The Index Investor

Why Pay More for Less?

Performance Update

The objective of our first set of model portfolios is to deliver returns that are superior to their respective benchmarks', while taking on no more risk. Our high risk benchmark portfolio is a combination of 80% equities (using the Dow Jones Total Market Index ETF), and 20% bonds (using the Vanguard Total Bond Market Index). It has returned (3.8%) year-to-date, while our model portfolio has returned (6.5%). The latter's performance has been hurt by the disappointing performance of European equities thus far this year, as well as weakness in commodities. Our medium risk benchmark portfolio is a combination of 60% equities and 40% bonds. Year-to-date, it has returned (2.6%), while our model portfolio has returned (5.4%). Again, European equities and commodities were the root causes of the underperformance. Our low risk benchmark portfolio is a combination of 20% equities and 80% bonds. Thus far this year it has returned (.3%), while our model portfolio has returned between (1.2%) and (2.7%), depending on the international bond fund used. In this case, it has been the surprising relative strength of the U.S. dollar (and the consequent weak performance of non-dollar bonds) that has caused our underperformance versus the benchmark portfolio.

The objective of our second set of model portfolios is to match the benchmark portfolios' returns while taking on less risk. Thus far this year, our model portfolios have underperformed their respective benchmarks, as the high, medium, and low risk portfolios have returned, respectively, (7.1%), (4.2%), and (1.3% to 2.9%).

Our third set of model portfolios are designed to maximize the probability of achieving minimum target returns of at least 12%, 10%, 8%, and 6%, while taking on as little risk

as possible. Year-to-date, they have respectively posted returns of (6.5%), (7.1%), (4.8%), and (3.1%).

Finally, as an experiment this year we have also developed an actively managed portfolio, with the twin objectives of (a) earning the highest returns possible, and (b) showing that active management is a less effective approach to doing this than straightforward passive indexing. More specifically, our active management approach is limited to changing the weighting we give to different asset classes at the beginning of each quarter; we are not picking specific stocks and bonds. In addition to our other model portfolios, we are also benchmarking the performance of our active portfolio against the Vanguard Global Asset Allocation Fund (VHAAX), which is based on the same approach. For the year-to-date, our active portfolio has returned (5.5%), compared to VHAAX (2.6%).

Product and Strategy Notes

- **Real Estate Update**

  Shortly after we published last month's analysis of residential real estate as an asset class, the U.S. Census Bureau released data from the 2000 census that shed new light on potential future returns. In short, demand for residential housing in the United States is rising faster than had been expected, while supply has not. Apparently, a number of factors are at work. On the demand side, more people than expected are now living alone, and seniors are both living longer and buying second homes while holding onto their primary residences (rather than selling the latter, as some had forecast). Large numbers of new immigrants have further contributed to the demand for new homes. On the supply side, growing constraints on land use (e.g., available land, water and sewer capacity, etc.), have limited new home construction more than had been expected. All in all, these factors increase the probability that future returns on residential real estate will at least match those that have been earned in the past.

- **What's a "Liquidity Trap", and Why Should I Worry About It?**

Readers of the business pages and financial press have probably come across the term "liquidity trap", most often in discussions about the problems faced by the Japanese economy, and more recently in articles speculating about the nature of the downturns now underway in the United States and potentially starting in Europe. Because of the importance of this subject, we thought we'd explain in a bit more depth. In a nutshell, an economy is in a liquidity trap when monetary policy (that is, cuts in interest rates) are no longer effective at stimulating economic (demand) growth. The two best examples of this are the U.S. economy in the 1930s, and, more recently, the Japanese economy in the 1990s, where, despite interest rates of zero percent, economic recovery hasn't happened. What might cause a liquidty trap to happen? Numerous explanations have been put forth. Here are the ones that seem to make the most sense to us.

