

What's New At Empirical

- **Notice:** The 2010 Fee Expense report will be mailed out shortly after receiving your fourth quarter reports.
- To better serve our clients, we have changed service providers for clients receiving web reporting. During this transitional period, we will be putting a hold on the current web reporting platform used in the past. As a result, all quarter end reporting will be mailed to clients. To sign up for web reporting, please send an email to techsupport@empiricalfs.com.
- Tune into Empirical Investing Radio every Thursday at 2PM PST on the VoiceAmerica business channel: business.voiceamerica.com

"Investing was never meant to be exciting. Instead, investing is meant to be about giving yourself the best chance to achieve your financial goals, without taking more risk than you have the ability, willingness, or need to take."

-Larry Swedroe,

[The Only Guide To Alternative Investments You'll Ever Need](#)

Alternative Investments

Over the last decade, we have researched many different investment products and strategies on behalf of our clients. During stock market declines and low interest rate periods, investor interest in alternative investments tends to increase. In recent times, investors have experienced both a significant bear market in stocks and low yields on traditional bond investments, making it timely to discuss our views on alternative investments in this quarter's letter. **Figure 1** lists the major traditional asset classes (publicly traded stocks and bonds) and several examples of alternative asset classes.

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looking ahead

Discussion on Social Security ♦

Modern Portfolio Theory ♦

Figure 1: Traditional and Alternative Asset Classes

Traditional Asset Classes	Alternative Asset Classes	
<ul style="list-style-type: none"> • US Stocks • Developed International Stocks • Emerging Markets Stocks • US Treasuries • Treasury Inflation Protected Securities • Corporate Bonds • Emerging Markets Stocks • Certificates of Deposit • Emerging Markets Stocks 	<ul style="list-style-type: none"> • Public REITs ^{pg.2} • Diversified Commodity Futures ^{pg.3} • Hedging with Options ^{pg.7} • Fixed Immediate Annuities • Hedge Funds ^{pg.4} • Private Equity ^{pg.6} • Commodity Producers Stock ^{pg.3} • Directly-Owned Real Estate ^{pg.2} • Gold ^{pg.3} 	<ul style="list-style-type: none"> • Foreign Currency Trading • Structured Products • Preferred Stocks • Convertible Bonds • Collectibles • Life Settlements • Variable Annuities

We evaluate alternative investments for inclusion in client portfolios the same way we evaluate traditional investments. Expected return, risk, liquidity, tax-efficiency and other factors are considered.

Some alternative investments make a great addition to a sensible, diversified, long-term strategy, and we have included them in client portfolios. After examining others, we find that they expose investors to excessive risk, high fees and

low returns, leading us to exclude them from client portfolios. The choice to avoid certain asset classes, such as hedge funds, has protected clients from below average returns (see Hedge Funds section for their performance 2003-2009).

When you come across any type of investment, and especially complex alternative investments, it is important to seek the opinion of your Empirical advisor who has a comprehensive knowledge of your finances. This letter is meant to be one

source of information, but your advisor can provide specific recommendations with your situation in mind.

In this letter, we will look at real estate and commodities: two investment classes that are included in the portfolios of most Empirical clients. We will also examine options hedging, an alternative strategy that is appropriate for investors with specific needs. Finally, we will examine types of alternative investments that are common, but we feel should be avoided: hedge funds, private equity, currencies and structured products.

Real Estate

Most investors have a significant exposure to real estate through home ownership. We classify an individual's personal residence as a lifestyle asset rather than as an investment asset. It is typical for us to exclude the primary residence from retirement planning when the client has no intention to sell the property and use the proceeds to fund retirement. A lifestyle asset is an asset that is not held strictly for investment purposes.

In many cases renting a property may prove to be more financially advantageous than tying up equity in a single family home. However, there are many non investment benefits that accompany home ownership, and those benefits make it worthwhile for many of us to buy a home, regardless of the long term investment viability. From an investment perspective, the long term returns on single family homes have been comparable to inflation rates and most of us do not derive income from our primary residence. Further, unlike an investment portfolio, homes are less liquid and it is not easy to sell shares of a home if it becomes an over-weighted portion of a portfolio (imagine selling fractions of your home). Of course, for many, the amount of equity tied to their home makes it an important part of retirement planning. Your decision to own, rent, or downsize in retirement should be considered when developing a financial plan. Our advice is to avoid viewing your primary residence as an investment and instead view it as a lifestyle asset that offers enjoyment, memories and experiences with family and friends. Aside from personal residences, there are many other ways people commonly invest in real estate.

