EMPIRICAL WEALTH MANAGEMENT

Successful Investing

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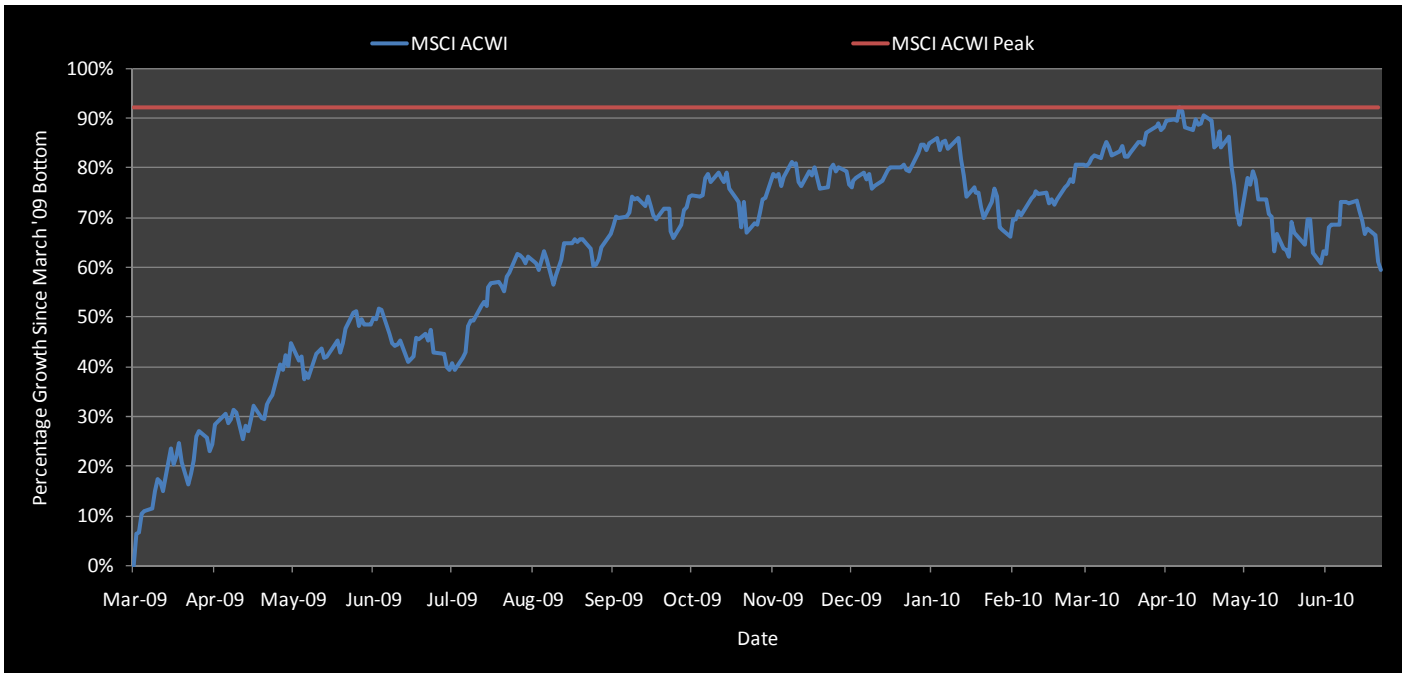
Evaluating Investment Results

During the first half of 2010, markets have continued to behave erratically. After the MSCI All Country World Index (or ACWI) bottomed in March of 2009, the index experienced an incredible rebound of 92% through April 14th of this year as shown in **Figure 1**.[1] Since the recent April 14th rebound peak, the ACWI has declined 17% through June 30th. Some believe it's normal to see this kind of pullback after the incredible rebound in the market, while others believe it is a sign that we are not out of the global recessionary woods yet. The market is adjusting prices daily in hopes of making the right guess about future prospects. Our advice is to stay the course with a portfolio that is designed to meet your long term objectives. One of the necessary steps in determining if your portfolio is positioned to meet your long term objectives is to review its performance.

this issue

The advancement in the distribution of investment information and the portfolio management systems being offered by the brokerage firms has not lead to an advantage in the form of better investment results. In fact, increased information coupled with online trading has lead to poorer investment results.