(A) The current U.S. downturn is fundamentally caused by a cut back in business capital spending on technology, which, between 1995 and 2000, had grown from $228 billion to $713 billion. Fundamentally, businesses overinvested in technology, and are now sharply cutting back as they attempt to integrate and earn a return on the investments they have already made. These cutbacks led to earnings shortfalls at technology companies and drove the sharp decline in the NASDAQ. The aggregate loss of stock market wealth raised fears of a sharp downturn in consumer spending. This in turn caused investment cutbacks and layoffs at other companies, especially those where senior executives were faced with large quantities of worthless stock options. Employment cutbacks and falling stock prices reduce the confidence of consumers with highly leveraged personal balance sheets. As a result, they cut back their spending, and push the economy into a vicious downward circle. Into this breach steps Sir Allan, boldly cutting interest rates (2.5% since January, at last count). Unfortunately, consumers fearful about their jobs don't go out and buy new houses, cars, and

computers just because borrowing rates have fallen. Nor do companies rush to purchase new technology, either because they haven't yet fully integrated what they bought before, or because there is still a surplus of supply in the market (think fiber optic capacity). At this point, the chorus of economists traditionally calls out "fiscal policy!" , by which they mean "pump-priming" government deficit spending and/or tax cuts. In the case of Japan, this hasn't worked. It remains to be seen whether it will in the United States.

(B) In the specific case of Japan, three other factors seem to have been at work. First, the population is rapidly aging, and the country lacks a strong public social security system. Traditionally, workers retired from large companies and then financed some of their retirement needs through work in one of the myriad of companies that have up to now characterized Japan's highly inefficient distribution system. With many calling for structural reforms to streamline that distribution system (in the name of growth, of course), a Japanese couple facing retirement would seem to have a very strong incentive to save rather than spend any incremental income they receive. In the specific case of Japan, this desire to save has been further reinforced by the bursting of their "bubble economy" in equities and real estate, which sharply reduced the savings that many people had accumulated. In addition, monetary policy in Japan has been further constrained by the very weak balance sheet of the nation's banking system, whose assets were also severely devalued when the bubble burst. Despite their ability to borrow money from the central bank at virtually zero interest, they are very reluctant to make new loans until their balance sheets are strengthened. Finally, one would think that Japan would be able to export its way out of this mess. How? By letting people make investments abroad in assets that earn higher returns than those available domestically. The consequent outflow of funds should depreciate the exchange rate, and thereby stimulate export growth. Unfortunately, there have been two big obstacles to doing this. First, a substantial outflow of funds could further weaken a large number of Japan's financial institutions, and in so doing precipitate an even worse crisis. Second, the political willingness of

> Japan's trading partners (e.g., the U.S. and E.U.) to accept substantial appreciation of their exchange rates and deterioration in their balance of payments (not to mention job losses as import competition increases) is dubious, to say the least.

So what happens if you're in a liquidity trap, and fiscal doesn't work? The answer that some have proposed is that the country in question would have to set and stick to a multi-year target for inflation in the 3 to 4 percent range. Why? Because if you knew your money was going to be worth less next year than this year, and that you couldn't offset this risk with earnings on financial assets (that is, if bond yields were below the expected rate of inflation), you'd go out and spend your money, and, hopefully, thereby get the economy growing again. Would this work? Frankly, it all hinges on whether or not you believe the government or central bank would actually stick to its inflation target. Face it: ever since Paul Volker brought down the hammer on inflation at the end of the 1970s, central banks have acted as if their primary mandate was to hold inflation in check, if not completely wring it out of the economy. Convincing people that they were going to do otherwise would take some effort, to put it mildly.

Okay, at this point we know that the consequences of falling into a liquidity trap can be severe, and we've also seen how it might happen. What signs should we look for to tell if that's what's happening, and what tactical portfolio moves should we make if this seems to be the case? In terms of signs, we'd look for increased layoffs, and weakness in consumer spending, the housing market, and business capital investment in the face of continued interest rate cuts. If these come to pass, we'd look first to increase out tactical allocation to non-U.S. dollar bonds and European equities, assuming European growth remains healthy. If this doesn't look to be the case, then we'd probably increase our allocations to TIPS (Treasury Inflation Protected Securities) and real estate.

- **Vanguard Introduces First ETF**

  As expected, Vanguard is entering the ETF market. On May 31st, it will launch a product tied to the Wilshire 5000 Index under the symbol VTI. The announced expense ratio for VTI is only .15% (that is, fifteen basis points), making it one of the most aggressively priced broad market index investments.

