

# A Comparative Study of CreditPortfolio View and Credit Cycle Index Models

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## ABSTRACT

The purpose of this study is to investigate the impact on credit migration matrix by changes in business cycle, and calculate the related default probabilities. Credit migration matrix plays a crucial role in many credit risk models. We modify Wilson (1997, CreditPortfolio View) and Kim (1999, Credit Cycle Index) using TCRI credit rating data and various macroeconomic variables from 1970 to 2004, to estimate the transition matrix conditional on economic status. AR(1)-GARCH(1,1) model is proposed to simulate the macroeconomic model and to adjust the unconditional credit migration probabilities. The major empirical results include: when business is in expansion, Credit Cycle Index model is more consistent with the expected decline in default probabilities for speculative classes; while during recession periods, PortfolioView model can provide higher default probabilities for risky firms. In particular, lower rating firms exhibit higher volatility in default probability.

Keywords: Credit Migration Matrix, CreditPortfolio View, Credit Cycle Index, default probabilities