

The Basel Committee's December 2009 Proposals on Counterparty Risk

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Agenda

- Introduction
- Basis for the determination of exposure at default
- Capitalization of losses due to CVA
- Correlation between financial counterparties
- Margin period of risk
- Treatment of CCPs
- Other revisions to the existing framework
- Outcome of the consultation and QIS

Introduction

- Crisis highlighted particular aspects of counterparty risk
- Not always appropriately addressed by the existing Basel 2 framework
- Basel Committee given mandate to revise capital framework by G20.
- Bulk of the work performed by the Risk Management and Modeling Group (RMMG) under the Policy Development Group of the Basel Committee.
- Started in January 2009 and proposals result from recommendations of the RMMG.
- Consultation responses and QIS being reviewed, and extent of potential changes as a result is being considered

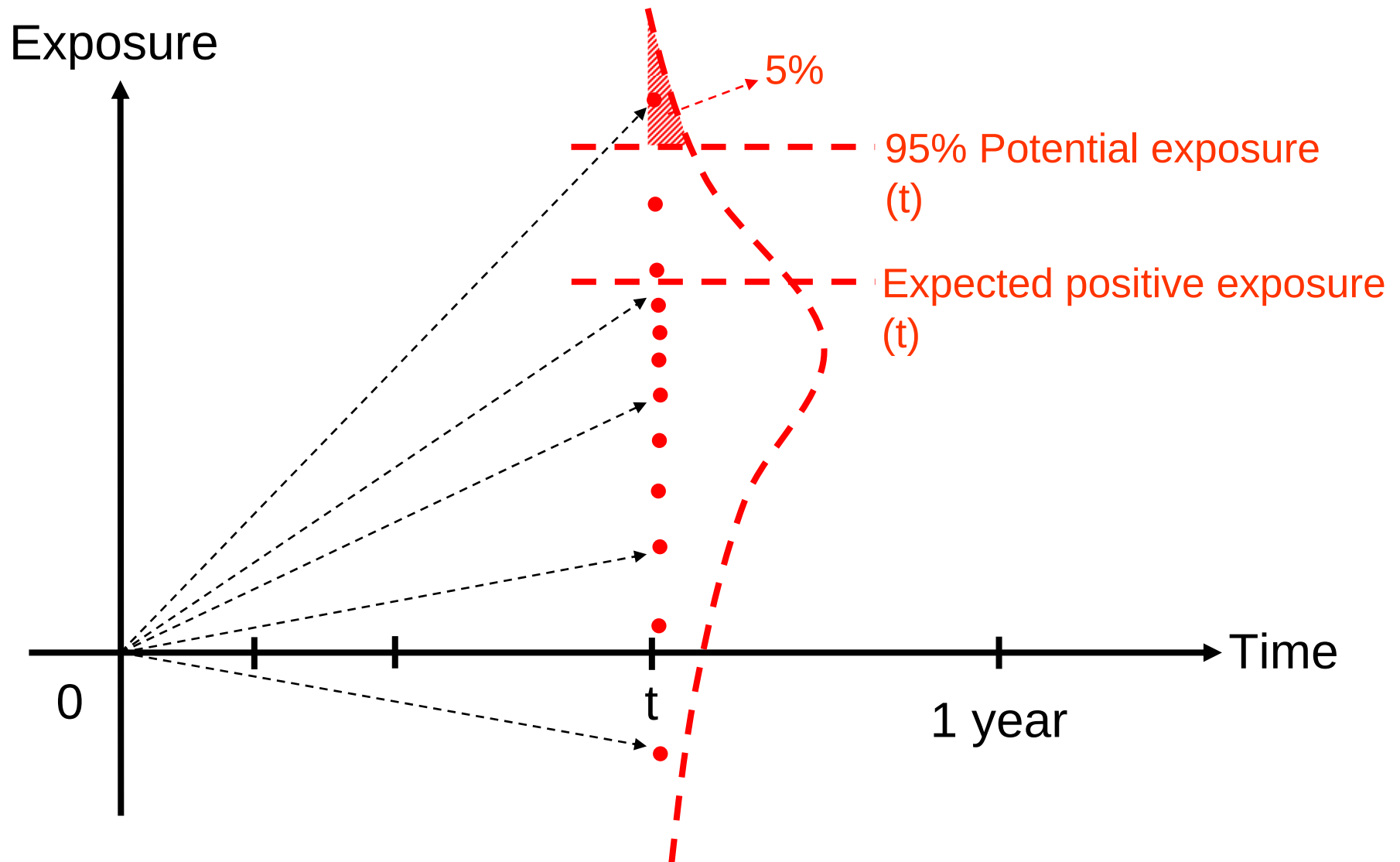
Introduction: focus of the Committee on CCR

- Areas where the current treatment did not adequately capitalize for the risks during the crisis
- Provision of incentives to move bi-lateral OTC derivative contracts to multilateral clearing through central counterparties
- The provision of incentives to reduce operational risk arising from inadequate margining practices, back-testing and stress testing
- Whether the changes would contribute to reducing procyclicality.

