From ETFs to Teslas: Calculating Cost of Ownership matters!

The idea of total cost of ownership—or TCO—is fascinating. Not because of what TCO represents, but because of how little it seems to impact most purchasing decisions. Buying a Tesla is a perfect example.

The Model S starts at $68,000. The Model X digs even deeper into your wallet with a starting price tag of $82,500. It's no wonder TCO is a hot topic for anyone even thinking about becoming a proud Tesla owner. To assist with this important decision-making process, there are plenty of web forums dedicated to helping potential buyers weigh the cost/benefit of the Tesla's lower out-of-pocket costs—fuel savings, repairs, maintenance, insurance costs, and more—over a five-year period with the car's hefty sticker price.

Oh, if only every buyer was just as diligent when looking at the total cost of ownership for an ETF! Even many of the most experienced investors make their choices based on "sticker price" without considering the often hidden costs of a low management fee. But looking at the sticker price alone can have unexpected consequences. Over the long term, hidden costs can quickly add up, creating a substantial negative impact on potential earnings.

Consider this scenario. You are boarding a plane with a navigation system that hasn't been calibrated correctly. The instrumentation is only off by only about 2% for every 10 miles. It's an almost insignificant error. But over the course of 2,500 miles, that small incremental difference delivers a much larger problem—one that is all too obvious when your plane touches down not in San Francisco as planned, but in Boise, Idaho.

With an ETF, a similar problem arises if the fund does not efficiently track its own index. When that happens, suddenly your investment isn't headed in the direction you had hoped for.

When choosing an ETF (or any investment vehicle, for that matter) not looking at the hidden costs over a longer period of time can have similarly dramatic consequences. Yet industry marketing has most investors focused only on one element of cost to predict potential long-term investment outcomes. Incumbent ETF issuers have convinced most rating agencies that there is a single major cost that impacts outcomes: management fees. But is that assumption correct? If you take the time to dive deeper, you'll find that data-focused analysts are looking not only at management fees, but also performing due diligence to determine how well a fund's Net Asset Value (NAV) tracks its intended index.

NAV, of course, is the value per share of the ETF on a specific date or time. The per-share dollar amount of the fund is based on the total value of all the securities in its portfolio, any liabilities the fund has, and the number of fund shares outstanding. If a fund exhibits NAV volatility around the benchmark, it can easily miss its intended target (or index)—just as your plane missed San Francisco. If a fund shows low volatility, it is much more likely to play its intended role in your portfolio and, ultimately, get you where you want to be, when you want to be there. That's precisely why it is so important to include NAV tracking error or tracking difference in the equation when assessing the total cost of ownership of an ETF.

The most appropriate way we have found to determine a fund's TCO is to use the following equation:

TCO = C + ½ SC + TE

C = management fees; SC = spread cost; TE = tracking error

Using this equation, it's clear that an ETF with a higher expense ratio may actually have a *lower* TCO than an ETF that has a lower expense ratio and a higher NAV tracking error. In a real world example, the ROBO ETF's NAV has a one-year tracking error of just .18%. Here's what the TCO equation looks like with real numbers in place:

TCO = C (.95%) + ½ SC (.036) + TE (.184) = 1.17%

Now let's compare that to a similar ETF with a higher tracking error. In this case, while the cost is slightly lower at .68%, the tracking error is significantly higher, at .75%. Here's the equation:

TCO = C (.68%) + ½ SC (.0021) + TE (.75) = 1.43%

It's easy to see how an investor looking only at the cost of management fees might choose the second "cheaper" fund. But when looking at total cost of ownership, the ROBO ETF is 18% more efficient at tracking the intended index than the competing fund.

The concept of cost vs. value is often pretty straightforward. But when evaluating total cost of ownership, what seems obvious at first glance isn't always the case. (Just ask one of the first 200,000 Tesla owners who received the full tax incentive on their "expensive" car purchase!) The key is to be sure you're using the right information to get to the right answer. Otherwise, you may very well end up in downtown Boise or, worse, with a much smaller portfolio than you'd planned for when purchasing a new ETF.
