

## *Stand out for the right reasons* Financial Services Risk and Regulation

# *Hot topic*

## *‘Basel IV’ CVA – More risk sensitive and granular*

### **Highlights**

*The revised CVA framework consists of four different approaches to calculate the capital requirements: CVA capital requirement as 100% of counterparty credit risk requirements for firms below a certain threshold; reduced basic CVA approach; full basic CVA approach; or standardised approach.*

*The new standardised approach is more risk sensitive and incorporates a wider range of eligible hedges.*

*This new framework will be implemented in January 2022.*

After a long wait, the Basel Committee on Banking Supervision (BCBS) published **Basel III: Finalising post-crisis reforms** on 7 December 2017. This package of reforms includes changes to the standardised and internal models approach to credit risk, operational risk, leverage ratio, capital floors and credit valuation adjustment (CVA). These reforms are relevant for all banks, building societies and PRA-designated investment firms in the UK and have a proposed implementation from January 2022 onwards.

This hot topic specifically discusses the changes to the own funds requirements for CVA risk. CVA represents an adjustment to the fair value (or price) of derivative instruments to account for counterparty credit risk (CCR) and as such, can also be viewed as the price of CCR.

### **1. Rationale for revising the existing rules**

**Reduced reliance on models** - The Committee is of the view that such a complex risk cannot be fully modelled by firms. The revised framework removes the use of a fully internally modelled approach, and consists of a standardised approach (SA-CVA), which still uses models, and a basic approach (BA-CVA).

**Risk sensitivity in SA-CVA** - CVA depends on both counterparty credit spreads and the market risk factors driving the values of derivatives and therefore, exposure. The existing approaches (advanced and standardised) recognise only the hedges pertaining to credit spread risk and not those pertaining to the exposure variability due to change in market risk factors. The new SA-CVA framework aims to incorporate exposure and associated hedges, as well as credit spread hedges, in the CVA capital requirements.

**Alignment with the market risk framework** - The CVA risk is a form of market risk as it is realised through a change in the mark-to-market value of a bank's exposures to its derivative counterparties. It is therefore sensitive to the same market risk factors as those instruments held in the trading book. Thus, the BCBS has aligned the new SA-CVA rules to the revised market risk rules, with CVA capital requirements calculated on a standalone basis.

## **2. Revised framework**

The CVA capital requirements are applicable to all derivatives, except those cleared through a qualifying central counterparty, and securities financing transactions (SFT) fair valued for accounting purposes. In the existing framework, firms would have included only those SFTs deemed material by supervisors. But the revised rules require all SFTs to be included in the CVA framework, which significantly widens the scope.

The revised framework contains a standardised approach (SA-CVA) and a basic approach (BA-CVA), as well as a simpler approach for banks with smaller derivative portfolios.

Firms below a materiality threshold of €100bn, relating to the aggregate notional amount of non-centrally cleared derivatives, can calculate their CVA capital requirements as 100% of CCR requirements, subject to supervisory approval.

Other firms must use the BA-CVA unless they have supervisory approval to use the SA-CVA. Within the BA-CVA, firms can choose between reduced and full versions of the BA-CVA. The reduced version does not recognise hedges and therefore, is suitable for less sophisticated firms that do not hedge CVA. Firms that hedge their CVA risk can use the full version, which recognises counterparty credit spread hedges. Single-name credit default swap (CDS), single name contingent CDS and index CDS are the allowable eligible hedges under this approach.

The BA-CVA only encompasses the recognition of hedges pertaining to the counterparty credit risk component. It does not recognise exposure associated hedges.

In the SA-CVA, calculation of the CVA risk capital requirements must be on all eligible transactions and their eligible CVA hedges. Firms should calculate their regulatory CVA using the exposure valuation models, which the firms also use to calculate their accounting/front office CVA.

The SA-CVA is a model based approach for exposure calculation and, therefore, is more akin to the existing Advanced Method. Although this approach adapts the revised standardised approach for market risk (SA-MR), it does not include default and curvature risk, has reduced market risk factor granularity and uses more conservative risk aggregation. Firms must calculate and report their SA-CVA at the same frequency as their SA-MR.

