

# The Index Investor

*Why Pay More for Less?*

## **Model Portfolios Performance Update**

This is not a happy time to be an active investor. These days, one regularly sees companies that miss their estimated earnings targets by just a few cents rapidly suffer tremendous declines in market capitalization. Yesterday's cocktail party hero – he or she with the online brokerage account, thousands in margin debt, and the absolute conviction that momentum, not valuation was the key to successful investing – is in most cases much quieter now. That is, if they are still around – not a few of these rabbits have seen their capital wiped out by margin calls in days since the big NASDAQ correction began back in April. At least we hares are still in the game. And from the looks of things, we're not doing too badly either.

Through May 31<sup>st</sup>, our benchmark Vanguard S&P 500 index was down .9% for the year, while the Vanguard total bond market index was up 2.3%. Our risk based portfolios try to match the volatility of different combinations of these benchmarks while providing superior returns. Thus far, they continue to perform as we had expected.

Our high risk portfolio attempts to match the risk of a benchmark made up of 80% S&P 500 and 20% Total Bond Market Index while generating superior returns. Thus far, it is up 3.1% on the year, versus (.3%) for its benchmark. It has benefited from the very strong performance delivered by the Oppenheimer Real Asset Fund (up 23%), as well as the Vanguard Mid-Cap Index (up 10.9%) and the Vanguard Small-Cap Value Index (up 3.7%). The performance of the real asset fund directly reflects the impact of rising commodity prices, caused by a combination of both supply factors (e.g., OPEC's oil production cutbacks) and demand factors (e.g., increasing growth in Europe, and growing demand for natural gas in North America. as its share of the electricity generation market grows). With respect to the performances of our mid and small cap equity indexes, one

might hope that this is an early sign of rationality reasserting itself in this market, as investors move away from buying momentum plays (e.g., large cap growth stocks) and move more toward stocks that have fundamentally attractive valuations.

Our medium risk portfolio attempts to match the risk of a benchmark made up of 60% S&P 500 and 40% Total Bond Market. Year to date, this benchmark is up .4% through the end of May. Our medium risk portfolio has exceeded this by a substantial amount, and is up 1.7% year to date, largely on the strength of its holdings of the Real Assets Fund, the Vanguard Long Term Bond Market Index, and the Vanguard Small Cap Value Index. Our biggest disappointment with this portfolio is the performance of the T. Rowe Price International Bond Fund, which is down by 5.5% year to date. However, we continue to believe strongly in the long term value of this asset class, because of the protection it provides in case of a substantial drop in the value of the dollar.

Our low risk portfolio attempts to match the risk of a benchmark made up of 20% S&P 500 and 80% Total Bond Market. It is up 3.0% year to date, versus 1.7% for its benchmark. The overwhelming story here is once again the performance of the Oppenheimer Real Asset Fund. The power of having an asset class in a portfolio whose returns are negatively correlated with all its other holdings is difficult to overstate.

Our return based portfolios are structured to maximize the probability of achieving a specific target rate of return while taking on the lowest possible amount of risk. They are designed for investors who have a very clear idea of the minimum average annual rate of return they must earn on their portfolio to fully fund their liabilities over a specified period of time. In the case of these portfolios, our decision to prevent them from investing in the Oppenheimer Real Assets Fund (due to the fact that many readers were, in the past, uncomfortable with this asset class) has come back to haunt us. While their returns are in line with their relative risk, they are still not where we would like them to be. For the 12% target return portfolio (that is, the portfolio which, over a twenty year holding period, has the highest probability of achieving compound returns of 12% per year, with the lowest possible risk given the asset classes it can invest in), performance

year to date is (3.0%). For the 10% target return portfolio, the year to date return is (1.9%). For the 8% target return portfolio, the year to date return is (1.4%). And for the 6% target return portfolio, the year to date return is (.4%).

## **Exchange Traded Funds**

Contrary to the overwhelming amount of hype and spin that we have seen in the media recently, exchange traded index funds (ETFs) are not new; they've been around since 1993, in the form of SPIDERS and WEBS. Recently, however, four factors have combined to put them on a lot more people's radar screens.

