

# The Index Investor

*Why Pay More for Less?*

## **Model Portfolios Performance Update**

It was another good month for our risk based portfolios, whose goal is to deliver more return than their benchmarks, while taking on the same level of risk. Our high risk portfolio (whose benchmark is 80% S&P 500 and 20% Vanguard Total Bond Market) is up 5.7% through the end of June, versus just .5% for its benchmark. As previously noted, the big story here continues to be the relatively strong performances of midcap and small value stocks, as well as real assets.

Our medium risk portfolio is up 3.2% year to date, versus 1.3% for its benchmark (60% S&P 500 and 40% Vanguard Total Bond Market). Small cap value stocks and the Oppenheimer Real Assets fund have made the difference.

Finally, our low risk portfolio, whose goal is to exceed the return delivered by a benchmark of 20% S&P 500 and 80% Vanguard Total Bond Market is up 5.2% on the year, versus 3.0% for its benchmark. Once again, the difference is largely due to real assets and small cap stocks.

Our target return portfolios, which are designed to achieve their minimum required rates of return with the lowest possible degree of risk have also performed in line with expectations. However, as we have previously noted, they have all suffered (relative to our risk based portfolios) by our decision (debated and regretted daily, we can assure you) to not include real assets in their universe of permissible investments. Our 12% target return portfolio (which, by definition, is the riskiest of our target portfolios) is down 1.2% year to date, while our 10% target return portfolio is down .4%. On the other hand, our 8% target portfolio is up .3% year to date, while our 6% target return portfolio is up 1.3%.

## **Total Market Indexes Compared**

The introduction of Barclays iShares (Exchange Traded Funds available on the Amex) has created a number of new opportunities and challenges for index investors, which we will be analyzing over the next few months. This month, we will look at the issue of comprehensive market indexes. While Vanguard has offered investors the opportunity to invest in the Wilshire 5000 index, iShares are now available for the Russell 3000, the Russell 1000, and the new Dow Jones Total Market Index (U.S.) which was introduced in February. Does it matter which index you invest in? Let's take a look at them and decide.

Our starting point is index construction. Wilshire, Russell, and Dow Jones all take different approaches to constructing their respective indexes. Wilshire's is perhaps the most straightforward. If it breathes, it's in. The Wilshire 5000 index includes all U.S. equities for which prices are available -- in other words, it covers 100 percent of the U.S. equity market capitalization. It is updated as needed (that is, whenever stocks are listed or delisted), and currently, this includes over 7,000 stocks.

The Russell 3000 measures the performance of the 3,000 largest U.S. companies, based on market capitalization. Stocks in the Russell 3000 represent approximately 98% of total U.S. equity market capitalization. The index is updated annually.

The Dow Jones Total Market Index (U.S.) is designed to cover a constant 95% of the total capitalization of the U.S. equity market, and the number of companies included in the index is adjusted to achieve this goal. Currently, approximately 2100 companies are included in the index. The DJTMI is updated quarterly.

Finally, the Russell 1000 is constructed just like the 3000, except that it measures the performance of the top 1,000 U.S. companies as measured by market capitalization.

Companies in the index currently account for approximately 92 percent of the total capitalization of the U.S. public equity market.

Now let's look at how these indexes have performed in recent years. Here, our analysis is limited by the availability of performance data for the new Dow Jones Total Market Index. On the company's website, they currently provide performance data only for the January, 1992 through May, 1999 period. That's not exactly a rich data set, but since it's all we have available, that's what we'll use.

In terms of average monthly returns over the period, the Russell 1000 has a very slight edge -- it delivered average returns of 1.53% per month over this period, while the Russell 3000 delivered 1.49% and both the DJTMI and WLSH delivered 1.47%. So as far as returns go, it's pretty much a toss up, with a slight edge to the Russell 1000.

However, as you all know, performance is only one half (and arguably not the most important half!) of the investment policy equation. Risk performance is also critical. With that in mind, let's start by looking at our index candidates' standard deviations, which measure how tightly monthly returns are grouped around their respective means. Our winner here is the DJTMI, with a standard deviation of monthly returns of 3.49%. The two Russell indexes both have standard deviations of 3.56%, while the Wilshire 5000 has a standard deviation of 3.58%.

Okay, we now have a measure of return performance and a measure of risk performance. Let's relate the two to each other by simply dividing return by risk -- in other words, let's see how much return you are getting with each index for each point of risk you take on. The winner here -- by a whisker -- is the Russell 1000, with a return/risk ratio of .43; the DJTMI and R3000 come in at .42, while the WLSH follows closely at .41. So far, it looks like a toss up. Where does that leave us?

Our next step was to take a closer look at some other measures of risk. Our starting point is the observation that returns on financial assets typically aren't normally distributed

(that is, they don't look like a typical "bell curve"). In particular, they typically have two "non-normal" properties. First, their median return (that is, the return in the middle of the distribution, where half are higher and half are lower) is typically less than the average (or mean) return. The technical term for this is "skewness". In a normal distribution, skewness equals zero. When the median is less than the average return, skewness is negative. In a negatively skewed distribution, the left tail (that is, periods with returns below the mean) is bigger than the right tail.

