



# Basel 4: The way ahead

## **CVA risk**

A model-based  
standard approach

March 2018

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# 01 Introduction

The set of final standards agreed by the Basel Committee in December 2017 for credit risk, operational risk and the output floor also included revised minimum standards for the capital treatment of credit valuation adjustment (CVA) risk.

CVA is essentially an accounting valuation adjustment for derivatives to account for counterparty credit risk. The capital charge for CVA risk aims to cover the risk of changes in this valuation adjustment.

Key elements of the revised CVA standards are:

- As already announced by the Basel Committee in March 2016, banks will not be allowed to use an internal model approach to calculate capital requirements for CVA risk.
- The current standard and model-based advanced methods will be replaced by a Basic Approach (BA-CVA) and a Standardised Approach (SA-CVA).
- The BA-CVA is similar to the current standard approach. It is a conservatively calibrated approach that is relatively simple to implement.
- The SA-CVA is based on sensitivities and a variance-covariance model, whose input parameters are subject to various requirements and whose application requires prior supervisory approval (unlike the Standardised Approach for market risk).
- In comparison with the first Basel Committee consultation on CVA in July 2015, the final standards adjust some methodological requirements and update the calibration of risk weights.

The revised framework is due to come into force on 1 January 2022, at the same time as the revised framework for market risk.

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# 02 Implications for banks



## Capital

Although KPMG experts estimate that capital requirements under the final standards for the BA-CVA will be slightly lower than under the earlier consultation proposals, these estimates also indicate that the BA-CVA will, on average, still result in higher capital requirements than under the current standard approach or under the new SA-CVA.

The SA-CVA continues to be the more risk-sensitive and less conservative approach, which reduces the capital requirements for CVA risks compared with the BA-CVA. In particular, for banks whose derivative transactions are materially affected by capital requirements from CVA risks, it is beneficial to consider applying this approach. Since there are no restrictions on product type coverage of eligible CVA hedges in the SA-CVA, the possibilities of optimizing the capital requirement in line with economic CVA management are significantly improved compared to the status quo and previous Basel Committee publications.

Banks should therefore undertake their own impact study based on the final standards. This also needs to include the impact of the new standard approach for counterparty credit risk derivatives exposures (SA-CCR), which will replace the current standard regulatory approach to the calculation of such exposures (the current exposure method, CEM).

Another key consideration is that the SA-CVA is treated as a standard approach in the context of the output floor, so there is no aggregate constraint on the amount of capital reduction that can be obtained through application of the SA-CVA rather than the BA-CVA.





## Data, systems and processes

Although the SA-CVA is classified as a standard approach, banks can only adopt this approach if they meet detailed requirements on data, the modelling of sensitivities and governance, similar to the requirements that are currently applied to the use of internal models for market risk or counterparty credit risk. Banks planning to apply for approval to use the SA-CVA should therefore consider at an early stage how they are going to meet this range of requirements.



## EU implementation

As with credit risk, operational risk and the output floor, it remains unclear whether the EU will be in a position to implement the new Basel Committee standards for CVA in January 2022. This will require further revisions to the Capital Requirements Regulation (a “CRR3”) since the currently proposed revisions to the CRR (in CRR2) only cover the new framework for market risk.

For CVA, this implementation will require specific attention to be paid to the treatment of the current EU exemptions (for example, excluding most non-financial counterparties from the scope of the CVA risk calculation). Removing these exemptions would lead to a significant increase in capital requirements.



# 03 Overall context

The main objectives of the revised CVA framework are (1) an improved consideration of all CVA risks including related hedges; (2) the alignment of the regulatory CVA risk calculation with the CVA calculation for accounting purposes; and (3) the alignment of regulatory requirements for CVA risk with the revised framework for market risk.

The scope of application of the new framework incorporates all derivatives as well as securities financing transactions evaluated at fair value. Transactions with central counterparties (CCPs) are excluded from the framework.