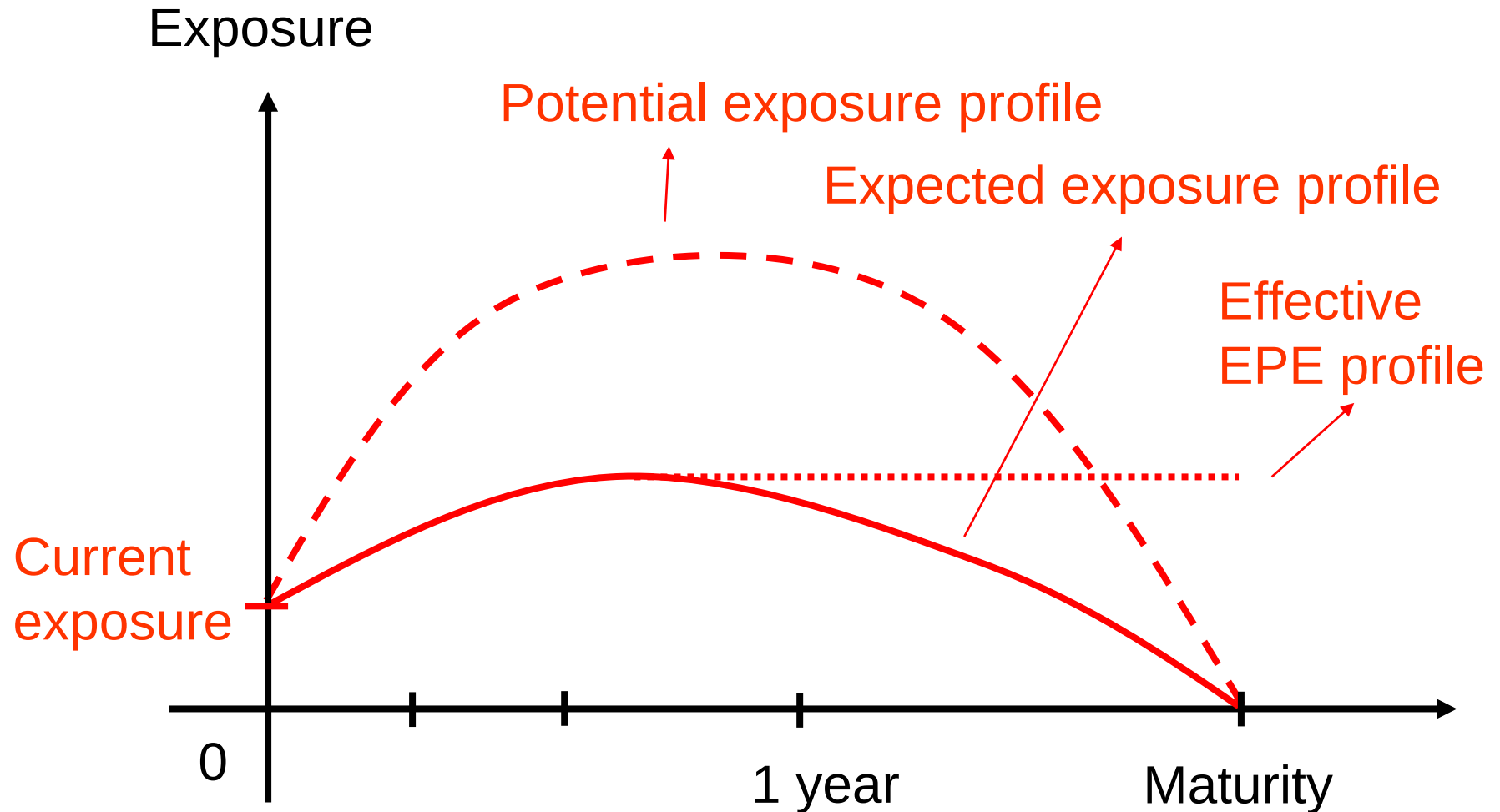
Determination of exposure at default

- Under the advanced Basel 2 Internal Models Method (IMM) to determine capital requirements for counterparty risk (CCR) for OTC derivatives, existing rules based on Effective Expected Positive Exposure (EEPE)
- $\text{Exposure at Default} = \text{Alpha} * \text{EEPE}$
- $\text{CCR RWA per counterparty} = \text{Risk Weight} * \text{EAD}$
- Effective EPE relies on internal model to predict counterparty exposures, typically simulating underlying market risk factors out to long horizons and revaluating counterparty exposures at future dates along the paths simulated

