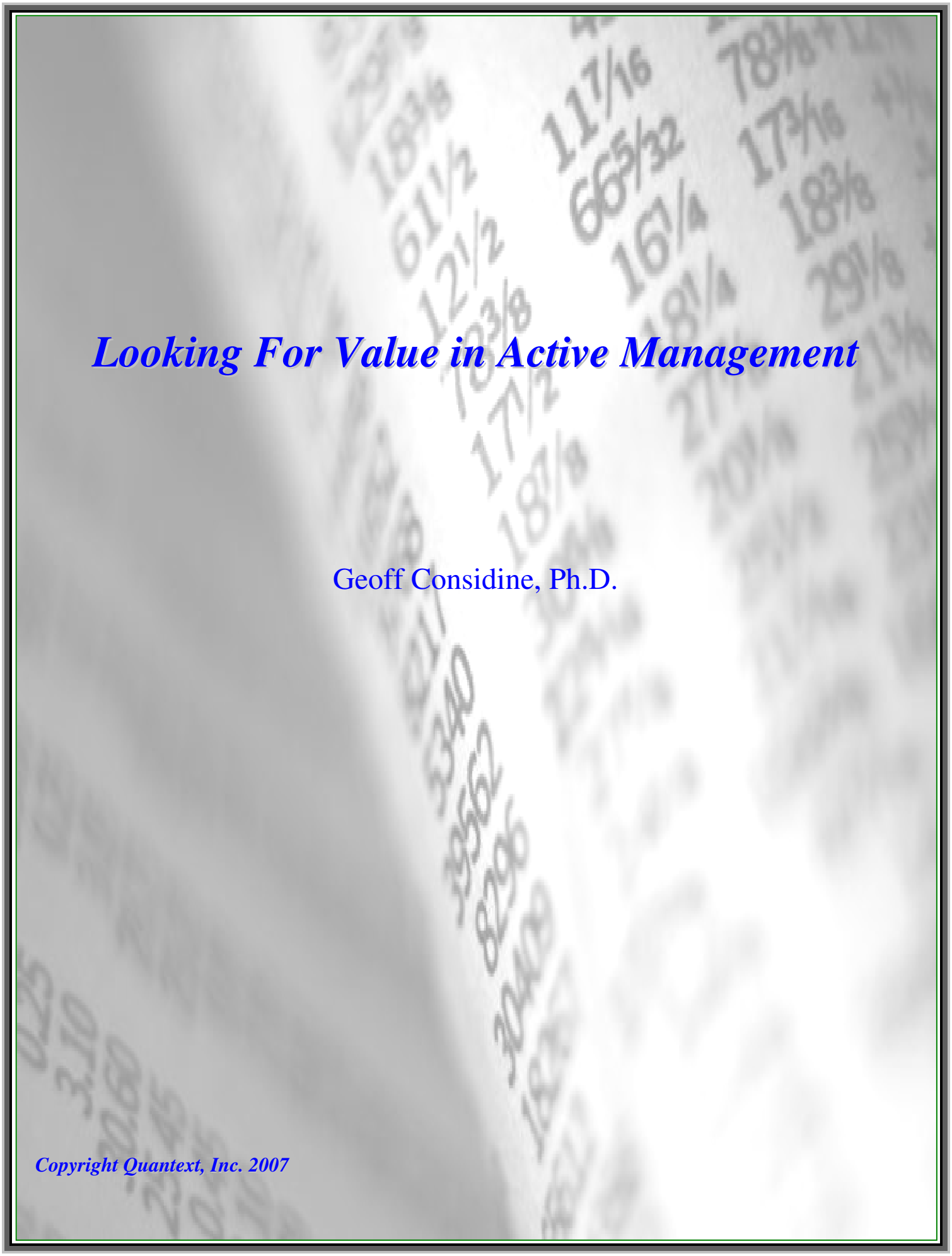


Looking For Value in Active Management

Geoff Considine, Ph.D.

