

Protecting Yourself From Inflation During Retirement in a Low Interest Rate Environment
by
Richard Westhelle

When it comes to formulating a retirement plan, typically a person's primary concern is: Am I going to be able to successfully retire on the money I've accumulated during my work life? Most individuals who are retired depend on their hard-earned nest egg to generate a fixed income that maintains their current lifestyle, adjusted for inflation. The alternative is running the risk of running out of money prior to death. Like many Americans who paid their dues, retirees worked hard, saved, and invested their entire working life to reach the metaphorical finish line called retirement. Most of them invested in the stock market with the expectation that it would provide the same generous returns it had produced the past couple decades to carry them through retirement and protect against inflation.

In 2008, the unexpected happened; one of the worst recessions in United States history, the Great Recession of 2008. Like a hurricane that wasn't on the weather report, it devoured 25-35% of the average investor's portfolio value, produced double digit percentage unemployment, and jeopardized many Americans' retirement goals. It even prevented many of those who were once successfully retired and now experiencing the risk of a shortfall from going back to work.

To illustrate the impact of the recession, from peak(October 9th, 2007, 1565.15) to trough(March 5th, 2009, 682.55) excluding any dividends, an investor who invested his portfolio in the S&P 500 would have lost 56% of his portfolio's value, assuming they sold at the trough.

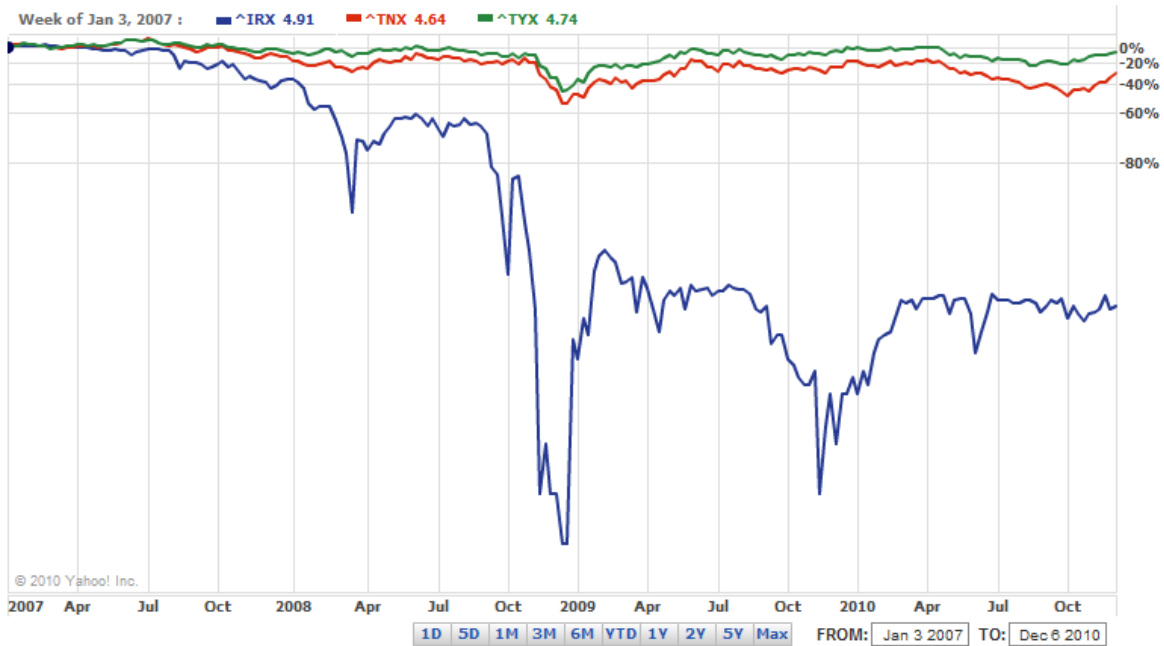
Figure 1: S&P 500 Index from Jan 1st, 2007 through March 31st, 2009 (Source: finance.yahoo.com)



After the havoc of 2008 began to subside, March 2009 began the volatile recovery of the stock market. Corporate profits began to rise as companies cut back on overhead by reducing their workforce and production resulting in weak consumer confidence and a declining job market. During this time, many investors were sitting on the sidelines in cash or fleeing to safety in short-term bonds/certificates of deposit, fearful of the stock market. In an effort to revive the economy, the US federal government cuts interest rates to historical lows, bond prices appreciate sharply, and fixed income yields decline, resulting in another devastating blow to the conservative retired investor.

