RESEARCH NOTE

August 2009

Active versus Passive Equity Managers
Using the "Active Share" Measure

Introduction

The debate about using active versus passive portfolio management continues among investors, consultants, and academic researchers. For the most part, empirical evidence suggests that active equity managers who beat their benchmarks net of fees and trading costs are few and far between. Nonetheless, many investors insist on searching for active managers who belong to that elite group. Others are content choosing passive index funds for their traditional asset portfolios.

It is surprising how often distinctions between (and arguments about) passive and active devolve into "index funds versus everything else." This sometimes is simply the result of the "ne'er the twain shall meet" attitudes of the two extreme positions in the debate, but it also reflects the fact that there is no simple, continuous measure of the "degree" of active management. Although we may describe actively managed portfolios as "closet index," "concentrated," or "best ideas," such classifications generally reflect only one identifiable aspect of the manager's style. We look to Tracking Error, delighting in its quantifiable nature, but acknowledge that although it indicates active management, it cannot serve as a single, simple measure.

As the search for active managers will undoubtedly continue, it seems obvious that investors and consultants should keep current on research relating to measurement and performance issues and should take advantage of any new insights that might facilitate and improve the selection process. The purpose of this note is to

- define a relatively new measure of active management, namely, "Active Share,"
- discuss how we might use it by itself and in combination with Tracking Error to better characterize and compare active managers,
- discuss how it might help to identify managers most likely to outperform their benchmarks, and
- promote further discussion, research, data collection, and the possible adoption of Active Share as another measure in our toolbox of manager analytics.

The first part of this note draws from the working paper by K.J. Martijn Cremers and Antti Petajisto[1] that has attracted the attention of many in the industry, including MorningStar, who added a version of Active Share as a screening tool in late 2007. (We warn readers that while Part I may seem a dry five pages, the alternative is fifty pages by Cremers and Petajisto.) The second part illustrates applications of Active Share using a sample of long-only, domestic large-cap equity managers that Hammond Associates follows. We conclude with recommendations and cautions about using Active Share.

Part I

The "Active Share" Measure

K. J. Martin Cremers and Antti Petajisto (C&P), professors at Yale University, began presenting results of their research on actively managed equity mutual funds about three years ago. In their quest for further evidence of value added by active managers, they developed a new measure of active portfolio management. That measure,

[1] K.J. Martijn Cremers and Antti Petajisto, "How Active Is Your Fund Manager? A New Measure That Predicts Performance," Working Paper, Yale School of Management, March 31, 2009.

Active Share, represents the proportion of portfolio holdings that differ from those in the benchmark index and is defined as follows:

$$\text{Active Share} = 1/2 \sum_{i=1}^{N} \left| w_{fund,i} - w_{index,i} \right|,$$

where $w_{fund,i}$ and $w_{index,i}$ are the portfolio weights of stock i in a fund and in its benchmark index, and the sum is taken over the N stocks in the index and in the fund[2].

Active Share depends on the absolute differences in portfolio weights for all stocks in the managed fund and its index benchmark, which are simply the manager's over-weights and under-weights. Active Share is simple to calculate, requiring only the market values of stocks in both the benchmark portfolio and the actively managed fund: Calculate the difference between the fund's weight and the index's weight for all stocks in either, sum the absolute differences, and divide by 2. Dividing by 2 ensures that Active Share takes on a value between zero and 100%, so it can be read and interpreted as follows:

Active Share = the % of stock holdings in a fund that differ from those in the index.

Remember that the sum of the weights for any fund's stocks is 100% and the sum of the weights for any index's constituents is 100%. So, if the fund contained *none* of the stocks in the index, then the sum of the absolute differences would be 200%; dividing by 2 reduces the calculation in this extreme example to 100%.[3] Active Share then has a straightforward interpretation: a fund that diverges from its benchmark completely (i.e., holds none of the benchmark stocks) has Active Share =100% and can be described as being 100% actively managed. At the other end of the spectrum is a fund that contains exactly the same stocks with exactly the same weights as the index (i.e., a perfectly replicated index fund). In this case, the sum of the absolute differences in weights is 0%. The interpretation is that 0% of the fund's holdings diverge from the index, so there is 0% active management; it is totally passive. For any fund holding some but not all of the stocks in the benchmark (or with different weightings), Active Share will fall between 0% and 100%. The observed sizes and distribution of fund Active Shares will be discussed later in this note.

