



## Tesla's Charge to the S&P 500 Index

The recent addition of Tesla to the S&P 500 Index stirred up a lot of attention. This was not a surprise, given that Tesla was the largest company to ever join the index and, at the time of its addition on December 18, 2020, became the sixth largest company in the S&P 500.

Between November 16, 2020, the day of its addition announcement, and December 18, 2020, the day it was added to the index (known as reconstitution day), Tesla stock was up 70.3% (as compared to 2.3% for the S&P 500 Index). While Tesla's stock price wowed investors ahead of its addition to the index, the pattern can quickly reverse: the stock climbed 13.9% in the week ending with December 18th, then dropped 4.8% over the following week.

What does all of this mean for investors? The answer, unsurprisingly, is that it depends.

A passively managed index fund needs to maintain a low tracking error versus the actual index. In other words, the index fund generally needs to purchase and sell securities on specific reconstitution days in order to track the revised index weights. This lack of flexibility can come at a cost. One way to assess this potential cost is to examine the extent to which index reconstitution events are associated with unusually high trading volume.

A 2015 - 2019 research study by Dimensional Fund Advisors (Dimensional) compared trading volume in stocks added to or deleted from the S&P 500 on reconstitution day, with trading volume in the same stock for the 40 days before and after each reconstitution day. After examining the volume ratios across all events over the five-year period, Dimensional found that reconstitution day trading volume for rebalanced stocks was, on average, 26 times greater than the trading volume over the prior 40 days.

Unusually high trading volume can result in upward price pressure; however, this price pressure does not have to manifest itself all on a reconstitution day. At Oakwood, we believe that market prices are forward-looking. Since index rebalances are announced in advance of the reconstitution date, and are often anticipated even before the announcement date, a portfolio that is required to rebalance on the same day as an index may suffer from price pressure well ahead of reconstitution day.

Indeed, the Dimensional research study shows that individual stocks added to an index tend to outperform that index prior to rebalancing, while stocks deleted from an index tend to underperform. The remarkable increase in Tesla's stock price prior to its addition to the S&P 500 is consistent with that research.



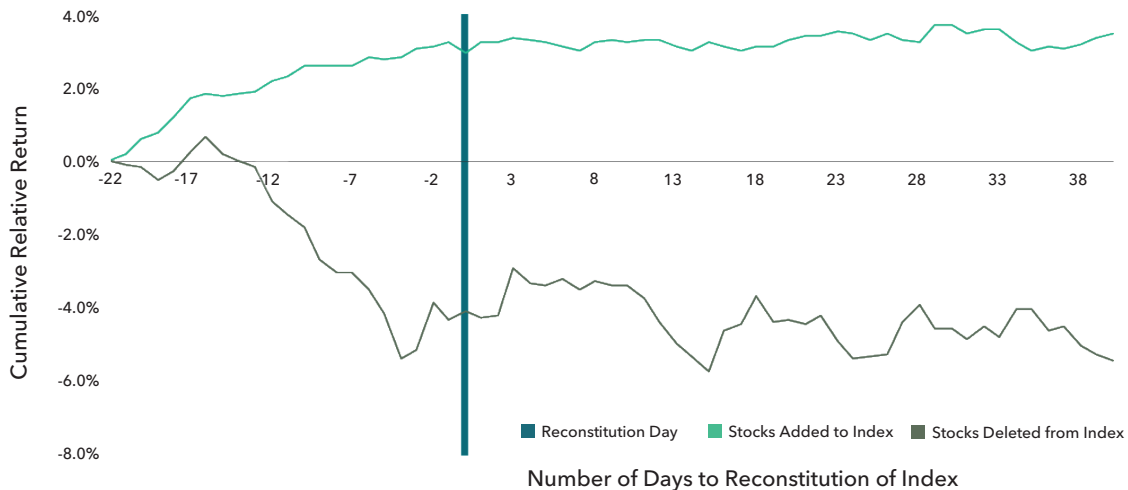
As shown in the graph below, the prices of additions (deletions) start to move higher (lower) than those of their index peers in the month prior to reconstitution day. This reconstitution effect illustrates a lack of flexibility with respect to pricing.

While some of this reconstitution effect can be mitigated by trading on a different day, or by trading over multiple days, an even better approach would be an ongoing process that maintains a consistent focus on stocks with higher expected returns and spreads turnover across the entire year, with flexibility at the point of trade execution across stocks and quantity. This process allows investors to incorporate information about liquidity and trading costs, and avoid the cost of demanding immediacy from the market.

The ongoing portfolio management process implemented by Oakwood allows us to include short-term information about expected returns that is relevant over days or months. In addition, our process can further enhance investment outcomes by maintaining a consistent and accurate focus on the desired long-term drivers of expected returns.

Ultimately, we want a portfolio that matches a client's tolerance for risk with their expectation for return, and has an asset allocation that is designed to meet their long-term wealth management goals.

### Average Cumulative Relative Return of S&P 500 Additions and Deletions 2015 - 2019



Notes: Daily excess returns are calculated as the equal-weighted average of individual security returns minus the respective index returns. The cumulative excess return for day t+i is calculated as the sum of the daily equal-weighted average excess return from t-22 for S&P, where t+0 is the reconstitution date. Source: Dimensional Fund Advisors and Oakwood Capital Management LLC

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