Abstract

The master thesis deals with the advanced methods for estimating credit risk parameters from market prices: *probability of default (PD)* and loss *given default (LGD*). Precise evaluation of these parameters is important not only for banks to calculate their regulatory capital but also for investors to price risky bonds and credit derivatives.

We provide forward looking reduced-form analytical method for calculation of *PD* and *LGD* of corporate defaultable bonds based on their quoted market prices, prices of equivalent risk-free bonds and quoted credit default swap spreads of the issuer of these bonds. This is reversed to most of the studies on credit risk modeling, as aim is not to price instruments based on estimated credit risk parameters, but to calculate these parameters based on the available market prices. Furthermore, compared to other studies, the *LGD* parameter is assumed to be endogenous and we provide the method for its simultaneous calculation with the probability of default. Finally, using developed methods, we estimate implied *PD* and *LGD* for five European banks assuming that the risk is priced correctly by other investors and the markets are efficient.

JEL Classification: C02, C63, G13, G33
Keywords: credit risk, loss given default, probability of default, credit default swap

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