REITs

REITs (Real Estate Investment Trusts) allow investors to efficiently access a diversified pool of real estate. One distinguishing aspect of REITs is that income earned from renting properties is taxed only once at the individual level. Income earned by publicly traded corporations (stocks) is taxed twice, both at the corporate level and the individual level. A single REIT will oftentimes focus on a particular sector of the real estate industry, such as apartments, shopping malls, hospitals, hotels or industrial real estate. In order to avoid risky exposure to a single real estate sector, investors can purchase a REIT index fund. A good REIT index fund allows an investor access to over 100 REITs representing all sectors. REIT index funds exist for both US REITs and

international REITs. The Empirical equity portfolio includes a 10% allocation to US and international REITs.

The REIT structure was created with the Real Estate Investment Trust Act of 1960, which requires that REITs have at least 75% of their investment assets in real estate and distribute 90% of their income to shareholders each yearⁱ. Most major indexes, such as the S&P 500, include REITs along with traditional stocks. We consider REITs to be a distinct asset class, and most of the equity mutual funds we use do not include REITs.

From 1978 through 2010, REITs have outperformed US stocks at 12.5% to 11.4%ⁱⁱ. While it is impossible to know whether REITs or stocks will outperform in the future, it is safe to say that on average, REITs should provide a higher return than bonds. In addition, REITs provide diversification by not always performing poorly at the same time as stocks. The correlation coefficient between REITs and the S&P 500 since 1978 has been 0.44 (the lower the better the diversification benefit). Another diversifier we use, international stocks, had a correlation coefficient of 0.64 with the S&P 500. REITs proved their usefulness as a diversifier from 2000 to 2002; during this time period, the S&P 500 index declined and returned a -37.7% while the Dow Jones US REIT Index rose 52.5%. An allocation to REITs during that bear market helped cushion your portfolio.

	US Stocks ⁱⁱ	US REITs ⁱⁱ
1978-2010 Annualized Return	11.4%	12.5%
2000 - 2002 Total Return	-37.7%	52.5%
Correlation Coefficient 1978 - 2010	0.44	

There is a significant amount of academic research that supports owning REITs as part of a diversified portfolio. A study conducted by Chen et al (2005) found that adding REITs to a stock and bond portfolio reduced risk without reducing return from 1986 to 2002. Another study supports the risk/return benefits of REITs, and shows that they also provide a good hedge against inflation and strong cash flows (Hudson-Wilson, Gordon, Fabozzi, Anson, & Giliberto, 2005).

Direct Ownership & Private Partnerships

One of the most common alternative investments used by individuals is directly-owned real estate, such as the purchase of a rental home or apartment building. Such investments often seem quite appealing: they are tangible and concrete with fairly predictable cash flows. However, before putting money down, it is important to consider all of the various risks direct real estate investment entails.

Most investors do not have enough liquidity to achieve adequate diversification when directly purchasing real estate. Additionally, unlike a REIT portfolio, private real estate investments are usually limited to one geographic location.

ⁱ Internal Revenue Code Sect. 856

ⁱⁱ US Stocks: S&P 500 Index from Standard and Poor's Index Services Group. US REITs: Dow Jones US Selected REIT Index from Dow Jones Indexes

The location is often chosen because it is nearby the investor, not because it is the most promising real estate market in the world. Direct investments are exposed to the risk of over concentration in a particular sector. Unlike other risks (such as the risk in investing in diversified equities), concentration risk is not consistently compensated for with a higher return. Investing in a single building, instead of thousands of buildings through a REIT fund, certainly increases your risk. However, there may be no reason to expect a higher return.

Another large drawback is the time and hassle involved in managing a property. Few people enjoy prodding tenants to pay the rent, or receiving late night phone calls about broken appliances. As such, the effort of being a landlord should be considered a direct cost, and deducted from your return just as mutual fund expenses are deducted. Unlike investment vehicles that carry predictable expenses, landlord expenses and duties often arise unexpectedly.

Direct real estate investments are also highly illiquid, unlike other parts of an investment portfolio. They require detailed record keeping and make tax preparation much more complicated. Selling a property involves significant transaction costs, and finding a buyer can take an unknown amount of time during difficult market conditions.

Private real estate partnerships try to avoid these pitfalls by pooling the money of multiple investors. While these investments achieve better diversification than direct real estate investment, they are still generally concentrated in a specific location or sector, and thus not as diversified as a portfolio of REITs. Unlike a REIT, investors can lose more than they initially invest if unexpected capital calls force them to put more money at risk. They also expose investors to high fees and manager risk. Manager risk could entail particularly poor investment choices, or even outright fraud. The Seattle Times reported that local investment advisors Kibble & Prentice and Cornerstone Advisors invested their clients' money in private real estate funds run by the Meridian group (Grunbaum, 2010). Unfortunately, some of the Meridian investments turned out to be Ponzi schemes. In total, investigators estimate that the Meridian fraud cost investors over \$100 million (Lamm, 2010). Vetting private partnerships for fraud is extremely difficult. Empirical reduces exposure to fraud by investing only in publicly traded equities, and by diversifying across a number of REITs. The largest single REIT position makes up just 0.5% of the Empirical equity portfolio.

