

FS Governance, Risk & Compliance

CRR 3 to Go

A concise summary of all
the new requirements and
significant implications of the
EU Banking Package of 2021

July 2024 | Regulation (EU) 2024/1623



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Foreword

Dear Readers,

Time has a way of moving swiftly, and it is been over three eventful years since our last deep dive into the regulatory dynamics of the financial sector through our Whitepaper “CRR 2 to Go”. The financial community had eagerly set its sights on the Basel IV rollout, initially projected for 2022. However, global challenges, most notably the COVID pandemic, have reshaped priorities and timelines. As we transition from immediate crisis responses to fortifying long-term financial structures, there's a renewed focus on regulatory frameworks.

This evolving landscape necessitates an updated perspective. The recent initiatives by the EU Commission to integrate Basel IV within the European Union have added layers of complexity and opportunity to our discourse. With the introduction of amendments to the CRR and CRD in late 2021, and subsequent feedback from EU legislative bodies, it is clear that a significant revamp of the CRR is on the horizon.

Building upon the developments and insights from prior regulations, CRR 3 aims to further bolster the stability of the financial system and minimize potential risks. The mandates set forth in this new regulation reflect the ongoing efforts of regulatory bodies to learn from past crises and proactively address future challenges. Understanding the revisions of CRR 3 is paramount, as they will significantly impact the business models, strategies, and operational processes of financial institutions. This regulation will not only influence how banks and other financial entities operate but also how they communicate with stakeholders and make business decisions.

With this whitepaper, our intent is to provide you with a detailed insight into the key facets of CRR 3 – based on the final Regulation (EU) 2024/1623 – and shed light on its potential ramifications on the financial sector. Furthermore, the European Commission's endeavors to address novel challenges have expanded our narrative. We've ventured into emerging domains such as ESG and the burgeoning world of cryptoassets. Additionally, we will highlight strategic considerations for successful adaptation and implementation. As always, our goal is to equip you with the necessary information and insights to make informed decisions and prepare for the impending shifts. We hope this whitepaper offers valuable insights and serves as a reliable guide in these transformative times.

We remain at your disposal to clarify any queries, engage in discussions, and assist in the implementation of CRR 3. We wish you an enlightening read and look forward to further engagement.

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Management Summary

Management Summary

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The Capital Requirements Regulation 3 (CRR 3) is a testament to the evolving landscape of banking regulations in the European Union (EU). As the financial world becomes more interconnected and complex, the need for robust, clear, and forward-thinking regulations becomes paramount. CRR 3, in this context, is not just another regulatory document; it is a strategic roadmap for the future of banking in the EU and marks the finalisation of the Basel III reforms, that have been a direct reaction to the financial crisis in 2007 / 2008.

Historical context

The journey towards CRR 3 began with the global financial crisis, which highlighted the need for stronger and more resilient banking systems. Basel III was the international response to this need, and CRR 3 implements the final requirements within the European Union. On October 27, 2021, the European Commission took a significant step by unveiling the initial draft of CRR 3. With the majority of its provisions set to be effective from January 1, 2025, it provides a clear timeline for banks and financial institutions to align their operations with the new standards.

The European Council's proactiveness

The European Council's response, publishing its stance on November 8, 2022, showcases the urgency and importance attached to CRR 3. This proactive approach by one of the EU's central institutions underscores the collective commitment to ensuring that the European banking sector remains at the forefront of global financial stability and innovation. Since then, the discussions through the so called trialogues evolved and concluded in the fourth quarter of 2023. On June 19, 2024, the CRR 3 text was published in the Official Journal (see Regulation (EU) 2024/1623).

Implications and action points for financial institutions

The changes introduced by CRR 3 are not just theoretical; they have practical implications for every financial institution in the EU. Beside the highlighted revisions there is even more - from a new exposure class classifications under IRBA to overhauling processes in the disclosure domain, banks are required to undertake a series of actions to ensure compliance. These action points, while challenging, offer institutions an opportunity to streamline their operations, adopt best practices, and position themselves for success in the new regulatory environment.

Concluding remarks and the road ahead

As we stand on the cusp of a new era in global finance, marked by digital transformation, increasing interconnectedness, and evolving risk dynamics, CRR 3 provides a robust framework for banks to navigate these challenges. It's a testament to the EU's commitment to financial stability, innovation, and growth. As banks and financial institutions gear up for 2025, the journey towards a more resilient, transparent, and dynamic European banking sector is well underway. Nevertheless, almost simultaneously with the publication of the CRR 3 in the Official Journal, a postponement of the FRTB requirements by one year is announced, in order to establish a level playing field with international peers. Also, the remittance period for the first reporting under CRR 3 is extended by six weeks to end of June 2025.

Diving Deep into the main revisions and new requirements

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Credit Risk Standardised Approach (CRSA)

Main concept of the standardised approach for credit risk

For a typical bank, credit risk is, by far, the most significant type of risk. Every bank must quantify its risk-weighted assets (RWA) using the Standardised Approach for Credit Risk (CRSA). For banks employing the standardised approach, these RWAs are used directly, without further modifications, to calculate the capital ratio. For banks that use the IRB approach (discussed in the subsequent chapter), the CRSA acts as a backstop in the "output-floor" calculation.

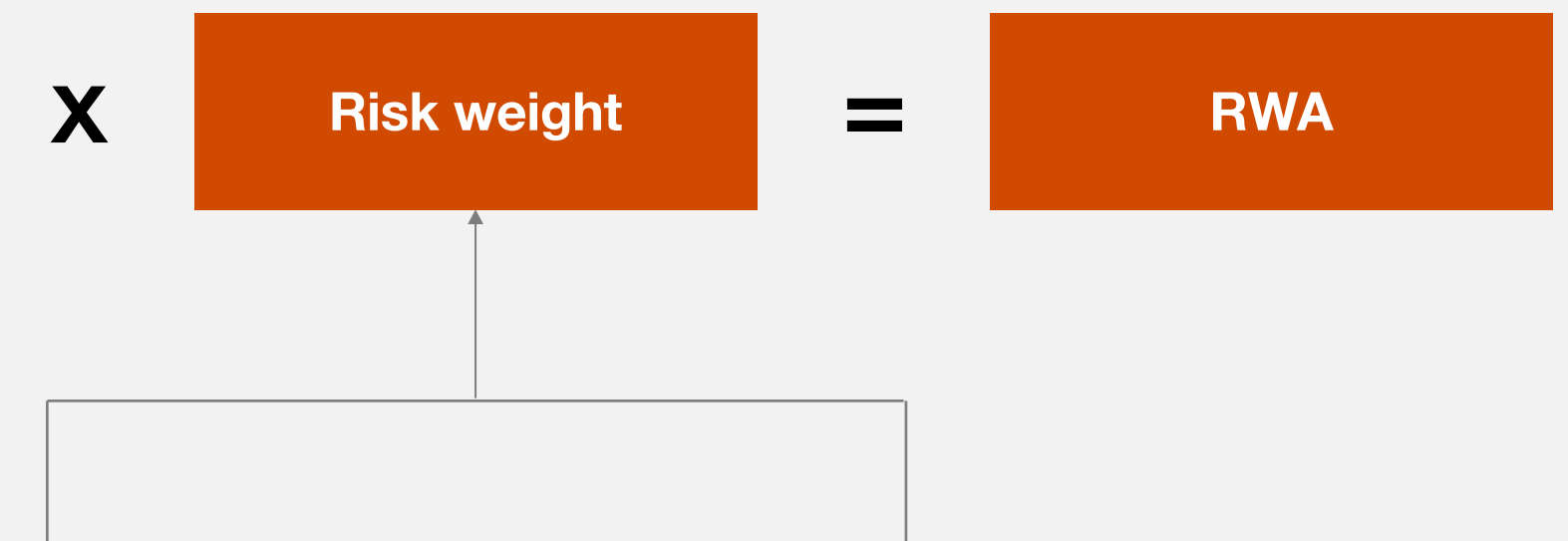
The quantification of credit risk was the central tenet of the original Basel Accord in 1988. It began with a modest degree of risk sensitivity but already differentiated among various asset classes and permitted the use of risk mitigation instruments. Under the Basel II accord in 2006, the CRSA concept was broadened, allowing banks to employ external ratings to determine the RWA and to utilise a more extensive array of risk mitigation instruments. Despite these enhancements, the CRSA exhibited limitations in risk sensitivity, necessitating a comprehensive review.

This review culminated in December 2017 with the Basel Committee issuing the BCBS paper 424, titled "Finalisation of Basel III". The European adaptation of these regulations commenced in October 2021 with the European Commission's initial consultative paper on CRR 3. The CRR 3 is anticipated to come into effect on January 1st, 2025.

Under the standardised approach, the exposure value for balance sheet positions is defined as the accounting value, adjusted for provisions and other deductions (Art. 111). Off-balance sheet positions are assigned a credit conversion factor (CCF) that ranges between 10% and 100%.

Contrary to the current regulation, CRR 3 will disallow a CCF of 0%, which is presently applicable to certain products (e.g., specific unconditionally cancellable credit facilities). The exposure value for derivative products is determined based on the Standardised Approach for Counterparty Credit Risk (SA-CCR). This exposure value can be reduced using netting techniques, which permit the offsetting of opposing exposures. The exposure value is then multiplied by the relevant risk weight to derive the risk-weighted assets (RWA).

The risk weight is ascertained by categorising each exposure into one of 17 asset classes. These classes may receive a risk weight based on an external rating in combination with an internal due diligence, specific capital ratios, a risk weight anchored to the value of an immovable property pledged to the exposure, or a fixed risk weight. Additionally, banks can factor in risk mitigation instruments in the form of funded or unfunded credit protection.



Determination of exposure value

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In the process of determining the exposure value that is subsequently multiplied with the relevant risk weight, it is essential to differentiate between three distinct types of exposures: asset items (on-balance sheet positions), off-balance-sheet items, and derivative exposures.

For asset items, the applicable amount is ascertained by taking the accounting value of the position and then deducting specific amounts. These deductions include amounts allocated for specific credit risk adjustments recognised in the balance sheet, additional value adjustments, and other specific deductions.

When it comes to off-balance-sheet items, the nominal value of the position is reduced by specific credit risk adjustments and certain other deduction amounts. Given the variability in risk levels among different off-balance-sheet products (for instance, guarantees generally represent a higher risk compared to unconditional credit commitments), each off-balance-sheet position is multiplied with a credit conversion factor (CCF) that ranges between 10% and 100%. After these deductions, the nominal value is then multiplied by its respective CCF. It's noteworthy that, under the CRR 3, a CCF of 0% is no longer permissible, which previously resulted in an RWA of 0. Now, every product identified as an off-balance-sheet item will be assigned a minimum CCF of 10%. This means that certain off-balance-sheet products, which currently benefit from a 0% CCF, will be subjected to a CCF of 10% in the future unless they can be exempted from the definition of an off-balance-sheet item.

For derivative exposures, the exposure amount can be determined using various approaches. The Standardised Approach for Counterparty Credit Risk, known as "SA-CCR", is the primary method available for this quantification. For portfolios that are smaller in scale, a more simplified approach can be employed. Additionally, in limited circumstances, an original exposure method is also accessible. Drawing parallels with the IRB approach or the internal models approaches for market risk, counterparty credit risk can also be quantified using internal modelling approaches. However, these require supervisory approval to be implemented.