Combining Active Share and Tracking Error to Characterize Active Equity Management

The only way that an equity fund manager can outperform a given benchmark is by taking positions that differ from those in the benchmark. There are basically two paths that lead to holdings differences—stock selection or factor-timing. Stock selection refers to the picking of stocks that outperform the benchmark index without changing the level of systematic risk.[4] Factor-timing, which is also known as "tactical allocation," "market timing," or "sector rotation," means taking positions in particular factors such as market cap, price-to-book, sector, industry, etc. Either approach results in different stock weightings relative to a manager's official benchmark index.[5]

C&P suggest that Active Share, a holdings-based measure, can be used to describe and compare active equity fund managers on one dimension—basically, that of stock-selection. Tracking Error (TE) can be used to describe the other dimension of factor-timing. Recall that the typical calculation of TE is the standard deviation of a fund's excess returns relative to its benchmark index. It is obvious that TE cannot be positive unless a fund has different risk exposures than the benchmark. C&P argue that since TE depends on a fund's return covariances with the

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[2] The calculation should include the weights of all assets in the fund and index, including cash, derivatives, short positions, etc. We are limiting our discussion here to long-only equity portfolios and therefore focusing on stock holdings, ignoring cash and derivatives, and assuming no leverage.

[3] Active Share stems from decomposing a fund into a 100% position in the benchmark index plus a zero-net-investment long-short portfolio. The long-short portfolio reflects all the fund's active bets (under-weights and over-weights). For hedge funds or any fund using margin, Active Share can exceed 100%.

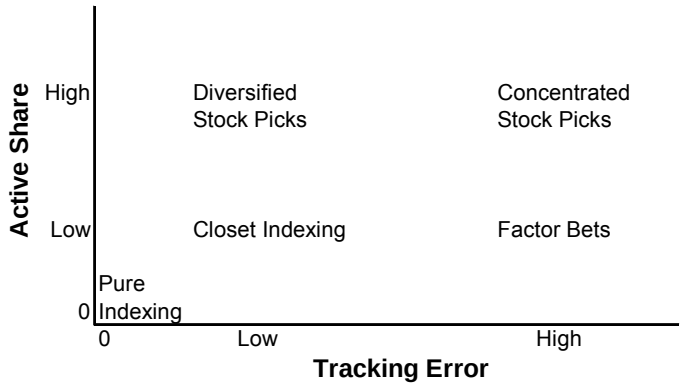
[4] Of course fund risk by any measure may differ from index risk, but evaluation of stock-picking generally attempts to adjust for differences in risk, which depend on factors such as beta, market capitalization, or industry.

[5] In this note we are not interested in factor-timing as it relates to overall portfolio asset allocation decisions, such as whether to overweight large cap equities, whether to adopt a "value tilt," whether to overweight energy stocks via ETF-investing, etc. We are only interested in factor-timing issues within the mandate of a single fund manager.

index, it nicely reflects differences in systematic factor exposures.[6] Note that TE measures the volatility of a fund's excess returns, but it is not the case that higher TE necessarily implies higher risk as measured by total portfolio volatility or beta; neither is it the case that higher TE implies higher absolute or excess returns.[7]

Cremers and Petajisto propose using Active Share and Tracking Error as measures of the two key dimensions of active management[8] and show how the two measures pair up for broad categories of active management style in the following graph:

Figure 1: Active Management in Two Dimensions



What might we gain from using this framework? First of all, it is another way of characterizing or categorizing funds or managers. In much the same way we use value-growth style boxes to describe and distinguish among value and growth managers, we might use the "active management box" to describe them in active-passive dimensions. Neither of these boxes is rocket science nor does either tell us which manager to select—each is a single tool among many that can help in sorting and selecting managers. That being said, is there other evidence that would motivate us to look to Active Share for more than simple categorization? In the next section we summarize C&P's general findings about Active Share and, most interesting, their finding that managers with the highest Active Shares have the highest levels of outperformance.

Empirical Results

How Large are Mutual Fund "Active Shares"?

Data and Methodology: C&P investigate sizes and trends in Active Share and the relationship between Active Share and excess returns relative to a benchmark. Their data include the stock holdings of all-equity mutual funds in the Thomson Financial's CDA/Spectrum database, stock and mutual fund returns from CRSP, and constituent data and returns on 19 indexes. Indexes include those used by the funds and are provided by S&P/Barra, Russell, and Wilshire.

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[6] If we express Tracking Error (TE) in matrix notation, we can see the role of weight differences (active bets) and factor returns: TE is the square root of Relative Portfolio Risk, var(a):

$$var(a) = w'(a) * V * w(a)$$

where w(a) = active weights, that is, the difference between the portfolio's and the benchmark's weighting of a particular factor

w'(a) = transposed active weights

V = variance-covariance matrix of factor returns.

[7] A familiar example is The GMO U.S. Quality Fund, which for the first three years of its history had a Tracking Error of about 4.3% and an excess return of about -4.6%. In the most recent three years, it had a Tracking Error of about 6.5% and an excess return of +5.9%. Over each three year period, it had a beta below one and total volatility significantly lower than that of its stated S&P 500 benchmark.