Figure 1: Performance of MSCI All Country World Index since March '09 Market Bottom



Source: iShares. Returns include dividends. See performance disclosure at the end of this document.

Studies done on investor behavior, and ensuing investment results show that most individual investors have failed to keep up with inflation over the last 20 years. Why has this happened? A more interesting question is why has this happened during a time when access to information and portfolio management technology has exponentially increased? Think about how our access to information has changed over the last 20 years. When pausing to reflect on this, it's astonishing that we could survive without the flood of electronic information we now enjoy. Yet, in spite of all the life enhancing tools we have as a result of the technological revolution, the average investor is no better off.

What we see in the data is that investors trade more than they used to. This makes sense since we have the technology and the perceived information to do so. CNBC is a constant stream of commercials peddling investment platforms that provide investors cheap trades and sophisticated trading research. The rub is that making frequent changes to a portfolio has not been demonstrated to enhance returns. To the contrary, increased trading has been shown to reduce portfolio returns. We have talked about the psychological aspect of investing in our writings and how emotions can quickly derail even the most sound investment strategy. In this letter, we are going to share several ideas that investors

can follow to assure that they make portfolio changes for the right reasons. It is difficult to evaluate whether or not an investment approach is working properly. So, it is helpful to have a sound framework to aid in the evaluation.

Comparing Apples to Apples: Understanding Risk Differences

The simplest way to compare investments is to look at the differences between returns over a specific period of time. Over long periods of time (if possible 30 years or more), doing so can help an investor understand return differences among investments with varying levels of risk. This exercise helps guide the investor's allocation selection among risky assets (stocks) and less risky assets (bonds). Once the allocation is determined, investors will be best served by comparing their portfolio to a benchmark consisting of a similar mix of stocks and bonds over long time periods.

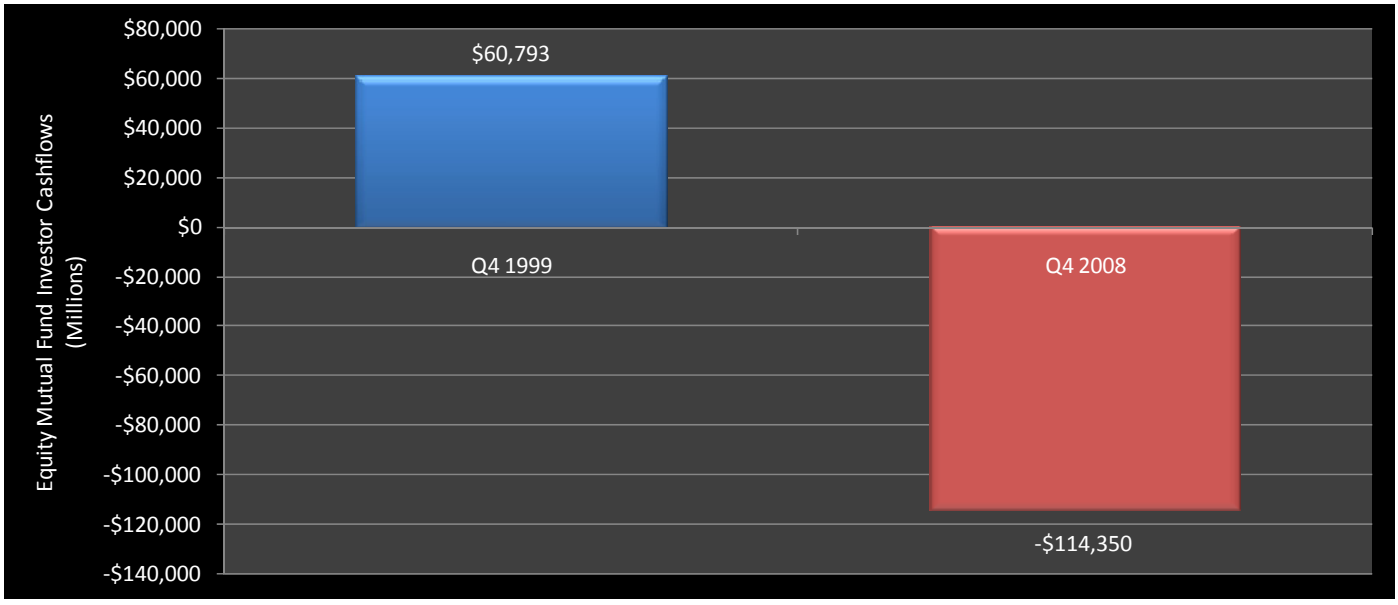
Evaluating stock and bond performance over short periods of time frequently causes investors to buy high and sell low – and thus break the cardinal rule of investing. This behavior is well documented in the data showing money flows in and out of stock and bond mutual funds. At market bottoms (not an ideal time to reduce stock exposure), money flows out of stocks and into bonds, and at market peaks (not an ideal time to increase your exposure to stocks) money rushes out of bonds and into stocks. **Figure 2** shows evidence of this behavior. In the 4th quarter of 1999, just prior to the peak of the tech bubble, cash was flooding into equity mutual funds. Ten years later, right before the bottom of the recent downturn, investors were pulling huge amounts of money out of equity mutual funds. Investors will be well served if they view bonds and stocks as apples and oranges. Each has its own purpose and they are not substitutes for one another. Ignoring this tends to secure for investors the very result that was meant to be avoided: low future returns.