Asset items (on balance sheet positions)

Accounting value adjusted for provisions and other deductions

- + Accounting value
- Specific credit adjustments
- Additional value adjustments
- Other deductions
- = Applicable exposure amount

Off-balance-sheet-items

Nominal value after specific credit risk adjustments multiplied with CCF based on product type

Bucket 1	e.g. guarantees	100% CCF
Bucket 2	e.g. NIF*, RUF**	50% CCF
Bucket 3	e.g. commitments	40% CCF
Bucket 4	e.g. short-term self-liquidating trade letters	20% CCF
Bucket 5	e.g. unconditionally cancellable commitments	10% CCF

*NIF = Note Issuance Facility; **RUF = Revolving Underwriting Facility

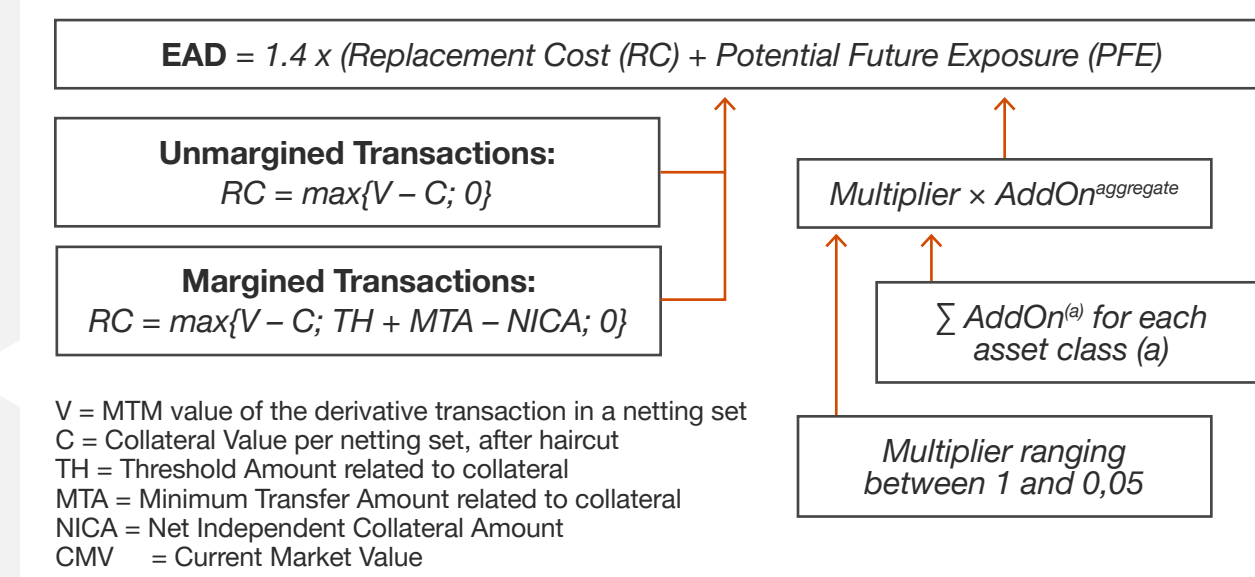
Derivative positions

Original Exposure Method

Simplified SA-CCR

Standardised Approach for Counterparty Credit Risk (SA-CCR)

Internal Models Method (IMM)



Exposure class assignment

Every exposure must be categorized into a specific exposure class. For certain asset classes, banks have the option to utilize external ratings to determine a risk weight. This weight can vary, starting from 0% (exclusively for sovereigns and specific multilateral development banks) and can increase up to 150% in instances of unfavorable external ratings. In situations where external ratings are not accessible, a Standardised Credit Risk Assessment Approach (SCRA) must be employed. Under this approach, a risk weight, ranging between 30% and 150%, is determined based on capital ratios and other qualitative criteria.

A significant change introduced by CRR 3 (and BCBS 424) is the requirement for banks to conduct a separate due diligence when using external ratings. This mandates banks to independently evaluate the quality of the borrower. If the due diligence reveals higher risk characteristics then the credit quality step based on the external rating, a higher credit quality step has to be assigned.

CRR 3 has also brought about changes in the classification of asset classes. The previous class, known as "items associated with particularly high risk", has been removed and substituted by the "subordinated debt" exposure class. Next to regular corporate exposures, CRR 3 mandates the distinct identification of specialised lending exposures related to project finance, object finance and commodity finance. Specialised lending related to real estate is now classified under immovable property financing. Furthermore, exposures that are secured by immovable property must be classified based on the nature of the immovable property serving as collateral and the specific type of financing involved.

Credit Quality Step (CQS)	Ratings available						Ratings not available (SCRA)		
	1	2	3	4	5	6			
Central governments	0%	20%	50%	100%	100%	100%	100%		
PSE (no rating)	20%								
PSE (OM>3M) and Regional governments with rating	20%	50%	50%	100%	100%	150%			
PSE (OM>3M) and Regional governments with no own rating / rating central government	20%	50%	100%	100%	100%	150%	100%		
							Grade A	Grade B	Grade C
MDB (if no RW of 0%)	20%	30%	50%	100%	100%	150%	30%/40%	75%	150%
Institutions >3 Month	20%	30%	50%	100%	100%	150%	30%/40%	75%	150%
Inst. OM <3 Month	20%	20%	20%	50%	50%	150%	20%	50%	150%
Inst. mov. of goods OM <6 M	20%	20%	20%	50%	50%	150%	20%	50%	150%
Corp. Inst. short term rating	20%	50%	100%	150%	150%	150%			
Intl. Organisations	0% RW if specified under Art. 118								
							All other **		
Object finance	20%	50%	75%	100%	150%	150%	100%		
							Preferred	Other	Pre-op.
Project finance	20%	50%	75%	100%	150%	150%	80%	100%	130%
Commodity finance	20%	50%	75%	100%	150%	150%	100%		
Covered bonds	10%	20%	20%	50%	50%	100%	RW in relation to RW institution		
	Transactor	Other		SCRA*<20%	SCRA>20%				
Retail	45%	75%	Defaulted	150%	100%		Subordinated	150%	
Currency mismatch	50% add-on risk weight (max. 150%)								
	Legislated programs	Short term resale/VC***	Other			Other items	Cash	In collection	Other
Equity	100%	400%	250%				0%	20%	100%
Immovable property financing									

*SCRA = Specific Credit Risk Adjustment; **CRR 3 foresees a transitional rule for high-quality object finance that allows the application of a preferred risk weight of 80% until December 31, 2032; ***VC = Venture Capital

Immovable property financing

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- Immovable property collateral represents one of the most important forms of collateral in commercial banking.
- While technically a risk mitigation instrument, transactions secured with immovable property have to be assigned to separate asset classes which may receive either a risk weight according to the exposure to value (ETV) using the whole-loan approach or the loan splitting approach. Alternatively, a fixed risk weight based on the type of financing might be assigned.
- Provided that the collateral meets certain qualitative criteria - which have not materially changed from the current CRR to CRR 3 - the exposures can be categorized either as “regular financing”, “income-producing real estate” or “ADC-financing”. For each type different risk weights may apply depending on the type of collateral (residential real estate or commercial real estate).

Type of property

Type of financing

Credit Risk Mitigation

- Risk mitigation can be differentiated in funded (FCP) and unfunded credit protection (UFCP) and Netting
- While Netting directly reduces the exposure at default and consequently the amount of RWA, funded and unfunded credit protection will reduce the applicable risk weight of the exposure.
- It is possible to combine several types of risk mitigation instruments for one exposure or even across exposures.
- With the CRR 3 especially UFCP gets revised.

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IRB-Approach

Internal Ratings-Based Approach under CRR 3

Improve the treatment of credit risk

Exposure class definition

Under the IRB approach, banks must categorise exposures into broad classes of exposures with different underlying risk characteristics. CRR 3 provides numerous adjustments to the structure of the exposure classes, which serve to increase comparability with the CRSA and to reflect more accurately the risk associated with the exposure.

The classes of exposures are (a) central governments and central banks, (a1) regional governments and local authorities and public sector entities, (b) institutions, (c) corporates, (d) retail, (e) equity, (e1) units or shares in collective investment undertaking (CIU), (f) securitization, (g) other non-credit obligation assets. Within the corporate exposure class, general corporates, corporate purchased receivables and four sub-classes of specialised lending are separately identified (Art. 147 para. 2 CRR 3). Within the retail exposure class, four sub-classes are separately identified. For the equity exposure class the IRB approach is not longer permitted.

Revised scope of internal models

The IRB approach for credit risk allows banks, under certain conditions, to use their internal models to estimate credit risk, and therefore RWAs. There are two IRB approaches: Foundation IRB (F-IRB) and Advanced IRB (A-IRB). The main changes to the F-IRB and A-IRB for credit risk are:

- For exposures to financial institutions and large corporates the option to use the A-IRB approach is removed due to the low levels of defaults which has led to inconsistent estimates of key risk parameter across banks. Consequently, for these low-default portfolios banks should use regulatory loss given default (LGD) values, instead of their internal LGD estimates.
- To increase the comparability of banks' own funds requirements and to simplify the regulatory framework, banks should calculate their own funds requirements for credit risk for equity exposures using the CRSA, and the IRB Approach should be disallowed for that purpose.

Internal Ratings-Based Approach under CRR 3

Improve the treatment of credit risk

Calculation of the risk components used in risk-weight functions

In order to ensure capital requirements do not fall below prudential levels, minimum values for own estimates of the probability of default (PD), the loss given default (LGD) and the credit conversion factors (CCF) are introduced. In addition, they should mitigate model risk due to such factors as incorrect model specification, measurement error and data limitations. They would also improve the comparability of capital ratios across institutions.

LGD – New risk parameter

Depending on the exposure classes, banks have the option of using two different approaches for estimating LGD: F-IRB and A-IRB.

Under the **F-IRB**, claims on institutions, investment firms and other financial institutions that are not secured by recognised collateral will be assigned a 45% LGD. Claims on corporates that are not secured by recognised collateral will be assigned a 40% LGD.

In addition to the eligible financial collateral recognised in the standardised approach, under the F-IRB approach some other forms of collateral, known as eligible IRB collateral, are also recognised (under the CRSA collaterals are reflected via exposure classes). These include receivables, specified commercial and residential real estate, and other physical collateral.

Institutions shall use the effective LGD (LGD*) as an input into the risk weight formula and the calculation of expected loss. The following formula determines the effective LGD:

$$LGD^* = LGD_U * \frac{E_U}{E * (1 + H_E)} + LGD_S * \frac{E_S}{E * (1 + H_E)}$$

Where:

E – the current value of the exposure;

H_E – the percentage increase in exposure values (applicable to financial collateral);

E_S – the amount of the exposure that is collateralised (value of the collateral after applying the supervisory haircuts capped at E (1 + H_E));

E_U = E (1 + H_E) - E_S – the exposure value minus the amount of the exposure that is collateralised

The following table specifies the LGDs and haircuts that institutions should apply to collaterals applicable in the formula set out in the following table:

Type of Collateral	Secured F-IRB LGD	Haircut (Collateral)
Financial Collateral	0%	SA Haircuts
Eligible receivables	20%	40%
Eligible RRE/CRE*	20%	40%
Other physical collateral	25%	40%
Ineligible FCP	N/A	100%

*RRE = residential real estate, CRE = commercial real estate

For exposures to corporates, institutions, or central governments and central banks, banks under the F-IRB have the option to use not only the regulatory effective maturity (M) of 2.5 years or 0.5 years but also their own estimates of the maturity value.

