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*The Dynamics of Corporate Credit Risk:
An Intensity-based Econometric Analysis*

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Corporate credit ratings provide a subjective assessment of the default probability incurred by an investor who enters into a long financial position with a (rated) corporate counterparty. Ratings play a prominent role in the financial industry, as these directly influence the interest rate to be applied to a specific loan. Additionally, under Basel II, credit ratings are used to determine the capital buffer to be held by the lender - lower ratings leading to higher capital buffers. If credit ratings co-vary with the business cycle (at the aggregate level), this has the potential to exacerbate a downturn of the economy as the capital becomes increasingly expensive when it is most needed. Therefore, obtaining insight into the dynamics of credit ratings is important, as these have an indirect impact over the stability of the whole financial system. This thesis presents a novel econometric framework for analyzing and interpreting historical credit rating data that enables the empirical measurement and estimation of both corporate default and rating transition probabilities. A major advantage of this modelling framework is that it allows the extraction of the dynamic aggregate patterns present in rating data without the need to pinpoint their precise determinants. Several new methods for estimating and forecasting the rating transition matrix associated with a given rating system are also introduced.

André Monteiro (1973) graduated in Applied Mathematics from the University of Porto in 2001. After being responsible for several applied projects in statistics at both Interpay Nederland B.V. and Eurostat he enrolled in the M.Phil. program of the Tinbergen Institute in late 2002. In the context of his Ph.D. studies at the Tinbergen Institute he was able to make a few contributions to the literature dealing with the statistical analysis of credit rating data. The main results of his research have been published in peer-reviewed scientific journals in the fields of econometrics and finance.

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