



## Potentially Higher Returns, Definitely Lower Expenses Can "Active Indexes" Provide the Best of Both Worlds?

Based upon studies conducted over the past two decades<sup>1</sup>, many investment professionals have concluded that over 90% of portfolio return is determined by asset allocation. With less than 10% coming from market timing and security selection, one might wonder if searching for actively managed mutual funds is worth the effort. Perhaps in the academic world it's not, but in the real world it certainly can be. Consider, for example, a 40 year-old planning to retire at age 65 and expecting to live until age 85. For this individual, an additional 1% of return can make a real difference. If the accumulation returns are 9% and 10%, and the distribution year returns are 6% and 7%, he or she could expect approximately 35% more income during the retirement years. That's definitely a result worth working for.

Indexers are also quick to point out that a significant body of research indicates that the "average" mutual fund will not consistently outperform the appropriate index. But are investors really looking for "average" funds? Wouldn't they prefer to achieve "superior" or, at least, "better than average" results? Other research supports persistence in individual fund performance for short to intermediate periods<sup>2</sup>, and this may be the key to building superior portfolios.

In mid-2006, Klein Decisions undertook a research project to develop a ranking process for mutual funds and ETFs. The specific intent was to develop ratings that would rank mutual funds based on their potential performance persistence. Unlike other rating systems, ours (the *Klein Fund Ratings*) relied exclusively on factors that research suggests are useful when seeking performance persistence.

Once the ratings were developed, the next step was to create models that would convert these findings into solutions that could be used by advisors and investors. The goal was to add value over traditional index products. In the process, it was necessary to both backtest the models as well as monitor them out of sample. The results have been extremely positive. Two years into the project, we have constructed nine domestic equity indexes that are currently tracked by the American Stock Exchange. In the very near term, they will be the basis for investment products that will be available to investment professionals and retail investors. With their arrival, perhaps there is some hope for investors seeking better than average results and future retirees seeking additional income.

### The Klein Fund Ratings

The Klein Fund Ratings (KFR) are the starting point in our search for fund performance persistency. The KFR are based on a weighted factor model that was created using Klein Decisions' *K<sup>4</sup> Fund Selection* software. Initially, funds are segregated by style and risk level to isolate market-related performance. As a result, active management components are the primary determinants of fund performance differences. Funds are first grouped based on capitalization (large, mid, and small) and then by management approach (blend, growth, and value) within each capitalization. The style classifications used for the Klein Fund Ratings are the *Morningstar Style Categories*, which are based on portfolio holdings over the past three years.<sup>3</sup>

In an effort to equalize the non-systematic factors, three filters are used to ensure that the comparison is only among comparable funds. The first filter requires at least \$10 million in assets, thus eliminating extremely small funds.

The second filter eliminates funds that do not have comparable risk levels relative to their category index. For the purposes here, the filter required the funds' beta to be within 15% of the category index's beta.<sup>4</sup> Since the goal is to find funds that consistently produce alpha, it is important to minimize return differences stemming from varying levels of beta.

The third filter requires the fund to have an  $R^2$  of at least 80 relative to the category index. This accomplishes several purposes:

- It verifies the style categorization.
- It eliminates concentrated funds that tend to be more volatile.
- It improves the statistical significance of other Modern Portfolio Theory variables used in the process.

Funds are then scored on four factors, or attributes, weighted by importance. The importance weightings are determined by quantifying the importance and trade-offs among these four attributes.<sup>5</sup> Klein's *K<sup>4</sup> Fund Selection* greatly simplified this process while adding rigor and consistency.

Independent studies, supported by Klein's internal research, isolated the following factors with regard to persistence of fund performance:

#### 1. FEES:

**Expense Ratio (Most Important)** – A substantial body of research indicates that lower expenses will contribute to better performance while higher expenses pose a significant detriment. Although fund returns are typically reported net of expenses, higher expenses will always act as a performance drag that must be overcome before net alpha can be generated.

#### 2. RETURN:

**1 Year Return +/- Category Index (Second Most Important)** – Evidence suggests that a "hot hand" effect can occur and contribute to persistence of positive short to intermediate term performance. In other words, recent outperformance is a relevant contributor to future outperformance, particularly in the short to intermediate term. Segmenting funds into peer group categories based on style and risk isolates the style- and risk-based contributions to performance that can favor "hot styles." Moreover, the  $R^2$  filter described above minimizes the instance of funds benefiting by moving away from their style.

#### 3. RISK\_ADJUSTED RETURN:

**3-year Alpha vs. Category Index (Third Most Important)** – Several studies have found persistence of alpha, both positive and negative, over short to intermediate time periods. Even though style and beta criteria form boundaries, there is still some variance in the risk among funds within a category. The return factor rewards outstanding performance irrespective of risk, but this factor rewards only those funds that perform well after adjusting for their market-relative risk (i.e., beta).

