

Stock Diversification, is it Dead, Dying, or Getting a Second Wind?

Recent information provided by Morningstar Direct indicates equities are becoming increasingly correlated. New financial advisory group recommendations include non-traditional asset classes that are not highly correlated with stocks. One potential investment includes commodities. Using commodity ETFs to test diversification, we examine both current market correlation and return to a portfolio of stocks and commodities.

Introduction

A diverse mix of stocks is often touted as the instrument for spreading risk in a portfolio. The mixture is a combination of stocks that differ by investment sector, country, company size, and ideally are as uncorrelated with one another as possible. Prior to the turn of the century, correlations typically ranged 0.60 to 0.70.

In the period from 2001 to 2007, correlational relationships began to change as integration of markets created opportunities for stock to become synchronized, moving more in tandem in recent years. Correlation measurements increased upward during this period into the 0.75 to 0.85 range.

Since the financial meltdown of 2008, the global crisis and the ensuing global response may be the reason we are seeing even higher integration indications. In the period 2008 -2013, Correlation measurements moved into the 0.80 to 0.95 range. These new higher numbers do not bode well for diversification.

If the current trend continues in stock diversification, then the risk reduction assumed by prior generations are severely in doubt.

Discussion

As the average investor realizes, stocks present an excellent opportunity to realize gains over a long investment horizon. With stock mutual funds; one of the primary retirement vehicles for a large portion of the population, the perplexing trend in stock correlation is disconcerting. Is this trend caused by a fundamental change in stocks due to an increasingly connected world? Or is this merely fun with statistics from selecting appropriate periods that support an investment strategy?

The three tables supplied by Morningstar Direct cover the periods: 1995 -2000, 2001- 2007, and the last table covers 2008 until the end of 2013. (See Tables 1 ,2 and 3). Let's look at the reality of those choices by including the historical performance of the US stock market as measured by NYSE returns.

Table 1 covers a period of sustained prosperity (1995-2000). The only year with low performance for the year is 2000. The year 2000 measured a slight loss (-2.04 %). This date range is positively skewed from the statistical central tendency, using market return data recorded regularly since as far back as 1825 (See Table 4).

Table 2; covering 2001 to 2007, incorporates years which are skewed near both tails of the returns distribution in Table 4. The year 2001, 2002 and 2007 were years with losses recorded as -17 %, -24 % and -4 % respectively. Years 2003 through 2006 were recovery years from the preceding extreme recessionary period. Returns measured in positive territory.

The third table; 2008-2013, covers some of the most turbulent years since the great depression. A loss of 40 % on average is followed by years with positive returns in the following five years (using S&P 500 annual adjusted returns). Granted the investors true recovery was not until the fifth year (2012) when stocks were restored to their original January 2008 position. This brings the question: Does period selection help produce the high correlation numbers associated with this period, and if so do these high correlations persist at the present date?

To demonstrate the selectivity of the periods chosen by Morningstar Direct, imagine if an investor could enter the market with \$ 1000 in January of each of the three time periods. The results of these 3 hypothetical investments are contained in Table 5.

If period selection influences outcome, it is also likely the premise of reduced diversification benefits in our future should be addressed. This study will examine correlations from January 2014 to present to determine if the diversification relationship change over the course of 1009 to 2014 is holding.

It is also a contention that Commodity ETFs provide sufficient diversification benefits to be expounded as the latest investment strategy. This study will also examine in a limited way the commodity stock diversification relationship.

Data and Methodology

Selecting several commodity ETFs from the many available, is limited to those recommended by ETF database. The 5 best performing ETFs are chosen for the current investment year. Precious metals, Metals, Energy and a broad commodity ETFs are all selected. The Correlation with the S&P 500 Index is calculated for each of the ETFs selected. Correlations are calculated since ETF inception. One ETF began in 2005, another in 2006, one in 2007 and the last two in 2011.

Next, the portfolio returns in a hypothetical 50 / 50 mix of the Commodity ETF with the S&P is also calculated on a yearly basis since ETF inception and for the partial year 2014. Each period is scored as to did it improve or reduce the return an investor would achieve by merely investing in the S&P index.

As a final test of the validity of diversification reduction persistence, this study examines correlation of the S&P Index with proxy mutual funds representing small-cap, international large-cap and emerging-market stocks. While not a definitive test, the period January 2014 to September 2014 is examined to give some indication of the current trend.

Results

Table 5 presents the 5 leading commodity ETFs and their correlation with the S&P 500 Index. The contention that commodity ETFs would provide excellent diversification benefits appears to be valid. Correlations are exceedingly low, ranging from 0.07 to 0.46. As a test of their usefulness, Table 6 calculates the hypothetical 50 / 50 combination of ETF with S&P Index returns. The returns for a 100 % S&P Portfolio are also included for comparison purposes.