The other key measure of risk is how large the tails of a distribution are. In a normal distribution (that is, a typical "bell curve"), the tails are relatively small, and standard deviation (which, just to be confusing, people in finance call volatility) is a good measure of the risk you are taking on. However, if the distribution isn't normal (if it is either more peaked or flatter), the tails of the distribution will be larger than expected, and you will be faced with more exceptionally large outcomes (both good and bad) than the standard deviation would predict. The technical term for this relative "peakedness" of a distribution is "kurtosis". In a normal distribution it is zero. If it is greater than zero, the distribution is steeper (more peaked) than normal, and has fatter tails (which translate into bigger surprises). Unfortunately, most financial assets have distributions of returns with a higher than normal kurtosis.

Putting these two factors together paints a rather sobering picture -- because distributions of financial asset returns are typically negatively skewed and steeper than normal, investors should expect to receive bigger downside surprises more often than a simple standard deviation would lead one to believe. Given this, to further minimize one's risk, one should also look for indexes which have low levels of negative skewness (that is, levels that are as positive as possible) and low levels of kurtosis (that is, distributions that are as close to normal as possible). Let's take a look at our four indexes in light of this.

In terms of skewness, the clear winner is the DJTMI -- at (.48), it is significantly below the R1000 (1.13), the R3000 (1.22) and the WLSH (1.26).

In terms of peakedness (kurtosis, or, more practically, the extent to which you face the fat tail/big surprise situation), the DJTMI is again the winner, with a kurtosis of 1.93, versus 3.97 for the R1000, 4.39 for the R3000, and 4.55 for the WLSH 5000.

In summary, the use of more sophisticated risk measures leads one to believe that the risk of getting blindsided on the downside appears to be substantially lower with the DJTMI than it is with the other major "broad market" indexes. However, one caveat is in order here. This conclusion is based on a relatively limited data set. The relative rankings of the other R1000, R3000, and WLSH indexes remain the same when the data is extended back to January, 1988, which is their common starting point. We will need more time to develop the same level of confidence about the performance of the DJTMI. Still, from what we have seen so far, the approach to index construction that they use appears to deliver superior results for investors.

### **Saving for College Education**

For many of the people reading this, saving for their children's college education is a major concern. With that in mind, we'd like to call your attention to a set of investment offerings which, while they are not index funds, are sufficiently attractive in other ways to merit your consideration.

With the cost of college education rising substantially faster than consumer prices, a few years ago a state began to offer their residents a way to pay in advance for tuition at their respective state colleges and universities. Gradually, these plans spread across the U.S., and then somebody asked the obvious question: why can't the funds built up in these plans be used to pay tuition at any school, be it public or private, in-state or out-of-state. Thus was born the Qualified State Tuition Program.

What has really made these plans attractive, however, are the new regulations governing them that were issued by the IRS in 1998 (Code Section 529). There are five that are critical:

1. A plan is established by a sponsor for a named individual (the beneficiary).
2. The returns on funds invested in these plans are not subject to tax for as long as they are in the plan. When they are withdrawn, as long as they are used for "qualified educational expenses" (which are broadly defined by the IRS), they are taxed as ordinary income to the beneficiary (at a lower tax rate than the person who places the money in the plan would pay). If the funds withdrawn are used for any other purpose, there is an additional 10% penalty.
3. An individual can give up to \$50,000 in one year to a plan without incurring federal gift tax, provided that no additional contributions are made to the plan over the five year period, and that the gift is treated as a series of five equal annual gifts on the next federal gift tax return after the \$50,000 gift is made. Alternatively, an individual can give \$10,000 to a plan each year without incurring federal gift tax. For example, a couple with three children could establish 6 plans (each parent establishes a plan for each child) and in so doing transfer up to \$20,000 per year to each child. The maximum amount that can be given to a single plan by a single sponsor varies by state (depending on their interpretation of the IRS regulations). The highest today is the Massachusetts plan, which allows up to \$164,000 to be contributed (not including investment gains).
4. The amounts given to a Qualified State Tuition Plan are not included in the sponsor's estate for estate tax purposes. They are treated as "complete gifts."
5. Now comes the truly unique benefit of these plans. Despite their treatment as "complete gifts" for estate tax purposes, until the funds are actually used to pay for education expenses, the plan sponsor retains control over the account -- that is, they can change the name of the beneficiary. This is the only exception that I know of to the general rule that in order to be treated as a gift for estate tax purposes, control must be given up.

However, contributions to the plan must be made in cash, and the sponsor can exercise no control over the investment of the funds. Practically, this has meant that every state higher education authority has had to figure out how to invest the funds. Most of them have hired institutional investment managers to do this. A few (notably, New Hampshire and Massachusetts) have hired Fidelity. The latter has established what we believe to be a very reasonable investment policy for the funds, which varies the mix of equities, bonds, and cash in a beneficiary's plan depending on the years remaining before he or she starts college.

By now you are probably asking, "why, if these plans have so many benefits, haven't I seen them advertised?" There is one main reason: the biggest financial services companies (e.g., the banks and mutual funds) can't (with a few exceptions like Fidelity) figure out how to make money from them. They would much rather that you use the taxable products they offer to save for college -- despite the fact that they are much less efficient vehicles for doing so (from both an income and estate tax point of view). For more information, we recommend that you look at [www.savingforcollege.com](http://www.savingforcollege.com).