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Hedge Fund Portfolio Diversification Strategies Across the GFC

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Abstract

This paper features an analysis of the effectiveness of a range of portfolio diversification strategies as applied to a set of 17 years of monthly hedge fund index returns on a set of ten market indices representing 13 major hedge fund categories, as compiled by the EDHEC Risk Institute. The 17-year period runs from the beginning of 1997 to the end of August 2014. The sample period, which incorporates both the Global Financial Crisis (GFC) and subsequent European Debt Crisis (EDC), is a challenging one for the application of diversification and portfolio investment strategies. The analysis features an examination of the diversification benefits of hedge fund investments through successive crisis periods. The connectedness of the Hedge Fund Indices is explored via application of the Diebold and Yilmaz (2009, 2014) spillover index. We conduct a series of portfolio optimization analyses: comparing Markowitz with naive diversification, and evaluate the relative effectiveness of Markowitz portfolio optimization with various draw-down strategies, using a series of back tests. Our results suggest that Markowitz optimization matches the characteristics of these hedge fund indices quite well.

Keywords Hedge Fund Diversification, Spillover Index, Markowitz Analysis, Downside Risk, CVaR, Draw-Down.

JL Classification G11, C61.

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