A-IRB institutions with own estimates of LGDs are allowed to use the F-IRB LGD formula using own estimate of LGD for the unsecured part of the exposures

- Institutions with no sufficient information on historical collateral recoveries are recommended to use this approach in order to calculate their LGD estimates based on a mix of own LGD – for unsecured part – and regulatory LGDs for the secured part of exposure
- This results in a re-thinking of model structure for segments with issues on collateral recovery data

Internal Ratings-Based Approach under CRR 3

New Partial Use Partial Use Philosophy: The rollout of internal credit risk models

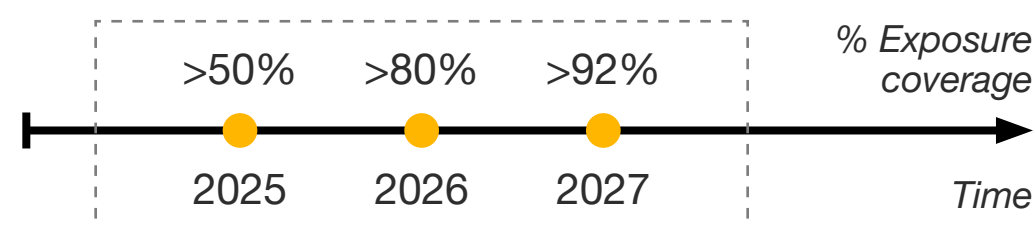
- Formerly under the strict interpretations of the Partial Use rules, particularly in Germany, banks were hindered from transitioning from CRSA to IRB. While many had strong internal rating systems for primary portfolios, upgrading other portfolios to meet CRR standards would have been costly. This prevented them from realizing IRB's benefits like potentially lower RWA. Such stringent Partial Use rules not only limited institutions from switching but also impeded the enhancement of credit risk management practices. Furthermore for low-default portfolios, it has been shown that it is difficult for institutions to obtain reliable estimates of a key risk parameter of the IRB (i.e. LGD), due to an insufficient number of observed defaults in those portfolios. This difficulty has resulted in an undesirable level of dispersion across institutions in the level of estimated risk.
- Under CRR 3 Implementation the IRB Approach may be carried out sequentially across the different types of exposures within the same business unit, and across different business units in the same group, or for the use of own estimates of LGDs or the use of IRB-CCFs.
- Timing of IRB implementation for different asset classes can be prioritized by bank and competent authorities. However, when the bank applies the IRB approach to one part of the portfolio within an asset class, it must be applied to the entire portfolio of that risk exposure class.
- The new partial use methodology applies not only when a bank wants to switch from the CRSA to the IRB, but also when an institution is already using the F-IRB and wants to switch to the A-IRB. Furthermore banks are allowed to revert from the IRB to the CRSA approach during a three year period (1 January 2025 - 31 December 2027) only once with a six months notification, subject to absence of objection from competent authorities.
- About the so-called "cherry picking"-problem, the BCBS makes it clear that national supervisors must conduct a very intensive IRB approval review. Within the scope of this approval review, unlike in the past, it should not only be reviewed whether all requirements for the IRB are fulfilled for the corresponding portfolios, but it should also be intensively reviewed whether an IRB approach can be implemented for the portfolios that remain in the CRSA with reasonable effort.

In Germany, the Partial Use according to SolvV (Solvency Regulation) required banks to have a coverage ratio of at least 50% (entry threshold) of RWA and exposure at default (EAD) when applying the IRB for the first time. After two and a half years, the coverage ratio must be 80% and after five years 92% (exit threshold).

Under CRR 3 bank can apply IRB for separate exposure classes independently:

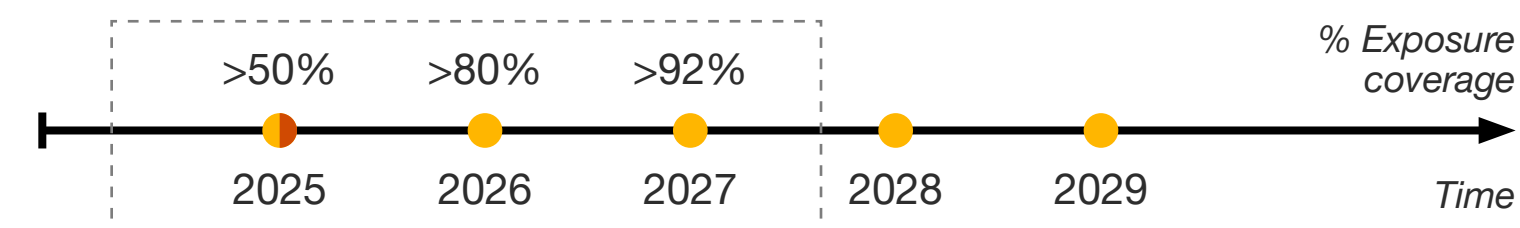
CRR 2

All asset classes

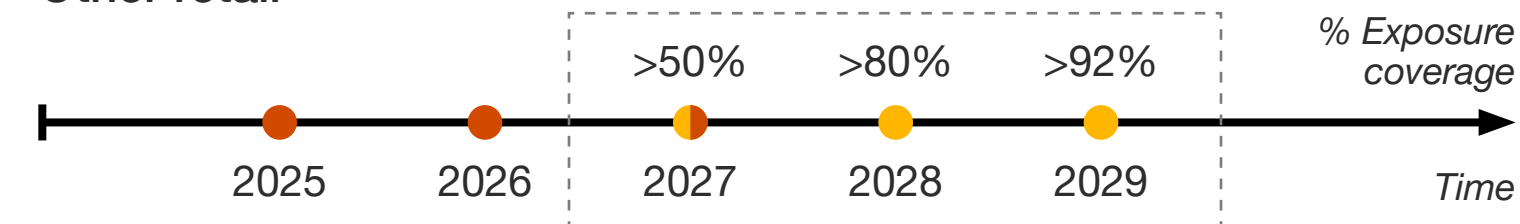


CRR 3

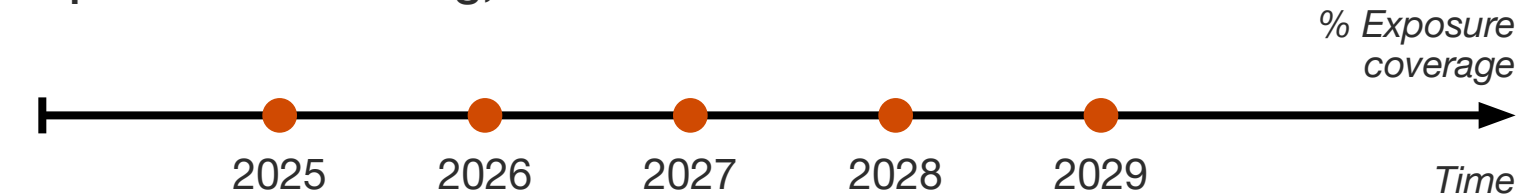
Mortgages, Corporates



Other retail



Specialised Lending, Banks



● IRB ● CSRA

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Market Risk

Treatment of market risk under CRR 3

Full implementation of FRTB-Framework within the EU

The "Fundamental Review of the Trading Book" (FRTB) stands as a pivotal regulatory initiative in the realm of banking supervision, emerging in response to the seismic disruptions of the 2007/2008 financial crisis. Designed to address the inadequacies exposed in the aftermath of the crisis, the FRTB seeks to comprehensively reshape and fortify the regulations and requirements governing trading book activities within financial institutions. This initiative is driven by the imperative to fortify the resilience of the financial system, enhance risk management practices, and engender a more accurate assessment of trading book risks.

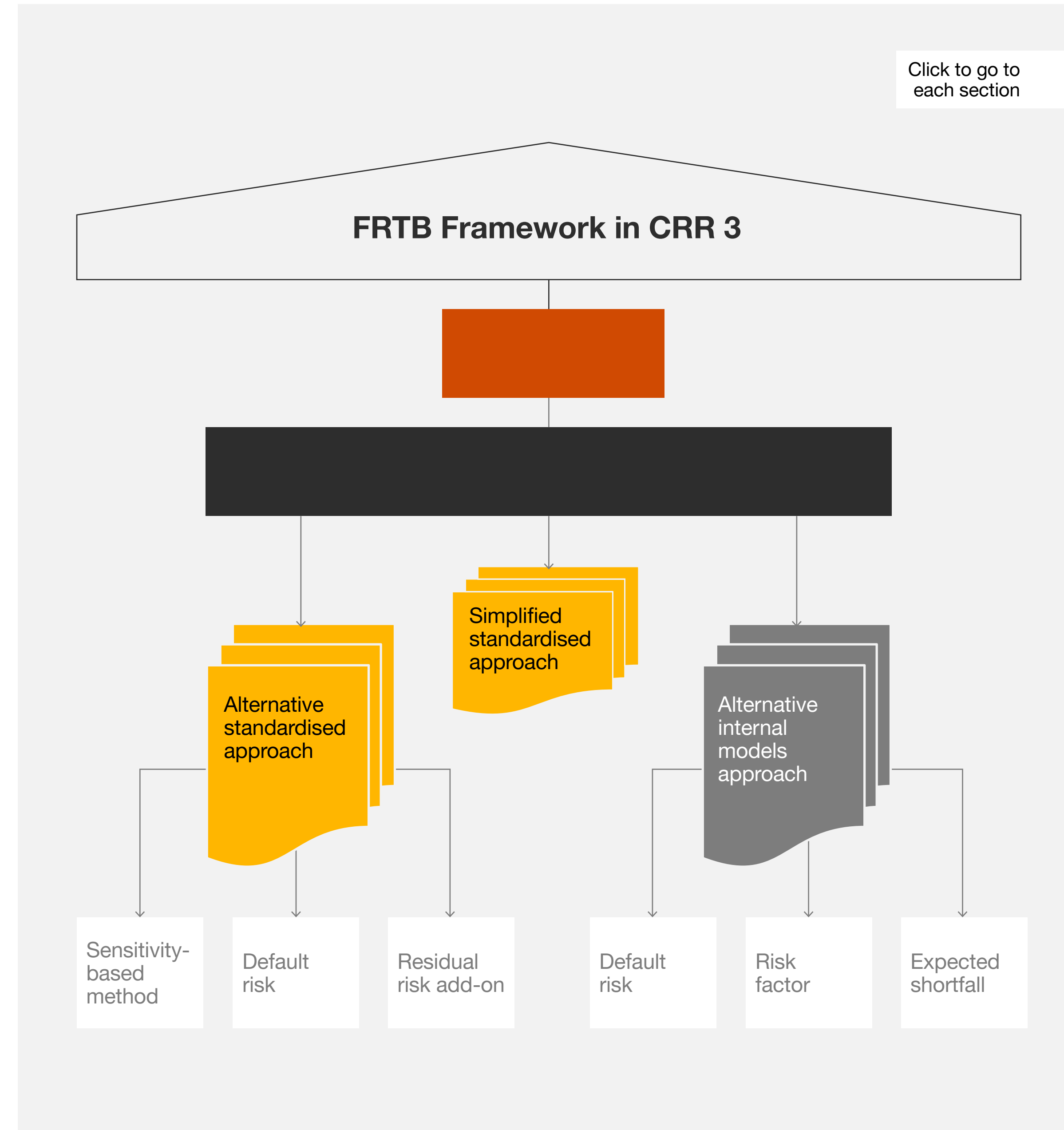
Introduced by the Basel Committee on Banking Supervision (BCBS) in 2012, the FRTB reflects a robust recalibration of capital adequacy computation methods, ensuring they are more finely attuned to the intricate dynamics of modern trading risks. The existing capital frameworks were deemed insufficient to adequately capture the multifaceted dimensions of trading book risks, motivating the need for an overhaul that equips banks with precise instruments to quantify the real-world impact of these risks on their overall risk profiles.

