HORIZON KINETICS

## Under the Hood: What's in *Your* Index?

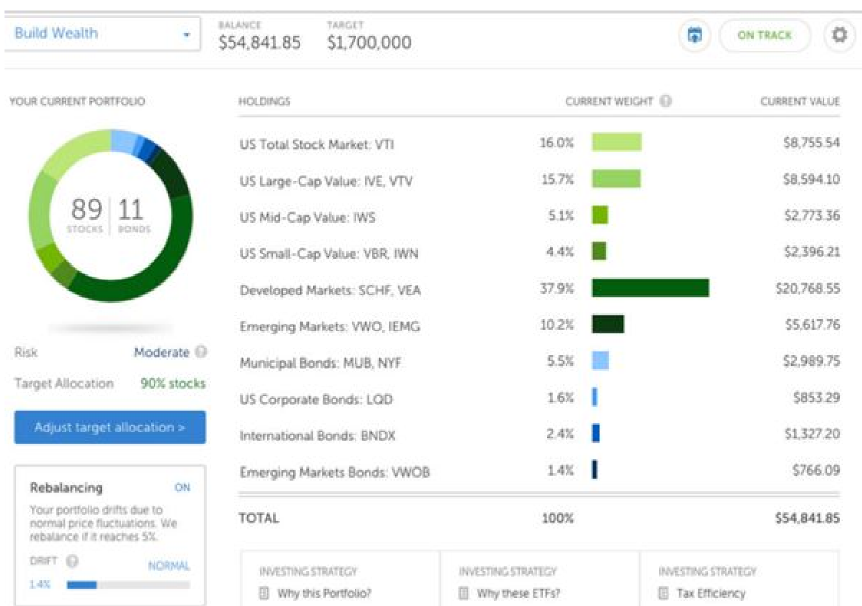
(An Ongoing Series - February 2016)

*The Robo-Adviser, Part I: What Does Rebalancing Mean to You?*

A prior *Under the Hood* observed, but did not explain, the curious and worrisome gap between the astounding share turnover rate of even the most basic asset allocation building block instrument, like the SPDR S&P 500 ETF ("SPY") and the available trading volume of the companies that comprise the S&P 500 Index ("S&P 500"). To reprise a few figures as a basis for comparison, the annual share turnover rate of the largest 10 companies averages 115%; that's about 0.45% per day. A large S&P 500 mutual fund, like the Vanguard S&P 500 Index mutual fund, has annualized turnover of its units of only about 30%, or 0.12% per day. Now that makes intuitive sense; that's more turnover than any individual would need, but there are thousands or millions of investors who might own units. Then there was the daily turnover of SPY: 16.7%. That means that 100% of its shares are traded every 6 days, and each year that's 4,200%. Investors seem to have liquidity demands for the index instrument that are 35x the daily trading volume of its largest constituents. Why is that? Very likely, the increasingly popular retail investor-focused robo-adviser industry, as described below, is not the major culprit, merely a contributing rivulet to the mighty flow of daily trading (although much the same process is applied for large institutional clients, like pension funds), but it does play its part, and here's how.

The foundational wisdom behind indexation, particularly for the non-professional, is that one needn't try to second guess interest rates, economic cycles, or presidential cycles. Absent changes in planning assumptions (such as retirement age), one's initial position might be rebalanced periodically, say quarterly or annually, if it rises or falls too much. That's the proposition of indexation – participating, not exceeding, not trading.

As popular as the ETF mode of investing is, perhaps the fastest growing segment of the asset management business, enabled by and centered upon ETFs, is the robo-adviser, also known as an online or automated investment adviser. It is essentially a software program that calculates a portfolio mix, by asset class and sector, based on inputs such as age, annual income, and self-defined risk tolerance. It is done entirely online without human intervention, and the portfolio is automatically rebalanced when the various segments differ by more than a designated degree from the established weightings. It is estimated that robo-adviser sites are gathering additional assets at about a 60% annual rate. The process is appealing for younger investors who are accustomed to digital interactions. To the right is the sample portfolio that appears on the website of one popular robo-adviser.




For this hypothetical $55,000 portfolio, the robo-adviser has selected 15 ETFs covering a range of U.S., developed market and emerging market stocks, as well as developed and emerging markets bonds. The aggregate number of

U.S. stock positions in the 6 U.S. focused ETFs is 7,117; clearly there is much overlap. There are 2,558 positions across the two developed market stock ETFs.

This sample portfolio will rebalance if the portfolio drifts more than 1.4% from its target weights. Consider, then, a scenario: the U.S. ETFs decline by 5%, the developed markets ETFs (e.g., Spain, Switzerland, Germany, South Korea, et al) decline by 8%, the emerging markets rise by 5%, and the bond ETFs are flat. Doesn't seem like all that much happened, really. The entire portfolio will have declined by only about 4.5%. However, the weight of the developed market ETFs will have declined from the optimal 37.90% to 36.46%. That exceeds the 1.40% drift tolerance; ergo, the portfolio will be rebalanced.

Assuming that to be true, rebalancing to the original weights would require, among other transactions, purchasing $54 worth of Vanguard Total Stock Market ETF, $17 of iShares Russell Mid-Cap Value ETF, and $7 of iShares Russell 2000 Value ETF. This, perhaps, contributes to the 4,200% annual turnover of ETFs like the SPDR S&P 500 ETF. Interestingly, even though in this example the price of the Vanguard Emerging Markets Government Bond ETF didn't change, $34 worth would be sold in the rebalancing. So it is possible that one day, the prices of Lebanon Republic, Russian Federation and Petrobras bonds suffer a dramatic, newsworthy decline in the absence, to the puzzlement of observers, of any obvious geopolitical, finance or economic news. One can see how an entire infrastructure and process has been set up to increase trading volumes.