First, the amount of funds invested in ETFs has grown quite dramatically – from \$14 billion at the start of 1999 to over \$40 billion today.

Second, Barclays Global Investors is in the process of launching a large number of new ETFs (called iShares) covering not only all the usual S&P suspects (small, mid and 500, in total, growth, and value flavors), but also an equivalent flock of Russell Indexes (1000, 2000, and 3000, also in total, growth and value flavors), the Dow Jones sector indexes, and major international markets (most of which are simply re-branded WEBS, tracking the MSCI indexes for different countries).

Third, Vanguard has announced that it will join the ETF fray in the third quarter of this year, when it launches five products, covering the S&P 500, its growth and value subindexes, the small cap index, and the total U.S. equity market index.

Finally, media attention has focused on the very aggressive pricing for S&P 500 ETFs: BGI's iShares annual expenses will be only .0945%, while Scudder's SPIDERS charges .12% (that is, 12 basis points, or 100ths of 1 percent) compared to the .18% expense charge levied on Vanguard's flagship S&P 500 index mutual fund.

Given the new visibility of the ETF issue, let's quickly review the arguments in favor and against them compared to their index mutual fund cousins.

Annual Expense Charges: No doubt about it, the iShares S&P500 ETF looks very cheap. But annual expenses are not the full story. Keep in mind that iShares are bought and sold just like a stock – through a broker, who will charge you a commission on the transaction (whereas Vanguard's index products are purchased directly, without a brokerage commission). If you frequently make index fund investments (e.g., because you are dollar cost averaging, or investing via regular 401(k) contributions), these commissions will overwhelm any expense savings you get by investing in iShares instead of say, the Vanguard S&P 500 Index Fund. Equally as important, these expense savings do not apply across the board. In particular, international iShares (formerly known as WEBS) expense charges are on the order of .80% per year. In this case, simply buying the Vanguard European Index mutual fund would be cheaper than buying (and constantly rebalancing) a basket of the individual country iShares that make up the European index.

Tax Efficiency: When investors sell their shares in an index mutual fund, the fund's manager usually has to sell shares to raise the cash needed to pay out the withdrawing investor. These sales trigger short and long term gains for all investors. In contrast, the sale of 100 ETF shares by investor A (which must be offset by the purchase of the shares by investor B) does not force a sale of any shares in the companies making up the underlying index. Consequently, other purchasers of the ETF do not incur gains. The ETFs clearly have an advantage in this regard, which is why Vanguard is hoping to move its most frequent traders out of its mutual fund products and into its new ETF products. If it can do this, it hopes to improve the tax efficiency of its mutual fund products.

Trading Efficiency: Mutual fund trades are all executed at one price in the late afternoon. In contrast, ETFs trade throughout the day, and can even be sold short. In fact, this appears to be a major selling point for ETFs, as their average holding period was recently estimated to be only 19 days. If you believe you can outsmart George Soros and other macro hedge fund investors who regularly shift large amounts of money between asset

classes and sub-sectors within them (hoping to take advantage of short term relative mis-valuation opportunities), then ETFs are clearly the way to go. On the other hand, if you don't think you're smart enough to win at this game (that is, if you, like us, are a long term buy and hold investor), then the fact that ETFs trade more efficiently should be of no interest to you.

The Bottom Line on ETFs: If you are a long term buy and hold investor, and if you have a lump sum to invest, and if you want to invest it in a major index like the S&P 500, and if you can do so via a low cost discount broker, then ETFs make sense. They also make sense if you fancy yourself the next George Soros (though we'd strongly advise against playing that game). If you don't fit into any of these categories, then you're probably better off staying with index mutual funds.

### **Market Capitalization Weighting**

With most U.S. equity market indicators flashing “over-valued” warnings, this is a good time to review the impact of market capitalization weighting on index fund performance.