Over the course of its evolution, the FRTB has given rise to an array of consultation papers, quantitative impact studies, and phased implementation schedules. The initiatives' ramifications extend beyond compliance, exerting a profound influence on the organisational fabric of financial institutions. The FRTB not only presents a regulatory imperative but also an opportunity for banks to refine their risk management methodologies, optimise trading strategies, and contribute to the overarching stability and resilience of the global financial ecosystem.

Market risk pertains to potential losses due to adverse price changes stemming from shifts in underlying risk factors like interest rates or equity prices. Since Basel 1.5, banks have been required to back their open positions subject to market risks with own funds. While parts of the international FRTB framework were incorporated into European law through CRR 2 since July 2021, prevailing CRR methods remained, especially for capital requirements.

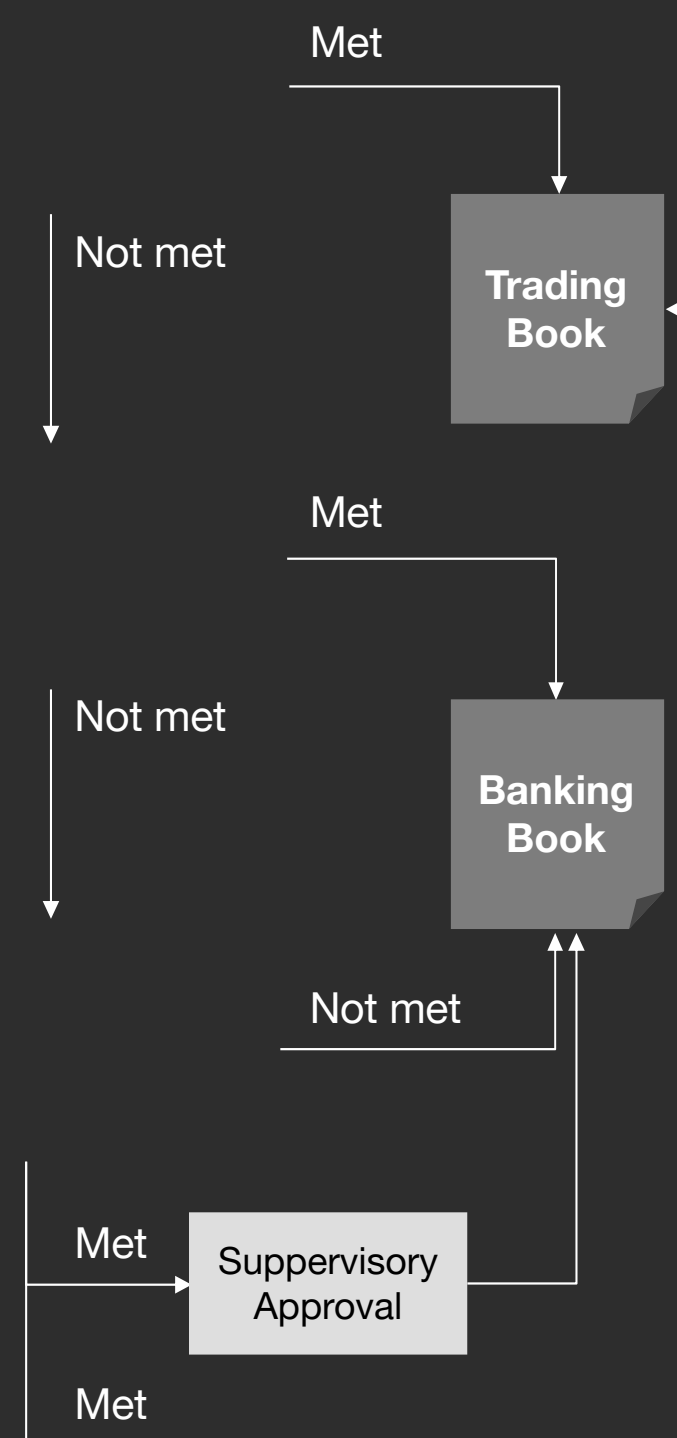
Due to the late application date of FRTB in the US and UK, and to ensure a level playing field, the introduction of FRTB-aligned capital requirements has been postponed by one year. While CRR 3 initially planned to apply these requirements from January 2025, the EU leveraged Article 461a to move the implementation to January 2026. The technical details, including the application dates for related requirements such as the trading book boundary, reporting, and disclosure requirements, will be clarified in the course of 2024.

[Click to go to each section](#)



The trading book boundary

The revised trading book boundary is based on the following decision tree:



Under the FRTB framework, the concept of trading book boundary has undergone a comprehensive reevaluation. This initiative aims to refine and redefine the boundary between trading and banking books. The revised approach seeks to enhance the accuracy and consistency of risk assessment, capturing a broader spectrum of trading activities while ensuring a more robust segregation from the banking book.

The realignment of position allocation between trading and banking book, discussed internationally, now takes form within European legislation through a comprehensive amendment of Article 104 by CRR 3. Moreover, CRR 3 introduces a provision enabling institutions to allocate specific

instruments to either the banking or trading book, even though there might be a different presumption by the competent authority (approval is needed). This provision, subject to stringent conditions and regulatory endorsement, aims to ensure regulatory consistency. The revised trading book boundary, in addition to maintaining trading intent, notably incorporates distinct allocation criteria and exemplar products for each book, fostering uniform comprehension among supervisory bodies. These provisions also strive to promote harmonised implementation across diverse banks.

Besides, institutions must have clear policies and procedures for position assignment. They must

document compliance, audit these policies yearly, and share audit results with regulatory authorities. An independent risk control function is mandatory for continual assessment of proper assignment.

Approaches for market risk capital requirements

CRR 3 introduces
modifications to Article
325 to mandate a
capital requirement for
market risk based on
these approaches:

4

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CVA-Capital Charge

5

Revised CVA Requirements in CRR 3

Improve the treatment of counterparty credit risks in derivative transactions

Since its introduction, the concept of the Credit Valuation Adjustment (CVA) has evolved as a fundamental element in addressing counterparty credit risks in derivative transactions. The 2007-2009 financial crisis underscored the critical nature of CVAs, as the world witnessed considerable losses on OTC derivatives portfolios, primarily stemming from the degraded creditworthiness of counterparties rather than actual defaults. As a result, accountants and supervisors promptly spotlighted the CVA risk, which has subsequently established its presence as an enduring risk for financial institutions.

Originally formulated in the Basel III framework (BCBS 189) in 2010, and subsequently integrated into European law by 2014, the regulatory framework addressing CVA risk has undergone essential revisions to address perceived inadequacies and to align with advancements in accounting. Post an elaborate consultation process and impact analysis, the Basel Committee introduced a new CVA framework in December 2017, which was further refined in 2020. These pivotal changes have culminated in CRR 3, which provides the most updated requirements on the treatment of CVA risks.

At its core, CVA symbolises the adjustment made to the value of derivative transactions, factoring in the counterparty's credit risk. It represents the premium or the cost involved in considering the fluctuating creditworthiness of the counterpart in a derivative deal. Notably, since Basel III's implementation, the CVA risk capital charge is an additional obligation for institutions to cover potential mark-to-market losses on expected counterparty risks, distinct from the capital prerequisites on counterparty credit default risks.

CRR 3 extends its clarity on the notion of CVA risk. As defined in Article 381, CVA is the difference that adjusts a portfolio's valuation of transactions with a counterparty, in reflection of the market value of the latter's credit risk. Practically speaking, institutions employ multiple methods to determine CVA risk. Unilateral and bilateral determinations stand out, with the former only considering the counterparty's risk and the latter including the bank's inherent default risk as well. Furthermore, CVAs can be computed at multiple levels,

including the portfolio, counterparty, netting set, or individual transaction. Diving deeper into CRR 3's revised CVA framework for EU institutions there are three new approaches introduced:

- Standardised Approach for CVA (SA-CVA)

- Basic Approach for CVA (BA-CVA)

- Simplified Approach for CVA

The introduction of the new CVA risk capital methodologies demands a more detailed examination of dependencies on market risk factors and hedging strategies, leading to a CVA risk capital charge that is highly sensitive to risk variations. While the SA-CVA approach is intricately designed, demanding specific requirements for regulatory CVA modeling and sensitivity calculations, it offers potential benefits. These include improved hedge considerations and avenues for capital efficiency, especially since both SA-CVA and BA-CVA are not constrained by the output floor.

Conversely, the BA-CVA will typically lead to an uptick in capital requirements for CVA risk, influenced by portfolio structures. This potential surge is balanced out by the introduction of a "discount scalar" set at 0.65. The rise in the CVA risk capital charge under the BA-CVA stems from an overall increase in the base risk weights. However, the precise impact of these methodologies will differ across financial institutions, given that individual portfolio structures play a decisive role in influencing outcomes.

Approaches for CVA Risk

General Requirements and Definitions

In the revised CVA framework, the definition of CVA risk encompasses losses that arise from variations in the CVA value for a portfolio of transactions with a counterparty. These variations are influenced by both the counterparty's credit spread risk factors and other risk factors embedded within the transaction portfolio. Additionally, securities financing transactions (SFTs) are now included in the own funds requirement calculations, but only if the associated CVA risk exposure is deemed significant. To provide clarity on this, the EBA is mandated with creating technical standards that set out the criteria for ascertaining the materiality of CVA risk exposures originating from these transactions, as well as specifying the regularity of such assessments.

Notably, CRR 3 has retained the current CVA exemptions without any alterations. However, a new provision has been introduced, obligating institutions to at least report and disclose the results of their own funds requirements calculations for CVA risk, particularly for transactions that benefit from these exemptions.

Hierarchy of Approaches

The revised CVA framework under CRR 3 introduces:

Standardised Approach for CVA (SA-CVA)

Requires banks to calculate CVA sensitivities to different risk factors (needs supervisory approval). SA-CVA is subject to various supervisory requirements related to the calculation and risk management of regulatory CVA.

Basic Approach for CVA (BA-CVA)

BA-CVA can be utilised by banks without approval by the competent authority. The approach does not rely on sensitivities and has two versions that either consider or neglect eligible hedging transactions.

Simplified Approach

Intended for banks with a derivatives business volume \leq €100 million and not more than 5% of the institution's total assets. The CVA risk is calculated by a specific formula, and CVA hedges aren't considered.

Banks can use a combination of SA-CVA and BA-CVA for different counterparties, netting sets, or transactions. However, there are specific requirements to follow. Lastly, all the approaches are considered "standard approaches", meaning the SA-CVA can also reduce total RWAs subject to an output floor.



Operational Risk

New Standardised Approach for Operational Risk

Background of the changes

The previous approaches for determining own fund requirements for operational risks has faced criticism in the past. Both the Basic Indicator Approach (BIA) and the Standardised Approach (SA) have come under scrutiny. Critics argue that these approaches inaccurately assume a linear relationship between the growth of income and the rise in operational risks. Additionally, they assume that an increase in losses indirectly affects the own funds requirements, while these methods fail to consider the influence of an institution's absolute size on its operational risk. On the other hand, the Advanced Measurement Approaches (AMA) have been criticized for their complexity, making them challenging to compare with methodologies used by other institutions.

Definition Operational Loss

Risk of loss resulting from inadequate or failed internal processes, people or systems or from external events, including but not limited to legal risk, model risk and information and communication technology (ICT) risk, but not strategic and reputational risk.

