CVA and CCP

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Counterparty Credit Risk during the Credit Crisis

- Lack of transparency in OTC market
- Large risk concentrations among counterparties
- Financial soundness of counterparties unknown
- Cutting back of exposures to large dealers
- Cascade of margin calls triggered asset fire sales

G20 at Pittsburgh Summit in 2009

“:…all standardised OTC derivatives contracts should be traded on exchanges or electronic platforms, where appropriate, and cleared through central counterparties by end-2012 at the latest. OTC derivatives contracts should be reported to trade repositories. Non-centrally cleared contracts should be subject to higher capital requirements.”

In 2011, margin requirements on non-centrally cleared derivatives added.

Basel III – Counterparty Credit Risk

Reforms to ensure that banks adequately capitalise exposures to counterparty credit risk, whether arising from other banks or from CCPs.

Impact reforms: on average, capital requirements for bilateral counterparty credit risk will at least double.

- Asset Value Correlation (AVC);
  For large regulated FIs; affects for example IRC calculation
- Credit Value Adjustment (CVA);
  MtM adjustment due to the changes in counterparty's credit quality.
- Exposures to Central CounterParty:
  no longer regarded as risk free.

Basel III – Counterparty Credit Risk

Basel III Capital Requirements on Derivatives

Non-Centrally Cleared:	Centrally Cleared:
• CVA • Bilateral Margin Requirements	• Trade Exposure • Default Fund

Basel III – Non central clearing

- Total counterparty credit risk capital

=

Counterparty credit risk capital (default)

+

CVA capital (migration)

Basel III – Non central clearing

- Risk-weighted asset of positions =

$\sum$ value of transaction +

CVA =
aggregated CCR of transactions

Independent of netting set

Dependent of netting set

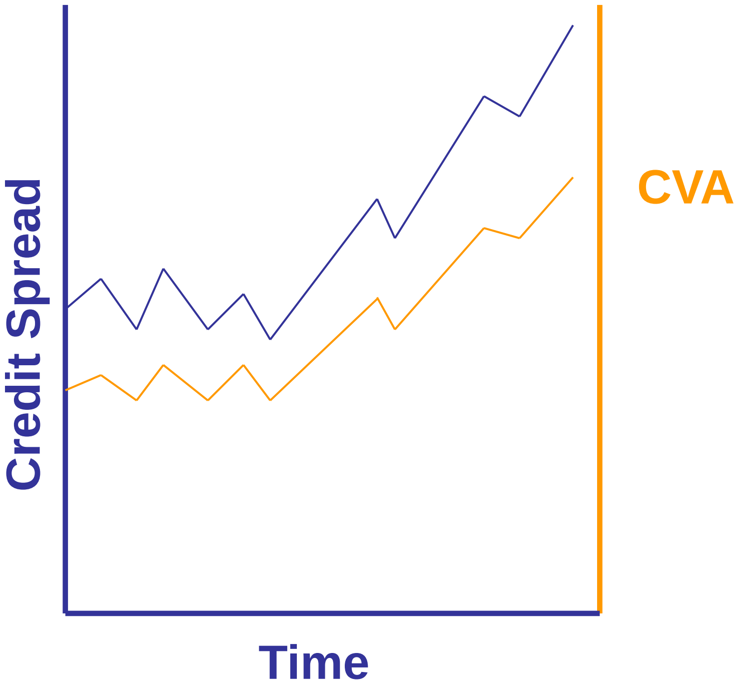
Trader(s)

CVA Desk

Basel III – Non central clearing

- CVA – applicable to banks using
  OTC derivatives.
  - fair value adjustment
  - provision