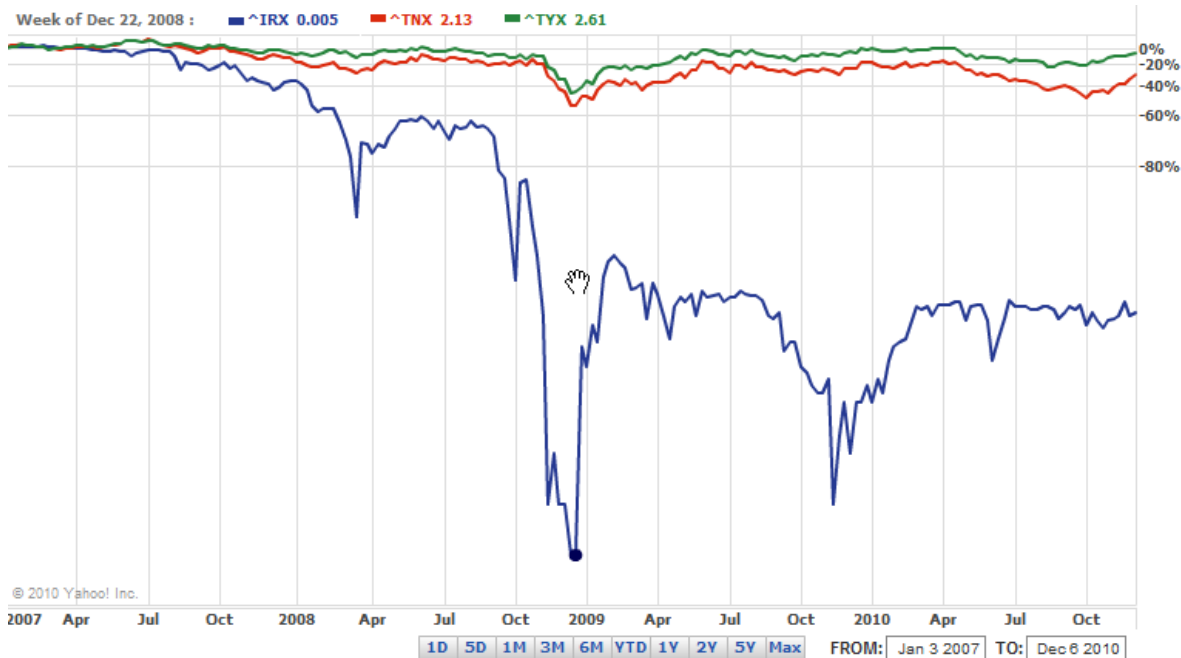
To give you an idea of the changes in the yield history over the past 3 years, see Figure 2.

Figure 2: 13-wk T-Bill vs 10-yr T-Note vs 30-yr T-Bond, January 3rd, 2007 (Source: finance.yahoo.com)



