



The difference between prices of exchange-traded bonds of an issuer (e.g. of a bank) and of corresponding risk-free bonds (e.g. government bonds) are deemed to be part of the issuer's credit default risk. To be able to reproduce the prices of risk-bearing securities/bonds, it is customary in the market to calibrate a yield spread for every instrument.

The yield spread calibrated in this way is used for creating the instrument-specific discount curve by simply adding the yield spread to the risk-free interest rate curve.

When applying the yield spread approach however the rating of the issuer is ignored so that it is impossible to measure the risk for risk-bearing securities with this approach.

But the new PMS module **“Calculation of Credit Risk Curves”** uses market prices of exchange-traded bonds to compute a rating-specific CDS premium curve for each issuer. The CDS premium curve calibrated as described above is applied in the modules **“Spread Risk Calculation in PMS”** and **“Credit Valuation Adjustment (CVA) Pricing”** as well as in the Spread VaR calculation for the Monte Carlo Simulation.

For **illiquid bonds**, this new module uses a reference group of exchange-traded bonds that are equivalent to the illiquid bonds of an issuer with regard to credit-ability and market relevance. The CDS premium curve from the reference group is deemed to be adequate to replace the missing issuer curve for the valuation of illiquid bonds.

The market price of an illiquid bond can be modelled as difference between risk-free theoretical value and the expected loss, where the expected loss is computed using the bootstrapped CDS premium curve.

The **“Spread Risk Calculation (Expected Loss)”** module serves as basis for the calculation of the expected loss values used.

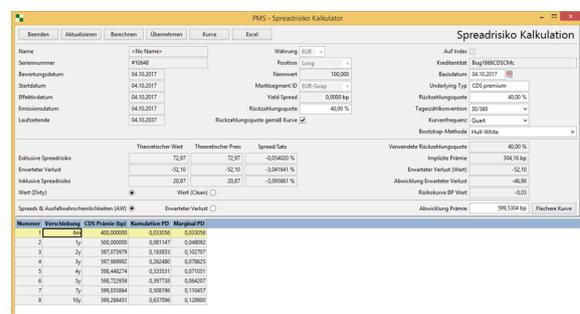


Figure 3: Spread risk calculation

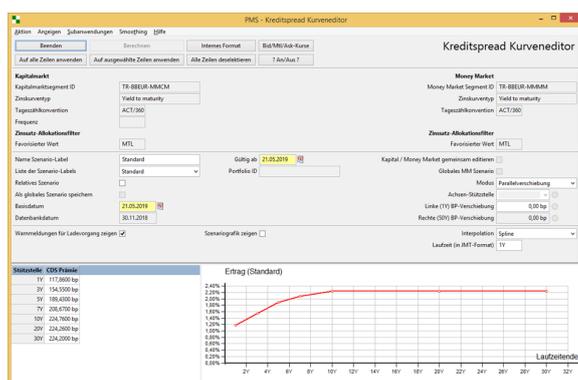


Figure 1: Example of a CDS premium curve

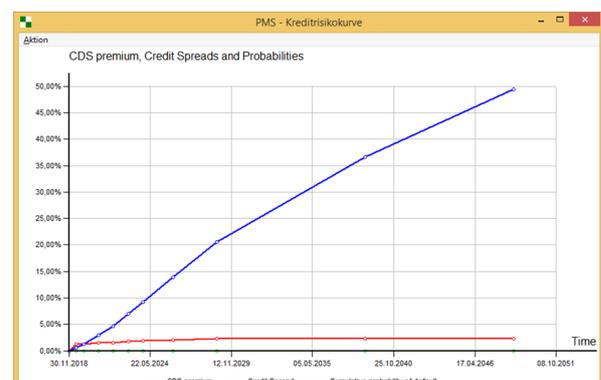


Figure 2: CDS premium curve computed via ISDA bootstrapping method; credit default probabilities for the CDS premium curve (see Figure 1)