- CVA capital 'ingredients':
  - credit spread/rating
  - exposure



Basel III – Non central clearing

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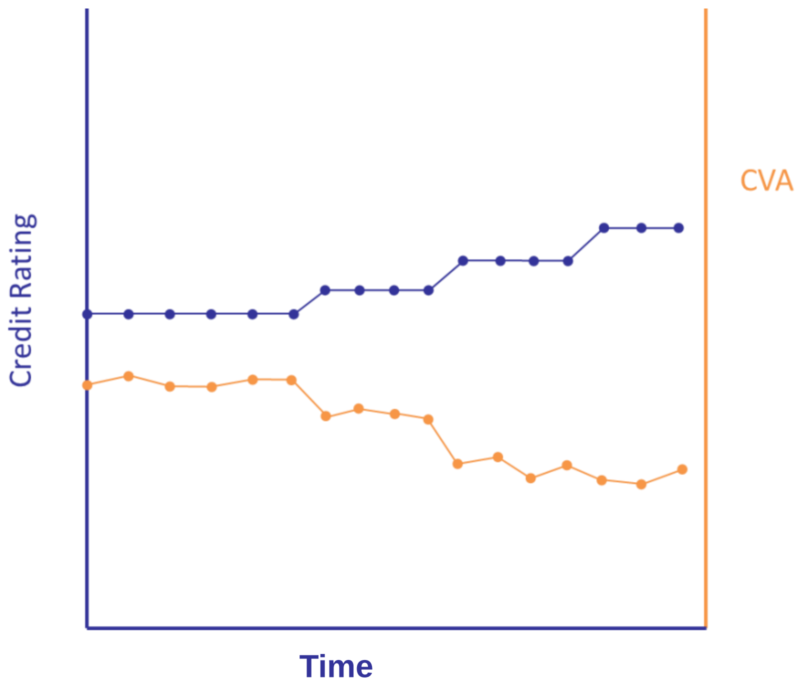
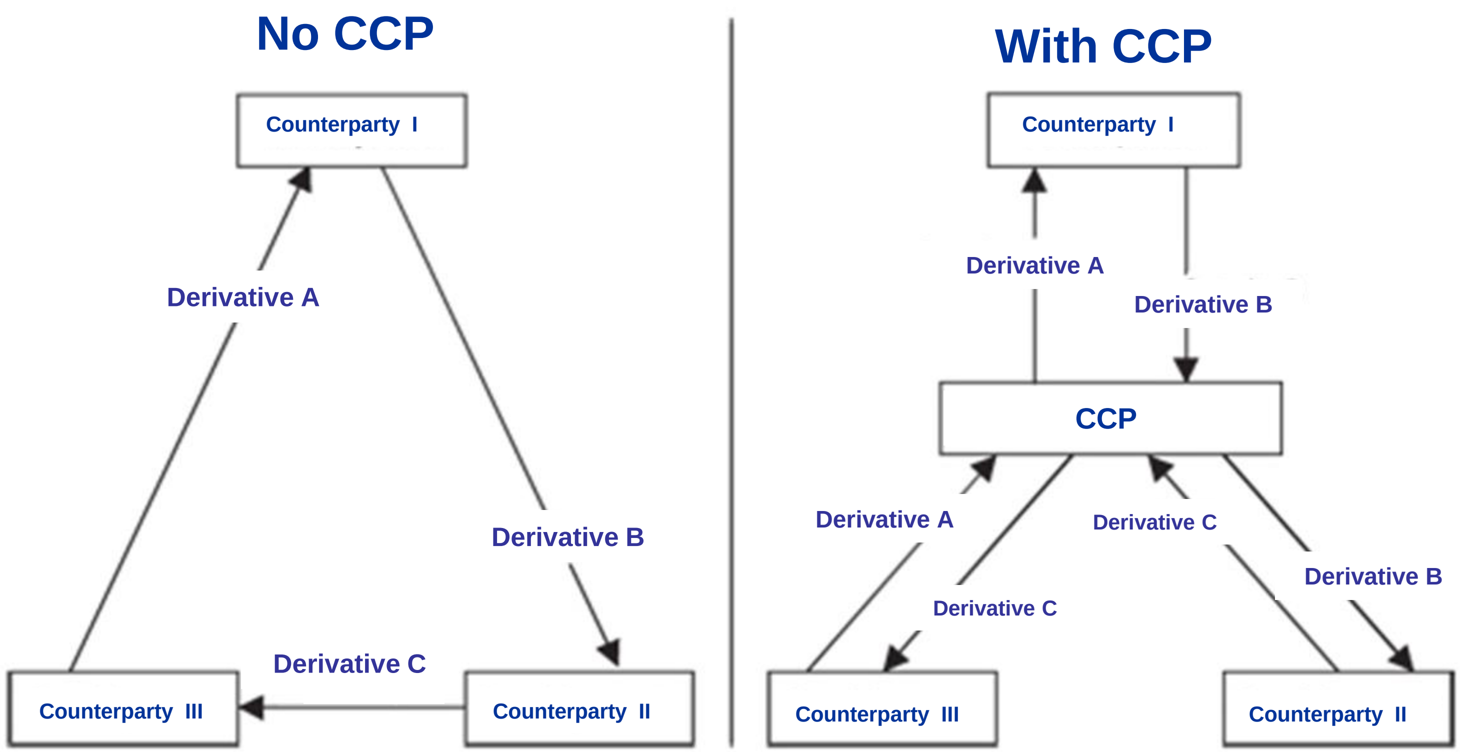