[8] CP suggest that these two measures are reasonable proxies for the two major dimensions of active management, but there are many more elaborate approaches to quantifying them. Certainly returns-based multifactor regression models can be designed to yield further quantification of both dimensions, but not without adding layers of complexity in terms of computation and interpretation.

After numerous screens, cleaning, etc., C&P obtain a sample consisting of 2,647 funds during the time period from 1980 to 2003. For each year and each fund, there is an average of three fund holding report dates and a total number of observations of 48,354.

C&P select what they determine is the most appropriate benchmark for each fund rather than accept the Fund's stated benchmark index. They do this by computing Active Share for each fund against each of the 19 indexes and selecting the index for which the fund has the lowest Active Share. This suggests another use for Active Share in our regular evaluation of funds and managers. How many times, for example, do we argue about a style index being a more appropriate benchmark than a manager's stated core index? Or whether a manager "cheats" to beat his stated index or picks an index that is easier to beat? We will visit some examples later, in Part II.

Size of Active Shares of All-Equity Mutual Funds: C&P provide numerous summaries of Active Share by number of funds, type and size of fund, expense ratio, turnover, and time period. We reproduce one summary table for 2002 (the most recent year for which they had full-year data):

Table 1: Number of Mutual Funds (2002)

	Tracking Error (% per year)								
Active Share (%)	0-2	2-4	4-6	6-8	8-10	10-12	12-14	>14	All
90-100			66	125	77	41	22	26	358
80-90		17	100	120	54	24	10	10	336
70-80		26	124	83	27	5	7	10	281
60-70		75	115	41	12		1		247
50-60	3	102	55	15	3				179
40-50	9	66	20						98
30-40	15	27	3						47
20-30	11	4							14
10-20	8								10
0-10	104	4							109
All	150	323	482	388	174	73	41	48	1678

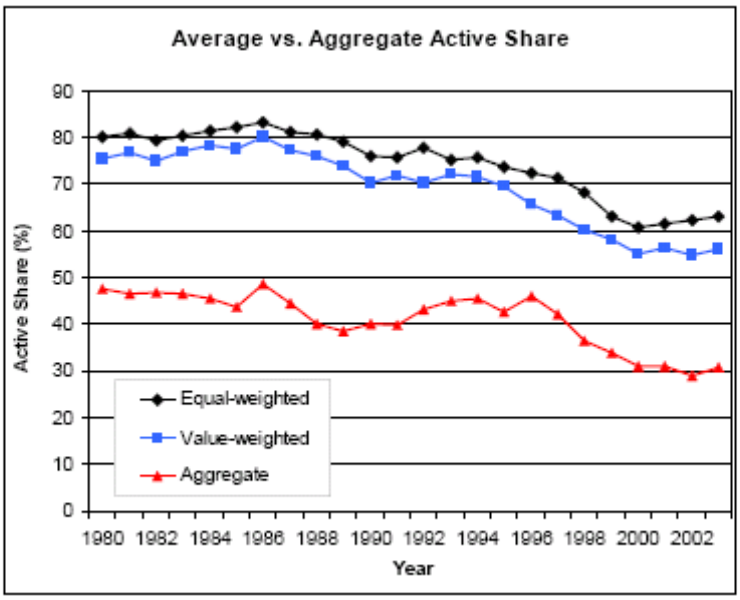
As Table 1 shows, there is a broad array of active manager types. Note that of the 1,678 funds, 1,222 (about 73%) had Active Shares of 60% or above but only 118 of these had TE below 4%.[9] There is also an obvious relationship between active share and TE (higher Active Share generally means higher TE), relatively few funds with above average Active Share and low TE, and no funds exhibiting low Active Share paired with high TE.

A multitude of questions emerge about who these managers are, where "our" managers fall, whether the distribution is stable over time, whether Active Share is stable for individual managers, and whether some combination of Active Share and Tracking Error predicts superior relative performance. C&P address many such questions, but we will summarize only a few.

Of particular interest is the fact that Active Share for long-only equity mutual funds and the industry as a whole has fallen over time, as shown in the following graph:

[9] We found some minor differences in row and column sums in Table 1 but have not yet received a corrected version from C&P.

Figure 2: Active Shares over Time (Active funds with S&P 500 Benchmarks)



Referencing their graph above, C&P note how the levels of active management for individual funds in the universe and for the industry as a whole have declined since the 1980's. To calculate the aggregate Active Share, C&P simply treated the whole mutual fund industry as a single fund and summed all weights for all funds. So, in 2003 the industry as a whole had an active share of only 30%, meaning that 1) funds were largely cancelling out each others' bets and 2) the industry was basically 70% passive. They conjecture (reasonably, we think) that this reflects the responses of active fund managers and fund providers to investors' increased interest in indexing and concern with Tracking Error.