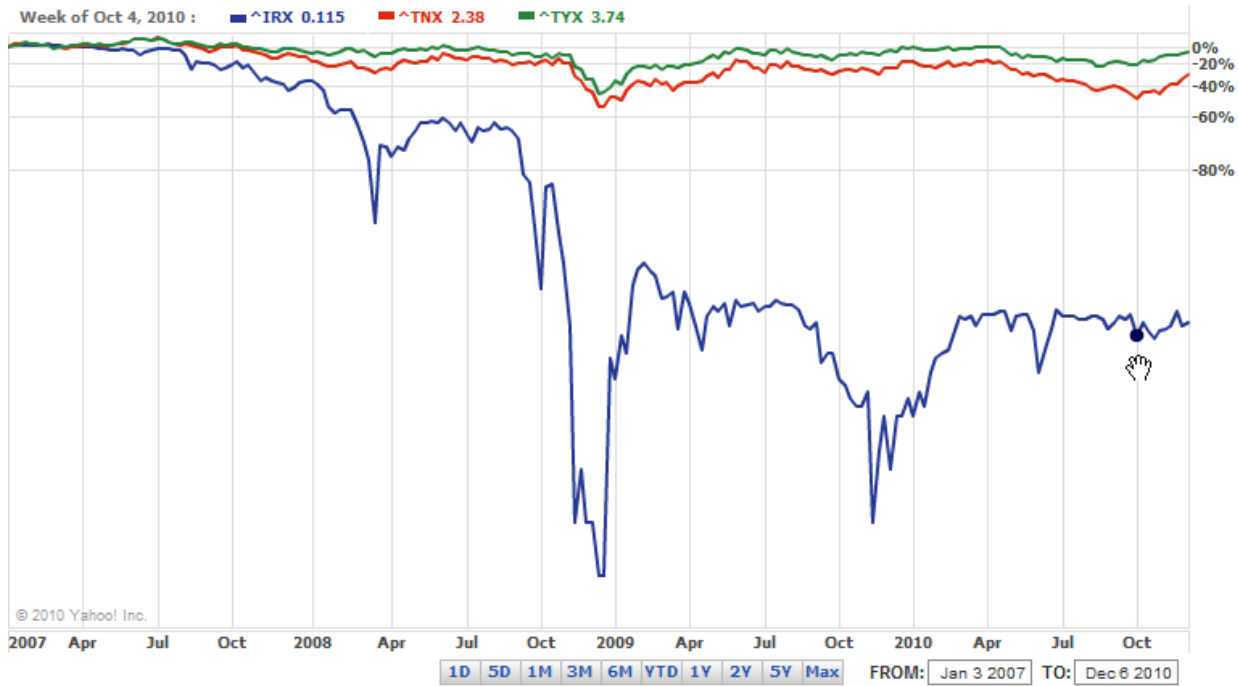
During the bull market of 2007, you can see we had an inverted yield curve. Short-term interest rates exceeded long-term interest rates, thus liquidity must be offered with attractive short term rates as an incentive to investors to invest in bonds versus the larger returns of the stock market.

Figure 3: 13-wk T-Bill vs 10-yr T-Note vs 30-yr T-Bond, December 22nd, 2008 (Source: finance.yahoo.com)



During the market downturn in 2008, volatility drives investors from stocks to cash and bonds, resulting in a sharp appreciation of bond prices, thus lower yields, especially in short-term vehicles. This is what we would refer to as a "liquidity trap".

Figure 4: 13-wk T-Bill vs 10-yr T-Note vs 30-yr T-Bond, October 4th, 2010 (Source: finance.yahoo.com)



We are now near the end of 2010, during September & October where the S&P 500 had one of its best runs in consecutive months for 2010, returning 8.92% in September, and 3.81% in October respectively. Despite all that, we still see depressed interest rates with the 10-yr treasury below 3.00%.

What Does This All Mean?