Compared to the current framework, the new SA-CVA has two major improvements related to the recognition of CVA hedges. First, the scope of eligible hedges for counterparty credit spread has widened to include proxy hedges, i.e. those that do not directly reference the counterparty. Second, it recognises hedges that are in place to mitigate sensitivities to market risk factors driving changes in price for derivatives and SFTs. Only whole transactions used for

mitigating the CVA risk are eligible and firms cannot split the transactions into several effective transactions. Firms must book and manage these transactions using a separate CVA desk or similar dedicated function.

The calculations of the BA-CVA and SA-CVA are in line with the BCBS's proposals in its consultation paper published in July 2015. The below sections provide a brief recap of the methodology for both approaches.

### **2.1 BA-CVA calculation**

There are two components to the BA-CVA formula – the CVA capital requirements for covered transactions and CVA capital requirements for eligible hedges. While the full version of the BA-CVA includes both these components, the reduced version includes only the capital requirements for covered transactions.

The capital requirements for covered transactions is based on the capital requirement for a counterparty considered on a standalone basis (“standalone CVA capital” (SCVA)). This SCVA is calculated using the risk weight of a counterparty, effective maturity, exposure at default of the netting set and a supervisory discount factor.

The CVA hedge capital calculation includes three components namely systematic, idiosyncratic and indirect hedges, i.e. those are not aligned with counterparties' credit spreads. The formula includes separate parameters to realise the hedging benefits of single name hedge, index hedge and indirect hedges, and a supervisory parameter of 25% to limit the capital benefits from these hedges.

### **2.2 SA-CVA calculation**

The SA-CVA capital requirement is a sum of the capital requirements for delta and vega risks calculated for the entire CVA portfolio, taking into account all the eligible hedges.

The capital requirements for delta and vega risks is a sum of capital requirements calculated independently for six risk types - interest rate, FX, counterparty credit spread, reference credit spread, equity and commodity risk types.

### **2.3 Model calibration and governance**

The calculation of SA-CVA capital requirements requires the use of exposure models, which must satisfy prescribed conditions.

Firms must demonstrate their adherence to the model governance requirements to their supervisors. The exposure models should be part of the CVA risk management framework and the firm's senior management has to be involved in the risk management process. They must have appropriate policies, processes and allocation of responsibilities for independent validation and internal audit of the models and activities of the CVA desk.

### **3. Impact on firms**

The extension of scope of CVA to SFTs that are fair valued means the overall CVA capital requirement for firms is expected to increase, especially for those firms with large fair value SFT portfolios.

As per the current framework, derivatives cleared through qualifying central counterparties are excluded from CVA capital requirements. This treatment should further incentivise firms to make use of central clearing for their over-the-counter derivatives.

Taking proportionality into account, the revised framework provides a number of different approaches to calculating CVA capital requirements – i.e. reduced and full versions of the BA-CVA, SA-CVA or a simple calculation of CVA as 100% of CCR capital requirements for firms below a materiality threshold. The choice of approaches should allow firms with different levels of complexity to calculate their CVA capital requirements in the manner most appropriate to their circumstances.

In the new SA-CVA framework, the inclusion of a wide range of hedges means firms can realise the capital benefit from those hedges put in place to reduce exposure to CVA risk, better aligning capital with economic risk.

Along with model calibration, firms must invest in establishing a CVA risk management framework including a separate CVA desk in order to use the SA-CVA, all of which must be reviewed by internal audit.

## ***What do firms need to do?***

Firms with non-centrally cleared derivatives under €100m should compare their CCR with their CVA capital requirements to see if they benefit from this simplistic approach. Even if there is no capital benefit, relevant firms may determine that the costs and complexity of separately calculating their CVA capital requirements outweighs any regulatory capital requirement savings.

For firms applying the CVA framework, it is important to undertake an assessment of both the BA-CVA and SA-CVA. This assessment will help understand which approach would be suitable for their business model, and which is potentially permissible given their modelling capability and CVA risk management arrangements.

In order to get supervisory approval for the SA-CVA, exposure model calibration and model risk management are important. The list of requirements for firms to model exposures is very comprehensive (for instance, they must have a separate CVA desk, an independent control unit and an audit process for periodic review and validation of the models and framework). Therefore, along with the suitability assessment, they must undertake a gap assessment to understand the enhancements required to implement the revised framework.

Given the SA-CVA broadly reflects the SA-MR, firms applying this approach may look to revise the objectives and work streams of the revised market risk framework to add another work stream implementing the sensitivity approach to the CVA portfolio, if they have not already done so.

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