Commodities

There are a wide variety of products that are actively traded in the commodity markets including oil, live cattle, platinum, cocoa, tin, orange juice and natural gas. Because these types of products are expensive to exchange and store, commodities are traded through futures contracts. For example, instead of one trader immediately selling to another 10 tons of butter, the trader would agree to sell the butter in a month at a specified price. These futures contracts allow people who don't have any butter, and don't particularly want any butter,

to participate in the price movements of the butter market. Historically, investments in commodity futures have had a number of benefits. The oldest and most comprehensive index of the commodities market is the S&P Goldman Sachs Commodity Index.

Since 1973, commodities, as represented by the S&P GSCI index, have returned 8.8%, which is lower than the S&P 500 (9.8%), but higher than risk free treasury bills (5.6%). They have also had an extremely low correlation with stocks (0.15). One study of commodity futures that covered a longer time period (1959-2004) found an even lower correlation of -0.10 (Rouwenhorst, 2006). A negative correlation is preferable, because it means that at a time when stock prices are declining, commodities prices may be increasing. This low correlation makes diversified commodities futures a desirable asset class, and the Empirical equity portfolio includes a 5% allocation.

An example of the low correlation is the decade 2000-2009, when global stocks declined 9.1%, while commodities increased in value a total of 50.5%. Commodities have a higher correlation with inflation than other major equity asset classes. The relationship is reasonable, because sometimes inflation is caused by a sharp rise in commodity prices.

	S&P GSCI	S&P 500
Since 1973 Annualized Return	8.8%	9.8%
2000-2009 Total Return	50.5%	-9.1%
Correlation Coefficient 1973 - 2010	0.15	

Source: Standard and Poor's Index Services Group

Plante & Roberge (2007) looked at the performance of the S&P GSCI index from 1970 to 2006 and found that adding commodities to a 60%/40% stock to bond portfolio reduced volatility. This is a surprising result because commodities are much more volatile than stocks or bonds. Other researchers came to an even bolder conclusion, finding that commodities improve an equity portfolio regardless of the equity allocation (Conover, Jensen, Johnson, & Mercer, 2010).

Aside from futures, the other methods of investing in commodities are to purchase them directly or to invest in the stocks of commodity producing companies. However, purchasing commodity stocks does not seem to work; one study showed that commodity producing stocks have historically behaved more like equities than like commodities (Rouwenhorst, 2006). Buying commodities directly is impractical most of the time, as it is expensive to pay someone to store barrels of oil or a herd of lean hogs, and no one wants to keep them in their basement. One exception is precious metals, such as gold, silver or platinum. Gold has especially created a lot of investor interest recently.

Gold

Since August of 1971, when President Nixon officially took the US off of the gold standard, gold has provided decent

ⁱⁱⁱ Source: World Gold Council

investment returns. The price of gold has risen 9.4% per yearⁱⁱⁱ, while the S&P 500 has grown at an annual rate of 10.2%. Gold has also had an extremely low correlation with stocks, making it an excellent diversifier over the time period. However, the period since 1971 is exceptional. From 1801-2006 the price of gold grew at a rate of 0.6% adjusted for inflation. Stocks had an inflation-adjusted return of 8.1% over the time period while bonds returned 5.0%.