Aside from poor investment returns, inflation is the second biggest threat to an individual's retirement income security. Historically, inflation has averaged about 3.0% annually since the 1910's to present day. Taking a look at the Bureau of Labor Statistics database we chose to analyze a more recent segment of inflation data from 1970-2009:

Figure 5: History of U.S. GDP Growth (Inflation) from 1970-2009

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Avg. Annualized Inflation 2000's
Inflation Rate	3.4%	1.6%	2.4%	1.9%	3.3%	3.4%	2.5%	4.1%	0.1%	2.7%	2.53%
Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Avg. Annualized Inflation 1990's
Inflation Rate	6.1%	3.1%	2.9%	2.7%	2.7%	2.8%	3.3%	1.7%	1.6%	2.7%	2.95%
Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	Avg. Annualized Inflation 1980's
Inflation Rate	12.5%	8.9%	3.8%	3.8%	3.9%	3.8%	1.1%	4.4%	4.4%	4.6%	4.22%
Year	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	Avg. Annualized Inflation 1970's
Inflation Rate	5.6%	3.3%	3.4%	8.7%	12.3%	6.9%	4.9%	6.7%	9.0%	13.3%	5.70%

Source: US Dept of Labor - All Urban Consumers CPI Database as of 11/15/2010 (<http://ftp.bls.gov/pub/special.requests/cpi/cpiiai.txt>)

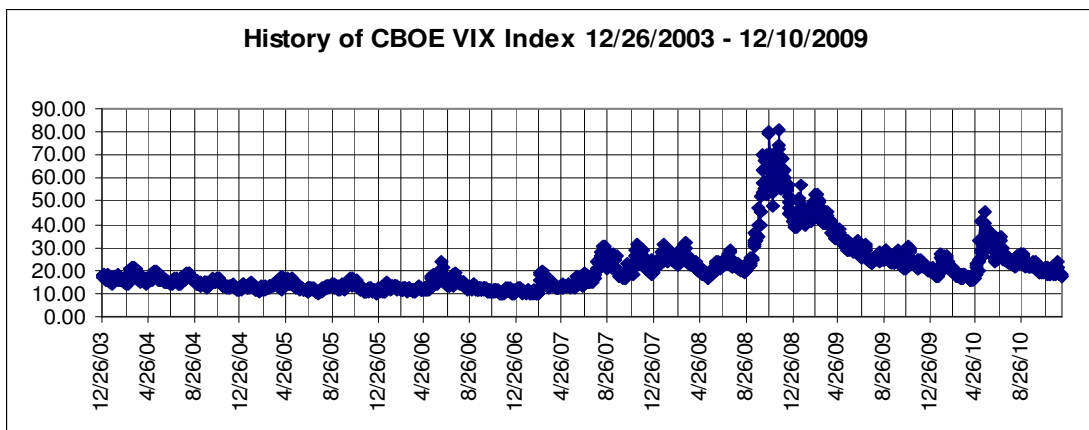
Looking at the table on the previous page, from 2000-2009, we've enjoyed relatively low inflation (2.53%) in comparison to the historic 3.0% average. You'll also notice the trend of decreasing inflation, such that as time has gone on, each decade has experienced lower inflation than the decade before it.

Recent Economic Conditions: Volatility

Between 2008-2010, the federal government took extreme measures to attempt to spur economic growth. Their course of action for rehabilitating the economy included lowering interest rates next to zero, bailing out multibillion dollar corporations/banks (ie. AIG and Citigroup), enacting a financial stimulus, extending unemployment benefits, and lastly, quantitative easing (the repurchase of government securities to increase the money supply). They have exercised nearly every option available to increase the supply of dollars in an effort to entice companies and consumers to part with their cash by spending and creating new jobs.

