

Modeling dependent credit rating transitions by coupled Markov chains: parameters estimation and empirical default correlations

Y.M. Kaniovski

Free University of Bozen-Bolzano

Friday, 15 June 2012

12:30pm 3-E4-SR03 Via Röntgen 1 Milano

Abstract

Maximum likelihood estimates are obtained for the parameters of the coupled Markov chains model by Kaniovski and Pflug (2007) and its modification by Wozabal and Hochreiter (2012).

The debtors from a Standard and Poor's data set are classified in two non-default credit classes and 12 industry sectors. The observations cover 30 OECD countries from 1991 through 2006. One-year default correlations are estimated.

The correlations are compared with the default correlations for American firms reported by Nagpal and Bahar (2001).

Kaniovski, Y.M, Pflug, G. Ch., 2007. Risk assessment for credit portfolios: A coupled Markov chain model. *Journal of Banking and Finance* 31, 2303-2323.

Nagpal, K., Bahar, R., 2001. Measuring Default Correlation. *Risk* 14, 129--132.

Wozabal, D., Hochreiter R., 2012. A coupled Markov chain approach to credit risk modeling. *Journal of Economic Dynamic and Control* 36, 403-415.