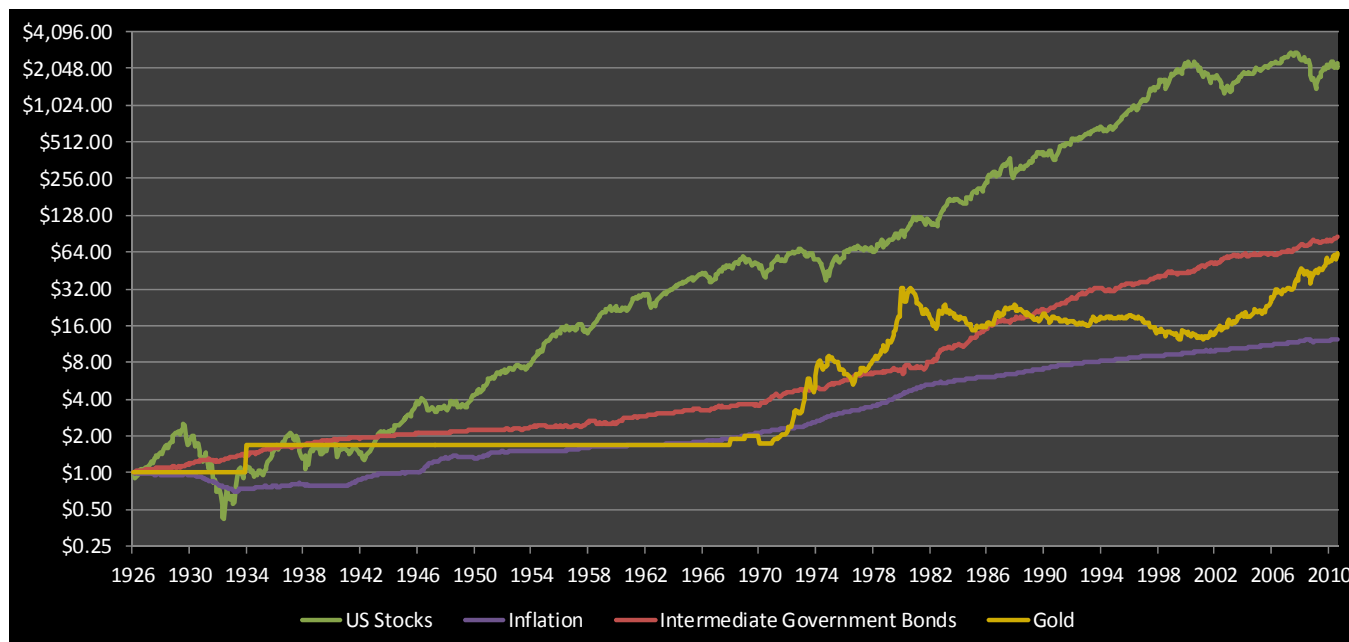
Gold is often thought of as a store of value, meaning that during times of high inflation or a weakening dollar, gold will

purchasing power, are a much better source of both. Investors seeking diversification from stocks and bonds are better off investing in a portfolio of commodities rather than gold alone.

Hedge Funds

Hedge funds, like mutual funds, pool the money of a group of investors and invest in financial instruments in hopes of a high return. Hedge funds are able to avoid most regulation by limiting their clients to a small number of high net worth individuals. This gives hedge funds the freedom to make

Figure 2: Growth of \$1 Invested in 1926: Gold, Stocks, Bonds and Inflation



US Stocks: S&P 500. Source: Standard & Poor's Services Group. Inflation: US Consumer Price Index for All Urban Consumers. Source: US Bureau of Labor and Statistics. Intermediate Government Bonds: Five-Year Treasury Notes. Source: Ibbotson. Gold: Source: World Gold Council.

Sources: Dimensional Fund Advisors, Hedge Fund Research. See performance disclosure at the end of this document.