Annual Operational Risk Loss Data

- Another, albeit not affecting the own fund requirements, novelty within the revised operational risk section of the CRR 3 is the collection of annual operational risk losses.
- In contrast to the proposed Basel IV operational risk approach, the annual operational risk losses are not integrated into the calculation of own funds requirements. Nevertheless, they will become a crucial part in the sphere of operational risk.
- If the BIC is equal to exceeds a certain threshold (750 million Euro) the institution is required to calculate the annual operational risk loss (subject to a waiver, if calculation is unduly burdensome and BI less than 1 billion Euro).
- The annual operational risk losses itself is calculated based on net losses, thus these net losses needs to be calculated. The calculation of net losses is:

$$\text{Net loss} = \text{---}$$

Standardised approach for Operational Risk

$$\text{Operational Risk} = \frac{\text{Business Indicator ("BI")}}{\text{BI marginal coefficient}}$$

- Cornerstone of the new Standardised Approach of Operational Risk (SA) is the Business Indicator Component (BIC). Based on this BIC the own fund requirements are calculated.
- The new approach builds-upon balance sheet and P&L proxies to calculate the operational risk for institutions.

- Thereby it treats different business models equally and considers the different business types of institutions proportional to their impact on an institution, thus it does not discriminate unjustified certain business types.
- Moreover, the new approach addresses the critics regarding the incomparability (of AMA) between banks by setting aside the modelling option.

- Moreover net losses are only taken into account for the calculation of the annual operational risk losses, if these are equal or exceed 20,000 Euro.
- Also, certain types of losses can be excluded from the calculation if the institution can demonstrate that the operational risk events are not longer relevant for the institution's risk profile and further conditions are met.

Standardised Approach for Operational Risk in more detail

Calculation of the own funds requirement for Operational Risk

The Business Indicator (BI) is a comprehensive metric that is derived from three primary components:

- the Interest, Lease and Dividend Component,
- the Service Component, and the
- Financial Component.

Each of these primary components is further broken down into several sub-components, which correspond to P&L and balance sheet components. Using prescribed formulas that account for the unique features of each component, individual portions of the BI are determined.

Once these portions are calculated, they are aggregated to form the overall Business Indicator. The BI is then segmented into three distinct buckets, which are designed to capture the relationship between the size of financial institutions and their operational losses. Specifically:

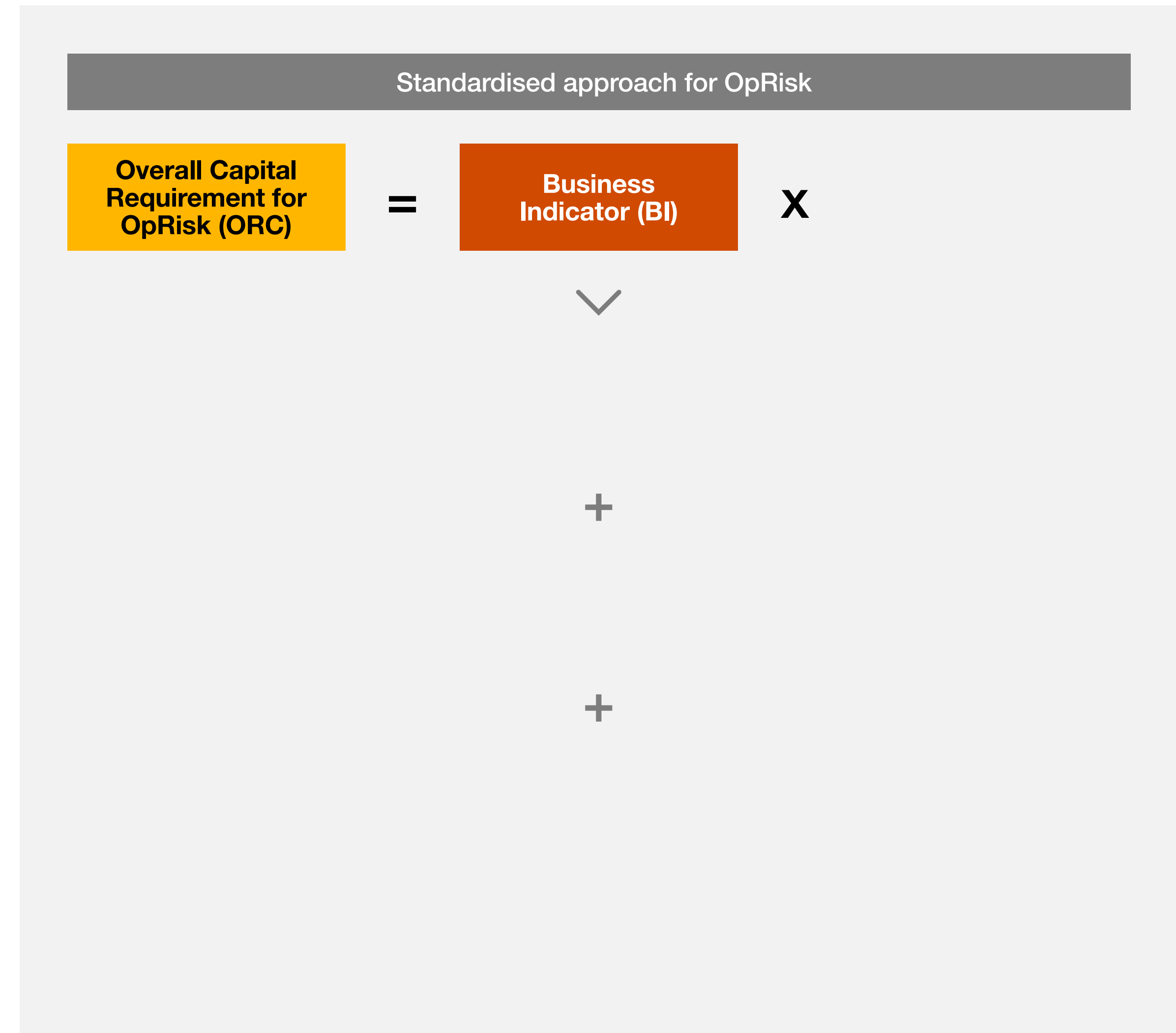
- Bucket 1 encompasses institutions where the BI is up to 1 Billion Euro.
- Bucket 2 includes institutions with a BI exceeding 1 Billion Euro but remaining under 30 Billion Euro. While the initial 1 Billion Euro is allocated to Bucket 1, the remainder goes to Bucket 2.
- Bucket 3 is reserved for institutions with a BI surpassing 30 Billion Euro. The amount beyond 30 Billion Euro is allocated to this bucket, while the portion below this threshold is distributed between Buckets 1 and 2.

Each of these buckets is associated with a distinct supervisory coefficient: 12% for Bucket 1, 15% for Bucket 2, and 18% for Bucket 3.

To determine the overall capital requirement for OpRisk (ORC), the allocated BI fraction in each bucket is multiplied by its corresponding supervisory coefficient. To calculate a RWA equivalent for OpRisk, the ORC must be multiplied by 12,5.

Extensive clarifications by EBA

The EBA is working on extensive ITS and RTS to clarify specific aspects of the new standardized approach. For example, the EBA is providing additional information on the treatment of M&A, a BI-mapping to FINREP, and clarification on the so-called prudential boundary approach. While it may appear straightforward at first glance, the devil lies in the details and the interaction between accounting and regulatory requirements.





Output Floor

From the Basel Committee to European implementation

The Basel Committee's final rules for the revision of the calculation of risk-weighted assets (RWA), published on December 7, 2017, came a year later than initially scheduled. The introduction of a capital floor had been a point of contention among the Committee members. While there was a consensus on the necessity of introducing a new capital floor due to its profound impact on banks' capital requirements, reaching an agreement on its design and calibration proved challenging.

This prolonged deliberation stemmed from the Committee's division over their confidence in internal models. Advocates for internal models championed a detailed capital floor, while those skeptical of these models leaned towards a more aggregated approach. The former group, seeing the potential of internal models, proposed a calibration for the capital floor between 50 to 60 percent, based on the RWA calculated under the new standardised approach. In contrast, their counterparts argued for a steeper calibration, suggesting a minimum of 80 percent. After much debate, a middle ground was found, setting the calibration of the capital floor at 72.5 percent.

Fast forward to October 27, 2021, the European Union began its implementation of the outstanding Basel III topics. This commenced with the European Commission's unveiling of the draft for the new banking package. This package, consisting of proposals to amend both Regulation (EU) No. 575/2013 (CRR) and Directive 2013/36/EU (CRD) in respect to a capital floor, while also considering the unique characteristics of the EU banking sector.

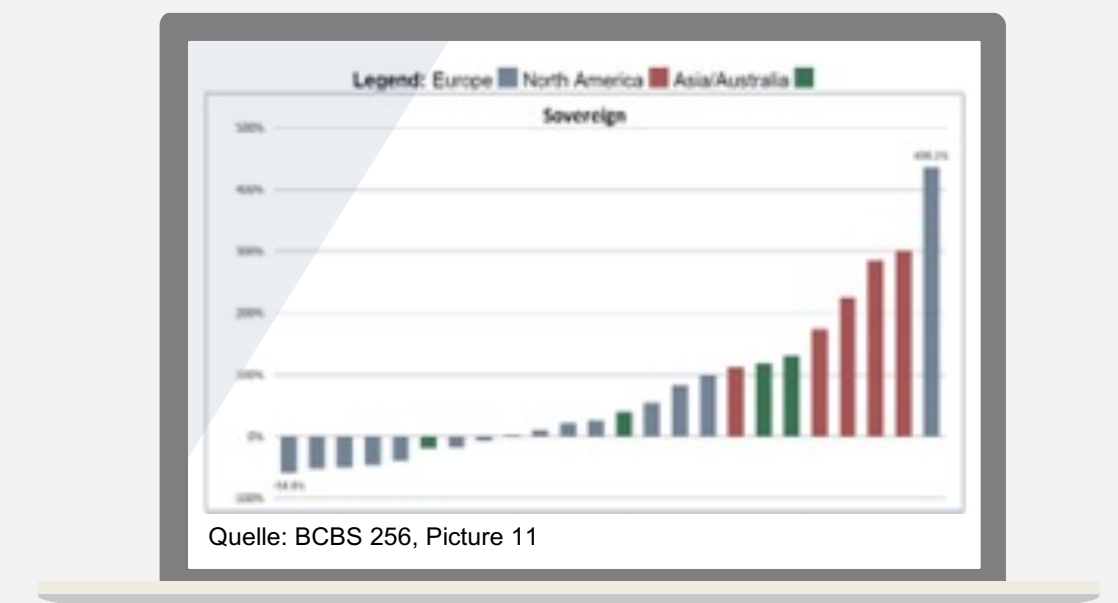
There is no separate consideration of individual risk types, asset classes or sub-portfolios, instead the output floor put forward by the European Commission is determined by multiplying the total RWA according to the revised standardised approaches by the floor factor of 72.5 percent. This new output floor is set to be introduced on January 1, 2025. It will undergo a phase-in period, ending on January 1, 2030.

Banks are bracing for the challenges this new output floor presents. Not only will they need to concurrently calculate both the standardised approaches and the internal models, but they must also grapple with the potential ramifications on capital ratios. Furthermore, they will need to consider any additional capital requirements in their capital allocation and pricing processes.

Motivation for the introduction of the output floor

From the Basel Committee's perspective, there are a variety of reasons that make a revision of the capital floor necessary, including:

1. Outdated or missing Basel I calculation systems.
2. National divergences in the implementation of Basel I and the Basel I capital floor.
3. The scope of application of the Basel I floor.
4. The development of new standard approaches.



However, there are other reasons - some of them revealed using empirical data - that underline the need for a uniform capital floor at the international and European level. The figure above shows by way of example how strongly the risk weights of different banks in a hypothetical portfolio of government bonds can vary compared to the average value of all banks considered. This high variability severely impairs the comparability of capital requirements across banks and over time.