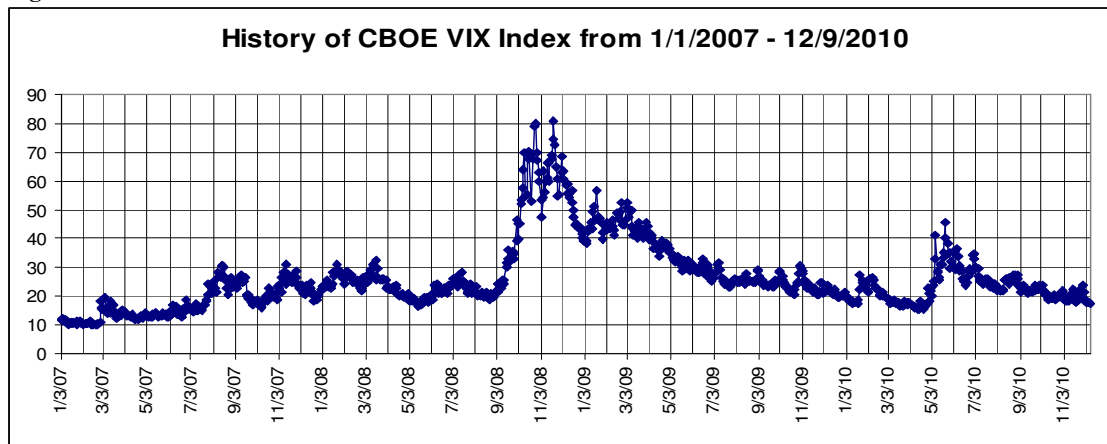
While the financial state of our country is gradually improving, it is still fragile. Investors and consumers alike remain pessimistic. It's certainly understandable why investors, specifically retirees, would be reluctant to invest in anything but fixed income. Short-term volatility has been rampant enough over the past few years to drive anyone mad trying to predict the future of our financial markets. Let's take a look at the CBOE VIX index which measures volatility of the market:

Figure 6: CBOE VIX Index from 12/26/2003 - 12/9/2010



Source: Chicago Board of Options Exchange (<http://www.cboe.com/micro/vix/historical.aspx>)

Figure 7: CBOE VIX Index from 1/1/2007 - 12/9/2010



Source: Chicago Board of Options Exchange (<http://www.cboe.com/micro/vix/historical.aspx>)

As you can see, it wasn't until recently that spikes of volatility had become normal as far as what we could expect from our financial markets.

Protecting yourself from Inflation

If we revisit Figure 5, we recall that we have enjoyed relatively low inflation the past decade, and the US federal government has executed as loose of a monetary policy as the country has ever seen before. Thus, one can conclude that given the evidence of inflation trends coupled with today's monetary policy, high inflation could indeed be a real threat to a retirement portfolio.

Additionally, it is evident that the stock market has been affected by short-term volatility, which also poses a threat to the conservative investor (revisit figure 6 & 7). As such, it is completely understandable why a traditional stock and bond investor in retirement would want to shift the majority if, not 100% of their portfolio to fixed income. However, that is exactly the opposite of what a conservative investor should be doing, especially in a low interest rate environment. Thus, it poses the question: What can I do to protect myself and my retirement? The answer is to add asset classes to your portfolio with a low or negative correlation to the market.

Figure 8: Correlation Matrix: U.S. Bonds, Real Estate, Commodities, International Bonds, U.S. Equities (2007-2009)

Zephyr StyleADVISOR					
Zephyr StyleADVISOR: Stonegate Wealth Management, LLC					
Correlation Matrix: Returns vs. S&P 500					
January 2007 - July 2009					
	(1)	(2)	(3)	(4)	(5)
1) Barclays Capital U.S. Aggregate	1.00				
2) Dow Jones U.S. Select REIT	0.30	1.00			
3) Dow UBS Commodity Index	0.24	0.32	1.00		
4) Citigroup USBIG Non-US Credit Index	0.92	0.44	0.43	1.00	
5) S&P 500	0.33	0.81	0.50	0.50	1.00

Figure 9: Correlation Matrix: U.S. Bonds, Real Estate, Commodities, International Bonds, U.S. Equities (1991-2010)

Zephyr StyleADVISOR					
Zephyr StyleADVISOR: Stonegate Wealth Management, LLC					
Correlation Matrix: Returns vs. S&P 500					
February 1991 - September 2010					
	(1)	(2)	(3)	(4)	(5)
1) Barclays Capital U.S. Aggregate	1.00				
2) Dow Jones U.S. Select REIT	0.13	1.00			
3) Dow UBS Commodity Index	0.05	0.24	1.00		
4) Citigroup USBIG Non-US Credit Index	0.94	0.27	0.16	1.00	
5) S&P 500	0.11	0.52	0.26	0.28	1.00

Taking a look at Figure 8, from 2007 to 2009 (peak to trough period of the market), with the exception of Real Estate, each other asset class has a correlation of 0.50 or less to the market. In Figure 9, from 1991-2010, you can see that the correlations of real estate, commodities and international bonds drop significantly over a longer time period, ranging from a 36% to 48% decrease in correlation to the market.