Figure 3 demonstrates the problem with comparing the returns between risky and conservative investments over shorter periods of time, and making investment changes as a result. The figure shows the range of annualized returns for time periods from 1 year to 30 years. For each time period, half of all returns fall within the range represented by the white box. Stocks, as a broad investment category, are very risky over shorter periods of time; it is over the long run that the investor is less likely to experience a loss of capital. Short term Treasury notes on the other hand are much less risky over the short term than stocks, yet their long term return has been lower, reflecting the difference in risk. Viewed in this way, investors should only buy stocks when they are willing to take on the short term risk associated with owning them. In exchange for this risk, the investor receives the opportunity (not guarantee) to receive a higher rate of return than Treasuries or Certificates of Deposit.

Finally, it's important to make sure that when we are comparing apples to apples, we are comparing apples of the same variety. For example, US stocks should not be benchmarked against international or emerging markets stocks. Similarly large US company stocks should not be benchmarked against small US company stocks. Doing so will mask the fact that differences in return among stocks will be heavily influenced by the time period being measured. More precisely: all stock prices tend to move in the same direction, just at different speeds, and stock returns tend to converge at or near the long term average. This has profound implications for investors since once this is understood; the most important decisions (i.e. the decisions with the greatest influence on future returns), become clear:

1. Determining the proportion of stocks to bonds.
2. Maximizing the level of diversification within and among the asset classes
3. Maintaining resolve to stay with a prudent strategy

Figure 2: Investor Cashflows into Equity Mutual Funds Prior to a Market Peak and a Market Bottom



Source: Investment Company Institute.

In summary, it is important to understand that a portfolio may be doing exactly what it should be doing regardless of whether or not it is generating a positive return over a given interval of time. If stocks are down as a group, and you hold stocks that are also down, there may be no reason to sell. Decisions to make changes to a portfolio should be primarily dictated by the investor's circumstances, not stock market performance.