An important reason for the deviations within the risk weights is the different implementation and interpretation of the rules for internal models. Many requirements of the Basel framework do not provide sufficient details on how exactly banks have to implement certain rules. As a result, banks - as well as supervisors - have some discretion in the interpretation of rules and regulations when developing and implementing internal models.

The approval process for internal models also varies widely from country to country. While some countries conducted extensive approval reviews, including on-site visits, regulators in other countries simply request documents on the implementation of internal models and conduct a high-level review before granting approval.

Scope of Application and Calculation

The CRR output floor has to be calculated by all institutions (consolidated or stand-alone). Nevertheless, a Member State may opt for the total risk exposure amount to be the un-floored total risk exposure amount, for institutions that are part of a group with a parent institution located within the same Member State.

Switching from IRBA to Standardised Approach for Credit Risk (CRSA): Under certain conditions, change from IRBA back to CRSA is possible from 2025 until 31 December 2027 (Art. 494d CRR 3).

Calculation of the output floor

The total risk exposure amount (TREA), taking into account the CRR 3 output floor, is calculated as the maximum of the following two items: i) total risk exposure amount calculated using the approaches for which the bank has regulatory approval, i.e. both standardised and internal models approaches (U-TREA) and ii) 72.5 percent of total risk exposure amount calculated using only the standardised approaches (S-TREA).

Total risk exposure amount (TREA)

$$TREA = \max \left\{ \text{U-TREA}; \text{S-TREA} * x \right\}$$

Where:

TREA = The total risk of exposure amount

U-TREA = The un-floored total risk exposure amount (Art. 92 (4) CRR 3)

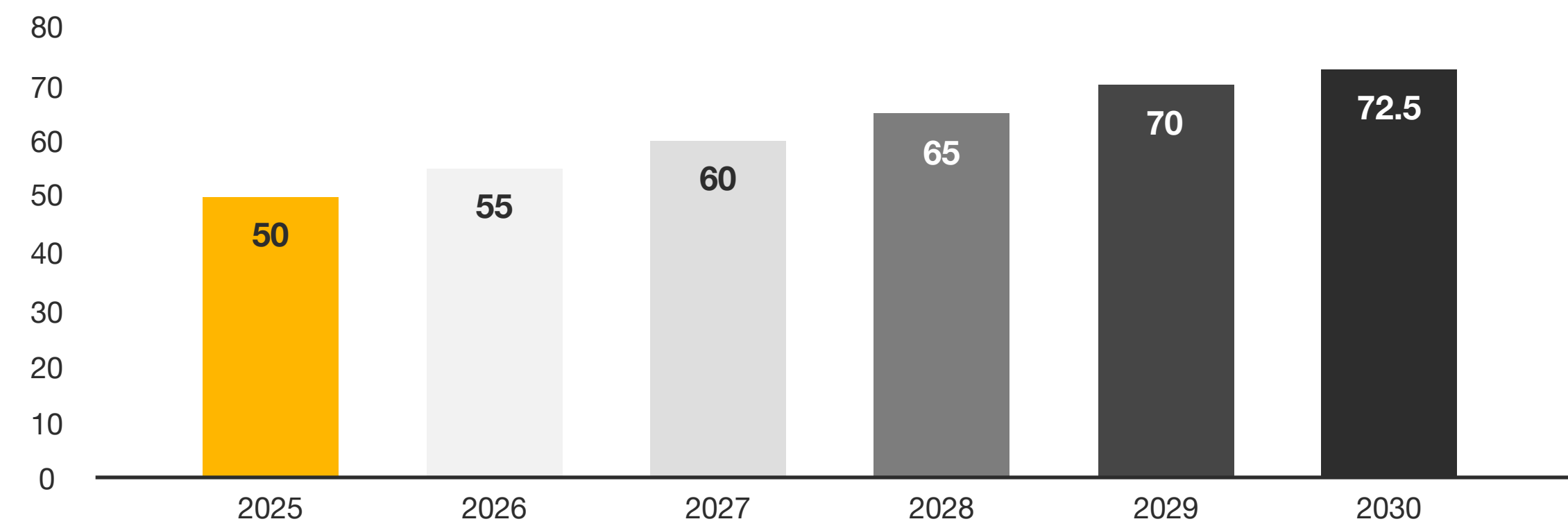
S-TREA = The standardised total risk exposure amount (Art. 92 (5) CRR 3)

x = 72.5% ; based on a phase-in

Phase-in of the output floor

The CRR 3 output floor will be introduced gradually. Institutions must initially maintain an output floor of 50 percent from January 1, 2025. Over the following years, the output floor will gradually increase until it reaches its full level of 72.5 percent on January 1, 2030.

Phase-in period of the output floor



Application date of CRR 3.

Transitional rules are intended to give institutions time to adjust their capital base or portfolios to the new framework conditions.

125% U-TREA until 2029

Institutions may, until 31 December 2029, apply the following formula when calculating TREA (Art. 465 (2) CRR 3):

$$\text{TREA} = \min\{\max\{\text{U-TREA}; x \cdot \text{S-TREA}\}; 125\% \cdot \text{U-TREA}\}$$

EU transitional provisions to reduce S-TREA

For various risk classes, there are special risk weights that deviate from the regular risk weights applied under the standardised approach. The transitional rules for the output floor calculation relate only to internal model portfolios and are not applied generally to the corresponding standardised approach calculations.

In addition, CRR 3 proposed several transitional provisions that limit the impact of the floor by reducing S-TREA.

These rules are applicable only to positions subject to approved internal models, i.e. do not apply to pure SA banks or positions which are treated in the partial-use by internal model banks.

Corporates

RW of 65% for externally unrated corporates with a PD \leq 0.5%

Residential Real Estate

- Up to 55% of property value: RW of 10% (applies until 31 December 2032)
- Up to 80% of property value: RW of 45% (applies until 31 December 2029 and increases thereafter:
 - 2030: RW of 52.5%
 - 2031: RW of 60.0%
 - 2032: RW of 67.5%)

Derivatives

Reduction of the SA-CCR Alpha factor from 1.4 to 1.0 for IMM portfolios

Securitisations

Reduction of the SEC-SA p-factor to 0.5% (non-STs transactions) respectively 0.25% (STs transactions)

These transitional provisions mostly run out in 2032, creating a cliff-effect that will drastically increase RWA for internal model banks



Reporting & Disclosure

Reporting requirements

Definitions and Consolidation

In the context of CRR 3, there has been a comprehensive revision and adaptation of reporting requirements. Consequently, several definitions have undergone updates and enhancements. Specifically, the definitions of “parent undertaking” and “subsidiary” have been harmonised with the pertinent accounting standards, aligning them with the established concept of “control” as already outlined in the CRR. This harmonisation serves the purpose of preventing inconsistent application of regulations and mitigating regulatory arbitrage.

Furthermore, CRR 3 offers clarity on the definition of “ancillary service providers”, categorising them as financial institutions and thus stipulating their inclusion within the scope of prudential consolidation.

Recent developments have underscored the necessity of providing greater clarity in the regulations pertaining to prudential consolidation. This is particularly vital to ensure that financial groups headed by fintech companies or encompassing a variety of entities, including those engaged in financial activities either directly or indirectly, fall under the purview of consolidated supervision. In response to this need, CRR 3 introduces precise definitions for the terms “financial institution” and “financial holding company” and new definitions for the terms “parent company”, “subsidiary” and “providers of ancillary services”.

Further reporting requirements

CRR 3 will require banks to enhance their regulatory reporting in several aspects, such as market risk, ESG and crypto Assets. When reporting their own funds requirements for market risk referred to in Art. 430 (1) lit. a, institutions shall report separately the calculations set out in Art. 325c (2) lit. a - c for the portfolio of all trading book positions or non-trading book positions that are subject to foreign exchange and commodity risks.

Furthermore, institutions shall also report separately the calculations set out in Art. 325ba (1) lit. (a) No. i-ii and lit. (b) No. i-ii for the portfolio of all trading book positions or non-trading book positions that are subject to foreign exchange and commodity risks, which are assigned to the trading desks for which institutions have been granted permission by the competent authorities to use the alternative internal model approach in accordance with Art. 325az (2).

To enhance the oversight of ESG (Environmental, Social, and Governance) risks, institutions are mandated to report their ESG risk exposures to their competent authorities, as stipulated in Art. 430 (1) lit. h. Consequently, the ITS (Implementing Technical Standards) on Reporting will be expanded to encompass the reporting of ESG risks. Additionally, in compliance with Art. 430

(1) lit. i), institutions are obligated to report their exposure to crypto assets.

The introduction of new reporting requirements, particularly those pertaining to ESG reporting, will significantly impact institutions. The implementation effort should not be underestimated, and adequate time should be allocated for preparation. Data needs to be meticulously collected and supplemented to meet ESG reporting and disclosure standards.

Generally, the institutions have to define the necessary data requirements, which arise from the new reporting requirements in their systems and as well work out the specific technical requirements for the implementation in their reporting systems. Furthermore, they must identify the gaps in the data budgets that arise from the new reporting and disclosure requirements and derive suitable implementation measures.

(Art. 4 (1) No. 26 CRR) (Art. 4 (1) No. 20 CRR)

(§ 10a Section 2 KWG)

(Art. 4 (1) No. 15+16 CRR)

(Art. 4 (1) No. 18 CRR)

Disclosure requirements

Disclosure

CRR 3 revised the means of disclosure as well as Art. 434. Consequently, both large and other institutions are required to submit all the information mandated in Titles II and III in electronic format to EBA no later than the date on which they publish their financial statements or financial reports for the corresponding period, or as soon as practicable thereafter.

Moreover, information pertaining to remuneration in accordance with Art. 450 may be submitted separately, with a deadline of no later than two months after the date of publication of institutions' financial statements.

EBA is tasked preparing a report on the feasibility of using qualitative and quantitative information reported by institutions (excluding small and non-complex ones) to competent authorities in accordance with Art. 430 in order to publish it on

its website and thus reduce the disclosure burden for such institutions.

Small and non-complex institutions are only required to submit their essential reporting information to their supervisory authority under Art. 430, without the obligation to publish related disclosures. Subsequently, the supervisory authority will forward this received information to EBA, reducing administrative costs associated with public disclosure.

The EBA ensures that the disclosures made on the EBA website contain the information identical to what institutions submitted to EBA. However, the responsibility for their accuracy remains with the institutions that produce it.

This enhanced transparency is expected to foster data comparability across institutions,

encourage market discipline, and lower costs for market participants seeking access to prudential information.

Under CRR 3, all institutions are required to disclose information concerning ESG risks. This disclosure should distinguish between environmental, social, and governance risks, as well as differentiate between physical and transition risks, particularly concerning environmental risks. This includes disclosing the total exposure to entities within the fossil fuel sector, as defined in Art. 4 (1) No. 152a. Institutions are also required to elucidate how they integrate identified ESG risks into their business strategies, processes, governance, and risk management. Furthermore, institutions are obligated to disclose information regarding their collective exposure to shadow banking entities, as referenced in the final paragraph of Art.

394(2). Additionally, they must report their exposure to crypto assets and crypto asset services, along with any other activities related to crypto assets, as outlined in Art. 451b.

The disclosure obligations, especially those related to ESG risks, impose a substantial workload for the institutions. Furthermore, additional efforts are required for the reporting and disclosure of exposures to shadow banks and crypto assets, placing an additional implementation demand.



