

Market risk when hedging a global credit portfolio

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Abstract

Hedging a credit portfolio using single name CDS is affected by high spread volatility that induces continuous changes in a portfolio mark to market, which is a nuisance. Often, the problem is that CDS on firms in the portfolio are not being traded. To get around that, a derivative portfolio can be hedged by taking a contrary position in a credit index, and we examine in this paper the efficiency of such an imperfect hedge. We find over the 2007-2012 period an 80% hedging efficiency for a European portfolio, 60% for North American and Japanese portfolios, and around 70% for a global portfolio, as measured by the reduction in mark-to-market variance. We also consider sectorial credit portfolios for Europe and North America, for which hedging efficiency is not as high, due to their more important idiosyncratic component. Taking into account the quality of the credit counterpart improves the effectiveness of the hedge, although it requires using less liquid credit indices, with higher transaction costs. Standard conditional volatility models provide similar results to the least squares hedge, except for extreme market movements. An efficient hedge for a credit portfolio made up of the most idiosyncratic firms would seem to require more than 50 firms, while the hedge for portfolios made up of the less idiosyncratic firms achieves high efficiency even for a small number of firms. The efficiency of the hedge is higher when portfolio volatility is high and also when short term interest rates or exchange rate volatility are high. Increases in VIX, in the 10-year swap rate or in liquidity risk tend to decrease hedging efficiency. Credit indices offer a moderately efficient hedge for corporate bond portfolios, which we have examined with a reduced sample of firms over 2006-2018. This analysis also shows that the current efficiency of a credit index hedge has recovered at pre-crisis levels.

Keywords Market Risk, CDS, Credit Indices, Credit Hedge, Asset Allocation, Systemic Risk

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