ETF sell-offs may create opportunities for active investors.

KEY INSIGHTS

- Due to the growing popularity of passive investing, ETF trading volume on U.S. exchanges has increased significantly.
- When ETF volumes spike, correlations among constituents may rise to levels not justified by company fundamentals, creating opportunities for stock pickers.
- From 2010 through 2017, investors who bought oversold constituents after high-volume ETF trading days and held them for a certain period, potentially could have generated alpha at the expense of index investors.

Exchange-traded Funds (ETFs) have become increasingly popular vehicles for investors seeking passive exposure to the U.S. markets. However, a growing body of academic research suggests that the rise of ETFs may have created potentially profitable opportunities for active stock pickers. Our own study reinforces these findings.¹

When an ETF trades heavily around a particular investment theme, correlations among its constituent securities tend to rise significantly. Some securities may begin to trade in lockstep with other ETF constituents even though they have little or even negative exposure to the theme itself. Our research suggests that these mispricings may become significant.

A practical question left unanswered in the literature is whether these abnormalities present potential alpha opportunities for stock pickers (and thus hidden costs for passive investors). The answer appears to be yes: After losing ground to passive vehicles steadily in recent years, active stock pickers may be able to have their revenge on ETF investors.

A study conducted by a group of T. Rowe Price investment professionals found that average cross-constituent correlations increased significantly during ETF volume spikes. Accordingly, we designed a simple, hypothetical, contrarian trading strategy that would have bought oversold constituents when an ETF sold off in high-volume market corrections. We focused on downside events because previous research has suggested that investors are less rational when faced with losses than with gains.

How Stock Pickers Can Take Advantage

We back-tested a simple systematic strategy: For each volume spike accompanied by a negative ETF return, we systematically bought the low-ETF-beta outsiders and held them for 40 days. We did so across 11 ETFs and across time.2 We identified outsiders by ranking constituent stocks by their ETF betas, then built equal-weighted portfolios from the bottom 10%. Then, to calculate alpha potential relative to the ETF, we levered the entire portfolio to an ETF beta of 1.0.

Our primary focus was on the performance of nine sector ETFs because, in our view, these vehicles are more susceptible to speculative, retail-oriented trading than broad index ETFs. However, we also included a broad S&P 500 ETF and a small-cap ETF in our study, which covered a total of 240 correction events over an eight-year period ended December 2017.

The results were striking: When high-volume sell-offs occurred, ETF investors might have left as much as 200–300 bps of potential alpha on the table for stock pickers to capture over the following 40 days. Because our strategy wouldn’t have required any stock selection skills—other than the ability to measure a stock’s beta to its ETF—we suspect active stock pickers potentially could have captured even more alpha by carefully analyzing why an ETF was selling off and whether certain constituents were being dragged down with it for no good fundamental reason.

In Figure 1, we show the average cumulative alpha (return for the levered outsider portfolio minus the ETF) across all events, from one to 40 days after the volume spike, before and after trading costs.

Average alpha on the first post-spike day was slightly negative, which indicates that even if we had lagged...
Implementation time by one day, the strategy potentially would still have worked. Then, as the time window expanded, average alpha cumulated positively and consistently, all the way to day 40.

The strategy did not work perfectly for all ETFs and across all time horizons. Of note, the strategy did not work well for the Materials Select Sector SPDR ETF (XLB), and while it worked in the short term, it ended in negative territory for the Technology Select Sector SPDR ETF (XLK). In these cases, the trading rules produced large positions in low-ETF-beta stocks that underperformed their ETF after the sell-offs.

Fundamental analysis might have helped. A stock picker could have analyzed the “theme” behind each sell-off. She would have taken into consideration whether the low-ETF-beta outsiders were truly outsiders to the theme and, if so, whether these companies were a risk of short-term underperformance for other reasons. Then, she would have scaled the positions according to a risk/return analysis relative to theme. Once the long positions would have been established, she would have applied discipline on when to sell them, as a function of market developments, and the health of the sector and the companies involved.

Finally, while the strategy identified ETF volume spikes and conditioned them on down days, it did not condition on the size, or duration, of the sell-off. Focusing on the largest sell-offs, with a flexible time horizon, might have enhanced performance.

Ultimately, there is a lot more that can be done when a strategy incorporates fundamental analysis. Hence, our goal in this study was simply to indicate the potential size of the opportunities, not to design a purely systematic trading approach.

Additional Disclosures
Source of data: S&P. The “S&P 500 ETF, SPDR S&P 500 ETF and iShares Core S&P Small-Cap ETF” are products of S&P Dow Jones Indices LLC, a division of S&P Global, or its affiliates (“SPDJI”) and iShares, and has been licensed for use by T. Rowe Price. Standard & Poor’s®, S&P® and SPDR® are registered trademarks of Standard & Poor’s Financial Services LLC, a division of S&P Global ("S&P"); Dow Jones® is a registered trademark of Dow Jones Trademark Holdings LLC (“Dow Jones”); iShares is a registered trademark of BlackRock Inc. and this trademark has been licensed for use by SPDJI and sublicensed for certain purposes by T. Rowe Price. T. Rowe Price’s products are not sponsored, endorsed, sold or promoted by SPDJI, Dow Jones, S&P, their respective affiliates, or iShares and none of such parties make any representation regarding the advisability of investing in such product(s) nor do they have any liability for any errors, omissions, or interruptions of the “S&P 500 ETF, SPDR S&P 500 ETF and iShares Core S&P Small-Cap ETF.”

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