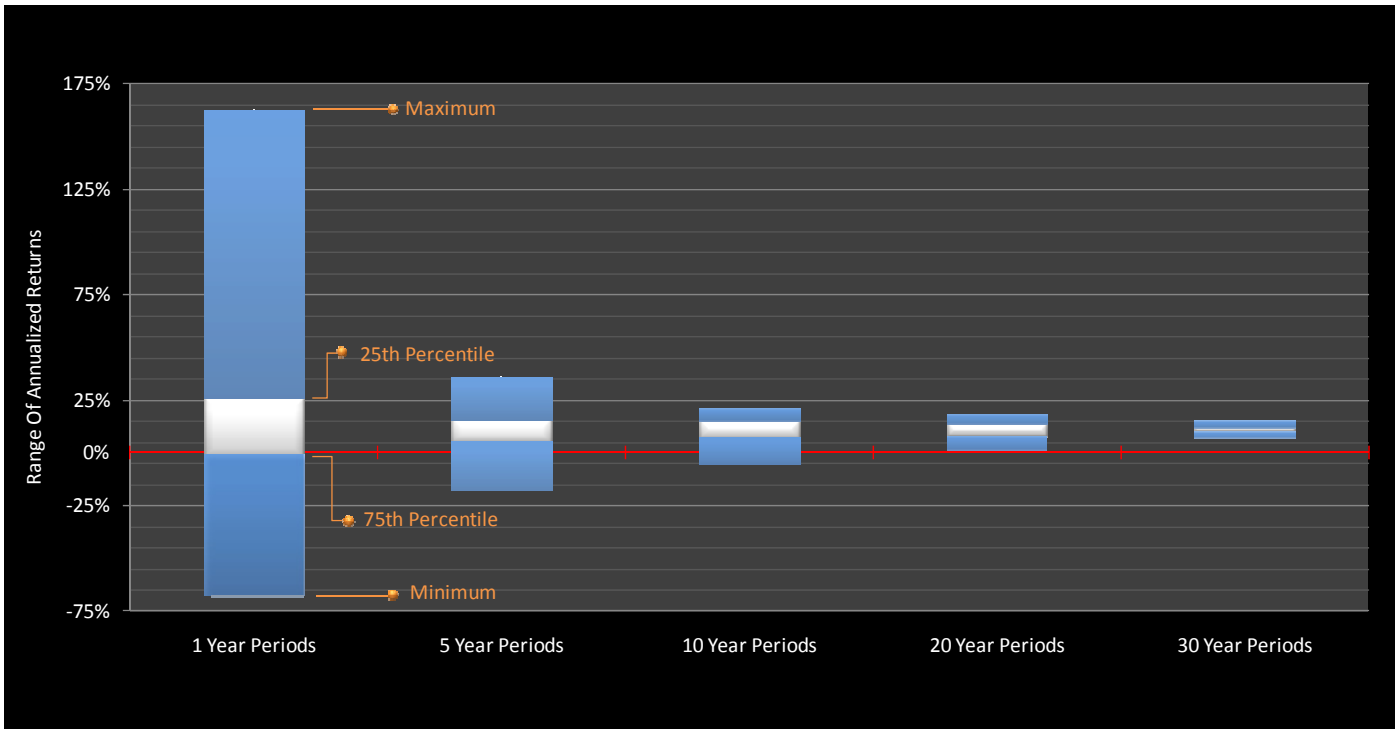
Evaluating Portfolio Performance in Historical Context

Once meaningful investment benchmarks are in place, it is important to consider investment results in a historical context. This means that an investor is likely to achieve better results, once the three items above are accounted for, and the portfolio is given the appropriate amount of time to achieve the targeted returns. A portfolio comprised largely of stocks may be performing in line with the appropriate stock benchmarks yet show losses over short or intermediate periods of time. By examining the historical patterns of stock and bond returns, investors can increase their confidence in their ability to make informed decisions about the prudence of their chosen investment strategy.

As we saw in **Figure 3**, stocks have the propensity to decline severely over short periods of time. One year returns on the S&P 500 have ranged from a positive 163% to a negative 68%. An investor possessing this knowledge would not choose to liquidate their S&P 500 index fund as a result of a negative return in the first year they invest. We find the likelihood of this is less with investors that are familiar with market history. Less informed investors may look for guidance in the daily news to help explain the way their portfolio is behaving (or will behave in the future) instead of examining market history. When it comes to stocks, time reduces the range of returns and the potential for losses.

The shorter period of time a prudent portfolio strategy has been in place, the wider the range of returns that should be tolerated before making changes. In other words, the long term average return is not the most useful benchmark if we have only been invested for one year. What is more relevant, after one year of investing, is the historical range of one year returns. This would be a more useful lens to view a portfolio against at the end of year one. For example, if we invested our money in the S&P 500 index and one year had passed, we would expect to see the return fall within the ranges listed in **Figure 3** for one year outcomes. We would not necessarily expect to see a 10% return, the average return since 1926. The same logic should apply after we have been invested for 3 years, 5 years or 10 years.