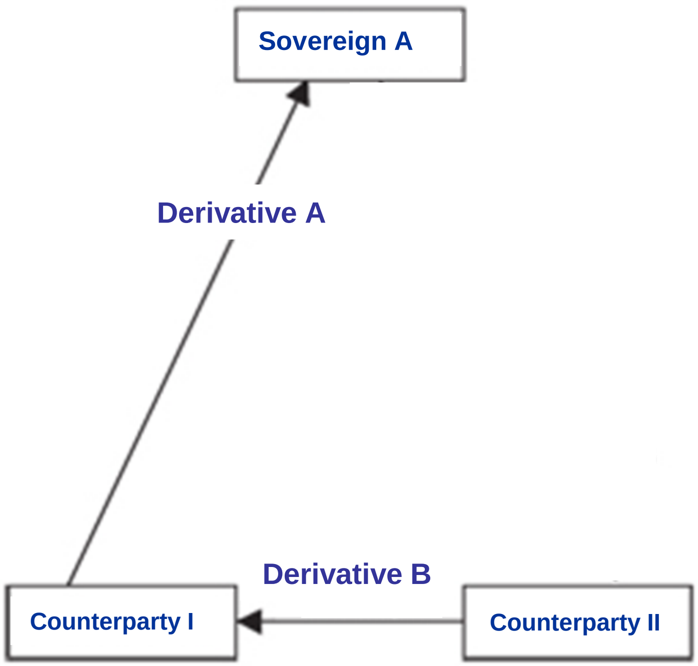
Basel III – Non central clearing

- Art 382; all OTC derivatives, except
  - Credit dervatives recognised to reduce risk-weighted exposure amounts for credit risk.
  - Securities Financing Transacions (SFT), if supervisor opines that the exposure is not material.
  - Central CounterParty (CCP) (direct and indirect)
  - Non-financial counterparties (transactions below clearing threshold)*.
  - Sovereigns en overheidsinstanties*
  - Intragroup transactions*
  - Pensionfunds*
  - ESCB members, multilateral development banks, EFSF, ESM, …*

