Skewness, kurtosis and convertible arbitrage hedge fund performance

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Abstract

Returns of convertible arbitrage hedge funds generally exhibit significant negative skewness and excess kurtosis. Failing to account for these characteristics will overstate estimates of performance. In this paper we specify the Residual Augmented Least Squares (RALS) estimator, a recently developed estimation technique designed to exploit non-normality in a time series' distribution. Specifying a linear factor model, we provide robust estimates of convertible arbitrage hedge fund indices risks demonstrating the increase in efficiency of RALS over OLS estimation. Third and fourth moment functions of the HFRI convertible arbitrage index residuals are then employed as proxy risk factors, for skewness and kurtosis, in a multi-factor examination of individual convertible arbitrage hedge fund returns. Results indicate that convertible arbitrage hedge funds' receive significant risk premium for bearing skewness and kurtosis risk. We find that 15% of the estimated abnormal performance from a model omitting higher moment risk factors is attributable to skewness and kurtosis risk.

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