- **ETF Conference in London, June 27th and 28th**

  Euromoney Seminars is sponsoring a conference on Exchange Traded Funds in London n later this month. It is well timed, as ETFs are now being launched in European markets, and their number is expected to rapidly increase. For further information, contact Euromoney at 44 (0) 870 90 62 600, or email registrations@euromoneyplc.com.

In Focus: Style Investing

As you may remember, when we rebalanced our recommended portfolios at the end of last year, we used a fairly broad definition of an asset class. Specifically, because the benefit from diversification comes from risk reduction, we required that the "asset classes" we used could have no more than a .60 correlation of returns with each other. That definition eliminated from use a number of groupings of stocks and bonds that other commentators call "asset classes." Examples of these include small cap stocks or large cap growth stocks, and short-term bonds. In our view, all of these represent various "tilts" that one can make in order to enhance the risk/return trade-off within an asset class. At the time of our rebalancing, we promised that we would be taking a closer look at these "tilts" to see which, if any of them, made sense. We're beginning that series of explorations this month, with a look at style investing. Next month we'll look at sector investing. In July we'll look at country investing, in August we'll look at investing in

different bond maturities, and in September we'll look at momentum investing. It promises to be an interesting journey.

Our starting point is style investing, which is probably the best known and popular of the various tilts that investors employ in their search for better returns and/or lower risk. Depending on who you talk to, the term "style investing" can mean investing in groups of companies with similar market capitalizations (that is, large, mid, and small cap stocks), investing in groups of companies with similar book to market rations (that is, value and growth stocks), or a combination of both approaches (for example, small cap value stocks, or large cap growth stocks). Regardless of the approach taken, the fundamental question that must be asked remains the same: can you improve on the risk/return trade-off for the asset class as a whole by making a style tilt in your portfolio?

Let's start with market cap tilts. We'll use the S&P 500 as our large cap index, the S&P 400 for our mid cap index, and the Russell 2000 for our small cap index. This allows the longest possible time series of returns data, dating back to the start of the S&P 400 in February, 1981. Between then and the end of 2000, the average annual return on the large cap index was 17.30%, with a standard deviation of annual returns of 17.38%. In other words, by investing in a large cap index you received .995% of return for every 1.00% of risk (as measured by standard deviation) you took on. During the same period the average annual return on the mid cap index was 19.28%, with a standard deviation of 19.52%, or .988% of return per unit of risk. Finally, between February, 1981 and December, 2000, the small cap index delivered average annual returns of 14.09%, with a standard deviation of 21.59%, or only .653% of return per unit of risk. By way of comparison, during this same period the market as a whole, as represented by the Russell 3000 index, had an average annual return of 16.69%, with a standard deviation of 17.48%, or .955% of return per unit of risk.

In order to compare apples to apples, we will ask the same question in all of our analyses: by making a tilt, could I have earned higher returns than the market as a whole while taking on the same amount of risk? In this case, the answer is yes. A mix of 80% large

caps and 20% mid caps would have had about the same standard deviation, but would have delivered average annual returns of 17.69%, or .988% of return per unit of risk.

Could I have done better if I had used a tilt based on growth versus value instead of one based on market cap? Let's see. As proxies for the growth and value tilts, we'll use the Russell 3000 growth and value indexes. The stocks in the Russell 3000 universe are placed into these categories based on two factors: their market/book ratio, and their earnings growth rate. Between February, 1981 and December, 2000, the Russell 3000 growth index had average annual returns of 16.13%, with a standard deviation of 20.19%, or .799% of return per unit of risk. During the same period, the Russell 3000 value index had average annual returns of 17.09%, with a standard deviation of 16.36%, or 1.045% of return per unit of risk. In this case, the best approach would have been to invest 100% of your portfolio in the value index.