Determination of exposure at default



Determination of exposure at default



Determination of exposure at default: issues

- Defaults and deteriorations in the creditworthiness of trading counterparties occurred precisely at the time when market volatilities, and therefore counterparty exposures, were higher than usual. Thus, observed generalized wrong-way risk was not adequately incorporated into the framework
- Need for a strengthening of the point-in-time estimate of average future exposure, such as Effective EPE, as the basis for determining EAD for trading counterparties.
- Poor back-testing of counterparty exposure models during the crisis
- Need for EAD estimates to be appropriate for a credit downturn, consistent across Basel 2 framework

Determination of exposure at default: proposal

- Condition parameters of counterparty exposure models on a period of credit stress
- In line with use of Stressed VaR for market risk
- Stressed estimates of parameters such as volatilities and correlations should be estimated historically from a 3-year period that includes the 1-year observation period used for Stressed VaR for credit assets
- Recognizes trading aspect of counterparty risk (partly driven by same risk factors as market risk)
- Capital requirements = maximum of requirements under current calibration and requirements under stressed calibration, at portfolio level

Capitalization of CVA losses: issues

- Mark-to-market losses due to credit valuation adjustments (CVA) were not directly capitalized.
- However during the crisis, roughly two-thirds of CCR losses were due to CVA losses and only about one-third were due to actual defaults.
- Very substantial losses were incurred during the crisis due to CVA, in particular in situations of wrong-way risk as in the case of exposures to financial guarantors (monolines)
- The current framework addresses CCR as a default and credit migration risk, but does not fully account for market value losses short of default.

Capitalization of CVA losses: proposal

- Introduce a capital add-on to protect against unexpected losses due to CVA volatility
- Difficulty: due to MtM nature of CVA risk, VaR of CVA models have conceptual appeal, but are often still largely unproven and have a “black box” aspect.
- Objective: need for a simple and transparent way of representing CVA risk, based on existing inputs already subject to controls, whilst recognizing its market risk nature
- Idea: leverage existing regime for MtM risk to provide capital for CVA. This is a first step towards recognizing the trading nature of counterparty risk, and relies on existing framework.
- Capital add-on constructed based on a simple bond analogy, determined as the applicable market risk charge for a replicating portfolio of CVA

Capitalization of CVA losses: proposal

- Idea is that since CVA is the downward adjustment to reflect counterparty risk in the valuation of OTC derivatives, i.e. the loss of value incurred by having a given set of OTC derivatives with a given counterparty instead of a risk-free counterparty, it can be approximated as the loss of value between a risk-free and risky bond.
- A long risk-free bond and a short risky bond can be viewed as a replicating portfolio of CVA, as a first-order approximation
- Capital is determined by inserting this replicating portfolio in the existing market risk framework

Capitalization of CVA losses: specifications

- Notional of the bonds: the EAD of the counterparty, since this is the amount the bank would lose in case of default
- Maturity of the bonds: the Effective Maturity of the OTC derivatives with the counterparty, since this represents the average length of time during which the exposure is incurred
- Spread to use: the one used to mark CVA, i.e. the spread associated with the counterparty if available, since it reflects the market perception of credit risk. In the absence of available spread for a counterparty, standard practice is to map the name to spread buckets by rating/industry/region.
- PV of the bond-equivalent representation of CVA:

$$PV = EAD \times e^{-(r+s)M} - EAD \times e^{-rM} = (e^{-sM} - 1) \times EAD e^{-rM}$$

Capitalization of CVA losses: proposal

- Which is approximately equal to:

$$PV = -sM \times EAD e^{-rM}$$

- This is a first-order approximation of CVA as the product of lifetime spread (sM) and discounted exposure (EAD*exp(-rM))
- This replicating portfolio of CVA is then inserted in the existing market risk framework
- Element of conservatism: In the existing proposal only single-name hedges purchased by the CVA desk are eligible for inclusion in the market risk charge of CVA.
- Element of conservatism: in the existing proposal a multiplier of 5 is applied to the market risk charge to extend the liquidity horizon from 10 days to 1 year for counterparty risk