Part of the institutional investing community and many individual investors believe that good portfolio managers generate excess return that is due to manager skill. This idea is hotly contested by the rest of the investing community, of course, and there is abundant evidence that the average actively-managed fund is not worthwhile. The investors who believe in active management are not interested in the average manager—they are interested in finding the best portfolio managers. In the context of this discussion, the active portfolio manager can be either a mutual fund manager or an advisor who is combining assets into a portfolio for a client. There are two fundamental ways that a portfolio manager can add value. One way to generate value is to effectively exploit diversification opportunities between the assets in the portfolio—call this strategic diversification. Given two stocks that are not well correlated, you can get more return relative to risk by combining them. As you layer together these assets, you can gradually lift the portfolio towards some kind of optimal combination. The well-managed portfolio or fund that is not a pure fund in terms of asset class or style (i.e. not an index fund) should be able to generate more return relative to risk than the average of the asset classes in the portfolio. The second way that fund managers add value is by generating returns that are in excess of what could be obtained by a reasonable combination of the asset classes in the fund. This is generically called ***Alpha*** return. Alpha generation may be due to the relative weight given to each of a series of asset classes at any given time or it may be due to the specific stocks selected within an asset class—finding the best stocks in a sector. Most investors do not know enough to distinguish between skill-generated Alpha and the Alpha that is generated simply by basic asset allocation.

Determining how much value a portfolio manager is generating (or not) via asset allocation and / or skill-based Alpha generation is hard. In a recent article, for example, I pointed out that a simple combination of index funds (ETF's) could match the trailing and projected future performance of a portfolio of top-ranked managed funds:

http://etf.seekingalpha.com/article/25930

At first blush, the performance of the actively managed funds seemed to suggest that the managers were generating considerable value when compared to their cohorts in terms of investing style. These were funds that passed screens for top performance over the most

recent ten years. Did the portfolio managers really add net value? There is no question that these funds generated higher returns than many apparent peers, but this is where it gets tough. The top-ranked funds had rather high concentrations in energy, basic materials, and foreign equities. The funds were not compared to peers on the basis of their concentrations but rather on the basis of market capitalization (large-cap, mid-cap, small-cap) and broadly in terms of style classes such as foreign equity in developed and emerging markets. When I created a proxy portfolio of index ETF's with broadly similar concentrations, we were able to match the historical and projected future performance (average returns, Betas, risk, etc.) of the portfolio of actively managed funds very closely. This was actually fairly easy when we looked at the portfolio of actively managed funds. The point of this article was that you need to judge performance relative to a representative benchmark.

The hard question in comparing fund performance to a benchmark is what to use as a meaningful benchmark. As a number of readers commented to the article discussed in the last paragraph, if a fund manager is smart enough to put more weight in a an out-performing sector he/she is adding value. He/she does not need to beat the benchmark for that sector to add value. On the other hand, if a fund has a concentrated policy allocation or a manager has a persistent personal preference for a specific sector or asset class, and that sector or asset class out-performs in one time period, this does not mean that the manager is adding net value. An investor with a concentration in an index fund in that sector will do just as well. In this case, a managed fund should be judged against a benchmark that accounts for a specific investment style. We would not simply give the manager of a utilities-focused fund credit for adding value just because utilities have been out-performing, for example. This is where things get challenging. How do we distinguish real manager-added value?

The process of determining whether a fund manager really adds value is called ***performance attribution***. Institutional investors tend to worry a lot about performance attribution but very few individual investors or their advisors are aware of how this is done. Investors would do well to pay more attention to this process. If you go to Yahoo!

Finance and look at fund classes ranked by performance, you can see the average returns for a range of fund styles. If we look at large value funds, for example (http://biz.yahoo.com/p/tops/lv.html), you will find that the Pioneer Cullen Value A Fund (CVFCX) is ranked number eight out of eight hundred and twenty six funds in this class over the last five years. This fund has a five star rating from Morningstar. CVFCX has a total annual expense ratio of 1.15% per year and also charges a 5.75% front-end load. If you go to Morningstar and look up CVFCX, you will see that this fund has soundly thrashed the S&P500 over a range of horizons, but this is diminished if you account for the front-end load. Morningstar helpfully provides the basic asset allocation within CVFCX:

http://quicktake.morningstar.com/FundNet/Portfolio.aspx?Country=USA&Symbol=CVFCX&fdtab=portfolio

When you look carefully at the makeup of this fund, it is immediately apparent that we need to be somewhat careful in evaluating the performance of CVFCX. CVFCX has a 23.4% allocation to foreign stocks. We know that value-focused funds have out-performed growth in recent years and also that foreign funds have crushed domestic funds, in general. To really examine the performance of this fund, we must compare the performance of the fund to the universe of assets that this fund invests in rather than simply comparing to a single index (such as large-cap value) that is not representative of the funds investment universe.

