

Abstract

A collateralized debt obligation (CDO) is a highly leverage structured credit product linked to credit events of a pool of underlying debt securities. CDO can be understood as an insurance against a credit risk of the pool where its issuer is a protection buyer and its investor is a protection seller. Whereas a CDO issuance has boomed in recent years, by the end of 2008 two thirds of CDOs were in a formal state of default. The aim of this thesis is to clear up the course of events which lead to the suspension of the CDO market and to deduce recommendations for its future development. To do so we develop a valuation program in MS Excel VBA based on a One Factor Gaussian Copula model. Using the program we first apply a sensitivity analysis, than we model value of a CDO tranche before the financial crisis stroke and after it to value a loss of investors based on a change in expected cash-flows. We detect four main deficiencies. First, the market was not properly diversified. Second, the valuation model was often not deeply understood which led to a mispricing of CDO tranches. Third, this resulted in a mispriced base correlation. We also numerically demonstrate the fourth deficiency, i.e. the mark-to-market valuation obligation which can have destructive effects. Recommendations to remove these deficiencies are suggested. Keywords: collateralized debt obligations, Gaussian Copula, valuation, securitization JEL: G01, G32, C63