



April 9, 2007

First Quarter 2007 Client Letter

Introduction

Last quarter we covered efficient market hypothesis and how Empirical applies it to portfolio construction. By examining the results of several empirical studies done on the performance of professional managers, we concluded that market timing and active security selection have not always worked well. By contrast, structured asset class investing has worked well and is one of the core strategies we employ. In this letter, we share insights into how asset class investing works and how we apply it to your portfolio.

Asset Classes

Employing a structured asset class strategy involves dividing up the universe of investments into multiple, meaningful categories called asset classes. 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 narrow sense such as small US stocks and short term government bonds. Asset classes are not all created equal, because of this, it is important to select asset classes that have a history of delivering positive returns. Ideally, the asset class also reduces risk in a portfolio. However, merely meeting the above mentioned criteria does not necessarily mean that we will include the asset class in our client portfolios; we also consider the costs associated with gaining exposure to each asset class. Thus, you may not see every asset class listed below in your portfolio. We have focused first on the classes that we feel can be efficiently captured and broadly diversified.

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

We are constantly looking for cost effective ways to gain exposure to unique asset classes. For example, we are currently searching for investment opportunities in private real estate, private equity and the absolute return asset classes among others (these asset classes will be used when appropriate for a given client's circumstances). Recently, we added international real estate to our portfolios. Within the past year, two funds were created enabling us to gain efficient exposure to this asset class. Those funds are the Northern Global REIT index (inception July 2006) and the DFA International REIT fund (inception March 2007). We also added a commodities component to our client portfolios as a result of innovation in investment products.

Using Asset Classes in Portfolio Construction

Dividing a portfolio among several asset classes presents the opportunity to enhance return and reduce risk. While the mix of stocks and bonds plays a large role in the volatility of your portfolio, market history tells us that it may be 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, who 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 and asset class investing. In fact, Chief Investment Officer, David Swenson, responsible for managing Yale's \$18 billion endowment utilizes a multi-asset class approach that has been dubbed "The Yale Model". The Yale Model has received much attention because of the exceptional returns Swenson has generated over the last ten plus years.

In figure 1 below, we demonstrate the benefits of multi-asset class investing. Portfolio 1 below represents a 100% allocation to the S&P 500 index. Each subsequent portfolio gradually includes more asset classes, resulting in a total of ten asset classes in Portfolio 6. What is notable about this illustration is that over the time period covered the return increased while the volatility, as measured by standard deviation, decreased. The increase of return and reduction of annual volatility was achieved by expanding the investment universe to include several unique asset classes. The reason this has worked well historically can be explained by statistical correlation, which examines the relationships between the asset classes selected.