To analyze this fund, I created an investment universe that consists of two broad ETF's that match the style of this fund: IVE for large-cap value and EFA for a broad foreign index. I also included a short-bond fund to account for the funds in cash (10.6%). I then selected a series of the top holdings in individual stocks—they all came in at very close to 3%:

http://quicktake.morningstar.com/FundNet/Holdings.aspx?Country=USA&Symbol=CVFCX&fdtab=portfolio

My goal here is not to exactly replicate the underlying portfolio but rather to look at a representative proxy.

Tickers	Style	Weight
IVE	S&P500 Value Index	21%
EFA	EAFE Index	20%
SHY	Short bond ETF	11%
UN	UNILEVER	3%
AIG	AMER INTL GROUP INC	3%
MMM	3M COMPANY	3%
KMB	KIMBERLY CLARK CP	3%
MER	MERRIL LYNCH	3%
MET	METLIFE INC	3%
MS	MORGAN STANLEY	3%
JPM	JP MORGAN CHASE CO	3%
DEO	DIAGEO PLC ADS NEW	3%
RF	REGIONS FINANCIAL CP	3%
RTN	RAYTHEON	3%
PFE	PFIZER	3%
BAC	BANK OF AMERICA	3%
VZ	VERIZON	3%
UTX	UNITED TECHNOLOGY	3%
GIS	GENERAL MILLS	3%
		100%

Proxy Portfolio for CVFCX

This sample portfolio has 20% in EAFE and 21% in IVE and then has a series of investments in well-known 'value' stocks. DEO is the only foreign-based firm among the stocks, so the total foreign exposure is 23%.

We are going to examine the performance of this fund for the three years through the end of 2006. This proxy portfolio has been less risky and has generated a lower average return than CVFX over the past several years, but the ratio of return to standard deviation in return (SD) is very similar, as is Beta. The R-squared (R^2) is generally similar.

	Fund	Portfolio
Average Return	13.8%	11.9%
SD	7.1%	6.3%
Ratio	1.9	1.9
Beta	83%	82%
R^2	66%	82%

Basic trailing statistics for the Fund (CVFCX) and the proxy Portfolio

When we run the proxy portfolio through Quantext Portfolio Planner to generate projected future performance, we get the following:

Fund Name	Percentage of Funds	Average Annual Return
CVFCX	0.0%	7.1%
IVE	21.0%	8.0%
EFA	20.4%	8.8%
SHY	10.6%	2.2%
UN	3.0%	10.7%
AIG	3.0%	20.2%
MMM	3.0%	20.3%
KMB	3.0%	14.4%
MER	3.0%	12.5%
MET	3.0%	9.9%
MS	3.0%	10.2%
JPM	3.0%	17.2%
DEO	3.0%	14.1%
RF	3.0%	21.2%
RTN	3.0%	15.5%
PFE	3.0%	22.1%
BAC	3.0%	12.8%
VZ	3.0%	17.8%
UTX	3.0%	13.5%
GIS	3.0%	14.7%
Sums to	100.0%	

Simulated Portfolio Beta
81.9%

Diversification Metric: 53.9%

Portfolio Stats	
Average Annual Return	Standard Deviation(Annual)
11.1%	14.1%

Historical Data

Start:	End:
1/1/2004	12/31/2006
Average Annual Return	Standard Deviation (Annual)
11.9%	6.3%

