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INVESTMENT POLICY RESEARCH:

Do Passive Managers Have Positive Alpha?

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Our Investment Policy Research articles provide an in-depth look at due diligence that has been completed by the BAM Advisor Services investment policy committee (IPC). We hope you find these articles to be educational and that they offer insight into the policies formed by our IPC.

We now have more than 10 years of returns history for a relatively large number of DFA and Vanguard U.S. equity funds. This history allows us to examine whether returns are fully explained by size, value and momentum exposures plus expenses, or whether certain funds or managers appear to be adding reliable alpha through better trading practices, securities lending or other aspects of portfolio management.

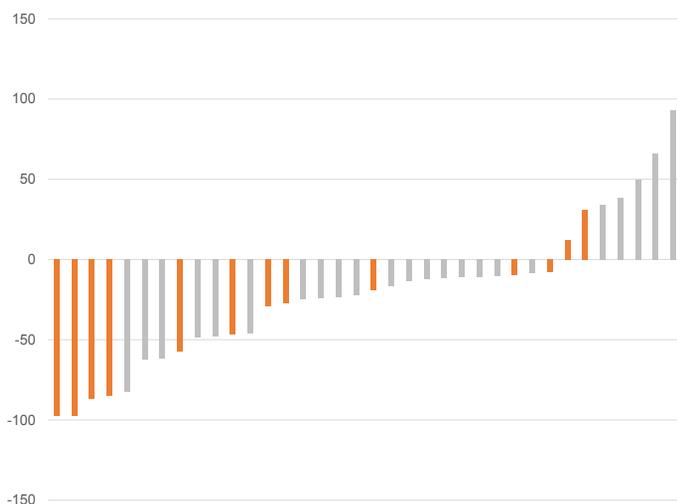
In general, we find that factor exposures and expenses seem to explain the returns of most funds; there is little left over after accounting for these attributes. For the sample of 13 DFA funds included in this analysis, we find average annualized alpha of -40 basis points (bps) per year compared with -11 bps per year for the sample of 23 Vanguard funds. If we restrict the Vanguard sample to small-cap funds, we estimate average annualized alpha to be +7 bps per year. For value funds, we estimate average annualized alpha to be +9 bps per year. However, not one of these estimates is reliably different from zero. A fair assumption can be made therefore that realized returns for both DFA and Vanguard funds appear to be fully explained by factor exposures and expenses.

DISSECTING HISTORICAL RETURNS

The Appendix contains the full list of funds included in this analysis. We use regression analysis to help answer this piece's basic question. For each U.S. equity fund, we regress 120 months' worth of returns less the risk-free rate on the U.S. market, size, value and momentum factors from the data library of Dartmouth Professor Ken French. For all funds and factors, monthly returns start in September 2007 and end in August 2017. This analysis estimates the amount of the market, size, value and momentum premia captured by the fund, as well as the amount of return not explained by these four factors.

If you believe certain funds or managers can be expected to outperform their factor exposures net of expenses, you should see that the "alpha" term from the regression is positive and reliable. We do not find this for a single fund that we examine. Figure 1 plots the annualized alpha estimates for all 36 funds included in this analysis, sorted from most negative to most positive. The results for DFA's funds are in orange and Vanguard's funds are in gray.

Figure 1: Annualized Alpha (September 2007–August 2017)
(in basis points)