In addition to the risks arising from changes in the value of the credit spread of the respective counterparty, the new CVA risk framework also covers so-called CVA exposure risks. These are the risks of CVA changes due to changes in market parameters such as interest rates or foreign exchange rates.

The capital requirement for CVA risks is an independent regulatory risk category and includes all CVA exposures subject to the scope of application and permitted hedge transactions.

Banks may choose between the basic approach (BA-CVA) and – subject to supervisory approval - the standardised approach (SA-CVA). Banks do not have to apply the same approach to the entire scope of application. If supervisory approval is granted, banks can decide which approach to use at the level of each netting set.

The calculation of the BA-CVA and the SA-CVA can be waived if the nominal value of a bank's non-centrally cleared derivatives is less than €100 billion. In this case the CVA risk capital requirements will simply be set to the amount of the respective capital requirements for counterparty credit risk.

In principle, both external and internal transactions are permitted as hedges. In the case of internal transactions, specific requirements are applied to the internal risk transfer and the delimitation of capital requirements from CVA risks and market risks. Depending on the respective approach, different ranges of product types are allowed as eligible hedges.

When determining the output floor across all risk categories, the calculated risk-weighted assets from CVA risks are treated as being a standardised approach irrespective of whether a bank uses the SA-CVA or the BA-CVA. There is therefore no output floor constraint from using the more risk-sensitive SA-CVA rather than the BA-CVA.



# 04 The new Basic and Standardised Approaches

The revised CVA framework includes two approaches, the Basic Approach (BA-CVA) and the Standardised Approach (SA-CVA). The BA-CVA is similar to the current standard approach, a conservatively calibrated approach that is relatively simple to implement. The SA-CVA is based on sensitivities and a variance-covariance model, whose input parameters are subject to various requirements and whose application requires prior supervisory approval. These approaches will replace the current standard method and model-based advanced method.

## i BA-CVA

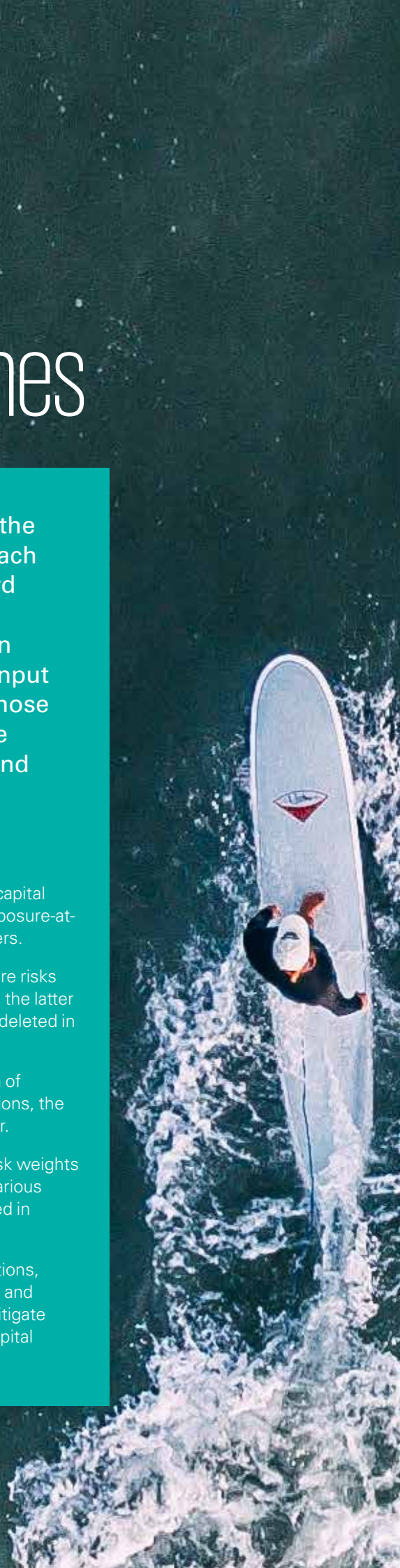
As in previous Basel Committee publications on CVA risk, the calculation of the capital requirement under the BA-CVA is based on a standardised formula using the Exposure-at-Default for counterparty credit risks and the effective maturity as input parameters.

