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THE LINK BETWEEN ASRP AND RETURNS?

Active Share Risk Profile: Seeking a Link Between Active Share and Future Performance

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EXECUTIVE SUMMARY

The predictive power of Active Share in respect of future performance has been debated in the investment industry for over a decade. Active Share is a holdings-based measure of a portfolio's difference from benchmark. It's a necessary condition for outperformance because if a portfolio is not materially different from benchmark, it cannot perform differently. But different does not mean better: high Active Share can result in underperformance <u>or</u> outperformance.

While there is little evidence that Active Share on its own can predict future performance, combining it with other measures has shown some promise. In a 2014 paper[1], Gillman, Khusainova and Mier ("GKM"), combined Active Share with portfolio concentration (measured by Concentration Coefficient[2]) using the Fundamental Law of Active Management (Grinold, 1989[3]). They found this approach had some predictive power for US and international equity portfolios during 2009-2013, although not for the financial crisis years of 2007-8. More recently, our 2019 paper introduced Active Share Risk Profiles[4]. As well as providing granular data on the components of Active Share, the data in this research used a different portfolio universe (global equity) and a longer time period (4Q 2009-3Q 2019) compared to the 2014 study. Based on this new data, we address two questions:

1. Does the latest data support similar predictive power to the 2014 findings using the Fundamental Law (combining Active Share and portfolio concentration)?

2. Can we improve the predictive power of Active Share when we include other measures, including its various components as researched in the Active Share Risk Profile paper?

CONCEPT

For the impatient reader, the short answers to those two questions are yes and no!

We did find that using Active Share within the context of the Fundamental Law provided some predictive power for subsequent performance, but just as in the 2014 study, the statistical link was modest.

We then investigated possible links between the components of Active Share (e.g. country, sector and stock-specific exposures) and future performance. As well as testing these individually, we looked at combinations including portfolio turnover and concentration.

We included these two metrics to test the hypothesis that high concentration and long-horizon (low turnover) would provide predictive power if combined with high Active Share. However, none of these tests found any predictive power for subsequent outperformance.

So the "magic bullet" that links Active Share (and related metrics) to future performance is still elusive. We must acknowledge the possibility that it does not exist.

While high Active Share is a necessary condition for outperformance, we have no significant proof that it is sufficient…..yet! As such, there seems no definitive support for marketing claims that high Active Share is associated with future outperformance.

We admit that our data sets are limited, both in number of equity portfolios and in length of period. The 2014 study included 174 U.S. and international portfolios,[5] and the 2019 paper included 46 global portfolios. It's possible that a larger number of portfolios might produce a different conclusion, although we would be surprised by this.

In our opinion, it's more likely that a different conclusion might come from examining different and longer time periods. The 2009-2018 period shows only limited predictive power. A much longer set of data might show that the modest apparent link in the last decade was "noise."

Alternatively, it might reveal that a stronger link exists in other periods than was apparent in the period we tested. We would be happy to share our data with others who might want to address this topic.

DATA RESULTS

The correlation between the Fundamental Law of Active Management and subsequent excess returns was 9.7%. While positive, this does not show a strong relationship.

The value peer group shows a stronger correlation (29.2%), while growth peers have a negative correlation (-6.5%). We believe this is reflective of the specific short period (2009-2019) covered, and therefore should probably not be generalized to a conclusion.

We also show correlations with other metrics, but do not see any significant, consistent relationships in that data.

> *We did find that using Active Share within the context of the Fundamental Law provided some predictive power for subsequent performance, but just as in the 2014 study, the statistical link was modest.*

We then introduced turnover to see whether the combination of high Active share, low turnover and high concentration (equivalent to low concentration coefficient) had predictive power for returns. The formula we used was:
Active Share/(Turnover*Concentration Coefficient)

The formula provided similar correlations as did the Fundamental Law in Exhibit 1 (see below), while the turnover and concentration metrics showed no correlation at all.[6] See Exhibit 2 (on the next page).

Exhibit 1: Correlations with Excess Returns Over Subsequent Three-Year Period

Correlations with Subsequent Excess Returns	Active Share	Exposure AS	Stock Specific AS	Concentration	Fundamental Law
Full universe	-5.6%	-2.4%	4.0%	2.5%	9.7%
Value peer group	4.7%	10.4%	-8.0%	-5.3%	29.2%
Growth peer group	-11.8%	2.3%	-3.5%	2.4%	-6.5%
Blend peer group	-11.9%	-29.5%	35.7%	10.0%	6.2%

Source: Brandes Institute, Morningstar data; quarterly data from Dec. 31, 2009 through Sept. 30, 2019. Correlations were calculated between each metric and the subsequent three-year excess returns relative to the MSCI World Index, which was the benchmark for all portfolios in the peer groups. Fundamental Law was calculated as Active Share*Tracking Error*Square root of Concentration Coefficient. Concentration Coefficient was used to calculate concentration. Exposure and Stock Specific Active Share ("AS") are calculated using the methodology in our 2019 paper on Active Share Risk Profile.