Basel III – Non central clearing



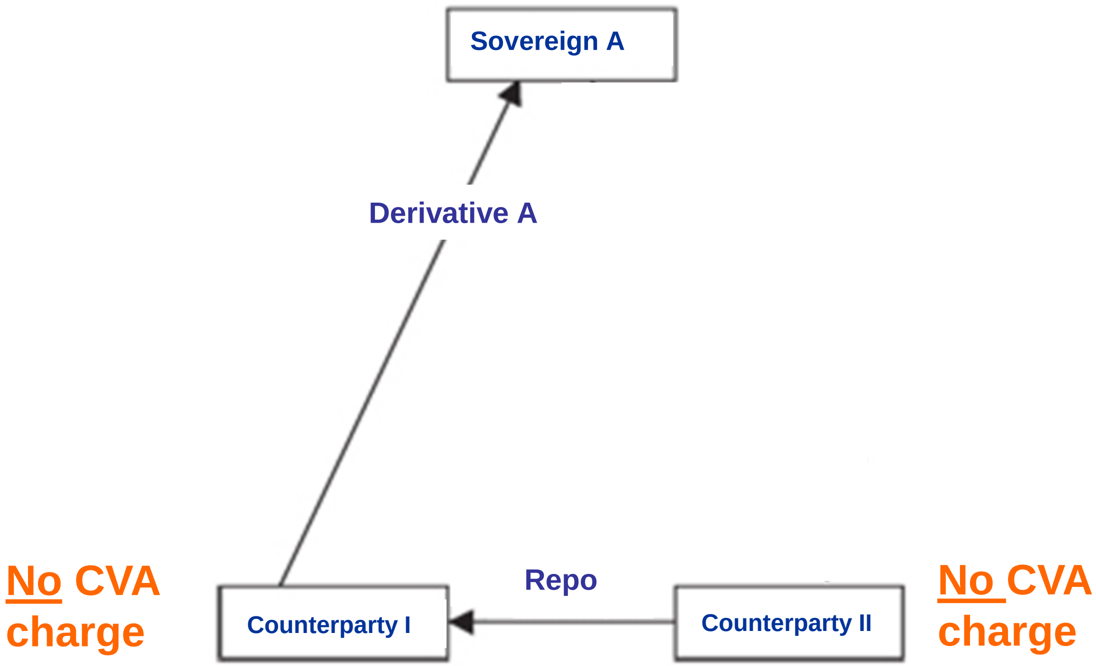
Basel III – Non central clearing



No CVA charge

CVA charge

Basel III – Non central clearing



Basel III – Non central clearing

Internal Model Method approval for Counterparty Credit Risk?
and
Approval of Internal model for specific risk of debt instruments?

Yes

No

Advanced CVA (ACVA):

- EAD based on Expected Exposure
- VaR and SVaR
  $K_{ACVA}= 3*(VaR + SVaR)$
- Market implied Loss Given Default
- CDS proxy scheme

Standardised CVA (SCVA)

- EAD based on Current Exposure Method (CEM) or Standardised Method
- no VaR or SVaR; CVA charge is result of formula
- Mapping of counterparty credit rating to weights
- Stress contained in weights

Basel III – Non central clearing

EBA Regulatory Technical Standards: (ACVA only)

- Proxy scheme for CDS
- Limited number of smaller portfolios
  - Criteria that VaR Spread methodology has to satisfy in order to allow for a proxy spread to be used in the calculation of the advanced CVA charge
  - Standardised CVA
  - the number of non-IMM transactions subject to the CVA risk with respect to the total number of transactions subject to the CVA risk charge;
  - the size of each individual non-IMM portfolio subject to the CVA risk with respect to the total size of all portfolios subject to the CVA risk charge;
  - the total size of non-IMM portfolios subject to the CVA risk with rexpect to the total size of all portfolios subject to the CVA risk charge.

Basel III – Non central clearing

Risk Mitigation:

- Hedging of CVA
- Collateral
  - ACVA: taken into account in determining the expected exposure.
  - SCVA: taken into account in determining the EAD.
    - CEM: *EAD = MtM + Add-on -Collateral*

Basel III – Non central clearing

Hedging CVA: Only Credit Default Swaps

- ACVA
  - Single name CDS
  - Index CDS
    - Basis risk: provided that the basis between any individual counterparty spread and the spreads of index credit default swap hedges is reflected, to the satisfaction of the competent authority, in the Value-at-Risk.
- SCVA
  - Single name CDS
  - Index CDS
    - Counterparty included in index CDS; the institution may subtract the notional amount attributable to that counterparty in accordance with its reference entity weight from the index CDS notional amount and treat it as a single name hedge.

Basel III – Central clearing

1. Risk-sensitive treatment
2. Non-Risk sentitive treatment

3 steps:

1. Determination of hypothetical capital of CCP.
2. Determination of total capital requirement of surviving CMs
3. Distributions of total capital requirement of step 2 to CMs

