

At A Glance

Funding Valuation Adjustment

Overview

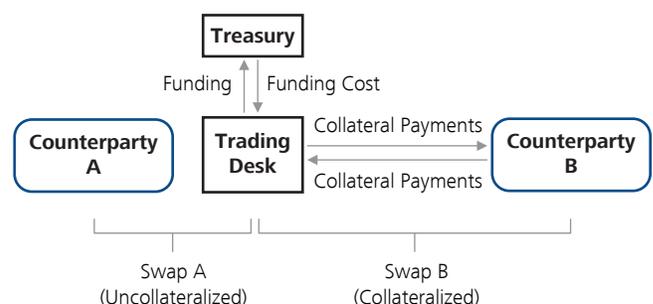
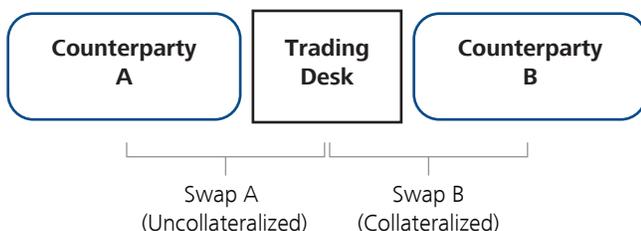
Since the 2008 financial crisis, an increasing number of derivative trades have been collateralized. The collateral payments usually earn interest, paid to the owner of the collateral, at a rate that is often perceived to be a risk free rate, such as the overnight index swap (OIS) rate in the US.

There are still transactions that are not fully collateralized. In these situations, the cash flows associated with the uncollateralized derivative trade may be different than the cash flows that would arise under a fully collateralized trade. Given the potentially different cash flows, some market participants have chosen to recognize a difference in the economic value between a collateralized and an uncollateralized trade with a term known as the Funding Valuation Adjustment (FVA).¹

A Simple Example of a FVA

Assume that a trading desk at a firm entered into an uncollateralized US Dollar (USD) interest rate swap agreement with counterparty A (Swap A) and hedged it with an offsetting USD interest rate swap agreement that is collateralized with counterparty B (Swap B). Further assume that both swaps were done at par, meaning that Swap A and Swap B had a value of \$0 when they were done.

After some time has passed, assume that interest rates have moved such that the market value of Swap A to the firm is \$1,000,000. As Swap B is identical and offsetting, the value of Swap B then is -\$1,000,000 to the firm. In such a case the firm will have to deposit \$1,000,000 in collateral to Counterparty B. To obtain the funds, the trading desk will need to borrow from the firm's treasury. The resulting set of cash flows from this trade is now:



¹ For example, JP Morgan implemented a FVA framework in 4th quarter 2013 for its OTC derivatives and structured notes. See Financial Results 4Q13, JPMorgan Chase & Co., dated January 14, 2014, p. 11. The adjustment resulted in a \$1.5 billion reduction in net income for the 4th quarter.

The trading desk is receiving interest on the \$1,000,000 collateral deposit and paying interest on its loan from the treasury at the firm's funding rate. The funding rate is sometimes higher than the rate earned on the collateral and this spread in rates gives rise to a potential motivation for computing the FVA: to reflect the trading desk's additional interest cost. As a simplified example, to compute FVA in the above case, one would multiply the spread between the funding rate and the collateral interest rate by the value of the collateral for each year until the trade's maturity. The resulting FVA charge is then subtracted from the value of the Swap B.

A Closer Look

An actual FVA computation is not as straightforward as the one laid out above, because the charge may depend on many factors such as:

- 1) The expected duration of Swap A, which in part depends on the likelihood that Counterparty A defaults.
- 2) The funding and liquidity strategy of the firm.
- 3) The role of other derivative trades in the trading desk's book.
- 4) The interaction of Credit Valuation Adjustment ("CVA") and Debit Valuation Adjustment ("DVA") with the FVA charge.²

These potential complications can be material to the computation of an FVA charge and each one of them may require careful consideration to properly implement.

Capabilities

NERA is well-positioned to assist clients in a wide range of disputes relating to financial issues. Our experts have extensive experience valuing and analyzing a variety of asset classes, including fixed income securities, structured products, and other complex derivatives. NERA's securities experts have been involved in numerous disputes in a wide range of venues and can assist at many stages of a matter. Our relevant expertise includes:

Valuation and Risk Management

- Valuations of fixed income and derivative products such as swaps, swaptions, warrants, and synthetic collateralized debt obligations
- Assessment of economic equivalence between two derivative products and effectiveness of hedging strategies
- Calculation of CVA, DVA and FVA for derivative positions
- Evaluation of risk management practices and instruments

Bankruptcy and Financial Distress

- Assessment of default likelihoods
- Close-out netting analysis for over-the-counter derivatives
- Determination of values for distressed businesses, assets and liabilities

Other Areas

- Analysis of the fairness of a proposed settlement
- Analyses in broker/customer disputes alleging unsuitability

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Contact

For more information or to contact our experts, please visit www.nera.com/sec-fundingvaluation.

² CVA is a valuation adjustment that reflects the counterparty credit risk in a derivative trade and DVA is an adjustment that reflects a party's own credit risk in such a trade. While outside of the scope of this note, the interaction of FVA with CVA and DVA is not straightforward.