The most important part of diversifying a portfolio is to create a mix of asset classes that do not have a strong positive correlation to one another. This allows you to participate in the upside of an asset class, while minimizing your downside risk. Let's take a look at the returns of these asset classes relative to one another over the same time period examples used above.

Figure 10: Portfolio Statistics: U.S. Bonds, Real Estate, Commodities, International Bonds, U.S. Equities (2007-2009)

Zephyr StyleADVISOR											
Zephyr StyleADVISOR: Stonegate Wealth Management, LLC											
Custom Table											
January 2007 - July 2009: Summary Statistics											
	Return	Cumulative Return	Standard Deviation	Sharpe Ratio	Maximum Drawdown	Pain Ratio	Excess Return vs. Market	Tracking Error vs. Market	Information Ratio vs. Market	Alpha vs. Market	Beta vs. Market
Barclays Capital U.S. Aggregate	6.11%	16.56%	4.25%	0.84	-3.82%	8.07	17.23%	19.71%	0.87	6.89%	0.07
Dow Jones U.S. Select REIT	-24.68%	-51.92%	42.69%	-0.64	-70.53%	-0.90	-13.57%	28.67%	-0.47	-2.70%	1.67
Dow UBS Commodity Index	-7.93%	-19.22%	24.81%	-0.42	-54.26%	-0.58	3.19%	23.06%	0.14	0.60%	0.60
Citigroup USBIG Non-US Credit Index	6.55%	17.80%	7.36%	0.54	-10.30%	3.33	17.67%	18.16%	0.97	8.66%	0.18
S&P 500	-11.12%	-26.25%	20.69%	-0.66	-50.95%	-0.76	0.00%	0.00%	0.00	0.00%	1.00

Figure 11: Graphical Performance: U.S. Bonds, Real Estate, Commodities, International Bonds, U.S. Equities (2007-2009)

