2%
Alphabet Cl A (Google)	43.8%
Apple	9.0%
Alphabet Cl C (Google)	41.5%
General Electric	21.7%
Facebook	33.6%
Home Depot	29.6%
Walt Disney	21.2%
Starbucks	<u>51.6%</u>
Contribution to S&P return:	119%
S&P 500 Index return:	2.9%
S&P return without Top 10:	(0.6%)

Top 15 Contributing S&P Stocks

Add: Netflix, Visa, Nike, McDonalds & Altria
Contribution to S&P return: **144%**

Source: Factset, using iShares Core S&P 500 ETF as a proxy for the S&P 500 Index



Prima Facie Case #2: An Unfortunate Case

The QuantShares U.S. Market Neutral Value Fund (CHEP). What could be better than market-neutral, which takes the market risk out? It is a low-risk strategy that heretofore would be practiced only by hedge funds. Its symbol—CHEP— is pronounced “cheap,” to use the fund promoter’s pronunciation. This ETF seeks to earn the spread return between so-called cheap equities and expensive equities by buying 200 low-valuation, liquid stocks and simultaneously selling short 200 so-called expensive stocks. The median market capitalization of the holdings is about \$8 billion (average, \$20 billion), so, generally speaking, these are liquid companies. They are also balanced – long and short positions – as to industry sector, so it is sector-neutral as well. This would be the fund for one who believes in regression to the mean, efficient markets (meaning there is no serial correlation), market neutrality, and that no one can forecast the future of the market.

What ordinarily happens in an index that is both market-neutral and sector-neutral is that the more expensive companies should eventually regress to the mean. Their valuations should not be continually expanding. What should be happening is that their valuation expands for a time, as new information is factored into their prices, then it ceases; ultimately, as negative information is factored into the cheaper companies, their valuations should also adjust accordingly, until that changes as well. Thus, a regression to the mean process takes place, because valuation cannot expand (or contract) infinitely.

CHEP sticks to its mandate. The average P/E of the long positions, according to CHEP, is 12.57x; whereas, the P/E of the short positions is 38.58x. The price-to-book value of the long positions is 1.5x; the price-to-book value of the short positions is 7.21x.

Now four years old (September 2011 inception), CHEP has raised all of \$2.5 million – a rounding error relative to the two momentum funds just reviewed. The return since inception is zero. CHEP’s annualized return from inception through March 2014, though, which was the inception date of the First Trust Dorsey Wright Focus 5 momentum fund, was 5.8%, about what should be expected. However, from March 2014 onward CHEP has declined by 8.5%, during which time the S&P 500 has returned 14.7%, and the two momentum funds, MTUM and FV have returned 23.5% and 22.5%. In other words, the strategy actually worked reasonably well until about a year and a half ago, but then the cheaper stocks, even the so-called liquid ones, started becoming cheaper still, and the more expensive stocks started becoming more expensive still. Oddly, that seemed to coincide with the appearance of momentum as both a marketing and investment strategy in the world of indexation. Perhaps it is coincidental, but perhaps not.

QuantShares U.S. Market Neutral Value Fund (CHEP)
Sector Weights, 9/30/15

	<u>Long Weight</u>	<u>Short Weight</u>
Basic Materials	3.93%	(3.91)%
Consumer Goods	9.87%	(10.05)%
Consumer Services	12.85%	(12.88)%
Energy	6.00%	(5.60)%
Financials	22.18%	(22.66)%
Industrials	16.89%	(16.87)%
Health Care	10.90%	(10.92)%
Technology	10.85%	(11.37)%
Telecommunications	0.99%	(0.97)%
Utilities	4.63%	(4.59)%

Source: Fund reports

One would do well to remember that this state of affairs is not a new phenomenon in investing. In prior eras, it was known as go-go investing, or trend following. Now it takes the guise of index-based asset allocation. All such phenomena have ended unpleasantly. The index universe has become, simply, a big momentum trade. It is the most crowded trade in the history of investing. And crowded trades eventually attract short sellers.



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