We summarize some additional noteworthy relationships found by C&P:

- The Active Shares of individual funds are quite consistent over time, meaning that current Active Share is a good predictor of a fund's Active Share next year.
- Active Share is negatively correlated with the size of the fund; smaller funds tend to be more active.
- Funds with the highest Active Shares appear to have slightly higher expense ratios, but there is no meaningful relationship with expense ratios for intermediate ranges of Active Share.
- There is basically no correlation between Active Share and portfolio turnover.
- C&P estimate the Active Share of a marginal dollar in funds and find that it is roughly 70% for funds managing up to $1 billion, falls to 60% at $10 billion, and to about 50% for the largest funds.
- C&P calculate Active Share on an industry level and find it to be relatively constant within a TE group, whereas it varies from 50% to almost 100% on a stock level. They believe this supports their conjecture that active bets on industries increase TE while stock-picking in a relatively industry-neutral setting does not.
- Active Share is not easy to explain with other variables, so it is a new dimension of active management that should be measured and viewed separately.

Does Active Share Predict Excess Returns?

Of course the result everyone jumps to the *Conclusions* for is whether or not funds/managers with higher Active Shares are more likely than those with lower Active Shares to beat their benchmarks. C&P conclude that they do.

Data and Analysis: Using active fund data from 1990-2003, C&P calculate index-relative excess returns, Active Share, and TE for each fund in their sample.[10] They then sort the funds into Active Share quintiles and into TE quintiles, thus obtaining twenty-five groups of Active Share/TE paired funds. Using regression analysis, they investigate the relationship between excess returns and the twenty-five active fund groups. They analyze funds within each Active Share quintile to discern the effect of TE on excess return and funds within each TE quintile to uncover any impact of differences in Active Share on excess return. They then "drill down" to isolate other characteristics of the funds that outperform and underperform, that is, to further identify winners and losers.

Key Results and Conclusions: Tracking Error does *not* help in selecting outperforming funds. In fact, going from low to high tracking error generally hurts performance within an Active Share quintile, especially for the lowest Active Share quintile. On the other hand, increasing Active Share within a TE quintile improves relative performance. The highest quintile of Active Share returns 2.55% more than the lowest quintile (t =3.47). The difference in net excess returns within each TE quintile is positive and significant.

We summarize C&P's findings about the relationship between different types of active managers and their abilities to generate excess net returns:

- Low Active Share and high Tracking Error managers (factor bets are taken) do the worst.
- Low Active Share and low Tracking Error managers (closet indexers) tend to lose money after fees and trading costs.
- High Active Share and low Tracking Error managers (diversified stock-pickers) can earn positive excess returns.
- High Active Share and high Tracking Error managers (concentrated stock-pickers) earn the highest positive excess returns.
- The most successful outperforming funds have high Active Share, high Tracking Error and low assets under management (below $1 billion). Of these, the best in any one-year period exhibited strong outperformance in the preceding one-year period.

C&P strongly recommend that

An investor should clearly avoid the lowest three Active Share Quintiles and instead pick from the highest Active Share quintile. Funds in the highest Active Share quintile beat their benchmarks by 1.13% (t=1.60)….

and

From an investor's point of view, funds with the highest Active Share, smallest assets, and best one-year performance seem very attractive, outperforming their benchmarks by 6.5% per year net of fees and expenses.

Part II

Applications of Active Share to HA Manager Research and Selection Efforts

We calculated Active Share for a number of long-only domestic equity managers that Hammond Associates Research Group follows.[11] Given the absence of a large database and programming, our initial objectives were basic: How simple is Active Share to calculate and what does it tell us? Does it measure a dimension of active management that is useful and logical? Does it yield rankings that are consistent with the less quantitative approaches we employ to assess degrees of active management? Does it provide any new insights or prompt useful new questions as we engage in our manager selection process?

[10] C&P do not use the typical TE calculation in this analysis. They estimate TE after adjusting for adjusting excess returns for differences in fund betas.

[11] We calculated Active Share using C&P's equation. MorningStar calculates Active Share differently: 1 minus the % of the fund that is invested in **names** that are also in the index, thus allowing over- and under-weights to cancel each other out and, in our opinion, lose a large amount of information and discrimination value.

Categorizing Active Managers

Exercise 1: Use Active Share to quantify total holding bets (under-weights and over-weights) against an index benchmark and to compare managers.

U.S. Large-cap growth managers: We included Stralem and Jensen because both assert that they can be benchmarked against either the Russell 1000 Growth index or the S&P 500 index.