The BA-CVA considers CVA risks from credit spread changes, while CVA exposure risks are not explicitly taken into account. A conservative add-on of 50 percent to take the latter into account, which was considered in the original consultation paper, has been deleted in the final version.

There are two BA-CVA calculation rules, one with and one without consideration of hedging transactions. Even if all CVA risks are mitigated through hedge transactions, the calculation rule without hedge transactions has to be considered as a partial floor.

Compared with the first Basel Committee consultation in 2015, the applicable risk weights have been strongly reduced, as had already become apparent in the course of various impact studies during 2016 and 2017. The risk weights are the same as those used in "Option 1" in the Basel Committee survey undertaken in the summer of 2017.

Only transactions to hedge credit spread risks are permitted as hedging transactions, with only credit default swaps (Single-Same CDS, Single-Name Contingent CDS and Index CDS) allowed as eligible product types. Similarly, hedge transactions to mitigate CVA exposure risks have to be considered as (open) risk exposures under the capital requirements for market risk.



## ii SA-CVA

The SA-CVA provides a more risk-sensitive calculation of CVA risks. Conceptually, the approach is comparable to the new Standardised Approach for capital requirements for market risk under the revised market risk framework.

In addition to the prescribed risk weights (which the Basel Committee is proposing to reduce for the Standardised Approach for market risk and will then consider whether to make corresponding changes to the SA-CVA) the key inputs to the regulatory prescribed calculation rule, which is based on a variance-covariance model, are CVA sensitivities and CVA hedge sensitivities with respect to changes in credit spreads and other market risk factors such as interest rates and foreign exchange rates.

While the calculation rule and the risk weights for the SA-CVA are defined by the regulatory standards, a CVA model is necessary to compute the CVA sensitivities. This model for the “regulatory CVA calculation” is based on the CVA model used for accounting purposes. In contrast to the current framework, an internal model for the determination of counterparty credit risk exposure (IMM) can no longer be used.

The Basel Committee standards contain numerous criteria for the CVA model used to determine the CVA sensitivities, relating to the incoming default probabilities, loss rates and the exposure calculation. In particular, exposures from collateralised derivatives have to be taken into account. It is also required that market implied data is used for the calibration of CVA models, if possible. Furthermore, there are far-reaching qualitative and procedural requirements that are similar to the requirements that are currently placed on the use of internal models for market and counterparty credit risks.

Hedges may include transactions that serve to hedge the credit spread risk of the respective counterparty or to hedge CVA exposure risks. The respective hedges are taken into account in the CVA risk and are excluded from the regulatory market risk calculation. A “perfect hedge” efficiency is prevented due to a factor in the calculation rule.

A multiplier of 1.25 has been set to take account of model uncertainty (this has been reduced from the 1.5 multiplier in earlier consultations), although the national supervisor has discretion to apply a higher multiplier than 1.25.

Use of the SA-CVA requires supervisory approval, unlike the broadly similar Standardised Approach for market risk.