Historical Beta: **81.9%**
Historical Yield: **2.1%**
Portfolio R^2: **81.9%**

Performance of S&P500 over historical period

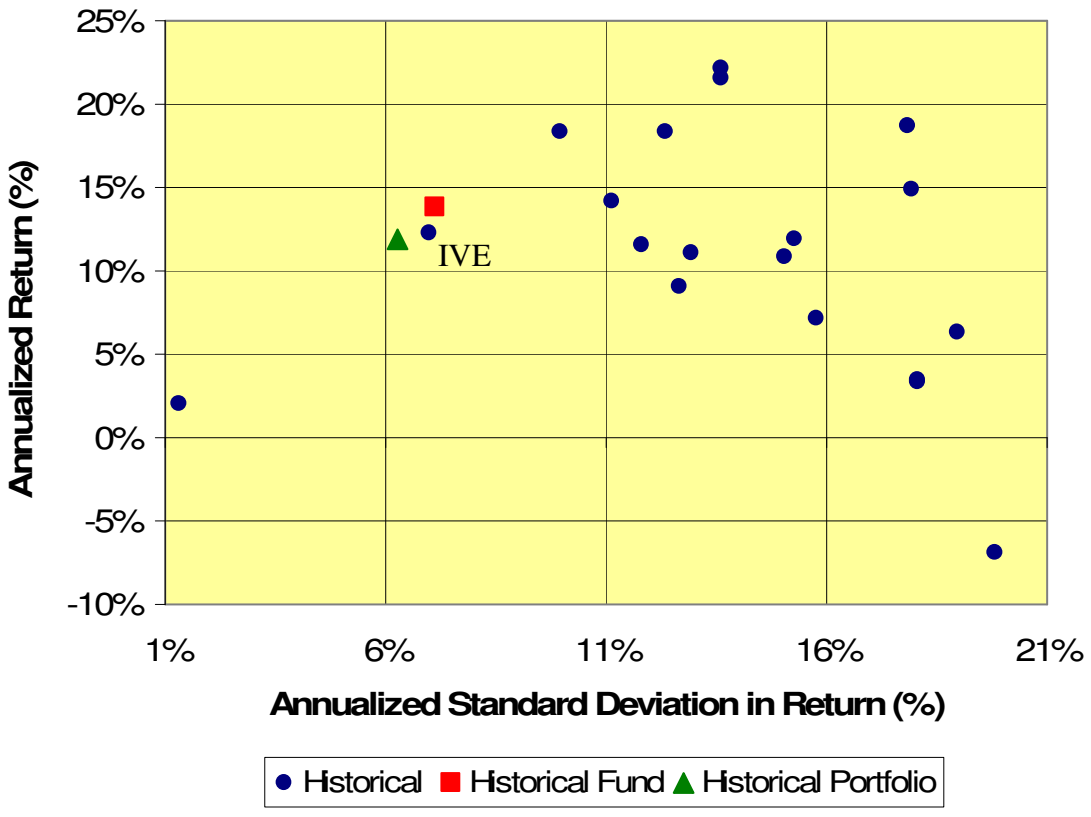
Avg Ann Return S&P500 (no dividends)
8.0%
Annual Standard Deviation on S&P500
6.9%

Market Index (S&P500)	
Average Annual	Standard Deviation
8.3%	15.1%

Quantext Portfolio Planner results for Proxy Portfolio

The proxy portfolio is projected to generate 11.1% per year (above), with a standard deviation of 14.1% per year. This is a respectable return on the amount of risk in the portfolio. The powerful diversification effects that this portfolio generates are evident in the fairly high Diversification Metric (above). For a portfolio without bonds or real estate to generate this high a level of diversification is very good.

When we look at a chart of return vs. risk (as measured by the standard deviation in return) for the historical period, we do not get a nice clean relationship between risk and return for the assets in the portfolio (below). Each dot in the chart represents one of the ETF's, or stocks in the portfolio, and there are also points shown for the total proxy portfolio and for the fund.



