Introduction
As we mentioned in our last letter we are dedicated to continued advancements in our service to our clients. Having received feedback from clients we are working on enhancing our reporting and services to better serve you. We desire to speak with you frequently to stay informed about your circumstances and to communicate our investment strategy and potential planning solutions. Your quarterly reports are intended to provide you with a clear snapshot of your investments and the progress being made in relation to the appropriate global benchmarks. Our goal for the letter is to share the rationale for the investment decisions being made in your portfolio and to keep you updated on financial planning strategies. The desired result is to build confidence and trust in our expertise and approach to managing your investments. We are confident that the more you know, the better you will feel about working with us to achieve your financial objectives.

Investment philosophy
Many clients asked about our investment philosophy and approach as we transitioned from Chinook Capital to Empirical. Over the next several letters we will share with you in detail our approach to protecting and growing your investments. In this letter we will begin this process with a broad overview of the core principles that guide our investment process. We will leave detailed discussion and support of these principles for future letters. It is worth noting that we believe wholeheartedly that an investment strategy worth executing should be able to be explained, rationalized and backed up by empirical evidence. In the following detail of our investment approach we make several assertions about the principles that guide market behavior. These principles are not based on our opinions; they are based on research done by leading scholars in the field of finance.

Markets are efficient
The emphatic belief in market efficiency serves as the foundation for our investment approach. This theory was first put forth in 1966 by Professor Eugene Fama at the University of Chicago and is referred to as the Efficient Market Hypothesis (EMH). It has withstood the test of time and critical scrutiny from a colossal investment industry that has an enormous financial interest in discrediting EMH. As mentioned earlier, we will reserve a lengthy analysis of EMH for future letters. To summarize EMH, it is the theory that securities are priced correctly based on all currently available public information. Therefore, it is not possible to consistently beat the market using publicly available information. When information is released, the market quickly digests it and securities prices are reflected almost instantaneously. If EMH holds true and we believe the evidence is overwhelming that it does, the conclusion is that it is impossible to select individual securities in hopes of outperforming the benchmark they are chosen from. Further, EMH followers believe it is impossible to move in and out of the market from stocks to cash or bonds in hopes of outperforming the market.
Structured Asset Class Investing

Embracing EMH as a core principle means that we turn our attention away from individual stock selection and market timing. We instead focus on the goal of maximizing return and managing risk through a structured asset class approach. An asset class is commonly defined as a group of securities with shared economic traits. Asset classes can be defined in a very broad sense such as stocks versus bonds or in a very narrow sense such as stocks and bonds from specific industries. When it comes to asset classes they are not all created equal. It is important to select asset classes that have a history of contributing to positive returns while minimizing risk in a portfolio context. Below are a few examples of asset classes found to possess these traits however not all of them are easy to access or are cost effective to invest in. We focus on the asset classes that we believe can be efficiently captured. Thus, you may not see every asset class listed below in your portfolio.

**Asset Classes by Geography**
- Domestic Stocks
- Developed Country International Stocks
- Emerging Market International Stocks
- Domestic Bonds
- International Bonds

**Asset Classes by Size**
- Large Company Stocks
- Small Company Stocks

**Asset Classes by Style**
- Growth Company Stocks
- Value Company Stocks

**Specialty Asset Classes**
- Domestic Real Estate Investment Trusts (REIT’s)
- International Real Estate Investment Trusts (REIT’s)
- Private Real Estate
- Commodities
- Inflation Adjusted Bonds
- High Yield Bonds
- Private Equity/ Including Venture Capital
- Absolute Return/Hedge Funds

Empirical studies show that dividing a portfolio among many of the above listed asset classes may enhance return and reduce the risk involved with holding a single asset class. While the mix of stocks and bonds plays a large role in the volatility of your portfolio it is possible to enhance return given a target risk level by further dividing your stocks and bonds into several sub asset classes. The development of this concept is at the base of modern portfolio theory (MPT). What is now referred to as MPT was based on the research done in 1952 by Harry Markowitz. He subsequently won a Nobel Prize in 1990 for his original work in this area. The idea is that asset classes should be evaluated for inclusion based on their effect on the entire portfolio not based on their behavior in isolation. Thus, it is important to understand how asset classes behave in a portfolio context and how they relate to one another. Major endowments such as Harvard and Yale manage billions of dollars using the precepts of MPT. As a normal part of our research, we regularly review the relationships between asset classes using a statistical measure called correlation. Correlation is a measure of how closely two asset classes relate to each other over a given time period. We also track the volatility of each asset class over time. This is typically done using a statistical measure called standard deviation. We will demonstrate how standard deviation and correlations are used in subsequent letters. What is important for you to know is that we are tracking this information for every asset class we follow. Each asset class has been selected because of its unique return and diversification characteristics as a part of the entire group of investments.
Capital Market Expectations
Knowing the correlations among the different asset classes is one piece of the puzzle when building and managing a globally diversified portfolio. However, we also need to estimate the expected returns of each asset class. We do this using a few different methods. First we start by an examination of historical returns. This gives us a reference point in which we can examine our estimates of future expectations. When examining historical returns it is important to look at data that goes back as far as possible. For example, reliable data on emerging markets only goes back to 1988. This does not give us a lot of history and the short time period covered has shown exceptionally high returns for emerging markets. It would be a mistake to extrapolate those returns into the future based on such a short history.

