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CONDITIONAL SOVEREIGN TRANSITION PROBABILITY MATRICES

Abstract:

Increase of credit derivative transaction volumes and credit related exposures in trading books, contingent effect of the recent financial crisis along with insufficient measure of so called Value At Risk calculations raised new methodologies for credit risk models as well as input parameters such as transition probability matrices. Conditional transition probability matrices are one of the main input of the credit risk models and it is required to estimate for short liquidity horizons. This study presents conditional transition probability matrices for sovereigns using factor modelling approaches under various symmetric and asymmetric distribution assumptions. Asymmetric models are found to provide superior results over the symmetric models for both in sample and out of sample results. Furthermore, the proposed methodology is applicable for quarterly sovereign transitions where rating movements are not observed frequently. Finally the model incorporates the dependence of the business cycles to the estimated credit cycle indices using main macroeconomic factors.

Keywords:

Transition probability; Credit rating; Credit risk; Sovereign debts;
Business Cycles

JEL Classification: G10, G15, G20