Figure 3: Range of Annualized Returns of the S&P 500 Index for Various Time Periods (January 1926—June 2010)



Source: Standard and Poor's Index Services Group. See performance disclosure at the end of this document.

If we are looking for ways to produce the best outcome (i.e. the highest returns for a given level of risk over time), then the best approach is to review the historical performance characteristics of your chosen portfolio allocation and let those historical ranges serve as a guide to evaluating whether your portfolio is performing in line with your needs and expectations. There may be merit in making changes to your investments if the portfolio is behaving significantly different than expected. On the other hand, if the portfolio is performing well within the historical ranges (given the time frame you have been invested) then chances are that nothing should be done outside of normal rebalancing. Empirical advisors have access to ample historical data for every

portfolio strategy we offer. Please speak to your advisor if you are interested in receiving an updated copy of the historical performance ranges for your portfolio.

Evaluating Your Investment Progress Relative to Your Financial Objectives

Measuring investment performance relative to a meaningful benchmark, as discussed in the previous steps, is an important part of successful investing. After all, successful investing is mostly about putting yourself in the best position to make sound choices about your investments. The higher the number of good choices we make as investors, the higher the likelihood of reaching our goals and objectives. In this sense "good" is meant to denote the choices we make where the odds point to the outcome that is in our favor, more often than not. For example, a recent study covering the five years ending December 2008, found that for the entire five year period, US large company mutual fund managers underperformed the S&P 500 Index 98.4% of the time.[2] Between these two options the prudent choice is clear: it is better to own the index than bet that the manager you choose will beat it.

It is also very important to consider how you have progressed over the years relative to your targeted financial objectives and to consider how differing investment strategies currently effect your ability to meet objectives in the future. An investor may be frustrated because they have experienced a portfolio decline even if their portfolio is doing what it should be. We have found that updating financial plans to see where things sit in terms of being able to retire or send kids to college is a helpful exercise because often times clients find that they were ahead of schedule in meeting their goals. They may find that the portfolio they are in continues to offer the best opportunity to get where they need to go and if not they have a logical framework from which to make changes.

After an investor has made the decision to invest prudently and measure performance accurately, how does this translate into reaching your current and future goals and objectives? One of the best ways to measure this is with a retirement\cash flow planner that uses Monte Carlo analysis. Monte Carlo analysis is a mathematical test that pits a portfolio against thousands of market scenarios to find out the probability of success, given different levels of assets, savings, and spending. This tool is extremely useful because it takes into account the randomness of stock price movements and the correlations between them, rather than simply averaging the return and making a linear calculation. To be clear, a linear return refers to a simple stated return per year, every year, which we know is not an accurate picture of how market returns occur. For example, in the real world stocks can be up 15% in one year and negative 20% the next. In a very real sense, the Monte Carlo analysis assures that bear markets are part of the calculations.

This tool provides a method to measure the level and likelihood of success of a particular plan. It can help investors by communicating to them what changes are needed to avoid the least desirable outcomes. If this tool is updated and ran every year (or as changes in circumstances occur) investors will find themselves in the best position to make sound choices about their financial future, and they can be sure they are doing the right things with their portfolio to help keep them on track.

Which Benchmark Should I Use to Evaluate My Empirical Portfolio?

First, any benchmark you use should have a similar risk profile. Most importantly, as we have discussed above, a benchmark should have the same allocation to risky equity asset classes as your portfolio. Secondly, it should resemble the asset classes available to your portfolio, as closely as possible. A US large company index, like the S&P 500, is inadequate to measure Empirical's globally diversified portfolio. Although closer, even a stock market index that includes the stocks from every country in the world, such as the MSCI All Country World Index, falls short as a comparison tool. The reason is that the Empirical portfolio has several deliberate deviations from the world stock market. We described this difference as portfolio divergence in our last quarterly letter. Most notably, Empirical's portfolios have an emphasis on small and value stocks to increase return premiums, and include measured exposure to emerging markets stocks. These decisions will sometimes help or sometimes hurt Empirical's portfolios relative to a world stock market index. However, over time, we strongly believe that our decisions will result in a better risk adjusted return.

