TOBAM*
Core investments

Diversification Dashboard
August 31, 2012

Diversification Update at 31/08/2012

TOBAM's Diversification Ratio (DR)[1] measures to what extent a portfolio is diversified. The DR^2 (square of the diversification ratio) corresponds to the number of independent degrees of freedom in a particular portfolio – or the number of independent variables at work. As the table shows, the "broad market" indices leave diversification on the table. In addition to a snapshot of each market's DR^2, the table shows the DR^2 of a well-diversified portfolio, and the fraction of available diversification used by the index.

	DR^2 - Index diversification	DR^2 - Maximum diversification	% diversification used by index
MSCI EMU	1.72	4.33	*40%*
MSCI US	2.04	5.34	*38%*
MSCI UK	1.90	3.13	*61%*
MSCI Japan	2.50	8.88	*28%*
MSCI World	2.46	6.66	*37%*
MSCI Australia	1.85	3.76	*49%*
MSCI Emerging[2]	2.99	4.38	*68%*

Capture the perennial equity risk premium while reducing risk

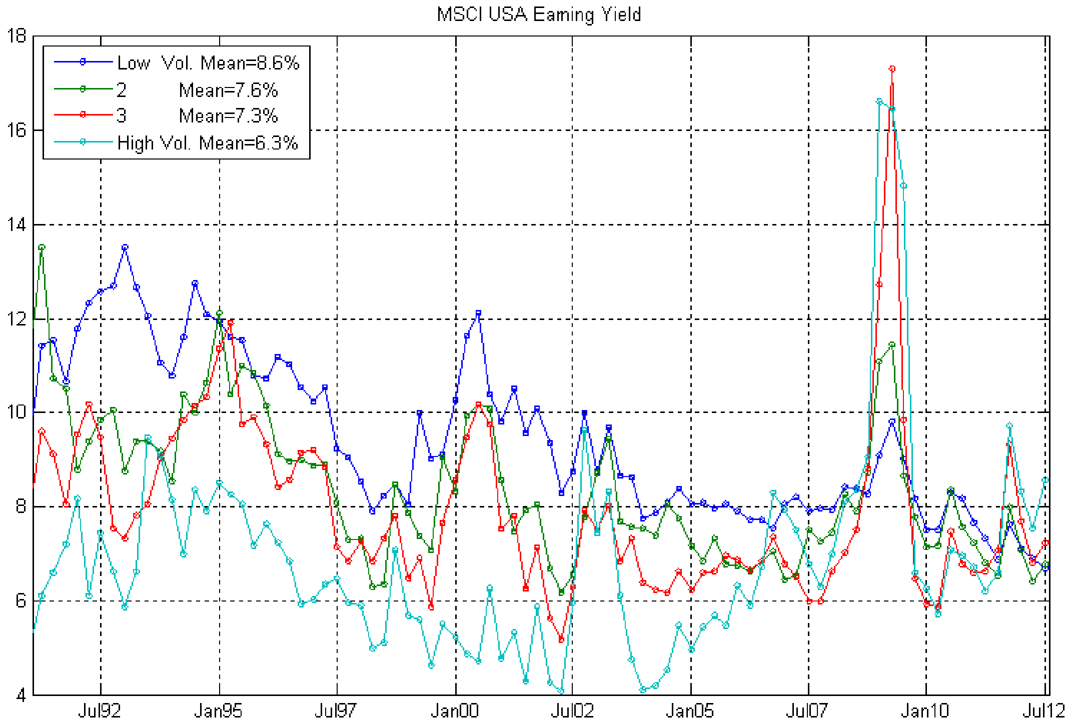
Telltale signs of risk aversion characterized investor behavior over the summer: faced with the lack of resolution to global macroeconomic problems, investors continued to favor low-risk stocks, and also held record amounts of cash in their stock portfolios (an average of close to 4% for US institutional mutual funds). Bond maven Bill Gross even suggested that the current combination of leverage, inflation and risk on countries and corporations would ultimately prove to be toxic for equity investing as we know it, because markets could not possibly generate a long-term equity risk premium of around 6% while entire economies were unable to grow anywhere near 3.5%. TOBAM does not claim to be the least bit prescient about markets. However, it is worth noting that despite overwhelming investor risk aversion, summer came and went without any major crisis, and global and regional equity markets even managed to deliver solid, if not stellar, returns. In addition, investors who remained exposed to all the sources of risk in the equity market were rewarded, particularly in August: in the US, Japan, the UK and Emerging Markets, the Most Diversified Portfolios outperformed their respective cap-weighted indices, which in turn outperformed their MSCI Minimum Volatility indices.

One month is not much history on which to base an entire portfolio strategy. However, current equity valuations suggest that a portfolio tilted toward low risk stocks may be overvalued. The following graph charts the p/e ratios of stocks (MSCI USA index) by volatility rank.

[1] TOBAM's Diversification Ratio measures a portfolio's or index's diversification. It is supported by original research and is based on a mathematical definition of diversification. TOBAM's "Anti-Benchmark" Most Diversified Portfolio® maximizes this Diversification Ratio. Maximizing diversification within a universe of securities provides a result closer to the true market risk premium from that universe. "Maximum Diversification®" and "MaxDiv®" are registered trademarks of TOBAM.

[2] The Anti-Benchmark Emerging Markets Equity strategy filters the reference index to the 200 largest market capitalizations.