ESG in Pillar 1

ESG

In the CRR 3 there are new requirements for ESG in Pillar 1 and Pillar 3 for institutions as well as a stronger focus on reporting and disclosure of ESG risks for all banks (for further information on Pillar 3 requirements see [Section 08](#)). The infrastructure supporting factor introduced by CRR 2 already includes the obligation to analyse impacts on environmental objectives and will be aligned closer with the EU Taxonomy. Also, the CRR 3 introduces additional ESG definitions, that will be included in Art. 4. These include climate neutrality, fossil fuel sector entities and exposures subject to impact from environmental and/or social factors.

Pillar I
(Minimum capital requirements)
Banks will play an important role in promoting sustainable economic growth

1. Infrastructure supporting factor

2. Possible privileging of sustainable financial products

3. Minimum capital requirements for ESG risks

Pillar II
(Banking supervision and risk management)
Necessary consideration of ESG risks in:

Business strategy and governance

Risk management

Supervisory Review and Evaluation Process (SREP)

Pillar III
(Reporting and disclosure)
Necessary integration of ESG or sustainability indicators for reporting and disclosure purposes

Environmental
e.g. emission reduction

Social
e.g. labour law standards

Governance
e.g. prevention of corruption

Banks will play an important role in promoting sustainable economic growth. To include ESG in the minimum capital requirement, several risks, as outlined in the Discussion Paper 2022/02 on the role of environmental risks in the prudential framework, have been taken into consideration. According to the EBA Report 2023/34 on the role of environmental and social risks in the prudential framework, environmental and social issues (E&S) are reshaping the risk landscape in finance and are affecting economies and societies. It emphasizes the importance of incorporating E&S factors that impact traditional financial risks into the prudential framework. According to the EBA

Discussion Paper, market risk, credit risk, and operational risk are possible considerations to reflect ESG risks. Hence, the definition of ESG also contains these risks.

Additionally, to take ESG risks long-term into consideration the CRR 3 includes in Art. 177 (2a) ESG risks into the stress test and further mandates the EBA to issue guidelines for the inclusion of ESG risks. With the CRR 3 new risk weights for commodity risk will take place in Art. 325as for Energy in EU ETS (Emissions Trading System) carbon trading and non-EU ETS carbon trading with 40% and 60%.

ESG

ESG will be implemented in credit risk mitigation in the collateral valuation process in the Articles 207 (4), 208 (3) and 210 g). ESG-related considerations shall prompt an assessment on whether a significant decrease in the market value of the collateral has occurred and also ESG-related considerations, including those related to limitations imposed by the relevant member states and union legal and regulatory objectives and legislation, as well as, where relevant for internationally active institutions, third country objectives and regulations, shall be considered an indication that the value of the property may have declined materially relative to general market prices.

When conducting valuation and revaluation, institutions shall take fully into account any deterioration or obsolescence of the collateral, paying particular attention to the effects of the passage of time on fashion- or date-sensitive collateral. For physical collateral, obsolescence of collateral shall also include ESG-related valuation considerations related to prohibitions or limitations imposed by the relevant member states and union legal and regulatory objectives and legislation, as well as, where relevant for internationally active institutions, third country objectives and regulations.

Furthermore, a concrete timetable was published with CRR 3 in Art. 501c, with which the EBA is to deal, if the prudential treatment of exposures related to assets or liabilities, subject to impacts from environmental and/or social factors, similar to the infrastructure supporting factor, should be adjusted. Possible policy tools to incentive banks to promote green finance is the Use of a green supporting factor to privilege certain exposures and a brown penalty factor to penalise other exposures. However, the use of these factors is currently under discussion and no draft has been proposed on how these can be implemented on a European level.

The currently discussed consideration of integrating ESG risks may lead to increasing risk-weighted assets and thus to increasing minimum capital requirements. An early analysis of the effects is essential to ensure adequate capitalization in the future. Further, this would also lead to a far-reaching methodological revision of risk models. A key success factor here is the availability and provision of data. Changes to the methodology for quantifying risks affect all business areas - both in the front office and in the back office. Additionally, the following challenges arise when considering ESG risks:

- Integration of ESG-related considerations into the evaluation of the recoverability of collateral from market values as well as the physical value of properties for a credit risk mitigation purpose.
- Distinction between EU and non-EU in the market risk of commodities in carbon trading.
- Identification of their exposures to ESG risks including existing and new exposures and the distinction between physical and transition risks.
- Integration of ESG risk into business strategy, process, governance and risk management, as well reporting and disclosure of ESG risks in prudential reporting and Pillar 3 disclosure.
- Continued screening of published changes also in the future as well as interpretations of regulatory treatments.

Institutions must pay more attention than ever to the interdependencies between the three pillars. By integrating ESG into the three pillars, they are exposed to new challenges. These start with the strategy and extend to disclosure in Pillar 3 and reporting to the supervisory authority.

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Crypto Assets

Introducing prudential treatment for crypto assets

Stepping out of the shadows

Being a *cryptic thing* (pun intended) in the past, crypto assets and related services are becoming increasingly prominent and can make interesting investment opportunities.

As potential interest in crypto assets within the financial service industry rises, the EU is breaking new ground with regards to setting the scene for the prudential treatment of such assets, completing the picture started with the Markets in Crypto Asset Regulation (MiCA – EU 2023/1114).

CRR 3 therefore contains provisions regarding:

- The disclosure of exposures to crypto asset and related services
- The prudential treatment of crypto assets

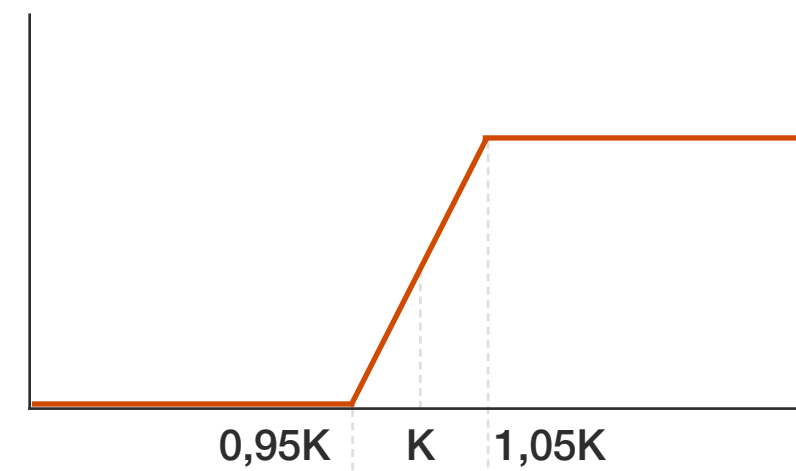
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Further Amendments

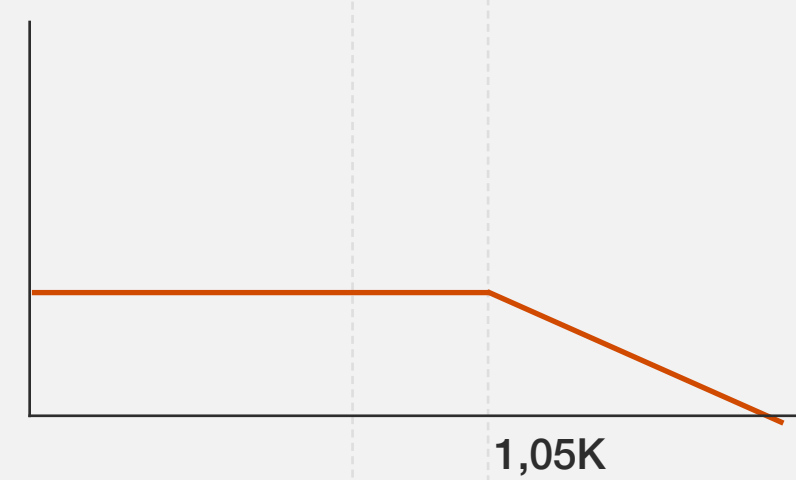
Changes to the SA-CCR

Split of digital vanilla options

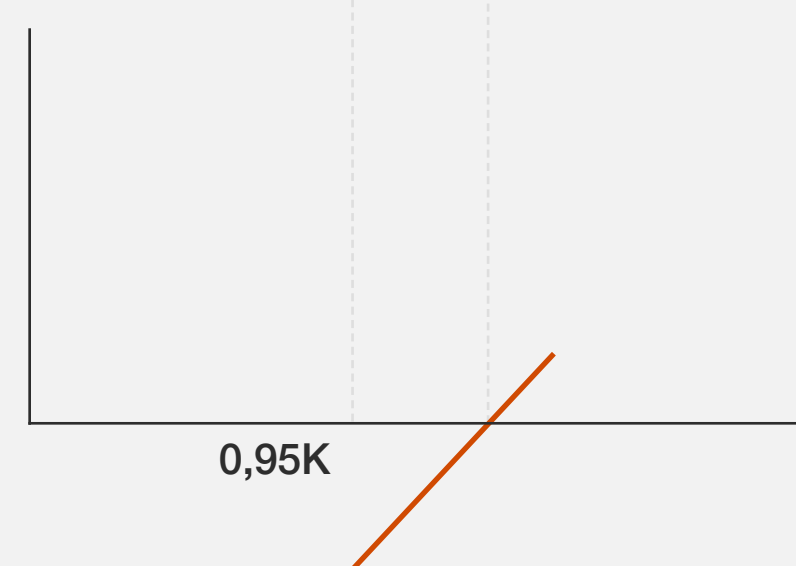
Digital Vanilla Option



Short call



Long call



Calculation of the risk positions

The risk positions of the two options of the Collar combination are **calculated separately**, according to Art. 279 CRR

Def. in Art. 279 CRR

$$RiskPosition = \delta \cdot AdjNot \cdot MF$$

Supervisory Delta; Def in Art. 279a CRR

$$\delta = sign \cdot N \left(Typ \cdot \frac{\ln(P/K) + 0.5 \cdot \sigma^2 \cdot T}{\sigma \cdot \sqrt{T}} \right)$$

Adjusted Notional amount Def in Art. 279b CRR

The adjusted nominal Value is depending on the risk type of the deal e.g. FX-risk, Credit risk etc.

Maturity Factor; Def in Art. 279c CRR

With Margin Agreement

$$MF = \sqrt{\min\{\max\{M, 10/OneBusinessYear\}, 1\}}$$

Without Margin Agreement

$$MF = \frac{3}{2} \sqrt{\frac{MPOR}{OneBusinessYear}}$$

Minimum requirements for own funds and eligible liabilities (MREL)

The Bank Recovery and Resolution Directive (BRRD) introduced the minimum requirements for own funds and eligible liabilities (MREL) in 2016 for European Union institutions. MREL's purpose is to ensure these institutions always uphold a specific ratio of their own funds and liabilities that can be bailed-in. This ensures that, during a resolution, there's an adequate bail-in capital buffer.

MREL, which is expressed as a percentage of an institution's total liabilities and regulatory own funds, is applicable to a broad spectrum of European institutions under the BRRD, irrespective of their size or systemic importance.

Moreover, resolution authorities determine MREL individually for each institution, allowing for adjustments based on each institution's unique characteristics and ensuring proportionality.

Art. 45 (1) BRRD: The requirement is determined by the resolution authority on the basis of various criteria pursuant to Art. 45c (1) BRRD (e. g. size, business model, refinancing model and risk profile of the entity).