Each quarter we produce a document called 'Historical Investment Data' that details the investment performance of each fund we recommend and our model allocations. Because of its length (26 pages), we don't automatically send it to every client, but anyone can receive a copy by contacting their advisor. This up-to-date quarterly information is usually available about 20 days after the end of the quarter.

In one section of the 'Historical Investment Data' document we show the performance of each fund we recommend versus an index. The standard index funds and exchange traded funds (ETFs) we use have a good track record of performance nearly identical to their benchmark. We also use a family of passively managed funds from Dimensional Fund Advisors (DFA) that may not track a benchmark, while still accurately capturing the performance of an asset class. Some of the DFA funds are simply so advanced that there are no established benchmarks. For example, the Core funds own multiple asset classes (such as US large, US large value, US small etc.) within a single fund, while overweighting the sectors of the market that have historically outperformed (small and value). This is more efficient than owning a separate fund for each asset class. The one downside is that since DFA is the only major fund company to implement Core technology, none of the index providers have created suitable benchmarks. Another manner in which DFA funds will deviate from established benchmarks is through their unique definition of growth and value. Each index provider (S&P, Russell, etc.) has a slightly different definition of what defines a value stock. DFA uses the criteria shown by academic economists to have had historically the highest return. This will create some discrepancies between the performance of DFA funds and standard indexes. Also, tax-managed funds from any provider tend to deviate from

indexes, because they avoid certain activities, such as selling a heavily appreciated stock that would help track the index but hurt after-tax performance.

Closing Observations

Over the years we, as advisors, have come across many different investment approaches and investment managers. Many of them promising to deliver, in some form or fashion, high returns with low risk. More often than not the story ends with the idea that they can select stocks or time in-and-out of the market and achieve above market returns. Many times the story itself has been crafted so well that it is extremely believable. The issue is that while it sounds very good in practice, the results are not. Indeed, there is a virtual mountain of independent evidence that shows this story repeats and repeats, and frequently falls short of expectations.

One such study, conducted by Kenneth French and Eugene Fama, demonstrated that 96% of a diversified portfolio's performance is attributable to three factors:

1. The mix of stocks to bonds
2. Exposure to small company vs. large company stocks
3. Exposure to value vs. growth stocks

Conspicuously missing from the list are stock selection and market timing: the very things many managers purport to do well. It isn't that stock selection and market timing have no impact on performance, the issue is that the impact is very small: 4% or less. Clearly the results would be the opposite if managers could pick stocks and time markets consistently. In fact, if it could be done successfully, it would be the only thing that matters. In the absence of such independent data however, investors must conclude that it does not exist. To believe otherwise is the equivalent of the triumph of hope over reason.

Closing Comments

It is our mission to provide our clients with the most effective, unbiased financial planning and investment advice available. One of the main ways we do this is by providing our clients with information gathered from independent, third party sources outside of our own company. It is our view that our job is not to blindly promote our strategy, but to promote the strategy that gives our clients the highest likelihood of reaching their own personal objectives.

To that end, we hope you found the discussion in this quarter's letter useful. If you have observations, questions, or comments we are more than happy to speak with you.

Sincerely,

The Empirical Wealth Management Team
Kenneth R. Smith, CFP®, MS
Chief Executive Officer

Notes

[1] The performance of the iShares MSCI ACWI Index Fund was used as proxy for the MSCI All Country World Index.

[2] Data provided by CRSP Survivor-Bias-Free US Mutual Fund Database. Sample includes mutual funds existing as of 12/2003. Returns analyzed for the five-year period from 2004-2008. For funds with multiple share classes, only the share class with the most assets at the beginning of the sample (12/2003) is included. Index funds, inverse funds, and leveraged funds are excluded.

Performance Disclosure

Past performance is not a guarantee of future results. Even a long-term investment approach cannot guarantee a profit. Economic, political, and issuer-specific events will cause the value of securities, and the portfolios that own them, to rise or fall. Portfolios are assumed to be rebalanced annually. Model portfolios do not include an allocation to cash. Taxes and trading costs are not included.