Finally, we need to look at using a combination of market cap and growth versus value tilts. Because of the short time that growth and value indexes have been available for the S&P 400, we will use five indexes in this analysis: large cap growth and value (in this case, the S&P/BARRA 500 Growth and Value), mid cap (the S&P 400), and small cap growth and value (in this case, the Russell 2000 growth and value). During the February, 1981 to December, 2000 period, large cap growth had average annual returns of 17.09%, with a standard deviation of 19.21%, or .890% of return per unit of risk. Large cap value had average annual returns of 17.32% with a standard deviation of only 16.82%, or 1.03% of return per unit of risk. During this same period, small cap growth had average annual returns of 11.99% with a standard deviation of 25.97%, or only .462% of return per unit of risk. By comparison, small cap value delivered average annual returns of 16.20% with a standard deviation of 18.17%, or .892% of return per unit of risk.

In this case, a portfolio weighted 54% in large cap value and 46% in mid caps would have delivered average annual returns of 18.22% between February, 1981 and December, 2000, with a standard deviation of 17.48%. That's 1.042% of return per unit of risk, versus .955% for the market as a whole, as proxied by the Russell 3000 index. Let's look

at this another way: over 20 years, on a $1,000 investment, the difference between earning an average annual return of 18.22% and earning 16.69% compounds to $1,355.

So, what can we conclude from this analysis? At first blush, it would seem that if history is an accurate guide to the future (and, to be sure, sometimes it isn't), a mix of large cap value and mid cap stocks offers a superior risk/return trade-off than simply investing in the market index as a whole. What are the chances that this will be as true in the future as it was in the past? The first response to this question is you can never know for certain. However, what you can do is try to identify the underlying causes of the superior returns you have identified. If these seem likely to persist, then it is more likely that the future will indeed resemble, if not exactly mimic, the past.

So, what then might be driving the superior returns we have identified? Let's look at mid cap first. One theory is that mid cap typically outperforms small cap because in effect, the former represents the cream of the crop of the latter. In other words, the best small cap companies – those that are growing quickly with a profitable business model that isn't easy for others to copy – make it into the mid cap index. When this happens, the small cap managers have to sell them. Given their track records, new entrants to the mid-cap universe have a relatively high probability of continuing their success. Inevitably, some of them will later be added to the large cap indexes, which triggers another wave of buying by large cap managers, and a last surge in their stock price as they depart the mid-cap universe. In other words, mid-cap managers may enjoy a structural advantage that is denied to large and small cap managers.

But what about the difference in value returns versus growth returns? What might be going on there? Our view is that the underlying cause of the value index's strong relative performance are two fundamental flaws in the design of the indexes themselves. The first flaw is mechanical. Consider what happened at the end of last year, when the indexes were rebalanced. Following sharp falls in their stock prices, companies like American Power Conversion, JDS Uniphase, Best Buy and Qwest were moved from the growth to the value universe. At the same time, companies like Bank of New York,

Kimberly-Clark, Kroger, and Hershey Foods were moved from the value to the growth category. If, as we do, you believe that at the margin, financial markets behave irrationally (due to imperfect communication of information and flaws in human reasoning), then it follows that rebalancing is likely to put into the value universe stocks whose price has overreacted on the downside, while the growth universe receives stocks whose price has overreacted on the upside. As these misvaluations are recognized by investors, the value index should logically outperform the growth index, which is exactly what we see in the data.

This points to the second, and more important, fundamental flaw in the design of growth and value indexes. As we have written previously, there are basically only two types of investors in the market. Fundamental investors buy a stock because they think that its price is lower than its "true" value, and that eventually others will recognize this and the price of that stock will rise. Momentum investors buy a stock because its price has gone up, and they think that because others will be buying the stock, its price will continue to go up. The first thing to notice here is that the first definition says nothing about market/book ratios or rates of earnings growth. A fundamental investor could just as easily judge as overpriced a stock from the "value index" universe as she could judge as underpriced a stock from the "growth index" universe. The second thing to notice is that momentum investors could be just as interested in a stock in the value index universe as they could be in one from the growth index universe – for them, price history is what counts, not market to book or earnings growth. In other words, to put it bluntly, the current value and growth indexes don't seem to measure phenomenon that are logically connected with the sources of superior investment returns. At best, they may be correlated with these; however, they are not based on them. From this point of view, the most favorable thing that one can say is that value indexes are probably better correlated with the logic of superior investing performance than are growth indexes, and for that reason the former are more likely to outperform the latter.