After examining historical performance we examine the historical valuations and current valuations of each asset class. While we don’t believe it is possible to time markets we do believe that moderate adjustments based on long term expectations can reduce risk and enhance return. We want to stay aware of the current trade off between return and risk for a given asset class. We make adjustments to our allocations when certain asset classes becoming glaringly over or undervalued relative to their historical valuations. Studies have shown that building long-term capital market expectations (i.e. over a ten year time horizon), yields the opportunity for relatively close estimates of actual returns, while attempting to develop short term expectations (i.e. a one year time horizon), is useless. At the risk of sounding repetitive, it is our goal to provide a detailed description of this process in a subsequent letter. It is our intention here to make you aware of the work being done for your portfolio.

Investment Selection
Once we have analyzed our model portfolios the final step is the selection and monitoring of available investments to represent each asset class. You may not see frequent changes in your portfolio because we are tax and transaction fee sensitive. However, we are constantly examining the universe of investment choices and have a list of several substitutes for each asset class being utilized. Wider acceptance of Modern Portfolio Theory and the Efficient Market Hypothesis has lead to a demand for investments that capture and stay true to specific asset classes. We select funds based on their ability to capture the returns of a particular asset class. The funds we select carry the least amount of drag from operational expenses and trading costs. Also, they must be sufficiently diversified and have a very low tracking error to the asset class we are targeting.

Clients have asked about the large number of funds invested in Dimensional Fund Advisors (DFA). The reason why we use several DFA funds is that they have been among the best in the world at capturing the returns of unique asset classes. DFA is a company that was formed and is run by leaders from the academic field. The author of the efficient market hypothesis Eugene Fama, along with many other well known academics, run and guide the company. Their philosophy is a divergence from that of most mutual fund companies because they create mutual funds based on academic support. Many mutual fund companies create new funds solely for the generation of profits to the fund company. They know that by feeding the public’s desire to participate in the next hot trend, funds can be sold to a naïve public with great profit opportunities to the fund company, not the investor. For example, when technology stocks were doing
well there was an influx of new funds focusing on technology stocks well into the bubble stage of the technology sector. Funds focusing on hot sectors are not substantiated by academic support for their inclusion in a well balanced portfolio.

Unlike traditional actively managed funds where it is virtually impossible to be the best of breed in several asset classes, structured asset class funds and index funds do not face those same challenges. This is why we will hold several funds from the same company; not because we believe they are the best stock pickers in each asset class. DFA has been able to add several percentage points of return over traditional benchmarks in many of their asset class funds. The key point is that they do this through better engineering of their funds, and keeping expenses and transaction costs extremely low, not by active stock selection. The funds are only available through a select few advisors so they have an edge by not having to cater to the public. Please keep in mind that we are not beholden to any fund company or brokerage firm. As new diversified asset class funds become available, we examine them.

It is a very exciting time for the type of investing we are doing as the choices are increasing and costs continue to come down. New funds are being developed at an amazing pace. The number of exchange traded funds (ETF’s) has exploded and continues to grow rapidly. With the increased choice comes increased complexity. Managing an investment portfolio successfully requires at minimum; knowledge of market history, an understanding of how capital markets work, understanding the nature of the media and investment businesses, and the ability to understand how personal emotions effect investment decisions. We are building portfolios for our clients by tapping into the investment research and investment products from some of the brightest people in the world. More importantly, our approach is built around the premise of doing what we know to be in our clients’ best interests.

This letter was designed to be a general overview of some of our processes and core principles that guide our investment committee’s decisions. We look forward to sharing more in further communications and on our website. Please call us if you have any questions or comments we welcome your input and would love to hear your feedback on our quarterly reports and letters.

Sincerely,

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