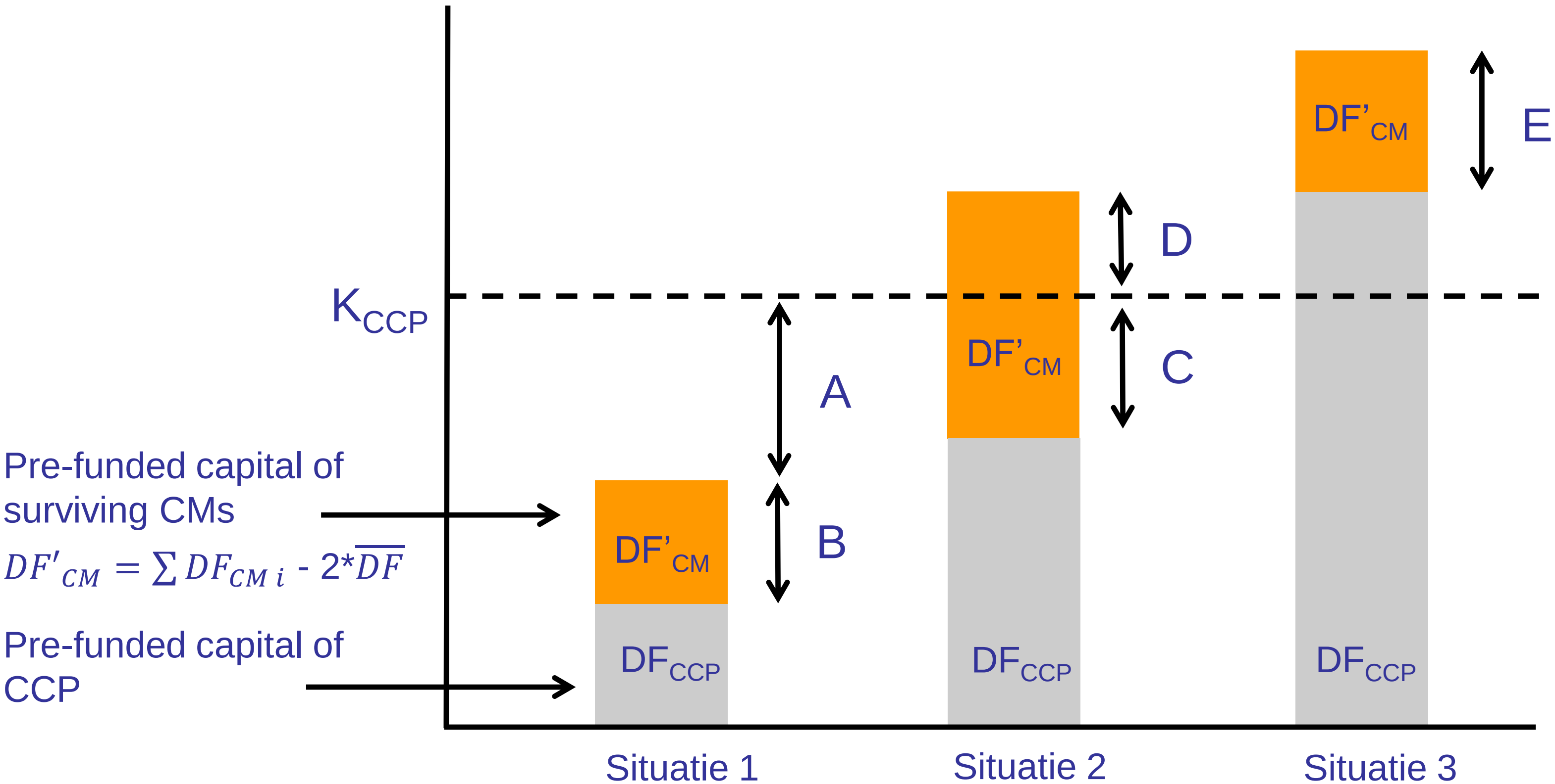
RWA determination of *trade* and *default fund* contribution: for CM *i*

$$\min\{2\%*TE_i + 1250\%*DF_i; 20\%*TE_i\}$$

Compromise among CPSS and BCBS

Currently, new risk sensitive method out for consultation developed jointly by CPSS and BCBS.

Determination of Default Contribution risk-sensitive treatment



$K^{*}_{CM} = B + 1.2 \cdot A$ $K^{*}_{CM} = C + \alpha \cdot D$ $K^{*}_{CM} = \alpha \cdot E$

$K_{CM\,i}$ determined from K^{*}_{CM}