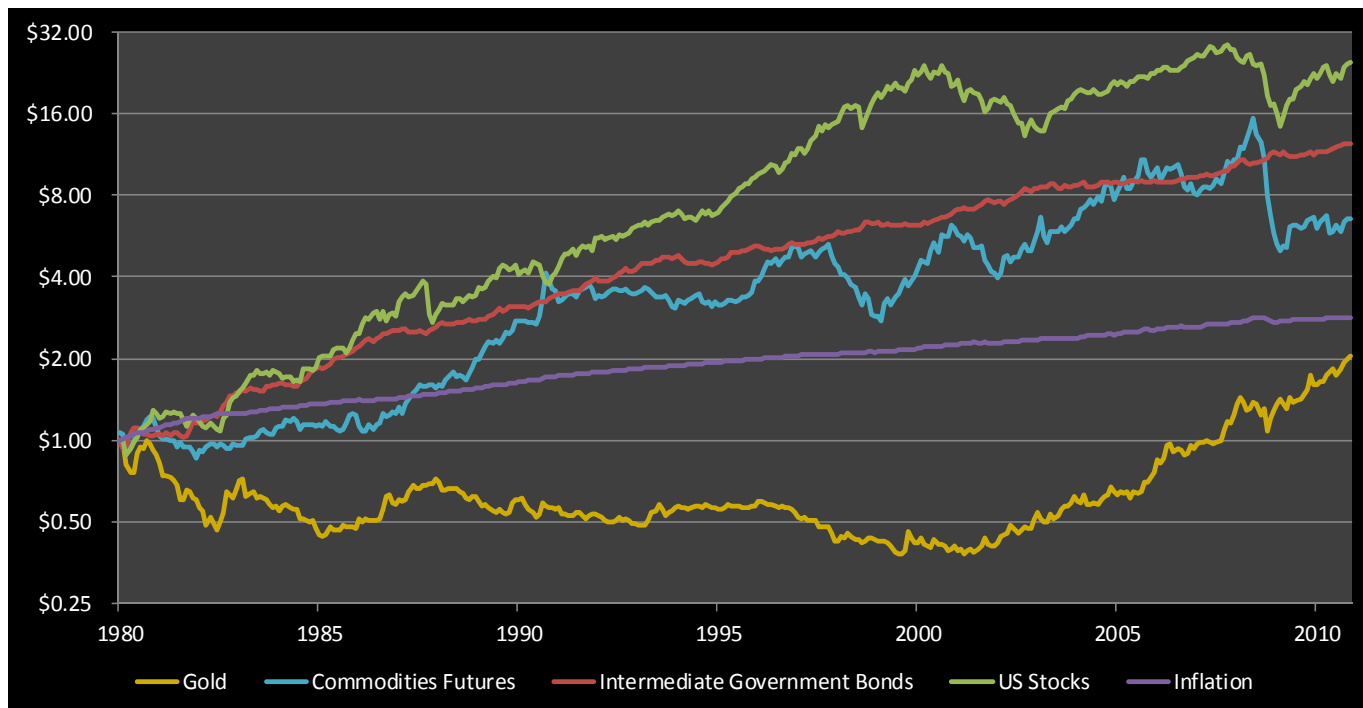
retain its value. This idea is supported by the short-term movements of gold prices, which tend to go up when inflation expectations rise. However, the short-term correlation between inflation expectations and gold prices does not mean gold is a stable store of value, mostly because gold prices are extremely volatile. From February 1980 through September 2002, gold declined at -52%, while inflation over that time period was 3.9% per year. **That means that over a 32 year period, an investment in gold lost nearly 80% of its value in inflation-adjusted terms.** A similar investment in the S&P 500 or one-month treasury bills would have grown 524% or 79% respectively, in inflation adjusted terms.

Aside from the historical evidence, investing in gold has a theoretical problem. Unlike stocks, bonds, real estate or even commodity futures, an investment in gold does not provide a positive cash flow. In fact, it has a negative cash flow due to storage expenses. An investment in gold is a bet that future investors will be more inclined to purchase the precious metal than current investors. People often invest in gold for safety and inflation protection. TIPS (Treasury Inflation Protected Securities), which provide a guaranteed positive return in

highly leveraged investments in almost any type of security and the freedom to charge a management fee based on how well the fund performs. Hedge funds have been around since 1949, when the first one was created by Alfred W. Jones. In recent times, the industry has grown exponentially, from 530 funds managing \$50 billion in 1990 to over 10,000 funds managing \$2.5 trillion today. Originally, for each stock purchased, they would take an offsetting position that would grow if the stock went down. Thus, the goal of the fund was to not be affected by market downturns, hence the name 'hedge' fund. Since then, hedge funds have branched out with a number of different strategies, and only a small percentage, called 'market neutral funds,' still attempt to hedge out equity risk. Other popular strategies include 'global macro' (trading on predictions of global macroeconomic conditions), 'event-driven' (trading on predictions of corporate events such as mergers, acquisitions or bankruptcies) and 'managed futures' (trading on patterns that occur in the futures markets such as commodities or currencies).

Part of the appeal of hedge funds lay in managers' claims to achieve high returns with low risk. More recently, as claims

Figure 3: Growth of \$1 Invested in February, 1980: Gold, Stocks, Bonds, Commodities Futures and Inflation



US Stocks: S&P 500. Source: Standard & Poor's Index Services Group. Inflation: US Consumer Price Index for All Urban Consumers. Source: US Bureau of Labor Statistics. Intermediate Government Bonds: Five-Year Treasury Notes. Source: Ibbotson. Gold: Source: World Gold Council. Commodities Futures: S&P GSCI Total Return Index Source: Standard & Poor's Index Services Group

Sources: Dimensional Fund Advisors, Hedge Fund Research. See performance disclosure at the end of this document.

of good performance have been contradicted by empirical academic evidence, hedge fund marketing has switched gears stressing their low correlation with the traditional asset classes (stocks and bonds). Additionally, hedge fund exclusiveness (because of SEC restrictions on advertising, hedge funds are often obsessively secretive) and the alleged market-beating sophistication of the managers, give hedge funds a certain sex appeal lacking from other investments, like municipal bonds. In reality, these funds have a number of disadvantages when compared with other investment products:

High cost: A typical hedge fund charges a 2% management fee plus 20% on any profits. If the fund goes up 12% in a year before fees, the total management fees equal 4%. In addition, most hedge funds charge investors for administrative expenses, such as accounting, auditing and legal expenses. These vary widely from fund to fund, but one study found that on average, hedge fund investors pay an extra 1.95% in administrative fees, that are often not well disclosed. In contrast, the Empirical 100% Equity Model costs 0.38% in investment expenses.