Figure 1

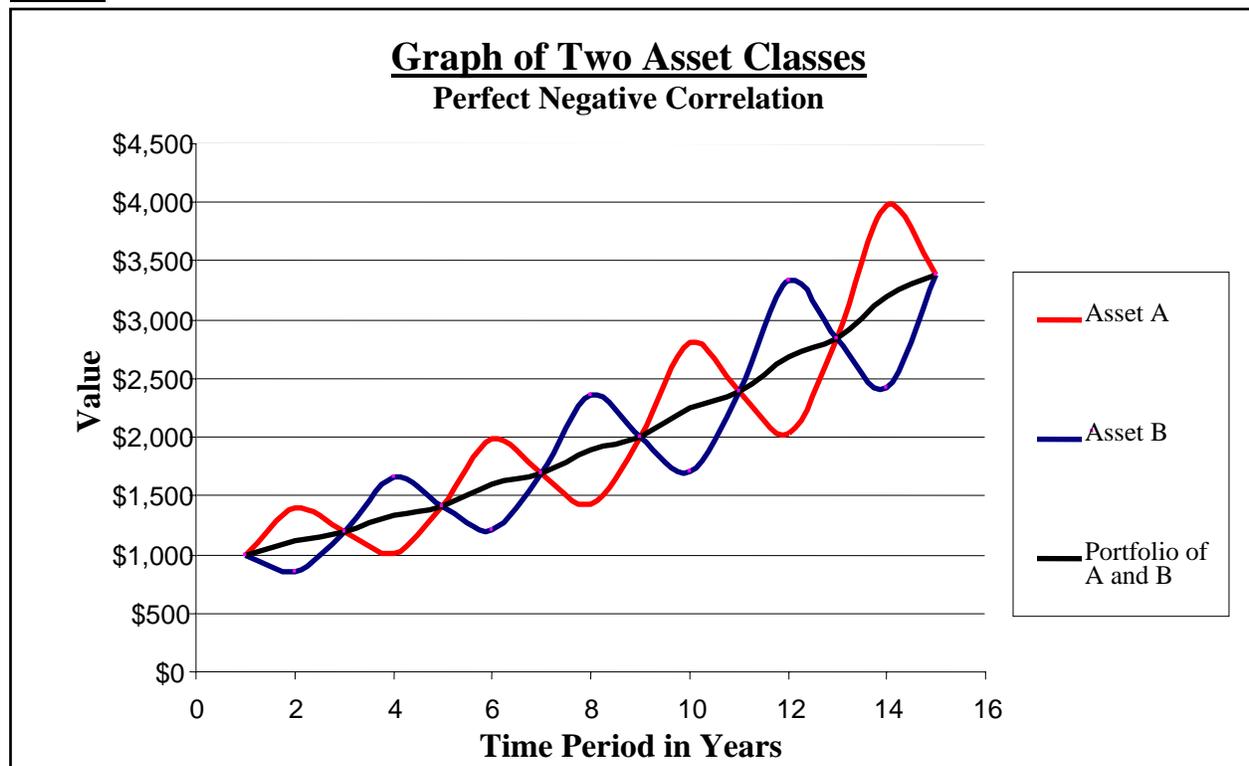
Portfolio	1	2	3	4	5	6
Asset Class	US Large Cap Portfolio	US Small Cap Added	US Value Added	International Added	Int. Small & Value Added	Real Estate & Commodities Added
US Large Cap	100%	75%	50%	20%	20%	20%
US Large Value			25%	15%	15%	15%
US Small Cap		25%	10%	10%	10%	10%
US Micro Cap			10%	10%	10%	10%
US Small Cap Value			5%	5%	5%	5%
International Large Cap				40%	20%	10%
International Large Value					10%	10%
International Small Cap					10%	10%
US Real Estate						5%
Commodities						5%
Annualized Return	13.22	13.81	14.80	14.32	14.96	15.16
Standard Deviation (Annual Volatility)	14.88	15.35	15.10	14.13	13.92	13.13

**The time period is 1978-2006. This time period provides a broad mix of available asset classes for inclusion. Portfolios are assumed to be rebalanced annually. Returns were calculated using indices which do not represent investable portfolio. Expenses, taxes and management fees are not reflected in the indices. Table is for illustrative purposes only. They do not represent real client holdings or returns.*

Correlation

Correlation is a measure of how closely two asset classes relate to each other over a given time period. The correlation between two asset classes will always fall between positive one and negative one. When two assets have a perfect negative correlation (-1) we expect to see them move in exact opposite directions. When two asset classes have a perfect positive correlation (+1) we expect to see them move in perfect tandem with one another. With a zero correlation we expect to see no pattern between the two asset classes. Figure 2 below is an illustration of two asset classes with a perfect negative correlation (-1). Looking at assets A and B individually, we see that they each experience a bumpy ride while eventually arriving at the same place. The portfolio represented by the black line in figure 2 shows the smoothing effect of combining two negatively correlated assets together in one portfolio.

