

Capital requirement calculations under Basel 3.1

Basel 3.1 is expected to bring major changes to the regulatory framework for banks operating in the Nordic region. The changes are aiming at reducing the differences in approaches to capital requirement calculations and mitigating the resulting variability in RWA reporting between banks.

This is the second of six blogs we are publishing in the 2023 blog series “Basel 3.1 – Nordics ready!”. The series covers various aspects of Basel 3.1 with a focus on considerations for Nordic banks, including minimum capital requirements, the regulatory landscape, the strategic and operational considerations, and how to implement Basel 3.1.

Key takeaways

- The new Standardised approaches to credit and operational risk will increase in granularity and risk differentiation
- RWA calculated under the Internal Rating Based (IRB) approaches, using internally developed models, are expected to increase due to a more limited application and the introduction of output floors
- The tightened framework for market risk and CVA may incentivise a fall back to the Standardised approaches which themselves will become risk sensitive
- Nordic banks using credit risk IRB approaches under Basel 3.1 will, on average, notice a significant impact in their capital requirements relative to their Nordic peers following the Standardised approach under Basel 3.1

The new Basel 3.1 framework changes how banks calculate their capital requirements across risk types. This blog summarises the key changes introduced under Basel 3.1. The amendments to capital requirement calculations are expected to affect Nordic IRB banks more, on average, than their European peers due to the impact of output floors on low risk mortgage portfolios in the Nordics.

Basel reform's impact on credit risk

CR Standard approach

The new Standardised approach introduces more granularity and risk differentiation to the capital requirement calculations. The regulators are recalibrating risk weights for the existing risk classes as well as introducing three entirely new categories of exposures: i) Covered bonds, ii) Project, Object and Commodities Finance, and iii) Land Acquisition, Development and Construction.

Covered bonds are used frequently in the Nordics, particularly in Sweden and Denmark. While the implementation of Basel 3 on European level (CRR2) provides more favourable RWA treatment for covered bonds than Basel 3.1, the new rules are expected to introduce more granular risk weights which further reduce the average capital requirements on this exposure class within the Nordic banking sector.

Amendments to existing risk categories include the introduction of more granular risk weights for Residential Real Estate (RRE) and Commercial Real Estate (CRE) products based on the Loan-to-Value of the exposure. The impact of the changes at Nordic level will depend on the portfolio composition of each individual bank in terms of loan collateralization.

More granular risk weights are also introduced to corporate exposures with external credit ratings. Nordic banks will be able to reduce risk weights related to exposures that can be marked with external credit ratings of BBB+ to BBB-.

IRB approach

The scope of the Advanced IRB (A-IRB) approach is reduced under Basel 3.1. Banks must apply either Foundation IRB (F-IRB) or the Standardised approach for exposures to large and mid-sized corporates, banks, and other financial institutions. Regulators are also recalibrating the existing parameters for Loss Given Default (LGD) under F-IRB and applying Probability of Default (PD) input floors for all IRB portfolios, as well as introducing new input floors to A-IRB approach on both LGD and EAD. To compensate for the expected increase in RWA, the IRB scaling factor, which is currently set at 1.06, will be removed.

New output floor requirements

Banks using the IRB approach for measuring credit risk capital requirements will be required to calculate a separate capital charge (commonly referred to as 'output floor') using the Standardised approaches. The output floor will be a percentage of the capital requirements the bank would have under the new Standardised approach. The floor will start off at 50% in 2025 and gradually ramp up to 72.5% in 2030. Banks have to compare their IRB capital requirements to the output floor and use the higher of the two amounts in RWA calculations. The output floor is likely to have particularly large impact on Nordic banks as they currently gain considerable reductions in RWA on their relatively low risk mortgage portfolios which often makes up a significant share of the banks' total RWA.

Basel reform's impact on market risk

Market risk framework

Stricter guidelines are imposed for the initial and re-allocation of instruments between trading and banking books. The new guidelines aim to reduce fluctuations in capital reporting caused by frequent re-allocation of assets between trading and banking books in an attempt to reduce market capital requirements.

New requirements are also placed on trading desks with the supervisory approval to use the Internal Models Approach (IMA). P&L attribution tests must be performed on a quarterly basis under Basel 3.1. Additionally, IMA trading desks are required to calculate capital charges for risk factors which cannot be modelled.

CVA risk

The objectives of the new CVA framework are to ensure comparability between banks and to better align the CVA calculation with the new FRTB framework for market risk. This is accomplished by removing the Internal Models Approach and only allowing for two prudential methods: the Basic Approach (BA-CVA) and the Standardised Approach (SA-CVA). The BA-CVA is the simpler approach and has higher risk weights, while SA-CVA allows for market hedges and has less punitive risk-weights but requires a separate approval to use from the supervisor. The changes that have been made are designed to enhance risk sensitivity by introducing a new CVA calculation relying on market sensitivities, e.g. Delta and Vega risk.

Banks that have aggregate notional amount of non-centrally cleared derivatives less than or equal to €100 billion may choose to set their CVA capital equal to 100% of the bank's capital requirement for Counterparty Credit Risk.

Other changes to the Basel framework

Leverage ratio framework

Basel 3.1 makes refinements to the Exposure Measure of the Leverage Ratio (LR) which quantifies the value of on-balance sheet and off-balance sheet items, derivative contracts and securities financing transactions. [The BIS monitoring report](#) from September 2022 indicated that the changes to the Leverage ratio are expected to lower capital requirements, on average, for European banks.

SA for operational risk

Basel 3.1 requires all banks to follow the Standardised approach to operational risk and introduces a new Business Indicator Component (BIC). The BIC is derived from financial statement-based proxies and accompanied by a set of marginal coefficients set by the regulators. Furthermore, the historical operational risk loss profile of the bank will be captured within RWA calculations by applying a new scaling factor called the Internal Loss Multiplier (ILM). In Basel 3.1 the loss component in the ILM is based on the institution's average annual operational risk losses incurred over the previous 10 years. However, the ILM is set to 1 for all banks in the EU in the proposed implementation of the framework in EU.

Impact on capital requirements

There are multiple different impact studies ([EBA Impact Study](#), [BIS Monitoring Report](#), [CEPS Impact Study](#)) showing that the Minimum Required Capital (MRC) will be higher for IRB banks because of Basel 3.1. The studies estimate the impact on capital requirements between +17.5% and +18.5%. These impact studies were completed based on European IRB banks. Deloitte performed a [study of the Basel 3.1 impacts](#) on credit risk capital requirements for Nordic banks, which found that Nordic IRB banks are likely to be more significantly impacted by these changes than their European peers (on average). However, there were significant variations between the Nordic countries ranging from 15% in Norway to 70% in Denmark, as outlined in Table 1, driven by portfolio mix and country.

	Denmark	Finland	Norway	Sweden	Iceland
Impact on SA	-12%	-8%	-11%	-10%	-11%
Impact on IRB	+70%	+33%	+15%	+64%	-
Overall impact	+63%	+28%	+9%	+50%	-11%

Table 1. Expected impact of Basel 3.1 on RWA in the Nordics according to the Deloitte Whitepaper

In contrast to IRB banks, the capital requirements for banks following the Standardised approach are expected to decrease. The benefits of IRB relative to SA under Basel 3.1 will be explored in more detail in an upcoming Deloitte whitepaper "To be IRB or not to be?".

Stay tuned for the next blog on the regulatory landscape in the Nordics which will be published shortly!