Most indexes utilize “market capitalization” weighting – that is, the weighting of a company or country included in the index depends on the formers' relative market value. During most periods, this weighting approach works reasonably well. Problems can arise, however, when a small number of companies, sectors, or countries become valued at much higher multiples than most of the other index constituents. When this happens, index investors find themselves systematically increasing their exposure to a smaller number of companies, while decreasing their exposure to the broad market. In other words, the answer to the riddle “when is an index fund not an index fund?” is “when one part of it is substantially overvalued.”

Here is an example of what we mean. At year-end 1999, the top ten companies (by market capitalization) in the S&P 500 index accounted for 25.5% of the total value of the index. Ten years earlier, at year-end 1989, the top ten companies in the index accounted

for only 20% of its total value. Almost by definition, when markets become overvalued, total market index funds (e.g., based on either the S&P 500 or the Wilshire 5000) will have a larger than normal tilt toward large cap value stocks, and when they become overvalued, the tilt will shift toward large cap value stocks.

The key question for index investors is whether or not they could improve their performance relative to the market as a whole by investing in a stable mix of style or region-based sub-index funds. To answer this question, we looked at recent U.S. and global data.

Let's start with the best proxy for the U.S. equity market as a whole – the Wilshire 5000 index. Between January, 1978 and December, 1999, the WLSH had an average annual return of 18.5% per year, with a standard deviation of 18.04 and a simple Sharpe Ratio (which, in effect, shows how much return you got per unit of risk you took) of  $18.50/18.04 = 1.03$ . As we discussed, the effective weights put on small, mid, and large cap stocks, as well as value and growth stocks varied over time as the relative popularity and market capitalizations of these six “style types” changed. Could an investor have gotten more risk per unit of return if, instead of buying the index as a whole, he or she had held a fixed percentage of different style types?

We approached this two ways. First, we simply allocated 25% of our portfolio to each of large and small cap growth and large and small cap value. Over the 1/78 to 12/99 period, this simple approach produced an average annual return of 18.75% with a standard deviation of 18.12% and a Sharpe Ratio of 1.04. Pretty much the same as the market index portfolio.

Next, we optimized our allocation between all six asset class options (including midcap value and growth), with the caveat that no more than 33.34% of the portfolio could be invested in any one class. We then constructed two portfolios: one to match the 18.5% average return achieved by the market portfolio, and one to match its standard deviation of 18.04%. The first of these achieved the targeted 18.5% average annual return with a

standard deviation of only 15.86% and a Sharpe Ratio of 1.17. This portfolio was composed of 33% small cap value, 24% large cap growth, 22% large cap value, and 21% midcap value.

The second portfolio matched the market's standard deviation of 18.04%, while achieving average annual returns of 19.16% and a Sharpe Ratio of 1.07. This portfolio was composed of large cap growth, 33%, small cap value, 33%, midcap growth, 25%, and midcap value, 9%.

We also conducted an international test. This time, our base portfolio was 60% MSCI All Country World equity index (a capitalization weighted mix of developed and emerging markets) and 40% Salomon Brothers world 1+ year maturity government bond index. Between January, 1985 and December, 1999, this portfolio generated average annual returns of 11.24%, with a standard deviation of 9.82% and a Sharpe Ratio of 1.15.

In our alternative portfolio, the mix of equities was based on their relative GDP weights rather than their relative market capitalization weights. In this portfolio, Japan had a 6% weight, other Pacific countries 15%, Europe 15%, Latin America 6% and the U.S. and Canada 18% for a total equity weight of 60%. Over the 1/85 to 12/99 period, this portfolio had average annual returns of 14.28%, with a standard deviation of 11.19% and a Sharpe Ratio of 1.28. Once again, using a fixed mix of "sub-classes" delivered superior performance when compared to use of a single capitalization weighted market portfolio.

Our overall conclusion from this analysis is that while a simple "buy the whole market in one investment" approach has the virtue of simplicity, it may come at a price – You might be able to obtain better risk/return trade-offs by investing in a fixed mix of sub-asset classes. For this reason, our model portfolios continue to be based on the latter approach, though with the obvious caveat that the past cannot be relied upon to be an accurate predictor of the future. At best it is an estimate of what may happen, not a guarantee that it will.