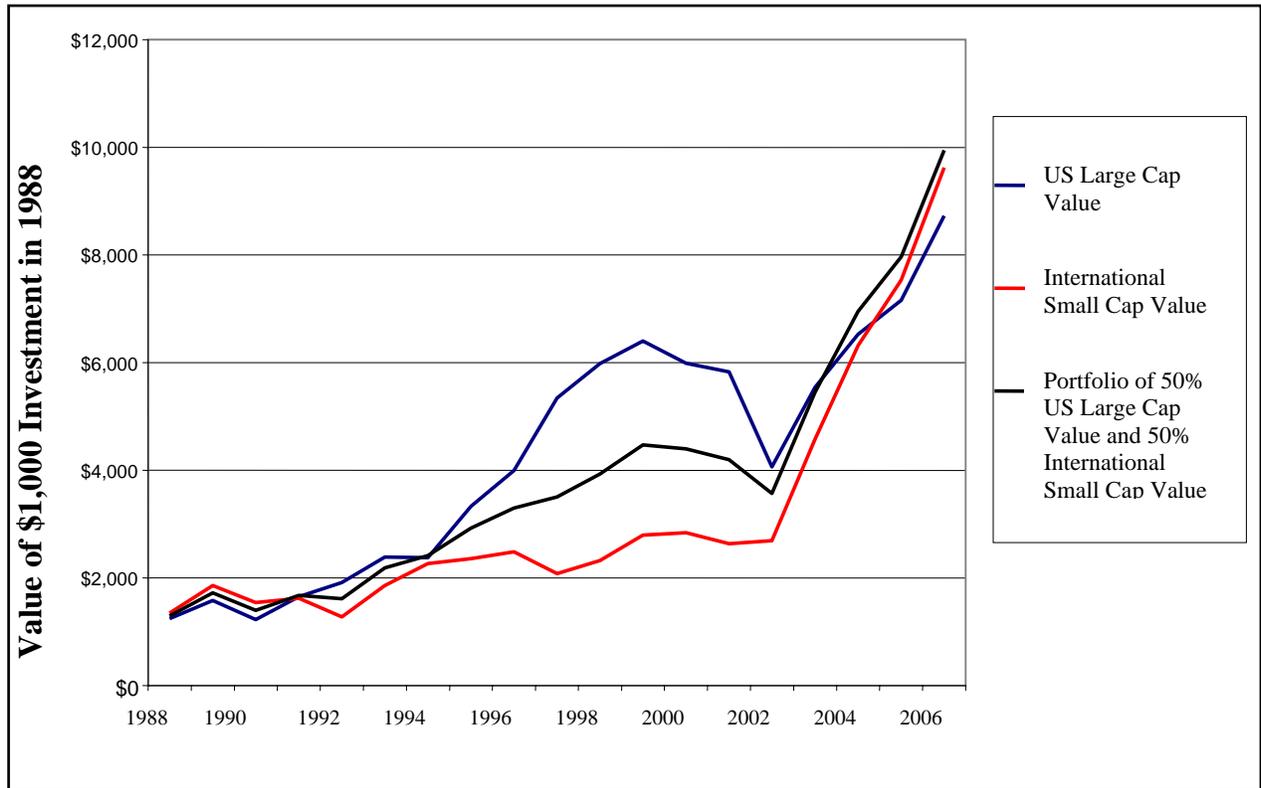
Figure 2



The diagram above is meant to illustrate the concept of correlation; it is more common to find two asset classes that have a low positive correlation to one another rather than a strong negative correlation.

Figure 3 below illustrates the movement of two real asset classes; U.S. large company value stocks and international small company value stocks. The correlation between these two asset classes over the time period covered has been a positive .39. The black line on the graph illustrates the smoothing effect of blending these two asset classes together. See figure 4 at the end of this letter for historical correlations of several asset classes being used in our client portfolios.

Figure 3



In the investment world, the ideal is to mix and blend together asset classes that have positive expected returns but with little correlation to one another. This is the idea behind asset allocation and it is important to note that while this approach offers the potential for risk reduction it does not eliminate risk. When an investor strives to receive returns above virtually risk free securities like short term treasuries, the expectation is that more risk is required, this holds true even when you are very diversified. This is an investment foundation that we will mention again and again. In properly functioning capital markets, higher returns should be accompanied by higher volatility even when you are diversified. However, the risk associated with a diversified portfolio of several asset classes is much different then the risk associated with owning only one or a few stocks or only one asset class of stocks. With the diversified portfolio you should expect to be rewarded with a commensurate return for the risk taken assuming you have the appropriate time horizon. The undiversified portfolio does not offer this; you may never be rewarded for the excess risk taken.

Considerations

As a normal part of our research, we regularly review the correlations between asset classes to each other and to the portfolio as a whole. This is because correlations between asset classes change over time. It is over longer periods of time that asset class diversification has yielded the benefits discussed and illustrated in figure 1. Over short periods of time (days, weeks and months) asset class diversification is not fail-safe. Correlations can be very high during a time of global crisis and over short time intervals. This means that the benefits of our broad

diversification can fail us when we need it most, in times of market decline. Because of this we have to stay disciplined during those times, understanding that it is over our entire time horizon that we will receive the benefits. We encourage you to avoid looking at the movements in your portfolio over days, weeks and months and focus rather on longer term performance. Each asset class in your portfolio has been selected because of its unique long term return and diversification characteristics as a part of the entire group of investments.