#### 4. RISK:

**3-year Worst Year (Fourth Most Important)** – This factor is calculated by identifying the worst 12 consecutive months that a fund has experienced over the last three years. Its inclusion incorporates downside potential by penalizing funds with poor stretches of performance. Even though it has the lowest importance, an extremely bad 12 months can lower a fund's overall ranking.

In the Klein Fund Ratings system, each fund receives a relative performance score for each of the four factors. The individual attribute scores are then adjusted by the relative importance of each factor and summed to give each fund one overall unique score. The funds are then rank ordered based on their overall scores. Again, Klein's *K<sup>4</sup> Fund Selection* greatly simplifies these steps by automating the process.

Not every fund with a high score will perform well in the future, nor will every low-scoring fund perform poorly. However, when grouped by scores, an initial analysis has shown that the higher ranked funds do tend to perform better in the subsequent year than the lower ranked funds.<sup>6</sup>

### Putting The Klein Fund Ranking To Work

What if you could purchase a single portfolio of securities that would closely track a group of top performing mutual funds? Not only would it offer the potential of index-beating returns, it would come at only a fraction of the cost of owning the individual mutual funds themselves. Potentially higher returns and definitely lower expenses: That's the compelling combination that led Klein Decisions to work with Active Index Solutions (AIS) to extend this concept to investable products. Drawing on the results of KFR and applying the AIS cutting-edge technology, we created the nine ActiFindex™ Risk Adjusted Return Indexes (hereafter the ActiFindex RAR Indexes). While investing in the actual indexes is not possible, Separately Managed Accounts based on them are currently available and other products including ETFs and ETNs are scheduled for availability by yearend.

Although Klein Fund Ratings are very useful in evaluating and ranking funds, they do not constitute an entire investment process. In creating the ActiFindex RAR Indexes, Klein Decisions and AIS added a structured process to incorporate the results of KFR into the selection process. For initial index construction, the chief criteria require:

- The inclusion of the top ten unique funds based on data from the prior yearend. "Unique fund" means that any fund with multiple share classes can only have one representative in the index. For categories with less than 100 unique funds, 10% of the unique funds will be selected. A minimum of six funds will be included in each index.
- Index funds and funds of funds are not eligible for inclusion.
- Each fund initially receives equal weighting in the index. Funds are rebalanced back to equal weightings once a quarter.
- Once added, funds remain in the index until the next annual restructuring.

The annual restructuring occurs on February 15<sup>th</sup> or the next trading day thereafter. Funds are ranked based on data as of the preceding December 31<sup>st</sup>. The initial index construction procedure is again applied with one exception: Any fund from the prior year's index with a total score within four points of the 10<sup>th</sup> place fund in the new rankings will remain in the new index. This is employed to reduce unnecessary turnover.

The American Stock Exchange has calculated performance back to inception<sup>7</sup> based on the constituents of each index. These calculations follow the procedures for reconstitution and rebalancing as outlined above. The accompanying tables show the results.<sup>8</sup> Table 1 shows the one- and three-year performance for the period ending 12/31/2007. Even though the risk level (beta) of each of the RAR ActiFindexes is equal to or lower than that of the market, the returns still compare quite favorably.

Table 2 shows the consistency of performance over rolling three-year periods relative to market benchmarks and peers. Over this time period, 56.7% of the RAR Actifindexes ranked in the top quartile vs. peers. Another 35.4% ranked in the 2<sup>nd</sup> quartile and none were in the 4<sup>th</sup> quartile. Table 2 also shows return and alpha since inception. Interestingly, there are a few categories where only a few funds perform well. Consider, for example, mid cap value where our index was consistently above average relative to its peers but still underperformed the market index. In this instance, when even the best funds failed to beat the market index, the superior funds simply fell less short.

Despite their encouraging performance, the portfolios of funds that make up our indexes often have a few funds that underperform over the next year. This actually points up one of the strengths of the AIS approach. Securities modeled on the ActiFindexes are really a *portfolio* of managed funds rather than a single fund and manager. By effectively owning a portfolio of funds, the effect of an underachiever is significantly reduced.

Finally, products based on the ActiFindexes will be purchased with a single transaction and will have the potential for lower expenses than the actual funds in the portfolios. These efficiencies enhance the likelihood of superior performance. It's amazing what you can create with research, a few inputs, and a fund analysis tool like Klein Decisions' *K<sup>4</sup> Fund Selection*. Keep an eye out for these innovative and exciting products, especially if you'd like to enjoy better returns or a more comfortable retirement.

More information about the ActiFindexes is available at the AIS web site ([www.activeindexsolutions.com](http://www.activeindexsolutions.com)). Active Index Solutions is an F Squared Investments company. If you'd like to learn more about *K<sup>4</sup> Fund Selection* and the Klein Fund Ratings, please visit us at [www.kleindecisions.com](http://www.kleindecisions.com) or call us at 919.233.6767.

