

Summary

Lawrenz, Jochen

“Assessing the Estimation Uncertainty of Default Probabilities“

The probability of default (PD) is one of the key variables in credit risk management. By using PD estimates as input to pricing and capital requirement calculations, one should be concerned of how good these estimates are. Confidence intervals are thereby a convenient way to assess the range that covers the true, but unknown parameter with a certain confidence probability. In this paper, we discuss the issues occurring in the construction of confidence intervals for a binomial proportion, and assess the magnitude of estimation uncertainty for exemplary but representative credit portfolios. To give an economic meaning to the range of errors, we translate the PD confidence interval into a risk-weight confidence interval by applying the Basel II IRB approach.

The two main conclusions are: (i) The magnitude of estimation uncertainty can be substantial and is economically relevant. (ii) The choice of confidence interval matters and differences between intervals can be large. (JEL G21, C80)