Capitalization of CVA losses: proposal

- Elements of conservatism: EAD is used ($=\text{Alpha} \times \text{EEPE}$) whilst in practice CVA is marked based on EE profile
- Element of conservatism: in the existing proposal the longest Effective Maturity M across all netting sets with the counterparty is used
- Source of risk only indirectly reflected in the charge: sensitivity of CVA to the market risk drivers of counterparty risk exposure. EAD, the notional of the bond is treated as fixed. The risk of CVA change due to variation in exposure is factored in upfront by using a higher exposure than EE (i.e. $\text{Alpha} \times \text{EEPE}$).
- Approach relies on inputs available to all firms: EAD, M , spreads, interest rates, and existing market risk approach as approved by supervisors.

Correlation between financial counterparties

- During the crisis, large financial institutions proved to be more interconnected than currently reflected in the capital framework. As a result, when markets entered the downturn, banks' counterparty exposure to other financial firms also increased.
- Evidence suggests that the asset values of financial firms are, on a relative basis, more correlated than those of non-financial firms.
- Empirical work performed by the RMMG showed that in times of crises, the asset value correlation between financial firms were at least 25% higher than that between non-financial firms
- Proposal to multiply the AVC for financial counterparties by 1.25 in the IRB framework of the Basel formula.

Margin period of risk

- The close-out period for replacing trades with a counterparty with large netting sets or netting sets consisting of complex trades or illiquid collateral extended beyond the horizon required for the capital calculations (10 days for OTC derivatives and 5 days for securities-financing transactions)
- Alternatively often short close-out were achieved, but at the cost of substantial forced-sale discounts
- In particular during the crisis very large margin call disputes were observed, which lasted for an excessively long time
- Proposal to increase the minimum margin periods of risk for voluminous netting sets, netting sets containing illiquid trades, and netting sets where frequent disputes were incurred

Treatment of CCPs

- Before and during the crisis CCPs were not widely used to clear trades.
- Aim to encourage the use of CCPs whilst recognizing that they do not eliminate risks
- Dialogue with CPSS/IOSCO and collaboration in the development of one set of standards for the soundness of CCPs
- Distinction between sources of loss: direct vs. through the mutualization of losses via the loss-sharing arrangements
- RMMG working to develop capital treatment for potential losses on a bank's contribution to the CCP's default fund, and for non-compliant CCPs

Other revisions

- Enhancement of standards for back-testing of counterparty exposures
- Penalization of extreme cases of wrong-way risk where there is a legal connection between the counterparty and the underlying transaction
- Enhanced qualitative requirements for the monitoring of wrong-way risk
- Qualitative standards established around collateral management, including staffing of collateral units, soundness of collateral systems, control on re-use of collateral (e.g. re-hypothecation and re-investment of collateral pledged or received)
- Enhanced stress testing requirements

Outcome of the consultation and QIS

- QIS results showed very large impacts for the new CVA capital charge
- Comments in the consultation highlighted sources of double-counting in the new proposals, e.g. time horizon multipliers and co-existence of maturity adjustment and CVA charge
- Comments highlighted operational burden in implementing some of the proposals
- Comments on industry's desire for a capital framework around CVA that is aligned to individual marking practices
- Comments on desire to have internal VaR of CVA models allowed in the framework
- Comments on desire to have full integration of CVA with the rest of trading VaR

Outcome of the consultation and QIS

- Comments on the need to give greater recognition of CVA hedges beyond single-name hedges, in particular index hedges, which are often used to hedge the systemic component of counterparty spread moves, and the only available hedging tools in the absence of spreads for a counterparty
- Comments on the fact that real CVA sensitivities are not accurately represented: spread sensitivities of bond-equivalent only approximates true sensitivity of CVA to spreads because it ignores the full term structure of EE.
- Sensitivity of CVA to the market risk drivers of exposure are not represented. Consequently hedges of the CVA sensitivity to the market risk drivers of the underlying transactions are not reflected.

Outcome of the consultation and QIS

- Comments on the treatment of CVA itself (separately from the risk due to changes in CVA). Highlight the fact that what has been already written down in the form of CVA cannot be lost again, and therefore is not a source of risk anymore.
- RMMG and PDG currently considering all these points and will make recommendation to the Basel Committee concerning changes to the December proposals
- Next step on the longer term: fundamental review of the trading book by the Trading Book Group (under the PDG), and consideration of the integration of counterparty and market risks.