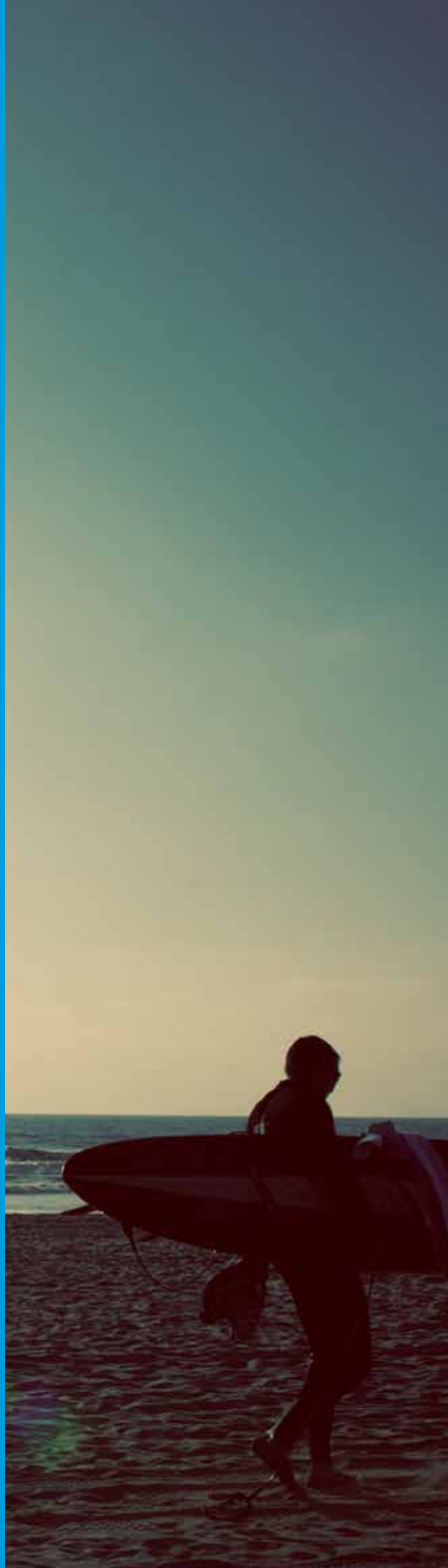
# 05 How KPMG can help

KPMG member firms have established teams of specialists able to support banks across a wide range of financial risks.

KPMG professionals have analysed the additional requirements on data, processes, and governance needed to apply for the more complex SA-CVA approach compared to the simpler but more capital-intensive BA-CVA.

KPMG professionals can assist banks by:

- Advising on the structure of their market risk management function and CVA computations to improve decision-making and the integration of various components of the financial risk spectrum;
- Reviewing CVA frameworks to incorporate the new standards, while helping to ensure that they remain fit for purpose for current regulatory requirements.
- Helping to prioritise efforts on those aspects of the new standards that are good practice and represent 'no regret' choices, such as data quality and granularity, Front Office and Risk alignment, enhancing the governance and capabilities of sensitivity modelling, and capital allocation.
- Developing roadmaps for implementation and the potential operating model to aid accelerated roll out.
- Model development and functional design for CVA risk models and feeder models such as accounting CVA and instrument valuation models.
- Evaluating under which circumstances the SA-CVA would be advantageous compared to the BA-CVA from a cost-benefit perspective.





# Contact us

**Clive Briault**

Senior Advisor EMA FS Risk &  
Regulatory Insight Centre  
E: [clive.briault@kpmg.co.uk](mailto:clive.briault@kpmg.co.uk)

**Fiona Fry**

Partner and Head of EMA FS Risk &  
Regulatory Insight Centre  
E: [fiona.fry@kpmg.co.uk](mailto:fiona.fry@kpmg.co.uk)

**Janek Gallitschke**

Senior Manager, Financial Services  
T +49 69 9587-4302  
[jgallitschke@kpmg.com](mailto:jgallitschke@kpmg.com)

**Franz Lorenz**

Director, Financial Services  
T +49 89 9282-4542  
[florenz@kpmg.com](mailto:florenz@kpmg.com)

**Matthias Peter**

Partner, Financial Services  
T +49 69 9587-1649  
[matthiaspeter@kpmg.com](mailto:matthiaspeter@kpmg.com)

**Daniel Quinten**

Partner and Co Head KPMG's ECB Office  
EMA Region  
E: [dquinten@kpmg.com](mailto:dquinten@kpmg.com)

[kpmg.com/basel4](https://kpmg.com/basel4)



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