The 2014 GKM study used a different approach. Portfolios were ranked at the beginning of the period by "implied return" as forecast by the Fundamental Law (using Active Share and concentration). They were then re-ranked by actual return at the end of the period. This enabled a calculation of whether (and by how much) the forecast return was an improvement over random results. While the 2007-2008 period showed negative predictive power for both international (-1.3%) and U.S. universes (-11.8%), the predictive power (defined as percentage improvement over a random outcome) was positive for 2009-2013 for both international and U.S. universes, after showing negative results in the crisis years of 2007-8. See Exhibit 3.

Exhibit 2: Correlations with Five-Year Annualized Returns to Sept. 30, 2019

	Correlation
AS/(turnover*concentration)	10.5%
Turnover only	-6.4%
Concentration only	0.0%

Source: Brandes Institute, Morningstar data; quarterly data from Dec. 31, 2009 through Sept. 30, 2019.

Exhibit 3: Results from 2014 GKM Study, for 2009-2013

	Predictive Power
International Universe	11.2
U.S. Universe	14.8

Source: The Predictive Power of Portfolio Characteristics, 2014. Predictive Power is defined as the percentage improvement over random outcomes. International Universe includes 77 non-US portfolios and 11 global portfolios; results for this universe were adjusted for Active Share differences between MSCI ACWI and MSCI EAFE benchmarked portfolios. U.S. Universe includes 86 large-cap portfolios.

CONCLUSION

The purpose of this article is to provide additional insight into the ongoing debate as to whether Active Share has any predictive power. Our conclusion is that so far there is no conclusion! We report our findings because a "null result" may still be of value, especially if it prevents investors from acting on false assumptions.

A good analogy for our research is a recent quote from a doctor on being asked by a patient, "Am I well?" "There's no such thing as a well person," was the reply. "Just people who haven't had enough tests yet." There may be a still-to-be-discovered significant link between Active Share and future performance. If there is, we have yet to find it.

End Notes and Disclosures

[1] Gillman, Barry and Khusainova, Erianna and Mier, Juan. "The Predictive Power of Portfolio Characteristics." December 2, 2014. Available at SSRN: https://ssrn.com/abstract=2539670 or http://dx.doi.org/10.2139/ssrn.2539670

[2] As introduced in the Brandes Institute paper, "Concentrated Portfolios: An Examination of Their Characteristics and Effectiveness," published in 2004, the Concentration Coefficient (CC) integrates a portfolio's benchmark weighting and number of constituents in order to provide another measure of portfolio concentration. The CC of a portfolio or index is the inverse of the sum of the squares of the position weights.

[3] Grinold, Richard C. "The Fundamental Law of Active Management." *The Journal of Portfolio Management*, Spring 1989.

[4] Gillman, Barry. "Understanding Portfolio Risk Using the Holdings-Based Methodology of Active Share." The Brandes Institute. December 2019. https://www.brandes.com/docs/default-source/brandes-institute/2019/brandes-institute-active-share-risk-profile

[5] The 88 international portfolios in that universe included 11 global portfolios, all benchmarked to the MSCI ACWI Index.

[6] We urge additional caution on these results due to the limited data recorded by Morningstar on turnover. As a result, we measured turnover for each portfolio as the average of the quarterly history for each portfolio, and for consistency, we measured concentration the same way. The result therefore make an implicit assumption that these metrics are reasonably stable over the measurement period.

Correlation: A measure of how a security's (or a portfolio's) price moves relative to another; it can be expressed as a percentage, or as correlation coefficient with a range between -1.0 and 1.0. A correlation of 1.0 suggests prices move in lockstep; -1.0 suggests moves that are completely opposite. Zero suggests no relationship.

Active Share calculations require holdings-level data for all portfolios at all dates. The portfolio holdings data is sourced from Morningstar's mutual fund database of U.S.-registered mutual fund portfolios. The universe used was Foreign Large Cap Equity and within this universe, we downloaded the 69 global equity portfolios benchmarked to the MSCI World Index with inception dates prior to 12/31/2009. Data was downloaded for the 10 calendar year-end dates from 12/31/2009 to 12/31/2018. We then eliminated portfolios from the list if their holdings data was substantially incomplete, or if the portfolio did not substantially consist of equities. A number of the remaining portfolios had a limited amount of missing data. Some portfolio data included equity holdings, but without identifiers or country and sector categories. To the extent practical, these were input manually; however, for some portfolios, the amount of incomplete data was so substantial to make that task impractical.

The final dataset includes 46 funds benchmarked to the MSCI World Index. Not all of these portfolios had holdings data for every year-end date. Using Morningstar's style categorization of these portfolios, the universe was divided into three peer groups: Value (16 portfolios), Growth (17 portfolios) and Blend (13 portfolios).

The sector names and classifications in Morningstar's data are similar but not identical to the industry-standard GICS sectors. As all the downloaded security level data is identified with Morningstar sectors, the Morningstar sector classifications have been used throughout this paper instead of GICS sectors. The following table shows the Morningstar sectors alongside the corresponding GICS sectors. The securities in a Morningstar sector may not always be an exact duplicate of those in the equivalent GICS sector.

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