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Estimation of correlations in portfolio credit risk models based on noisy security prices

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Abstract

Portfolio credit risk models are very often constructed with correlation matrices serving as proxies for interrelations in the creditworthiness of each company. In addition to the size of the matrix, estimation of correlation is also complicated by the fact that defaults are rare and credit-sensitive securities such as stocks, bonds and credit default swaps (CDS) are noisy. Therefore, we present in this paper an estimation approach based on credit-sensitive instruments that accounts for noise and is highly parallelizable, the latter being a very important feature for large portfolios in finance. A

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