Table 2: Active Share of Large-cap Growth Managers

	Active Share: Benchmark = Russell 1000 Growth		
Manager	*12/31/2007*	*12/31/2008*	*3/31/2009*
DSM	85.7%	87.3%	84.1%
Jensen	84.8%	81.8%	82.8%
Stralem	84.7%	79.2%	85.3%
Atalanta Sosnoff	74.6%	74.1%	69.8%
Neuberger Berman	68.5%	60.6%	54.3%
INTECH	61.5%	50.1%	55.0%
BGI R1G Alpha Tilts	53.4%	34.9%	31.6%

Key observations are that, given our familiarity with these managers, the Active Share measure does a good job in terms of ranking the degree of active management. For the first four obvious large-cap growth managers it produces a ranking that is consistent with ordinal ranks we would have assigned. If this is true for managers we know well, Active Share would seem to be valuable in screening and sorting managers we know less well.

The declines in INTECH and BGI's Active Share over calendar year 2008 also make sense based on what each of those managers has told us. INTECH in late 2007 began implementing tighter index-relative weight controls on individual stocks, clearly indicating a reduction in under- and over-weights was forthcoming. BGI's story is more complicated. First, we view them as enhanced indexers, so expect them to exhibit a low Active Share. But, in 2007 they reweighted their three thematic models, with the most obvious change being a reduction in the role played by the relative valuation model in forecasting alpha. Our sense at the time was that the sum of their modifications was to reduce their active index-relative risk and TE after disappointing returns in 2007—and the change in Active Share is consistent with this view. The general insight of this limited exercise is that Active Share seems to quantitatively reflect certain types of management information and may therefore serve as a useful check. Along the same vein, an unexpected, noticeable change in Active Share should prompt a conference call with the manager.

Let us look at Neuberger Berman, a manager we were reviewing when the first signs of trouble emanated from Lehman Brothers, the parent of Neuberger at the time. Since Neuberger emerged from the Lehman debacle as a privately held firm, we decided to revisit their large-cap growth strategy, and included the mutual fund vehicle in our preliminary Active Share study. Low and behold, the Active Share of the strategy appeared to be shrinking over time. It did not take long to find that in late 2007 the lead manager departed and was replaced by three others, and a fourth manager joined the team in mid-2008. In this case, Active Share led us to ask a question and discover that a manager had been replaced by a team of managers who may have "closet indexing" tendencies.

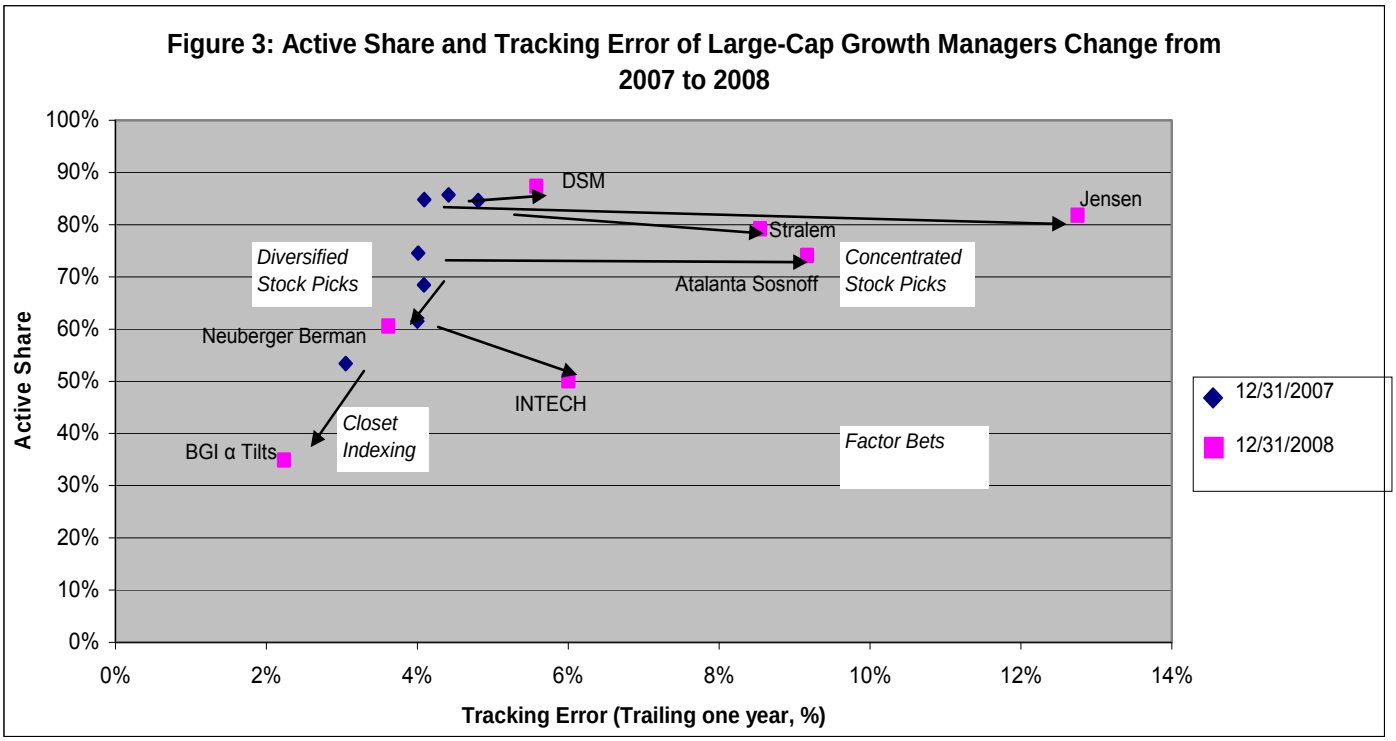
Regarding the numbers for Stralem and Jensen, the Active Share numbers set us thinking: We included them in this sample because their claims of dual benchmarking were not unreasonable. Yet we were skeptical, based on the fact that large-cap growth had performed well relative to core and value in 2007, and we all know how marketing goes. While their Active Shares against the Russell 1000 Growth index do not surprise us, we don't want to jump to the conclusion that they are more active growth managers than, for example, Atalanta Sosnoff, whose Active Share is lower. It would be frivolous to look for, say, a "really" active growth manager by maximizing Active Share relative to the Russell 1000 Growth index. (We can pretty much guarantee that any Emerging Market manager would come up at the top of the list, so common sense and qualitative assessment of the manager's strategy/approach is the first screen.) The interesting question here is whether the S&P 500 is the more appropriate benchmark and brings up the potential application we mentioned earlier: calculate

