

Exotic approaches for modelling Loss Given Default

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Abstract

One of the main risks for a commercial bank is the credit risk, the risk that the counterparties won't pay back their outstanding amount. From an institutional as well as a regulatory perspective, this creates the need for proper statistical methods for modelling credit risk. The ambition of this thesis was to dig into and develop statistical theory behind Loss Given Default (LGD) modelling, one of the main components of credit risk. In particular, LGD was looked upon from an IFRS 9 perspective, which is a new global, regulatory standard for handling credit risk from an accounting viewpoint. Two types of approaches for modelling LGD were investigated in particular. The first one was based on standard regressions extended to include a time varying intercept represented as a latent variable. The rationale was to improve the handling of the time serie dimension in the data. The second approach was to model LGD with the machine learning methods Support Vector Machine Regression. These approaches were applied on data from a Swedish corporate portfolio. The empirical results were inconclusive, but with some support of the usefulness of the approaches. From a theoretical view, the approaches seemed to have potential. More research as regards theoretical development as well as practical application are needed to further improve LGD modelling.

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