Factor-based Investing vs. Indexing

The unedited post from the Factor Investor is available here: https://www.factorinvestor.com/blog/the-true-cost-of-indexing

The True Cost of Indexing

FEBRUARY 16, 2017

Anyone in the investment industry not living under a rock has read about, investigated, or had an intense conversation with a client about the merits of passive exposures in investment portfolios. The popular pitch is that widely-owned portions of the market, most notably U.S. large cap equity, are efficient. It continues that investment managers cannot outperform the benchmark consistently over time in an efficient market. This is the "Theory of Efficiency". The cacophony of articles on this topic is both silent and deafening. Most include little proof for their assertions of efficiency and parrot a conglomeration of statements parsed from other articles. As a result, hundreds of billions of dollars have been passively invested.

I believe that the cost to long-term investors for indexing portfolios is staggering. First, let's quit beating around the bush and recognize passive investing for what it is, low cost market exposure. For investors without access to high quality investment managers, this very well may be the best option. I contend, however, that U.S. large cap equity is not efficient, which is to suggest that the decision to invest passively due to the theory of efficiency is based on a faulty premise. Many investors conflate the "theory of efficiency" with the "law of averages", a more realistic explanation for the poor performance of investment managers. ...

Mathematically, before fees, half of managers will outperform, and half will underperform. Yes, there are other market participants, like individual investors, but their share of the market has steadily declined over time. Institutional investors owned 73% of the equity market in 2009. With the proliferation of ETFs since then, I would bet ... that it's now higher.

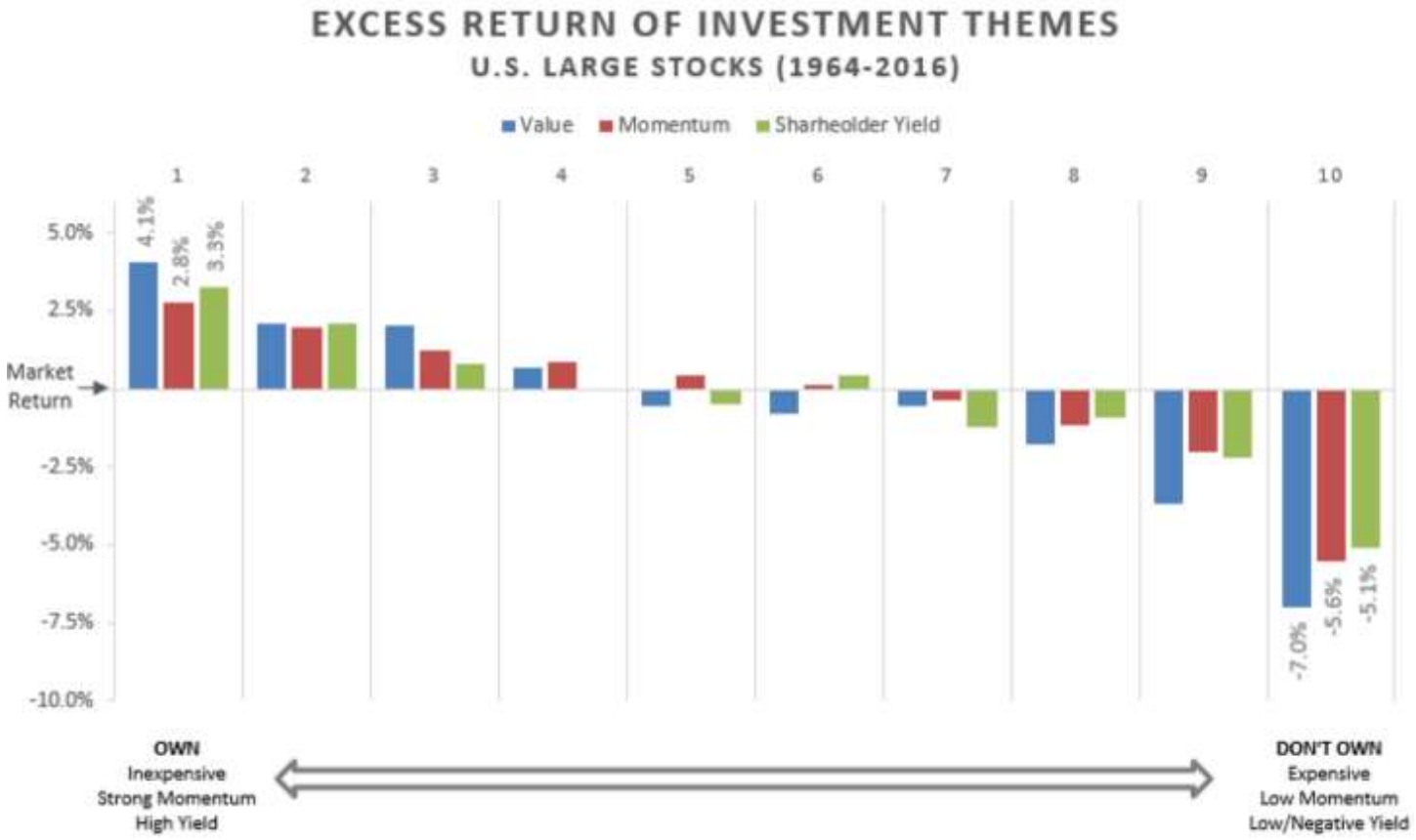
For every stock transaction, there is a buyer and a seller. Absent new stock issuance or redemption, this is a closed system. Taking fees and market frictions into account, more than half of active managers will underperform over the long term. This is the law of averages. In aggregate, investment managers will deliver the market return less their aggregate costs ....