Tax inefficiencies: Hedge funds are notoriously tax inefficient, because of the amount they trade. Given such high turnover, it is possible that hedge fund gains could be entirely taxed at the short term gains rate (currently as high as 35%). Compare this with gains in a passively managed stock investment, positions held longer than a year could be entirely taxed at the long term capital gains rate (currently up to only 15%). The tax effect could reduce the after-tax returns of

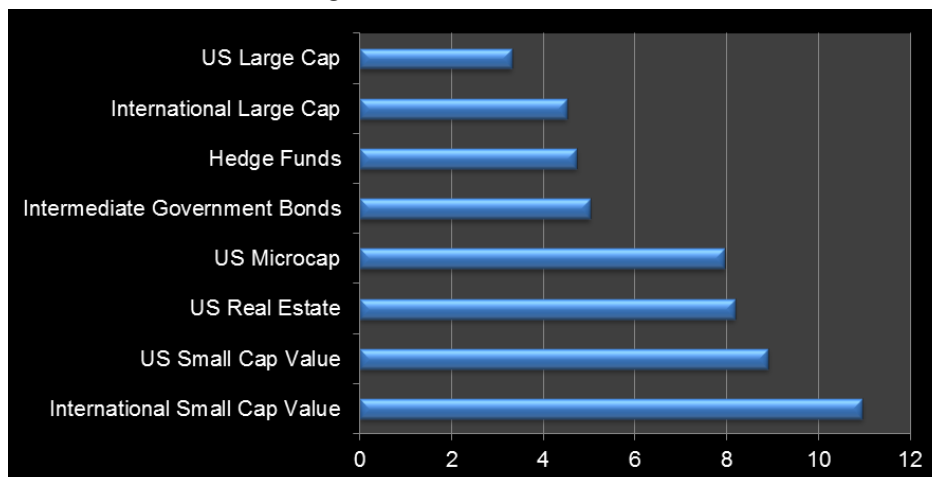
hedge funds by around 20% each year.

Illiquidity: Hedge funds often have lockup periods, restricting investors from withdrawing their money for months.

Non-transparency/Complexity: As part of their convoluted nature, hedge funds often provide investors with only vague descriptions of their strategy. Some hedge fund strategies are so complex, that even if they described in detail their approach, few investors would understand. Without any way to evaluate a manager's strategy, investors must base their decisions on a manager's skill alone.

A typical hedge fund has a minimum investment of \$250,000 to \$500,000. Since there is a high risk that any individual hedge fund will go broke, investors should diversify across as many hedge funds as possible. The high minimums mean that only the largest investors (with over \$100 million) can adequately diversify by directly investing in hedge funds. The only option for most investors is a fund-of-funds, which provides access to a high number of hedge funds but also tacks on additional fees. A typical fund-of-fund charge is 1% of assets plus 10% of any gains. How have hedge funds performed? Figure 4 shows the performance of hedge funds with other asset classes going back to 1998. We deducted the 1% management fee and 10% performance fee typical of fund-of-funds to more accurately simulate actual investor returns. To be fair, we compared hedge funds with mutual funds, which include all investment expenses.

Figure 4: 1998—2010 Annualized Returns of Hedge Funds and Other Asset Classes



International Small Cap Value: DFA International Small Cap Value Fund. US Small Cap Value: DFA US Small Cap Value Fund. US Microcap: DFA US Micro Cap Fund. US Real Estate: DFA Real Estate Securities Fund. Intermediate Government Bonds: DFA Intermediate Government Fixed Income Fund. International Large Cap: DFA Large Cap International Fund. Hedge Funds: HFRX Global Hedge Fund Index. US Large Cap: DFA Enhanced US Large Company Fund.

Sources: Dimensional Fund Advisors, Hedge Fund Research. See performance disclosure at the end of this document.

Over this time period, hedge funds outperformed US and International large cap stocks while under performing several other investment asset classes including government bonds. Hedge funds performed fairly well through the 2001-2002 stock market down turn. They did not do particularly well, however, during the most recent financial crisis. From November 2007 to February 2009, the hedge fund index fell 25.9%.