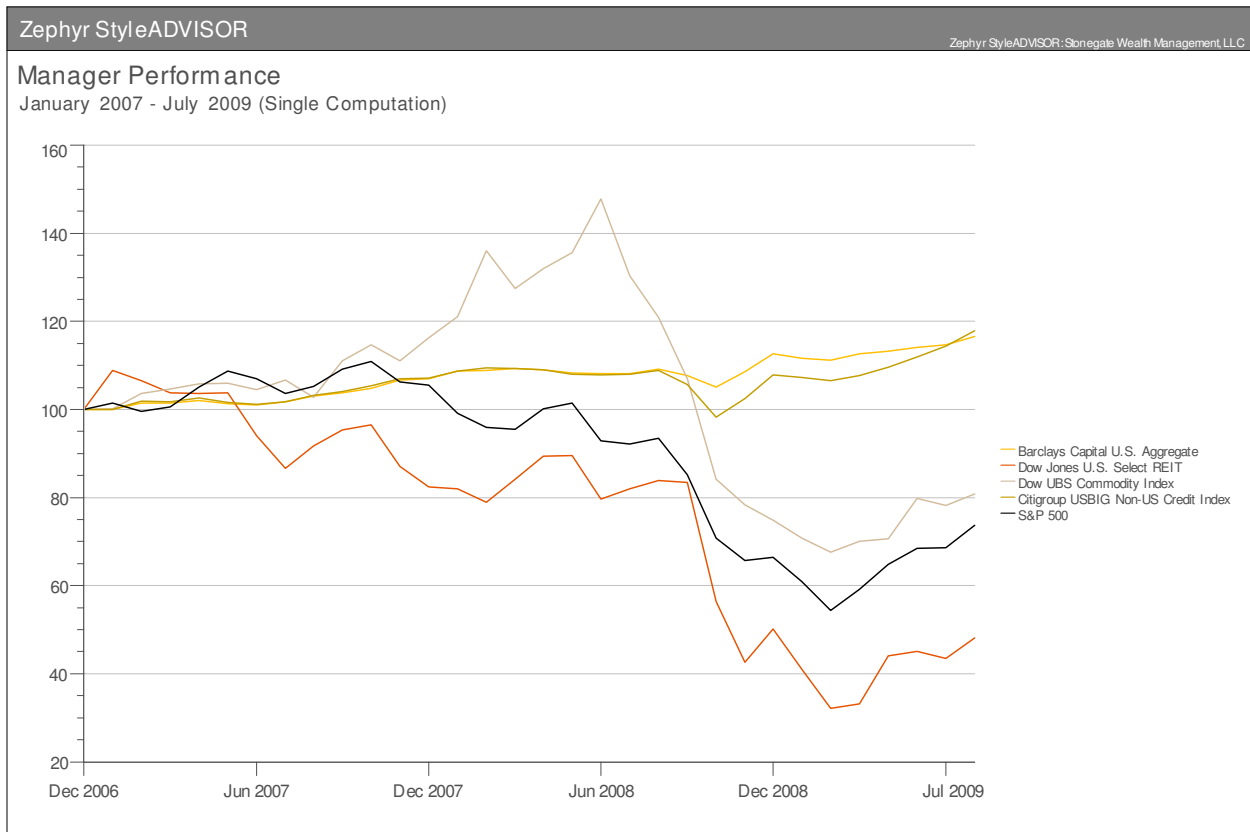
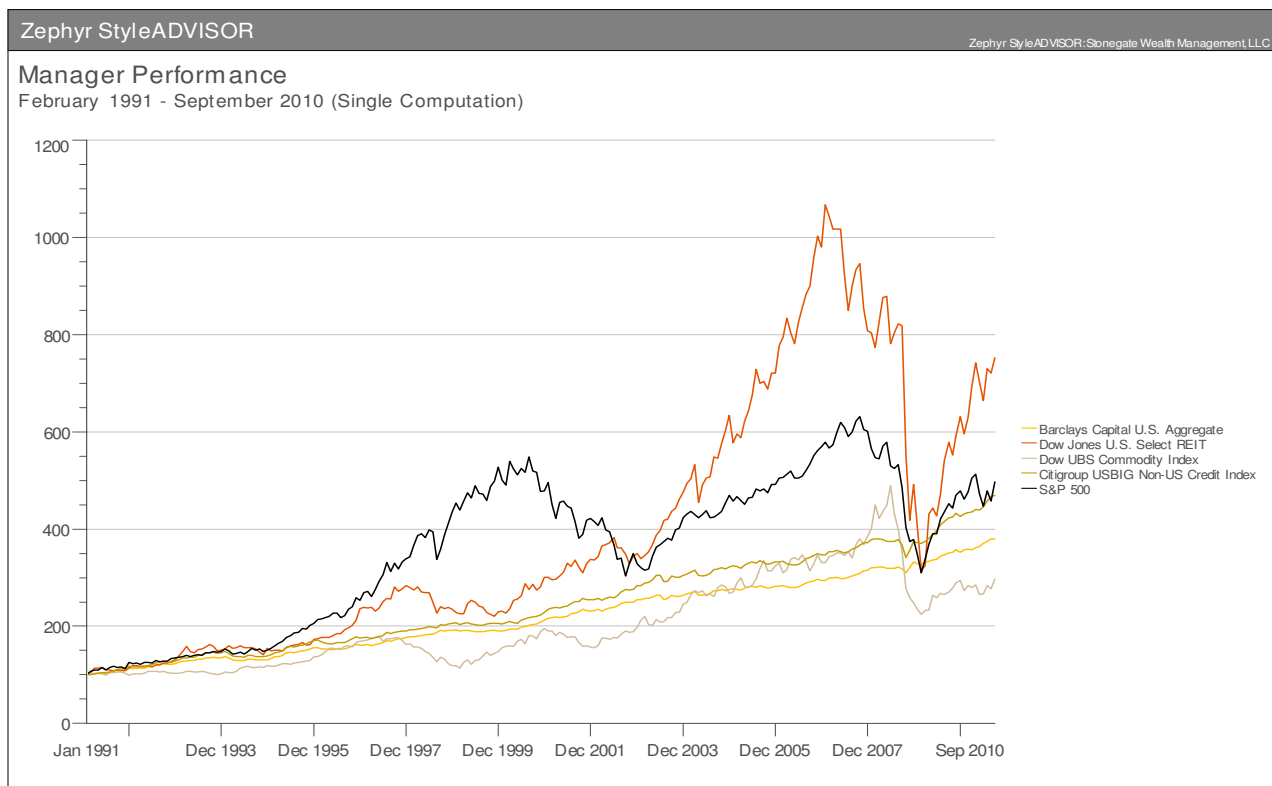