Indeed, for the last 20 years, low volatility stocks enjoyed higher earning yields compared to high volatility stocks, with a 2% yield advantage on average. (12-month trailing earnings yields):



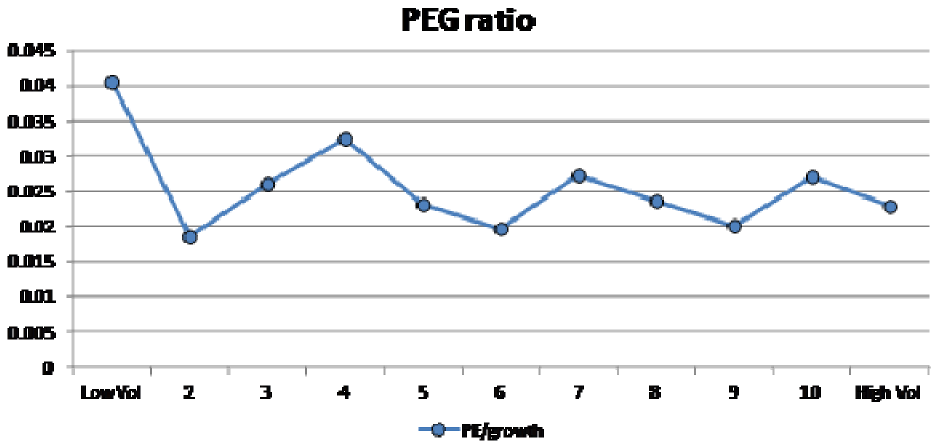
Strikingly, this relationship began to invert again at the beginning of 2012 for the first time since 2008/2009, with low volatility stocks becoming more expensive than high volatility stocks according to this metric. This is very unusual, as low volatility stocks are low growth stocks on average (explaining their usual earning yield advantage which compensates for their low growth).

We illustrate this particular point in the following table, which compares earnings yields and earnings growth rates (future one-year earnings vs. current earnings) of low vs. high volatility stocks (using volatility deciles):

Decile	**Earning Yield (LHS %)**	**Earning Growth (RHS %)**	**PE/growth**
Low Vol	7.57	3.25	0.041
2	9.34	5.76	0.019
3	8.43	4.55	0.026
4	8.17	3.76	0.033
5	7.69	5.62	0.023
6	7.17	7.08	0.020
7	7.24	5.05	0.027
8	7.31	5.79	0.024
9	6.94	7.16	0.020
10	6.35	5.81	0.027
High Vol	5.94	7.35	0.023

The results indicate that the earnings yield/growth tradeoff for US stocks appears fairly priced, i.e., both low and high volatility stocks are priced in line with their earnings yield.

What is more, the PEG ratios for each volatility quintile do no not appear to be systematically biased overall, with the possible exception of the very last decile of low-volatility stocks.



Few investors can forecast the long-term impact of current macroeconomic and fiscal challenges on stock prices, but even if aggregate economies fall short of delivering the Siegel constant[3], a truly diversified equity portfolio would also detect sources of risk premium in equity markets at the point where they are the most diversifying, i.e., underpriced. As the data above suggest, favoring certain valuation metrics, risk characteristics, or styles over others can encourage price distortions. Moreover, there is no need to favor low-volatility stocks in order to reduce portfolio volatility: the mathematical definition of portfolio volatility also takes diversification into account: a diversified portfolio's low correlation between its stock constituents drives portfolio volatility lower, achieving the low-volatility objective without sacrificing growth. If the above data are any indication, remaining diversified is the only way to ensure a neutral risk allocation – and capture the perennial equity risk premium.

[3] Siegel, Jeremy, Stocks for the Long Run. The author shows that the US stock market returned 6.9 percent per year in real terms between 1802 and 2001. Though the return varied by decade, even turning negative in some decades, overall it performed fairly consistently. This 6.9 percent annual-average return has since been referred to as "Siegel's constant."

For more information

TOBAM is an asset management company offering innovative investment capabilities whose aim is to maximize diversification. TOBAM's flagship Anti-Benchmark® strategies, supported by original research and a mathematical definition of diversification, provide clients with diversified core equity exposure, both globally and in domestic markets. FTSE also publishes the FTSE TOBAM Maximum Diversification Index Series based on the Anti-Benchmark equity portfolio construction methodology. The company manages over $2.3 billion via its Anti-Benchmark strategies for institutional clients worldwide. Its team includes sixteen financial professionals.

Contacts:

Head of Business Development
Christophe Roehri
+33 1 53 23 41 60
Christophe.Roehri@tobam.fr

Business Development
Laura Vu Thien
+33 1 53 23 41 65
Laura.VuThien@tobam.fr

Client Service
Elizabeth Breaden
+33 1 53 23 41 56
ClientService@tobam.fr

TOBAM Marketing Partners

Global Distribution - Amundi
Astrid Gambihler
+33 1 76 37 85 35
astrid.gambihler@amundi.com

Nordics - Paxstone Capital LLP
Kasper Kemp Hansen
+45 36 95 97 00
kasper.hansen@paxstone.com

Canada - Investeam
Nancy Nightingale
+1 416 860 9490
nancy.nightingale@investeam.ca

Australia & NZ - Phoenix Capital Advisory Ltd.
Mark Jackson mark.jackson@phoenixcap.com.au
Matthew Wormald matt.wormald@phoenixcap.com.au
+612 9947 9781

Disclaimers