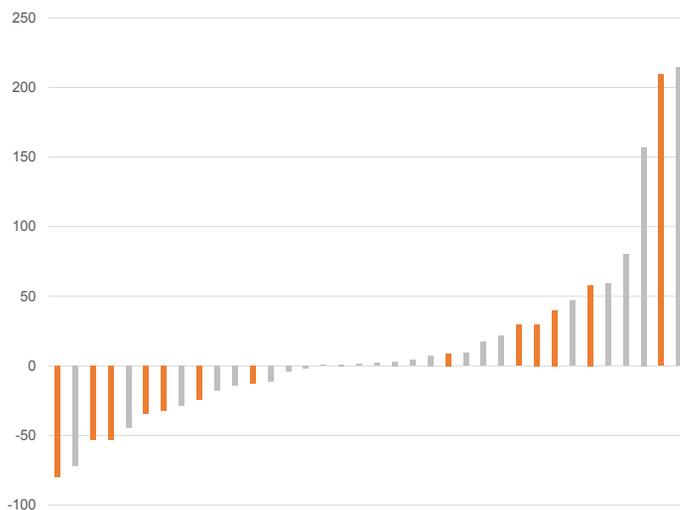


Of the 36 funds analyzed, only seven generated positive alpha. The vast majority had returns that were lower than expected relative to their style exposures. This is a reasonable finding since one would guess that expense ratios and transactions costs are the key contributors to this result. Of the seven that generated positive alpha, five were Vanguard funds and two were DFA funds, although none of these results were statistically different from zero. The fact that most alphas were negative and none were statistically reliable means it's a reasonable assumption that fund managers are not able to add positive alpha after accounting for factor exposure and expenses (both expense ratios and transaction costs). Another way of stating this: When one observes that a particular passively managed fund has generated either higher or lower long-run returns than a counterpart, this difference is likely attributable to differences in factor exposures and expenses and not manager expertise in executing the strategy.

ARE RESULTS DIFFERENT USING LONGER-TERM DATA?

One could argue that the above results are due to this particular window of time. To address this concern, we repeat the analysis going back as far as possible for each of the 36 funds. Figure 2 reports the annualized alphas for the 36 funds sorted from smallest to largest.

Figure 2: Annualized Alpha (Longest Period Possible)
(in basis points)



Interestingly, the range of outcomes is wider but, as before, not one of these results is statistically significant. Of the 20 funds that had positive alphas, 14 were Vanguard funds and six were DFA funds.

SUMMARY

For capable managers, manager expertise does not seem to reliably contribute to long-term fund returns, or at the very least, the impact is not statistically discernible. We find that not a single Vanguard or DFA fund generated either reliably positive or negative alpha over the periods we examined. One interpretation of this result is that fund returns are fully explained by factor exposures and expenses and that everything else is second or third importance.

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APPENDIX

The below tables show the DFA and Vanguard U.S. equity funds included in BAM's Approved Securities List with more than 10 years of returns history.

Table 1: DFA Funds

Name	Ticker
DFA Enhanced US Large Company I	DFELX
DFA Tax-Managed US Equity	DTMEX
DFA Tax-Managed US Small Cap	DFTSX
DFA Tax-Managed US Targeted Value	DTMVX
DFA US Core Equity 1 I	DFEOX
DFA US Core Equity 2 I	DFQTX
DFA US Large Cap Value III	DFUVX
DFA US Large Company Portfolio I	DFUSX
DFA US Micro Cap I	DFSCX
DFA US Small Cap I	DFSTX
DFA US Small Cap Value I	DFSVX
DFA US Targeted Value I	DFFVX
DFA US Vector Equity I	DFVEX

Table 2: Vanguard Funds

Name	Ticker
Vanguard 500 Index Admiral	VFIAX
Vanguard 500 Index Investor	VFINX
Vanguard Extended Mkt Index Admiral	VEXAX
Vanguard Extended Mkt Index Investor	VEXMX
Vanguard Growth Index	VIGAX
Vanguard Institutional Index I	VINIX
Vanguard Large Cap Index Admiral	VLCAI
Vanguard Large Cap Index Investor	VLACX
Vanguard Mid Cap Index Investor	VIMSX
Vanguard Mid Cap Value Index Investor	VMVIX
Vanguard Small Cap Index Admiral	VSMAX
Vanguard Small Cap Index I	VSCIX
Vanguard Small Cap Index Investor	NAESX
Vanguard Small Cap Value Index I	VSIIIX
Vanguard Small Cap Value Index Investor	VISVX
Vanguard TM Capital Appreciation Admiral	VTCLX
Vanguard Tax-Managed Small Cap Admiral	VTMSX
Vanguard Total Stock Market Index I	VITSI
Vanguard Total Stock Market Index Admiral	VTSAX
Vanguard Total Stock Market Index Investor	VTSMX
Vanguard Value Index Admiral	VVIAX
Vanguard Value Index I	VVIX
Vanguard Value Index Investor	VVIVX