Active Share against both suggested benchmarks and opt for using the reasonable benchmark which generates the lower Active Share for the manager. We will return to this question in Exercise 3 below.

Exercise 2: Combine Active Share and Tracking Error to characterize managers in two dimensions:

In Figure 3, below, we plot Active Share and Tracking Error[12] for the large-cap growth managers included in Exercise 1 for two points in time, the end of 2007 and the end of 2008.

Figure 3: Active Share and Tracking Error of Large-Cap Growth Managers Change from 2007 to 2008



U.S. Large-cap growth managers:

In Figure 3, the arrows simply indicate the direction in which the Active Share, Tracking Error point moved from 2007 to 2008. Why did we plot these data points? First, we wanted to determine if the manager plots meshed with C&P's labeling and our own. The answer is "yes." BGI has always billed their Alpha Tilts strategies as enhanced indexing, which is the honest equivalent of "closet indexing" in the scheme C&P set forth in Figure 1. We have always viewed INTECH as somewhere in the middle of enhanced indexing and active, recognizing that it expects to add value by trading volatility while not losing in the longer run by holding underperforming stocks. Atalanta Sosnoff holds more names and makes smaller industry and sector bets than DSM, so its lower Active Share isn't a big surprise. Stralem and Jensen employ above-average concentration and clearly make large factor bets, so their location in the graph is again not surprising. The small-sample conclusion is that Active Share is consistent with the assessments we arrived at on the basis of other measures and types of information. The larger conclusion is that Active Share may save us time in the future with less-well-known managers in terms of figuring out what they probably do and then zeroing in on more probing questions.

[12] For these exercises, we calculated Tracking Error in the traditional way using the preceding twelve months of returns. We do not have a database of daily returns, and without them we cannot duplicate C&P's estimation of Tracking Error. Our unproved but reasonable assertion is that monthly returns should provide a meaningful measure of Tracking Error for distinguishing between active managers, assuming that their betas to the index are relatively close to 1.0.

U.S. Large-cap Value Managers:

We also calculated Active Share and Tracking Error for a familiar group of U.S. large-cap value managers.