Historical Risk-Return Chart for Portfolio Components (2004-2006)

Pfizer (PFE) has generated an annualized return over this period that is around -7%. Even if we ignore Pfizer, there is a lot of spread in this relationship—as there often is for relatively short periods of time (1-5 years). The historical fund performance for CVFCX and the historical performance of the proxy portfolio are actually very close to one another—and both bracket the historical performance of the S&P500 Value Index ETF (IVE). It is this kind of result that will make people think that the best approach is just to invest in an index. We need to go a little deeper, however. We know that value stocks have out-performed in recent years, but the jury is still out on whether value stocks confer a long-term advantage. For a deeper discussion of the value vs. growth debate, see the following article:

http://etf.seekingalpha.com/article/12637

I believe that although value-oriented strategies have been out-performing in recent years, there is a good probability that value-oriented strategies will exhibit reversion-to-the-mean (as John Bogle calls the tendency of markets to swing back to long-term average). This is where forward-looking Monte Carlo projections come in. We use Quantext Portfolio Planner (QPP) to account for the fact that the markets tend to balance risk and return over long periods of time. QPP takes historical statistics and projects future returns that are consistent with the risk level of an asset, whether it is a stock or fund. With a fund like CVFCX that is already highly diversified, QPP's raw estimates may under-estimate the expected future return because QPP does not know the holdings or management impacts for an individual fund. With broad index funds, QPP gives very reasonable projections—as shown, for example, in this article:

http://etf.seekingalpha.com/article/24588

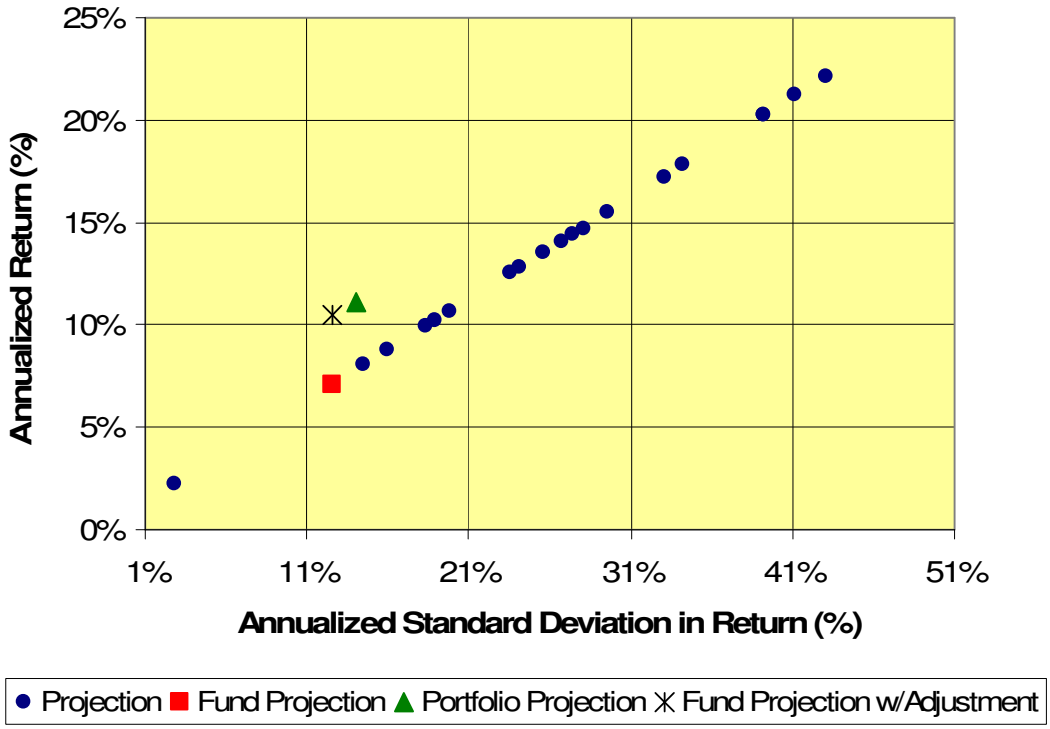
When an actively managed fund strategically blends asset classes and a manager uses his/her judgment on what and when to buy and sell, QPP will naturally not be able to fully capture the impacts of these choices. This is, in fact, a challenge for all portfolio planning tools. This is where we get into the meat of performance attribution. A fund like CVFCX should be able to perform better (on a risk-adjusted basis) than an asset class index or a single stock. I have been developing a new tool that helps in determining how much performance advantage should be assigned to an active fund. Using this

performance attribution model, I obtained the following results for the projected future risk and return for this fund:

	Annualized Standard Deviation in Return	Annualized Return
CVFCX	12.6%	7.1%
Proxy Portfolio	14.1%	11.1%
CVFCX w/Adjustment	12.6%	10.5%

