Satellite Model Accuracy in Bank Stress Testing
Abstract

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This thesis is dealing with credit risk satellite models in Czech Republic. Satellite model is a tool to predict financial variable from macroeconomic variables and is useful for stress testing the resilience of the banking sector. The aim of this thesis is to test accuracy of prediction models for Probability of Default in three different segments of loans - Corporate, Housing and Consumer. Model currently used in Czech National Bank is fairly unchanged since 2012 and its predictions can be improved. This thesis tests accuracy of the original model from CNB by developing new models using modern techniques, mainly by model combination methods: Bayesian Model Averaging (currently used in European Central Bank) and Frequentist Model Averaging. Last approach used are Neural Networks.