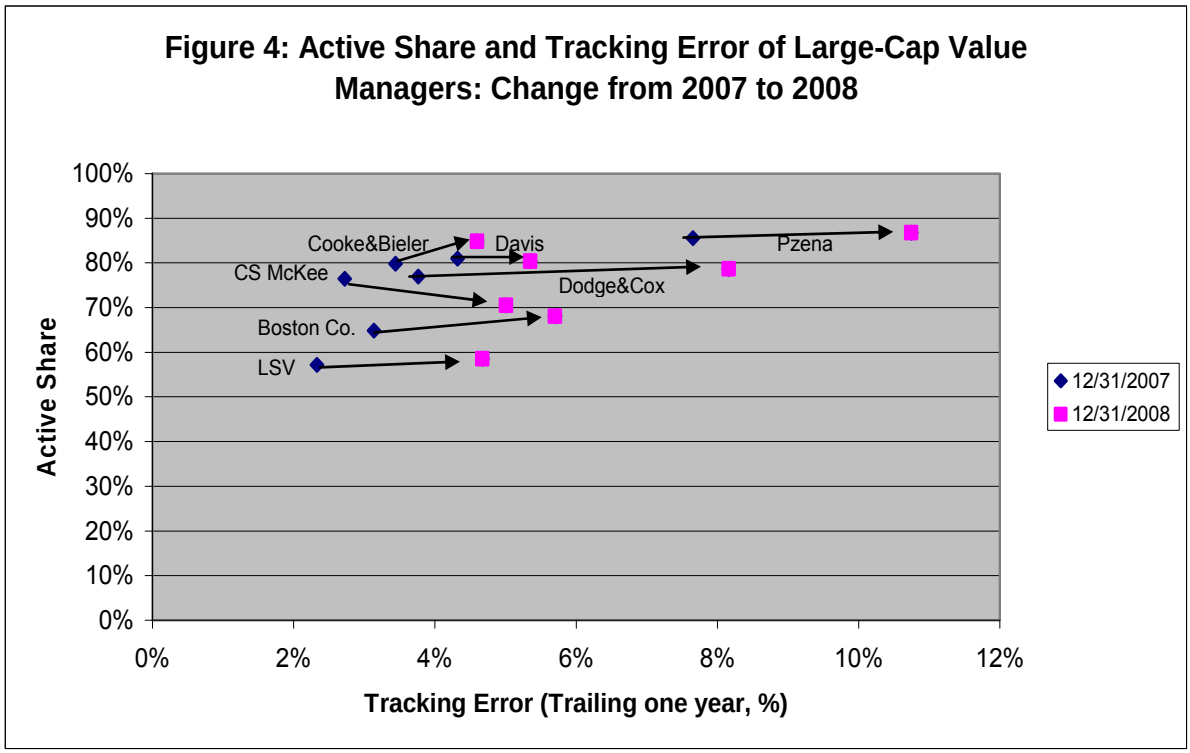


Figure 4 shows that these large-cap value managers had Active Shares between 57% and 87% in the last two years. While Tracking Error increased for all managers during this highly volatile period for equity markets, the Active Shares changed little. Again, the overall ranking provided by Active Share seems about right based on voluminous information we have gathered about these managers over many years. The only surprise is that Davis, with 100 names in the portfolio, had Active Share higher than C.S. McKee, who typically holds about 50 stocks, and almost as high as Pzena, who was holding 35 to 40 names during this period. We continue in another research effort to investigate the myths and realities of concentrated portfolios.

Using Active Share to Evaluate Manager Benchmarks

Exercise 3: Determine appropriate benchmark by finding lowest active share.

a) Using Active Share to choose between two benchmarks.

We have always considered Stralem's strategy to be "large-cap core" and used the S&P 500 as its benchmark. In 2007 Stralem suggested that the strategy could also be considered "quality growth" and benchmarked to the Russell 1000 Growth index. On qualitative grounds we disagreed and maintained the S&P 500 benchmark. C&P suggest that the appropriate benchmark for a portfolio is the one which results in the lowest Active Share—that is, the one which the portfolio most closely resembles in terms of holdings. We apply that principle and calculate active share for each of the two benchmarks at four points in time. We also show the tracking error and R-squared values for each benchmark (TE should generally be lower against the appropriate benchmark and R-squared should be higher) in the table below:

Table 3: Stralem's Active Share against Two Different Indexes.

Stralem

	12/31/2006		12/31/2007		12/31/2008		3/31/2009	
	S&P 500	Russell 1000 Growth	S&P 500	Russell 1000 Growth	S&P 500	Russell 1000 Growth	S&P 500	Russell 1000 Growth
Active Share =	82.3%	83.8%	82.2%	84.7%	77.1%	79.2%	81.3%	85.3%
1-yr TE =	3.4%	4.4%	4.3%	4.8%	6.8%	8.5%	6.9%	9.6%
R-squared =	75.5%	63.5%	85.3%	75.1%	93.1%	92.3%	94.4%	87.6%

As the Table 3 shows, Stralem's portfolio has a lower Active Share relative to the S&P 500 than the Russell 1000 Growth index. It also has a lower tracking error and a higher R-squared with S&P 500. In this case, Active Share is simply another measure that confirms an assessment made on the basis of other information.

b) Using Active Share to choose an index that differs from the manager's stated benchmark.

