

A better method for measuring alpha returns

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Doppler radar, the Consumer Price Index, quarterback rating—these and many other measuring tools have refined the way performance is both documented and predicted in weather, the economy and sports.

Scott Stewart, MBA '83, Ph.D. '85, clinical professor of finance and accounting in the Samuel Curtis Johnson Graduate School of Management, and three of his former students have developed a method for better understanding mutual fund returns, which could impact both performance rankings and fund managers' career trajectories.

Stewart is corresponding author of "Improving Equity Fund Alpha Estimates with a Second Size Factor," which published Jan. 2 in the *Journal of Portfolio Management*. Stewart's co-authors are Nanqing Dong, M.S. '17, now a doctoral student at the University of Oxford; Luka Jankovic '15, M.S. '16, who leads the principal financing group focused on private structured credit at Galaxy Digital; and Anne Stewart '16, a financial analysis manager at Panera Bread's corporate offices.

For 30 years, the gold standard for predicting mutual fund performance has been the Fama-French Model, developed by Nobel laureate Eugene Fama and researcher Kenneth French, professors at the University of Chicago and Dartmouth College. It expanded on the capital asset pricing model by adding size and value risk factors to the previously used market risk factor.

But the size risk factor employed by Fama-French only compares big versus small companies and doesn't factor in mid-cap companies, valued between \$2 billion and \$10 billion and considered prime candidates for growth.

The Stewart group proposes that company size should be broken into two parts: big vs. mid-cap and mid-cap vs. small. This is an important consideration when analyzing [mutual funds](#), which heavily weight stocks in mid-cap companies.

"Big, small and mid-size companies don't move in lock step," Stewart said. "This is especially important for understanding mutual fund

returns—and manager outperformance, which is defined as 'alpha.'"

Fama-French is easy to implement, Stewart said, and has become the gold standard of mutual fund analysis, but by breaking size into two metrics, his team was able to produce more finely tuned measurements.

The researchers conducted [statistical tests](#) on 1,000's of active U.S. equity mutual funds, using the publicly available Center for Research in Security Prices' Survivor-Bias-Free U.S. Mutual Fund Database, from 1984 through 2020. Funds had to exhibit no less than eight months of returns, represent asset sizes greater than \$5 million and be in existence for no less than five years prior to the end of the sample period.

The researchers confirmed that this supplemental measure is superior to the standard Fama-French approach, resulting in significant improvement in more than 75% of fund analyses.

One key data point: Using their technique compared to Fama-French, the researchers found that fund managers' rankings shifted between quartiles nearly 22% of the time, a reflection of more fine-grained analysis of their performance. "And almost 10% of managers moved above or below the median performer," Stewart said, noting that decisions regarding manager employment or compensation could be affected.

"It's not just that it's a better technique, but it actually has practical implications," Stewart said. "If you're a fund manager, it may move you from being below average to above average, or vice versa. And if you were above or below average simply because of the way your portfolio size was structured, the typical Fama-French approach wouldn't understand that. This approach does, and adjusts for it."

The student involvement in this research stemmed from an academic

research project requirement in Stewart's undergraduate-level investment research course. Jankovic started the project during his senior year; he handed it off to Anne Stewart, Scott's daughter, during her senior year, and she passed it on to Dong, who completed the work before heading to Oxford to pursue his doctorate.

More information: Nanqing Dong et al, [Improving Equity Fund Alpha Estimates with a Second Size Factor](#), *The Journal of Portfolio Management* (2022). [DOI: 10.3905/jpm.2022.1.435](https://doi.org/10.3905/jpm.2022.1.435)

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