We have focused largely on correlation in our discussion of structured asset class investing. However, when deciding what asset classes to add to your portfolio, several things need to be evaluated. The following are some of the issues that should be considered on an ongoing basis when building and maintaining an asset allocated portfolio:

- 1.) A list of asset classes for possible inclusion.
- 2.) Reasonable long term return estimates for each asset class (capital market expectations). This will be covered in our next letter.
- 3.) The expected volatility of each asset class (typically measured by standard deviation).
- 4.) The relationship each asset class has to one another and to the entire portfolio (measured by using correlation coefficients).

Conclusion

Empirical Wealth Management takes a structured asset class approach to investing, focusing on building globally diversified portfolios. Doing so allows us to construct portfolios that better match your personal risk profile and return target. We do this because asset class investing affords more predictability surrounding risk and return expectations.

We hope this letter has given you better insight into Empirical's structured asset class approach and the continued work that it requires in order to be successfully implemented. Lastly, we hope that we have been able to demonstrate the value of this approach and the academic ideas on which it is based.

Sincerely,

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

Figure 4

Annual Correlation 1990-2006	US Large Cap	US Large Cap Value	US Small Cap	US Small Cap Value	US Micro Cap	International Large Cap	International Large Cap Value	International Small Cap Value	Emerging Markets	US Short Term Bonds	US Intermediate Bonds	Global Bonds	Commodities	Global Real Estate
	US Large Cap	1.00												
US Large Cap Value	0.90	1.00												
US Small Cap	0.79	0.83	1.00											
US Small Cap Value	0.64	0.76	0.88	1.00										
US Micro Cap	0.60	0.75	0.90	0.93	1.00									
International Large Cap	0.44	0.63	0.45	0.37	0.50	1.00								
International Large Value	0.44	0.57	0.49	0.45	0.52	0.94	1.00							
International Small Value	0.22	0.35	0.34	0.38	0.42	0.83	0.93	1.00						
Emerging Markets	0.18	0.43	0.52	0.48	0.61	0.69	0.65	0.62	1.00					
US Short Term Bonds	0.13	0.03	0.07	-0.03	-0.00	-0.49	-0.52	-0.59	-0.27	1.00				
US Intermediate Bonds	0.22	0.12	0.14	0.08	0.06	-0.37	-0.37	-0.40	-0.20	0.93	1.00			
Global Bonds	0.42	0.33	0.19	0.07	0.04	-0.17	-0.23	-0.34	-0.16	0.76	0.87	1.00		
Commodities	-0.07	-0.30	-0.07	-0.29	-0.18	-0.11	-0.04	0.04	0.01	-0.17	-0.17	-0.14	1.00	
Global Real Estate	0.44	0.47	0.46	0.42	0.39	0.66	0.73	0.75	0.63	-0.27	-0.05	0.13	0.04	1.00

Indices	
US Large Cap	Fama/French US Large Neutral Research Index
US Large Cap Value	Fama/French US Large Value Index (ex utilities)
US Small Cap	Fama/French US Small Neutral Research Index
US Small Cap Value	Fama/French US Small Value Index (ex utilities)
US Micro Cap	CRSP Deciles 9-10 Index
International Large Cap	Fama/French International Index
International Large Cap Value	Fama/French International Value Index
International Small Cap Value	Dimensional International Small Cap Value Index
Emerging Markets	MSCI Emerging Markets Index (gross div.)
US Short Term Bonds	Merrill Lynch US Government/Corporate Index 1-3 Years
US Intermediate Bonds	Lehman Brothers US Government/Credit Bond Index Intermediate
Global Bonds	Citigroup World Government Bond Index Hedged 1-30+ Years
Commodities	Goldman Sachs Commodity Index Total Return
Global Real Estate	FTSE EPRA/NAREIT GLOBAL REIT Index in USD

Source: Dimensional Fund Advisors