Figure 12: Portfolio Statistics: U.S. Bonds, Real Estate, Commodities, International Bonds, U.S. Equities (1991-2010)

Zephyr StyleADVISOR											
Zephyr StyleADVISOR: Stonegate Wealth Management LLC											
Custom Table											
February 1991 - September 2010: Summary Statistics											
	Return	Cumulative Return	Standard Deviation	Sharpe Ratio	Maximum Drawdown	Pain Ratio	Excess Return vs. Market	Tracking Error vs. Market	Information Ratio vs. Market	Alpha vs. Market	Beta vs. Market
Barclays Capital U.S. Aggregate	7.02%	279.49%	3.78%	0.91	-5.15%	5.25	-1.48%	15.14%	-0.10	6.81%	0.03
Dow Jones U.S. Select REIT	10.81%	652.43%	20.57%	0.35	-70.53%	0.74	2.31%	18.18%	0.13	6.09%	0.70
Dow UBS Commodity Index	5.69%	196.97%	14.64%	0.14	-54.26%	0.22	-2.81%	18.03%	-0.16	4.31%	0.26
Citigroup USBIG Non-US Credit Index	8.19%	369.91%	5.25%	0.88	-10.30%	4.59	-0.32%	14.55%	-0.02	7.37%	0.10
S&P 500	8.50%	397.60%	15.10%	0.33	-50.95%	0.44	0.00%	0.00%	0.00	0.00%	1.00

Figure 13: Graphical Performance: U.S. Bonds, Real Estate, Commodities, International Bonds, U.S. Equities (1991-2010)



In Figure 10, you'll notice that of all the asset classes, only real estate fared worse than the stock market in performance during the recession of 2007-2009 due to the explosion of the housing bubble. The addition of commodities and international bonds to a retirement portfolio during this time period would have reduced the losses experienced by the investor.

That being said, you're probably wondering: Where was the diversification value of real estate in 2008? To address this question, let's take a look at Figure 12. From 1991-2010, real estate outperformed the stock market by a margin of 2.31%, the largest of any of the other asset classes. All other asset classes also achieved excess returns relative to the market. You'll also notice that the beta (a measure of how much of an asset's return is related to the stock market) of real estate, commodities, and international bonds significantly decreases over time. Lastly, you'll also notice that the annualized returns of these asset classes produce long-term returns that exceed inflation during their respective time periods.

Conclusion:

By analyzing the numbers, we are able to identify that by adding real estate, commodities, and international bonds to your portfolio, you have increased the diversification of your portfolio and reduced its volatility. Additionally, you have created a portfolio that allows you to participate in the upside of the market to combat inflation (purchasing-power risk) while limiting your downside risk capture (investment risk). Thus, as an individual in retirement, you are less affected by a low-interest rate environment.