I enter into evidence the below substantiating my argument that U.S. large cap equity is not an efficient market. It demonstrates that multiple persistent biases exist that investment managers can take advantage of to generate outperformance.

I purposefully ran the analysis below on an equal-weighted universe of U.S. large stocks (the "market") to allay the naysayers who so ardently argue U.S. large cap represents an efficient space.

The average number of names in this market universe over the last 10 years was 404. Think S&P 500 Index, but only the largest 400 stocks instead of 500. Over the last 10 years, the average market cap of this universe was $31.4 billion. More importantly, average daily volume was $240.8 million per stock. In other words, there is lots of capacity and plenty of liquidity to transact in size.

This is a study from 1964-2016 which sorts stocks into portfolios based on three investment themes--Value, Momentum, and Shareholder Yield--from most to least advantageous. it rebalances the portfolios on a rolling annual basis. For those not familiar, Shareholder Yield is a metric which measures the shareholder orientation of a company by including share buybacks alongside the dividend yield calculation.



As can plainly be seen on the left side of the chart, the top portfolios of Value, Momentum, and Shareholder Yield (portfolio 1) outperform the market by 4.1%, 2.8%, and 3.3% annualized. On the right side of the chart, the worst portfolios of Value, Momentum, and Shareholder Yield (portfolio 10) underperform by 7.0%, 5.6%, and 5.1% annualized. There is a gaping wide return differential of 11.1%, 8.3%, and 8.4% between the highest and lowest portfolios based on these themes. This is particularly astonishing in that the return of the overall market is 11.7%, which is to say that the differential in performance between cheap and expensive stocks is almost as wide as the return of the market itself! ... Further, if we dive into the above, we find that in the 600 three-year periods (rolled monthly) within this five decade analysis, portfolio 1 of the factor-themes outperform the market, 80%, 86%, and 71% of the time for Value, Momentum and Shareholder Yield, respectively. (For reference, the Pats record under Brady's reign is "just" a 74% win rate.)

To put all of this into context, the difference in the final value of a $100,000 investment over the course of this 53 year period is absolutely staggering--excluding fees, costs and taxes.

Over 53 years, a $100,000 investment becomes...	
Market	$35,685,976
Momentum	$131,556,141
Sharheolder Yield	$164,167,729
Value	$240,279,978

Said another way, the cost of indexing, which seems like a bargain based on fees alone, is to forgo millions of dollars in potential *future* investment gains. Let's now take a look at a more realistic analysis that includes some realistic market frictions like

management fees, taxes, and transaction costs.