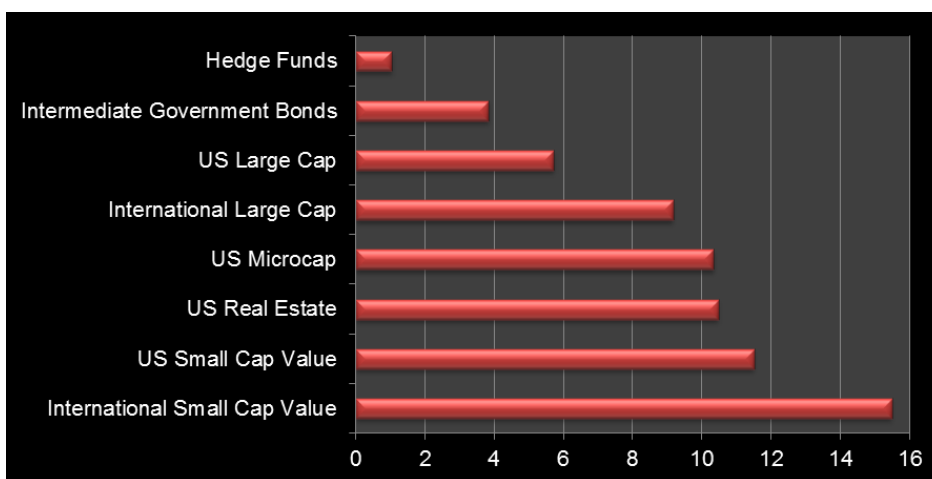
In general, hedge funds have done significantly worse since 2003 than they did from 1998 to 2002. One possible explanation is that the huge growth in assets and the number of funds offered have created competition, reducing the amount of arbitrage opportunities to profit from.

Many investors, often through a number of advisors (who were happy to use the allure of hedge funds to bring in new clients) continued to allocate more money to hedge funds after the bust of the technology bubble ended in 2002. As shown in **Figure 5**, since 2003, hedge funds have underperformed several major asset classes quite drastically.

Private Equity

The term private equity refers to purchasing ownership shares in a company that is not traded on the public stock markets. There are many different types of private equity, from partnerships that invest in leveraged buyouts of large publically traded companies, to partnerships that invest in small, fast growing companies (venture capital) to individual investors providing seed capital to startups (known as ‘angel

Figure 5: 2003—2010 Annualized Returns of Hedge Funds and Other Asset Classes



International Small Cap Value: DFA International Small Cap Value Fund. US Small Cap Value: DFA US Small Cap Value Fund. US Microcap: DFA US Micro Cap Fund. US Real Estate: DFA Real Estate Securities Fund. Intermediate Government Bonds: DFA Intermediate Government Fixed Income Fund. International Large Cap: DFA Large Cap International Fund. Hedge Funds: HFRX Global Hedge Fund Index. US Large Cap: DFA Enhanced US Large Company Fund.

Sources: Dimensional Fund Advisors, Hedge Fund Research. See performance disclosure at the end of this document.

investing’).

Unlike publicly traded stocks, which can be sold instantly during market hours, private equity investments are typically locked up for a period of years. In addition, private equity investors face fees that are equally as high as those of hedge funds, unknown portfolio valuations, lack of diversification and reliance on the skill of a manager.

While these are major drawbacks, private equity could still be a good investment if it offered high returns. However, academic studies find that this is not the case. The most comprehensive study looked at the returns of all types of private equity, including entrepreneurs who finance their own business, from 1952 to 1999 (Moskowitz & Vissing-Jorgensen, 2002). They found that private equity investors earned no more than public equity investors, despite bearing more risk. This result was so counterintuitive, that the authors called it the ‘private equity premium puzzle’. Another study, published in 2009, looked at only the performance of private equity funds (Phalippou & Gottschalg, 2009). They found that while private equity funds outperformed the S&P 500 by 3% per year before fees, after fees, they underperformed by 3%. Compared with a benchmark of equal risk, private equity funds would have underperformed by 6%.

Option Hedging

The options market offers an effective and fairly priced method for investors to hedge their portfolios using put options. Buying a put option gives you the right to sell a stock or ETF at a fixed price in the future. This provides a floor on how much your investment can decline. For example, if you purchase a one year put option on your shares of Microsoft at a price of 10% below the current value, then your Microsoft stock cannot decline by more than 10% plus the cost of the option that year.

Options hedging can be particularly useful for an investor with a large concentration of their portfolio in a single stock. The hedge is usually placed on a stock with large embedded gains where the investor possesses a desire to defer realizing those gains while reducing the risk of significant losses in the event the stock declines.

Clients of Empirical can also hedge their entire equity portfolio using options. It is impractical to attempt to perfectly hedge an entire portfolio, but a reasonable hedge can be created by purchasing a portfolio of put options that increase in value when major markets go down.