Projected performance for fund and proxy portfolio

The raw projection for CVFCX is for an annual return of 7.1%. This value is generated in the same way that QPP generates projections for an index or individual stock—it does not 'know' that there is strategic activity that may increase the future return of CVFX relative to its risk level. When we look at the return and risk for the proxy portfolio (CVFCX w/Adjustment), we adjust the projected return upwards to 10.5% per year. The adjustment looks at the effective diversification in the proxy portfolio and scales that effect to be consistent with the volatility level of CVFCX. This effect is more clearly illustrated in the following chart:



QPP Projected Return vs. Risk for Portfolio Components, Fund, and Proxy Portfolio

QPP builds a linear relationship between the risk and return for the assets in the portfolio. This is consistent with many other studies and approaches. The proxy portfolio generates a higher return for its total risk level because of the diversification among the components of the portfolio—which is why the ***Portfolio Projection*** is above the linear balance of risk and return. The adjustment applied to the projected return for CVFCX (the ***Fund***) calculates a similar level of diversification effect to the fund as we obtain in our proxy portfolio. The raw fund projection is too low because the fund has already exploited a great deal of available diversification internally. *(Note: this performance attribution module is going to released in the near future for users of QPP)*

Now things get interesting. Do these results mean that CVFCX is generating excess returns beyond what could be obtained from a collection of index ETF's or other passive portfolio? The 3.4% upward adjustment in return is actually not due to manager 'skill' but rather due to the diversification that this fund exploits. Any investor with the same

assets (funds and stocks) in their investment universe can achieve the same market beating performance. The question is why you would pay someone 5.75% of your money up front and 1.15% percent per year to do this for you. Even if you believe that this manager adds value, why not simply copy the fund's portfolio each year with the a few ETF's and weighting in a series of stocks? The fund's turnover is quite low—you could probably do a fairly good job.

At the start of this article, I discussed the two ways that a portfolio manager could increase returns relative to risk. Only one of these is worth paying for. You can get the strategic diversification benefits yourself by combining stocks and index ETF's. This does not mean that you might not want to cadge some free ideas about what to invest in (I like a number of these stocks and I hold stock in BAC). The point, however, is that you can get most or all of the 'market beating' performance of this fund without paying this manager. Is there evidence of real net manager skill above and beyond diversification? We might say that this manager has selected stocks that have been good bets, but most of the gains in this portfolio can be explained by the broad exposure to the domestic and foreign equity indices. A portfolio which is 87% IVE and 23% EFA has generated 13.7% in annual return with a standard deviation of 7.3% (very close to the fund performance) over the past three years and the monthly returns of this two-ETF portfolio are correlated at 85% with the monthly returns of CVFCX. These results suggest to me that this manager is getting higher returns than the S&P500 ***mainly*** by adding in select assets that are not perfectly correlated to the S&P500. I cannot rule out skill, but neither can I identify compelling evidence of skill beyond exploiting diversification. Finally, we must not forget that we are going to pay 5.75% of our money up front in order to bet that this manager can generate net value.

What does all of this mean for the investor? It is very hard to distinguish a skillful active manager of a diversified fund—one which can invest in a very broad range of assets. Such a fund ***should*** outperform a benchmark like the S&P500 (on a risk-adjusted basis) because it can invest in assets that have less than perfect correlation to the S&P500. I would love to be able to find funds that have clear evidence of skill beyond simply

exploiting diversification. There are some candidates that I am exploring, but as yet I am sticking with index funds and individual stocks. That said, many investors have portfolios that are probably not taking advantage of strategic diversification as well as this fund—so this fund may be a good bet for some investors. The fact is, however, that the vast majority of investors in actively-managed funds have no basis for correctly evaluating them. Most investors are probably better off with index funds and stocks with which they can largely mimic the allocations of active managers without paying the substantial fees.

I am spending a fair amount of time on developing this performance attribution approach. If you have a fund that you believe would stand up to this kind of scrutiny, I welcome candidates to analyze.

For more thoughts on this issue of indexing vs. active management, consider this article by John Bogle:

http://www.vanguard.com/bogle_site/sp20030605.html

I don't agree with everything in it, but it is thought provoking.