MREL Calculation

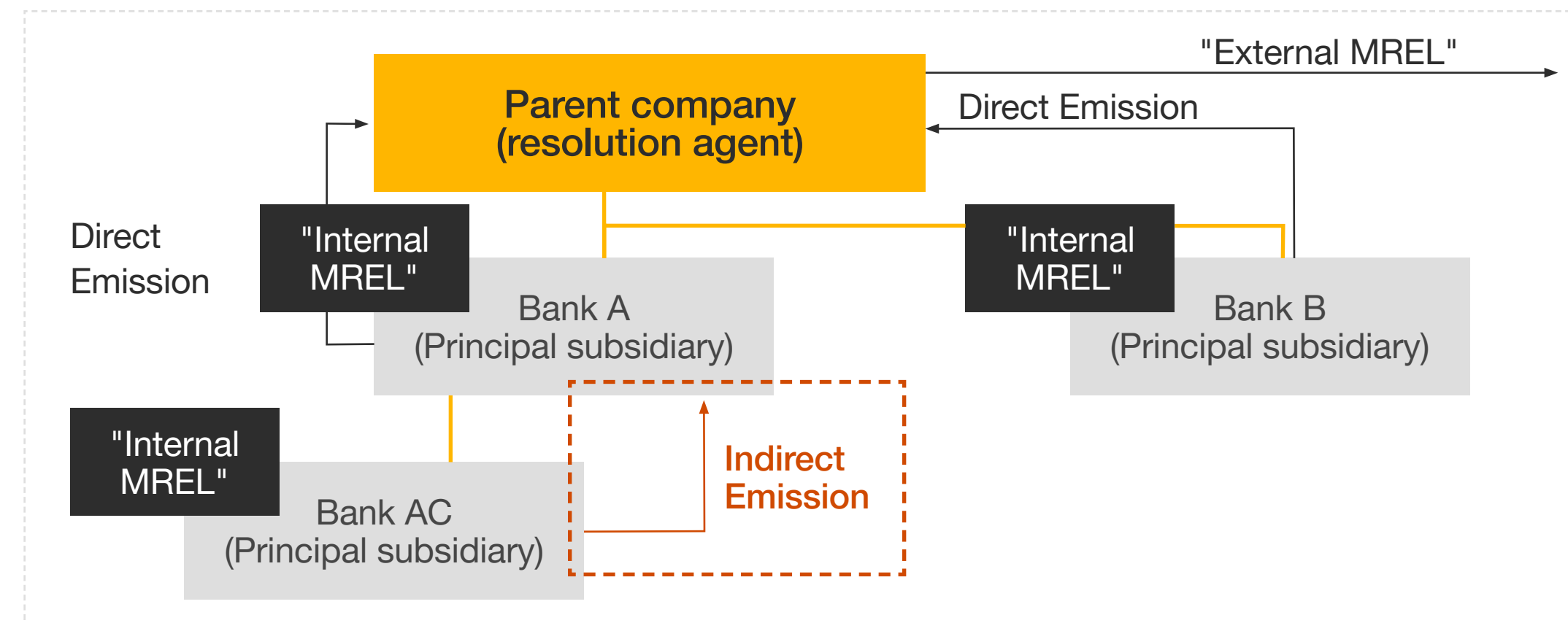
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MREL is composed of a loss absorption amount (LAA) and a recapitalization amount (RCA):

- The LAA for calculating MREL is composed of the minimum capital requirement (i.e. total capital ratio of at least 8% RWA), the surcharge set by the supervisory authority for each individual institution and the capital buffer requirement, or consists of the future leverage ratio requirement if this should be higher.
- For institutions for which the resolution authority does not provide for regular insolvency proceedings in the resolution plan but for resolution because the former would not be suitable for achieving the resolution objectives, the provision of a RCA is also required in addition to the loss absorption amount. This is determined for an institution depending on the resolution strategy listed in the resolution plan. The adequate recapitalization of a successor institution is particularly important for its acceptance, so that the market classifies such an institution as solvent.

“External MREL” vs. “Internal MREL”

Resolution strategy according to “Single point of entry” (SPE):



Changes with BRRD and impact for banks

- When determining the minimum MREL ratios, it is important to note at which level they must be complied with. Currently, institutions have to meet the MREL requirements according to Art. 45 (7) BRRD at the individual level. In addition, the EU parent company must comply with a minimum ratio on a consolidated basis (Art. 35 (8) BRRD).
- As a result of the amendments to BRRD, the requirements at the individual level of the wind-down unit no longer apply. For subsidiaries that are not defined as a wind-down unit, the minimum requirement at individual level must be met as an internal MREL ratio. The level of the requirement is determined jointly by the group resolution authority and the resolution authority of the subsidiary as part of the resolution strategy.
- The national resolution authority responsible for a subsidiary may waive the minimum requirements for eligible liabilities. BRRD will remove the link to the existence of an own funds waiver. In return, conditions for the granting of the MREL waiver are defined that are comparable to those in Art. 7 (1) CRR 3.
- For subsidiaries, BRRD results in some clarifications regarding the instruments that can be recognized. The MREL requirements must be covered by instruments included within the group. In addition, own fund items raised from entities outside the resolution group may be eligible, provided that a write-down or conversion of these instruments does not impair the resolution entity's control over the subsidiary.

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Implications & Implementation

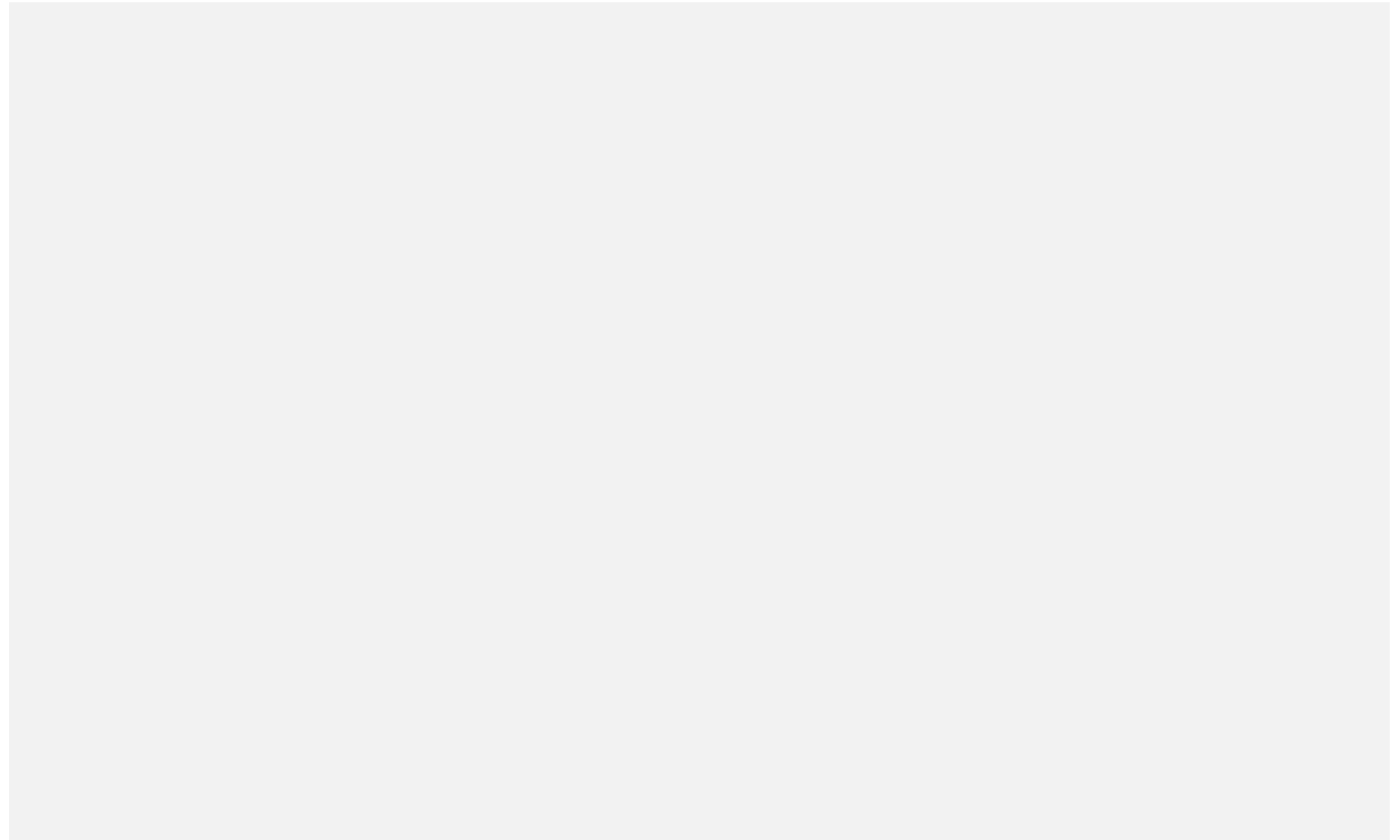
CRR 3 will have a major implications for banks that go way beyond risk weighted assets

CRR 3 will have a major impact on banks' risk weighted assets. However, in contrast to CRR, the impact is unevenly distributed leaving some banks better off than others:

Data compiled by the European Banking Authority based on the Basel III Monitoring shows that the impact of CRR 3 will be unevenly distributed across time and banks:

- Because of the transitional provisions agreed at EU level, the impact of the entry-into-force in 2025 will be quite limited.
- However, if looking at the fully phased-in rules, the combined capital shortfall of the banks within the EBA's sample amounts to ~ 25bn EUR.
- Experience with CRR transitional provisions shows that both supervisors and market participants such as rating agencies focus on fully phased-in rather than transitional numbers.
- Also, the use of internal models and corresponding applicability of the capital floor has a tremendous impact on the increase in capital requirements.
- Of the 25bn EUR mentioned above, roughly 22bn EUR relate to internal model banks subject to the capital floor and roughly 3bn EUR relate to internal model banks not bound by the floor.
- In contrast, the impact on standardised banks is much more limited and not depending on transitional provisions.

While the numbers published by the EBA do cover only a small sample of EU banks, the results are vindicated by a number of much more granular test calculations performed by PwC.



Implementation costs vary by topic and require a well planned project to ensure reporting readiness by 2025

As shown on the previous slide, the impact of CRR 3 depends very much on the respective bank's business and regulatory approaches. The same goes for the costs of implementation of the new approaches.

- Achieving clarity on the bank specific impact is therefore a necessary prerequisite for a meaningful project plan
- As part of a number of test calculations and impact assessment studies, we have identified the major cost drivers of CRR 3 implementation
- Also, we have created a generic project approach for the development of an implementation plan to ensure reporting readiness by 2025

The implications of CRR 3 go way beyond regulatory reporting and extend to risk management, pricing and business strategy

CRR 3 is not an exercise to fulfill supervisory reporting requirements, it is not mere statistics. CRR 3 will change the way in which a bank views the risk – and hence also the relationship between risk and return – of its products, customers and business lines. Here is why:

– The bank's ICAAP is impacted in the normative perspective right now as CRR 3 planned values need to be included. But also the economic perspective may need to be adjusted.

– CRR 3 has profound implications for stress testing, particularly for internal model banks. Their stressed RWA calculation will need to factor-in the impact of the output floor and hence the need to stress test CRSA RWA.

– Business strategy and pricing will be impacted in particular in those types of customers and products in which pronounced RWA increases are expected.

– In addition, internal model banks will need to deal with the output floor's impact.

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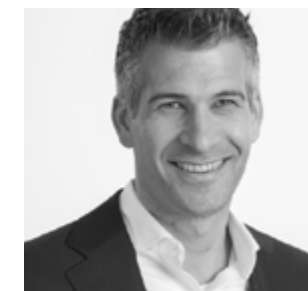
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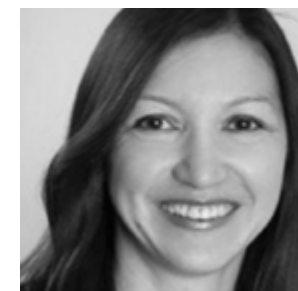
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