Over multiple decades, the cost of passively investing becomes multiples of reasonable active manager fees. To make this simulation a little bit more realistic, because costs are real, I tack on a .05% annual fee for the indexed market portfolio and a 1.0% "management" fee to the factor-themed portfolios. I also deduct another 0.5% to simulate market impact costs of trading the factor-themed portfolios. All in, that's a 1.45% annual cost advantage to the indexed portfolio. But, there's more. I assume the factor portfolios turn over 50% per year and are taxed annually at the 20% long-term capital gains rate. The index portfolio is allowed to compound tax free with no turnover. A 20% capital gains tax is then applied to the index portfolio at the end of the 53 year period.

Under this scenario, the approximate cost of indexing to an otherwise disciplined value-oriented investor putting $100,000 to work is $85.5 million after 5 decades.

Over 53 years, a $100,000 investment becomes...		True Cost of Indexing
(a) [0.05% fee]		
Market	$34,849,335	
(b) [1.50% fee]		**(b) - (a) =**
Momentum	$65,404,851	$30,555,516
Sharheolder Yield	$81,857,877	$47,008,541
Value	$120,411,727	$85,562,392

How can a market with multiple persistent biases be truly efficient!?! Let us not conflate the theory of efficiency with the law of averages as a justification for going passive. At the end of the day, let's call passive investing what it is...low cost exposure to the equity market. There is absolutely nothing wrong with allocating a portfolio to passive investments. I have suggested passive investments to people multiple times, but only when they do not have access to high quality investment managers.

As the law of averages suggests, an investor cannot just plow money into any active manager, because more than half of them will underperform over time. Finding good active investment managers is hard, really hard, but they do exist. The rewards for finding them are huge, because U.S. large cap equity is not efficient, and passive investors are leaving a lot of money on the table.

Our thoughts

The terms "Active" vs. "Passive" can be misleading when applied to Quantitative, Factor-based Funds. We found this recent article in Barron's amusing as it concerns Alpha Architects' ETFs, which we use for clients:

February 6, 2017

Flippin' the Switch: 4 Active Funds Go Passive

By Crystal Kim

Well if you can't beat 'em, join 'em. That's what **Alpha Architect** is doing with four of its actively managed ETFs flipping the switch and going passive:

- **ValueShares U.S. Quantitative Value** (QVAL)
- **ValueShares International Quantitative Value** (IVAL)
- **MomentumShares U.S. Quantitative Momentum** (QMOM)
- **MomentumShares International Quantitative Momentum** (IMOM)

That said the funds, which collectively have $164 million in assets under management, weren't all that active to begin with. The firm uses quantitative strategies based on academic research, so a manager wasn't making portfolio changes on a whim every morning. But the funds do have a more potent tilt to factors, holding between 40 and 50 stocks, than typical smart beta ETFs.

The **Quantitative Value** fund, for example, invests in the cheapest, highest-quality value stocks in the market. It uses enterprise value to earnings before interest and taxes, or EBIT ....

Barron's called Alpha Architect to get the lowdown on the change. ...

ETFs that straddle the active/passive line belong in their own category, if only to make clear to investors that they all don't fit neatly in an active or passive box. "Some people had misperceptions about what we were doing," says Vogel.

Who knows if more funds will follow suit, but what's obvious is that a "passive" label gets you more attention than an "active" one.

Our thoughts continued

That last sentence in Barron's article explains the "switch". Alpha Architects' process hasn't changed. It is critical that your portfolio manager understands each Fund's process along with the supporting academic research. For example, if the investable universe is merely divided in half on some valuation metric and then one resulting ETF is labeled "Value" and the other "Growth", the investor who has heard that Value beats Growth over time and invests accordingly in the low cost "Value" ETF is "leaving a lot of money on the table". We have previously shared research on the importance of portfolio construction. The above analysis reinforces the need to take a concentrated (best decile) approach when investing in Factors.