We often encounter a domestic large-cap manager who sounds like a value (or growth) manager but has an S&P 500 benchmark. The dilemma is then whether to use the official benchmark or a different one. Dodge & Cox Stock (DODGX) is one such example. We have always benchmarked this large-cap product to the Russell 1000 Value while Dodge & Cox benchmarks performance to the S&P 500. In the table below we calculate Active Share and the trailing one-year tracking error and R-squared for both indexes at four points in time. The measures do not provide a clear answer. Active Share weighs slightly in favor of the Russell 1000 Value, but since the beginning of 2008, DODGX has been more closely tracking the S&P 500.

Table 4: Dodge & Cox's Active Share against Two Different Indexes.

Dodge & Cox Stock

	12/31/2006		12/31/2007		12/31/2008		3/31/2009	
	S&P 500	Russell 1000 Value	S&P 500	Russell 1000 Value	S&P 500	Russell 1000 Value	S&P 500	Russell 1000 Value
Active Share =	77.23%	81.59%	78.16%	76.98%	80.78%	78.68%	81.49%	78.93%
1-yr TE=	2.91%	2.87%	3.94%	3.77%	7.45%	8.16%	7.50%	7.81%
R-squared =	76.4%	78.3%	86.3%	88.0%	94.7%	92.8%	97.3%	94.3%

Exercise 4: Can an Index Fund actually be Active?

Hammond Associates has recommended an allocation to U.S. Large-cap Quality equities for about three years, and one of the funds recommended for this mandate is the Vanguard Dividend Appreciation Index Fund (VDAIX). VDAIX is an index fund, but the index is constructed so as to be over weighted to firms with a history of consistent, increasing dividend payments, which is generally a strong indication of quality earnings and

balance sheets. The classification issue here is a double-edged sword: On the one hand, VDAIX is clearly passive with respect to the Mergent Dividend Achievers Select Index, which was constructed specifically by Mergent for Vanguard. On the other hand, VDAIX is undeniably active relative to the S&P 500 index, as we intended.[13] Investors who prefer passively managed funds, pick up on the "index" part of the name and choose VDAIX. Others, who prefer actively managed funds, reject it for that very same reason. In fact both are probably making their choices for the wrong reasons. For those who reject VDAIX because it is "not active," we should first be sure they understand what the allocation to quality actually means. Then we could show them the Active Share of VDAIX relative to the S&P 500, which demonstrates that VDAIX is, indeed, very actively managed relative to the S&P 500. The following table provides all the data necessary:

Table 5: The Active Share of Vanguard Dividend Appreciation Index Fund (VDAIX) with the S&P 500 as its Benchmark

	12/31/2007	12/31/2008	3/31/2009
Active Share =	70.70%	64.89%	71.04%
1-yr TE =	3.49%	7.70%	7.22%
R-Squared =	88.83%	91.82%	94.37%
Beta =	0.76	0.82	0.84

Concluding Remarks

With respect to traditional equity manager research, search, and selection, we should all be familiar with Active Share. It is a measure that investors, consultants, and managers are using more frequently. We have recently been receiving manager marketing materials that present Active Shares for their products and proclaim them to be highly actively managed—with Active Shares in the 50% to 60% range. Without knowledge of the measure and a frame of reference, these numbers hold no meaning. Only after a little homework do we know how to assess such marketing efforts.

The most obvious shortcoming of the C&P paper is the timeframe over which benchmark-relative performance is investigated and evaluated. Because the analysis is performed for the period 1990 to 2003, we are naturally suspicious of its predictive powers—especially given the short-term inadequacies of quantitative models developed with much longer historical perspectives during the recent credit crisis. We expect that Cremers and Petajisto are hard at work updating their data and results, but also expect that others are taking aim at disputing their initial findings related to performance. Nonetheless, Active Share provides a simple way to add insight into what active managers do or do not do in their efforts to beat a benchmark and win over investors.

In our opinion, Active Share is a concise way to describe and measure one aspect of active management. If Active Share and Tracking Error correctly capture and measure the essence of the two "dimensions," their simplicity recommends them—both in terms of ease of computation and interpretation. The pairing of Active Share and Tracking Error for managers provides a method for distinguishing among them in a new way and may uncover something we didn't know or hadn't thought to consider. Active Share has promise as a tool for monitoring strategy changes, manager changes, and style shifts.

Pat Little, Ph.D.

[13] If we follow the aforementioned approach of selecting the index against which a fund has the lowest Active Share, the hands-down winner is the Mergent Dividend Achievers Select Index, and we declare VDAIX passive. But—and this is the tricky part—we have believed that quality factors would generate returns at least as great as the S&P 500. Hence, the S&P 500 was chosen as the benchmark on the basis of its return being the minimum acceptable rate of return and because there is no simple "quality" index for this factor-timing strategy.

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