Examining the Commodity Stock combinations in Table 6 relative to the pure S&P portfolio, the results are presented in Table 7. A “+” sign indicates returns were higher, a “-” indicates returns were reduced by the combination. Two Commodity ETFs stand out as exceptional performers. Gold based GLD did well during the years of investor uncertainty and fears of inflation. Energy based MLPW has an impressive 3 of 4 years at enhancing returns. Overall however, returns dropped in 23 of 35 combinations tested, meaning 68 % of the test failed to enhance portfolio value despite low correlation.

Finally, Table 8 contains the more recent correlation results for the partial year beginning January 2014. Correlation relationships at least for the proxy Mutual funds of this study seem to indicate at this early stage that correlation is decreasing from the peaks seen leading up to 2014.

Conclusions

Commodity ETFs are not thoroughly tested as a safe reliable diversification alternative to stocks. That two narrowly focused commodities; gold and energy, would dominate each a unique period does not indicate diversification in the sense most comprehend the meaning of the word. Normally we would think a broad basket of commodities would afford the greatest risk reduction and return protection. In this study, the broader commodity indexes DBB and DBC had higher correlations levels and returns were not attractive in combination with stocks.

While not definitive by any stretch, stock correlations appear to be returning to more normal levels than seen recently. This may be an indication that market turmoil is no longer globally contagious.

TABLE 5**Value of Initial Investment of \$ 1000 in January of 1995, 2001, and 2008.**

Year	% Return	End of Year Valuation		
1995	35.20	\$ 1352		
1996	23.61	1671		
1997	24.69	2084		
1998	30.54	2720		
1999	8.97	2964		
2000	-2.04	2904		
2001	-17.26		\$ 827	
2002	-24.29		626	
2003	32.19		828	
2004	4.43		865	
2005	8.36		937	
2006	12.36		1053	
2007	-4.15		1009.	
2008	-40.09			\$ 600
2009	30.03			780
2010	19.76			936
2011	2.04			955
2012	14.15			1088
2013	22.29			1477

Average Returns: 1995 - 2000 = 19.44%

 2001 – 2007 = 0.13%

 2008 – 2013 = 6.71%

Correlations Tables

A = U.S. Large- Company Stocks

B = U.S. Small-Company Stocks

C = International Large-Company Stocks

D = Emerging-Market Stocks

TABLE 1 1995 – 2000				
A	1			
B	0.62	1		
C	0.69	0.60	1	
D	0.67	0.64	0.71	1
	A	B	C	D

TABLE 2 2001 – 2007				
A	1			
B	0.83	1		
C	0.85	0.78	1	
D	0.77	0.77	0.82	1
	A	B	C	D

TABLE 3 2008 – 2013				
A	1			
B	0.95	1		
C	0.91	0.84	1	
D	0.84	0.80	0.91	1
	A	B	C	D

TABLE 5 Correlation of S&P 500 Index with 5 Leading Commodity ETFs	
	S&P 500
DBC	0.46
MLPW	0.29
GLTR	0.19
GLD	0.07
DBB	0.43

Table 6
Portfolio Returns for Hypothetical 50 / 50 S&P Index with Selected Commodity
ETFs by Year

	DBC	MLPW	GLTR	GLD	DBB		S&P 500
2014	0.2	14.6	4.3	5.0	5.7		7.52%
2013	9.6	26.9	-2.3	-2.2	7.2		26.6
2012	9.0	9.8	11.3	10.5	9.2		13.4
2011	1.1	7.8	2.3	7.0	-10.4		2.7
2010	13.4			20.4	13.1		13.7
2009	21.8			24.2	47.7		24.8
2008	-32.8			-13.6	-41.6		-37.0
2007	16.9			16.4	2.4		4.74
2006	9.5			18.2			13.3
2005				10.3			3.5

TABLE 7
Portfolio Scores for Hypothetical 50 / 50 S&P Index
with Selected Commodity ETFs by Year

	DBC	MLPW	GLTR	GLD	DBB
2014	-	+	-	-	-
2013	-	+	-	-	-
2012	-	-	-	-	-
2011	-	+	-	+	-
2010	-			+	-
2009	-			-	+
2008	+			+	-
2007	+			+	-
2006	-			+	
2005				+	

TABLE 8
Jan 2014 – Sept 10 ,2014

S&P 500	1			
Small Cap ETF	.91	1		
VTMGX	0.83	.73	1	
VEIEX	.68	.76	.61	1
	S&P 500	Small ETF	VTMGX	VEIEX