### 1-Year And 3-Year Annualized Returns- ActiIndex Vs. Benchmark

Style	Ticker	2007 ActifIndex	2007 Benchmark	2007 Excess Return	Beta	3-Year Annualized ActifIndex	3-Year Annualized Benchmark	3-Year Annualized Excess Return
LCV	AIRALVG	1.49	(0.17)	1.66	0.94	10.18	9.32	0.86
LCB	AIRALCG	11.36	5.49	5.87	1.00	11.75	8.62	3.13
LCG	AIRALGG	15.39	11.81	3.58	0.98	11.67	8.68	2.99
MCV	AIRAMVG	5.76	(1.42)	7.18	0.90	10.62	10.11	0.51
MCB	AIRAMCG	10.31	5.60	4.71	0.91	12.43	11.09	1.34
MCG	ARAAMGG	22.45	11.43	11.02	1.01	16.08	11.39	4.69
SCV	AIRASVG	(0.87)	(9.78)	8.91	0.73	7.13	5.27	1.86
SCB	AIRASCG	2.91	(1.57)	4.48	0.82	10.60	6.80	3.80
SCG	AIRASGG	17.16	7.05	10.11	0.86	13.01	8.11	4.90
	Median	10.31	5.49	5.87	0.91	11.67	8.68	2.99
	Average	9.55	3.16	6.39	0.91	11.50	8.82	2.68

### Consistency Of Performance Relative To Benchmarks And Peers

Style	Ticker	Annualized Excess Return Since Inception	Annualized Alpha Since Inception	Beta	Rolling 3-Year Pct. in Top Quartile	Rolling 3-Year Pct. in Second Quartile	Rolling 3-Year Pct. Above Median	Rolling 3-Year Pct. Above Benchmark
LCV	AIRALVG	0.46	0.39	1.01	100	0	100	91
LCB	AIRALCG	2.27	2.21	0.98	83	17	100	100
LCG	AIRALGG	2.16	2.00	1.04	46	54	100	100
MCV	AIRAMVG	(1.62)	(1.33)	0.99	6	46	57	6
MCB	AIRAMCG	(0.37)	(0.16)	0.98	60	40	100	14
MCG	ARAAMGG	1.77	1.77	0.98	29	71	100	34
SCV	AIRASVG	0.83	2.28	0.88	9	65	78	22
SCB	AIRASCG	2.40	3.40	0.90	91	9	100	100
SCG	AIRASGG	3.50	3.74	0.88	83	17	100	100
	Median	1.77	2.00	0.98	60	40	100	91
	Average	1.27	1.59	0.96	56	35	93	63

<sup>1</sup> The seminal research on this topic is provided by Gary P. Brinson, L. Randolph, Hood, and Gilbert L. Beebower in their two articles, "Determinants of Portfolio Performance", *Financial Analysts Journal*, (July/August 1986):39-44, and "Determinants of Portfolio Performance II: An Update", *Financial Analysts Journal*, (May/June 1991): 40-48.

<sup>2</sup> See [www.kleindecisions.com/research.htm](http://www.kleindecisions.com/research.htm) for links and references to such articles.

<sup>3</sup> More details on the Morningstar Categories are available at: [http://corporate.morningstar.com/US/documents/MethodologyDocuments/MethodologyPapers/MorningstarCategory\\_Classifications.pdf](http://corporate.morningstar.com/US/documents/MethodologyDocuments/MethodologyPapers/MorningstarCategory_Classifications.pdf).

<sup>4</sup> This band could be set higher to evaluate more aggressive funds or lower for more conservative funds. Our goal here was to evaluate "moderate" funds with betas around that of the category index.

<sup>5</sup> *K<sup>4</sup> Fund Selection* uses a process known as Adaptive Conjoint Analysis (ACA) to help determine factor weights. ACA has been successfully used in the field of market research since the late 1970s and has been a mainstream technique for assessing consumer preferences for over 15 years. Respondents are asked two types of questions: importance and trade-offs. The first asks the user to rate the importance of the difference between a positive outcome and a negative outcome for each attribute in the evaluation. Based on these rankings, pairs of attributes are then presented to assess the respondent's reaction to

compromise. By analyzing these responses, it is possible to determine the value the respondent places on each specific attribute. For KFR, the attributes are the fund characteristics deemed important to performance persistence.

<sup>6</sup> For more detail on historical results, see "Research, Development and Testing" at [http://www.kleindecisions.com/Fund\\_ratings\\_research.htm](http://www.kleindecisions.com/Fund_ratings_research.htm).

<sup>7</sup> Inception is February 15, 2002 for all indexes except Small Cap Value and Small Cap Blend, which have a February 18, 2003. The latter two categories did not have the minimum number of funds passing the index construction criteria in 2002.

<sup>8</sup> The performance tables are based on gross returns before expenses and so do not represent the actual returns that would have been obtained by investing in the funds within the indexes.

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