In search of hedges and safe havens on financial and commodity markets

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Abstract

The outbreak of the global financial crisis caused simultaneous and deep declines in the value of many assets and commodity prices. In such a situation the diversification of the portfolio of assets has proved to be cumbersome, because the regularity observed so far (under normal market conditions) no longer applied.

The objective of the study is to find instruments that can serve as a hedge and/or a safe haven (according to definitions taken from Baur and Lucey, 2010). Three classes of assets are taken into account: stock index (SP500), commodity prices (WTI oil price and gold price), dollar exchange rate. We analyse weekly data that span from January 1995 to July 2015. Our empirical strategy consists of two stages.

The first stage is to identify risk related to instruments and market conditions. We base the analysis on M-EGARCH DCC models which are used to estimate conditional variances of all instruments and on statistical clustering methods that are used to identify different market states. The evaluation clustering criteria indicate three different states of financial market. Two of them are characterized by low to medium volatility. In the third state, which occurred only at the beginning of 2009, all the instruments have the greatest volatility.

In the second stage conditional correlations between instruments in the different market conditions are analysed. Using the results obtained at the first stage we associate the safe haven characteristic with the most turbulent period in the financial market and the hedge characteristic with the two remaining market states.

The main finding is that conditional correlations between instruments depend on market states. In the most turbulent period/state correlations between most pairs of instruments are stronger than in the two other states, however have the same sign. Only the dollar exchange rate is negatively correlated with the other instruments and thus can serve as a strong hedge or a strong safe haven. Both gold and oil prices are poorly correlated with prices of financial assets in the normal market conditions, and gold prices remain uncorrelated with financial asset prices in the turmoil period as well.