In general, the most efficient way to reduce risk in a portfolio is to add more bonds. However there are certain situations where investors would be better off reducing their portfolio risk by purchasing a temporary hedge rather than permanently decreasing their allocation to equities. A stock market downturn can cause investors to seek safety for a variety of reasons: smaller portfolio values, job loss or general uncertainty. After a market downturn is often the worst time to sell equities because markets prices tend to increase in short dramatic bursts. Once the markets have calmed down,

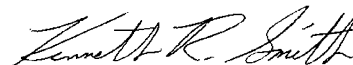
investors are ready to take on risk, but they have already lost out on significant gains. A temporary portfolio hedge can help them get through scary times without missing a short burst of significant positive market returns. For more information about portfolio hedging speak with your Empirical advisor.

Conclusion

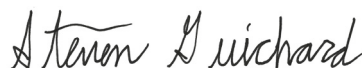
Empirical primarily invests in traditional asset classes, but not because it happens to be the area we know best. Our duty is to scour the investment universe for the best options for our clients. Alternative investments are often elusive and may appear to offer better returns or lower risk than traditional investments. For these reasons, other investment advisors have found alternatives to make for a great sales pitch. Despite client interest, we can’t include an asset class unless it meets our stringent criteria. As detailed in this letter, regardless of the hype, many alternative investments do not make good additions to a prudently managed portfolio.

Though we may have excluded an asset class in the past, we will continue to monitor it. Sometimes an asset class evolves from being a bad investment to a good one. For example, we avoided commodities because they were prohibitively expensive for individual investors until 2006, when new products were created, making it an efficient asset class. We will continue to examine alternative investments and traditional investments to provide clients with what we believe are the best investment options available.

Sincerely,



Kenneth R. Smith, CFP®, MS
Chief Executive Officer



Steven Guichard, CFA
Portfolio Manager | Financial Analyst

Works Cited

- Anson, M. (1998). Spot Returns, Roll Yield, and Diversification with Commodity Futures. *Journal of Alternative Investments* , 16-32.
- Chen, H.-C., Ho, K.-Y., Lu, C., & Wu, C.-H. (2005). Real Estate Investment Trusts. *Journal of Portfolio Management* , 46-54.
- Conover, C. M., Jensen, G. R., Johnson, R. R., & Mercer, J. M. (2010). Is Now the Time to Add Commodities to Your Portfolio? *Journal of Investing* , 10-19.
- Gottschalg, L. P. (2009). The Performance of Private Equity Funds. *Review of Financial Studies* , 22 (4), 1747-1776.
- Grunbaum, R. (2010, July 17). Meridian's meltdown is latest local real-estate fiasco. *Seattle Times* .

Holland, P. (2010, March 24). Supporting innovation in the 21st Century Economy. Testimony for the House Committee on Science and Technology .

Hudson-Wilson, S., Gordon, J. N., Fabozzi, F. J., Anson, M. J., & Giliberto, S. M. (2005). Why Real Estate. *Journal of Portfolio Management* .

Internal Revenue Code Sect. 856. (n.d.).

Jorion, Y. J. (2006). Firm Value Hedging: Evidence from U.S. Oil and Gas Producers. *Journal of Finance* , 893-919.

Lamm, G. (2010, November 12). Berg case grows. *Puget Sound Business Journal* .

Moskowitz, T. J., & Vissing-Jorgensen, A. (2002). The Returns to Entrepreneurial Investment: A Private Equity Premium Puzzle? *American Economic Review* , 745-778.

Phalippou, L., & Gottschalg, O. (2009). The Performance of Private Equity Funds. *Review of Financial Studies* , 1747-1776.

Plante, J.-F., & Roberge, M. (2007). The Passive Approach to Commodity Investing. *Journal of Financial Planning* , 66-75.

Rouwenhorst, G. G. (2006). Facts and Fantasies About Commodity Futures. *Financial Analysts Journal* , March/April 2006, 47-68.

Varangis, S. S. (1996). Diversification Benefits of Commodity Assets in Global Portfolios. *Journal of Investing* , 69-78.

Performance Disclosure

Past performance is not a guarantee of future results. Values change frequently and past performance may not be repeated. There is always the risk that an investor may lose money. 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. Because the value of your investment in a portfolio will fluctuate, there is a risk that you will lose money. The information provided herein should not be construed as a recommendation to purchase or sell any particular security or an assurance that any particular security held in a portfolio will remain in the portfolio or that a previously held security will not be repurchased. It should not be assumed that any of the security transactions or holdings discussed herein have been or will prove to be profitable or that future investment decisions will be profitable or will equal or exceed the investment performance of the securities discussed.