Calculation of risk-weighted credit exposures

Regulators are trying to bring consistency in calculating risk-weighted assets, casting further doubt on the use of internal models by financial institutions.

The Capital Requirements Regulation (CRR) requires credit institutions to hold their own funds in sufficient quantity and quality to address the various risks they are exposed to. In particular, they need to hold own funds in an adequate amount to be in a position to absorb potential losses arising from credit risk.

The amount of own funds a credit institution must hold with respect to credit exposures is not a statistical value but a risk-adjusted amount based on certain regulatory calculation methods. Since January 1, 2007, when the Basel II framework was fully implemented into European law, the EU framework allows credit institutions to use two different approaches when calculating their risk-weighted credit exposure, thereby determining the minimum amount of regulatory capital they must hold.

Whereas the standardized approach provides a calculation method where the risk parameters are predetermined by the relevant supervisory authority, the internal ratings-based approach (IRB approach)—established as part of Basel II—allows a credit institution to determine various risk parameters on the basis of internal historical data. Accordingly, Basel II (and its implementation into European law) enabled credit institutions to reduce the risk weights of their credit exposures compared to the standardized approach, potentially resulting in lower regulatory capital requirements.

The Basel Committee's proposal on reducing the variation in credit risk-weighted assets

However, the way in which credit institutions may use these calculation methods are under scrutiny. In March 2016, the Basel Committee on Banking Supervision issued a consultative document on reducing the variation in credit risk-weighted assets (RWAs) and placing constraints on the use of internal model approaches. The Committee proposed changes to the IRB approach to reduce the complexity of the regulatory framework, and improve the comparability by addressing the variability in the capital requirements for credit risk. In this regard, the proposals of the Basel Committee on Banking Supervision included the following:

- Removal of the option to use IRB Approaches for certain exposures
- Adoption of exposure-level, model-parameter floors to ensure a minimum level of conservatism for portfolios in relation to which IRB Approach remains available and
- Reduction of the variability in RWAs for portfolios in relation to which the IRB approach remains available

The proposals sought to limit a credit institution's ability to benefit from the use of internal models by introducing input floors that would constrain risk parameters for specific portfolios and by setting a minimum output floor on the basis of standardized models. The output floor was designed to mitigate model risk and measurement error stemming from internally modeled approaches that would place a limit on the benefit a credit institution derives from using its internal models for estimating regulatory capital.

> **"Credit institutions need to hold adequate own funds to absorb potential losses from credit risk**

34%

The average risk weight on certain asset classes may be raised from 26% to 34% following the introduction of TRIM

The Basel IV reform package also suggested that internal models may no longer be used for certain exposures, such as large corporates and specialized lending exposures. In effect, the transposition of Basel IV would significantly increase the amount of RWAs, resulting in higher own funds requirements.

However, this proposal was blocked by the chairmen of all national supervisory authorities and central banks as the highest body of the Basel Committee, who voted against it on January 8, 2017. A European coalition led by the German Minister of Finance, Wolfgang Schäuble, was able to block the proposal against the will of the United States, as the decision-making process requires a consensus of the Committee members.

As the European banking sector widely uses and depends on the IRB approach, European supervisors were aware that the new proposal would have had adverse effects on the European market, while having nearly no impact on the US. This is because banks in the US have mostly recovered from the financial crisis of 2008, having robust balance sheets and primarily already use the standardized approach. Furthermore, the US securitization market is booming, allowing US banks to free up regulatory capital by selling securitized loans in the capital

> **IRB models currently used by many banks may not be reliable**

markets. Meanwhile, large European banks still struggle with their legacy portfolios, thus relying on the IRB approach to comply with regulatory capital requirements.

The current discussion on the use of IRB Approaches is not new. Instead, similar discussions and controversies between the US and the EU arose in the context of Basel II—then as now issues to be dealt with were the possibility of abusing internal models by tweaking the systems to lower the capital requirements, and the lack of comparability between banks and especially between credit institutions located in the US and Europe, respectively. In the US, the use of internal models is already restricted by the Dodd-Frank Act, resulting in the eligibility of internal models for only the 19 biggest US banks.

In the ongoing negotiations, the EU is therefore put in a situation where it is confronted with reasonable criticism of internal models. In addition, it has to defend regulatory advantages European banks currently benefit from.

Assessment of the European Central Bank

As a response to the issues described above, the European Central Bank (ECB) has released a new explanatory statement on its Targeted Review of Internal Models (TRIM) on February 15, 2017. TRIM was launched in late 2015 and is expected to be finalized in 2019. The project is expected to assess the overall reliability and comparability of the internal models currently used and whether they comply with regulatory requirements. It also aims to reduce regulatory arbitrage which allows banks to exploit inconsistencies and create unwarranted variability in their risk models compared with those of rivals. Danièle Nouy, Chair of the Supervisory Board at the ECB, said in an interview in 2015: *"We will start with the banks that markedly understate their capital requirement through the use of their models; our aim is to find out whether that is justified or whether the parameters need to be adjusted."*

In July 2016, the ECB published a research paper on IRB risk assessment, which depicted that the internal models currently used may not be reliable. The paper compared the actual default rates of recent years with the results of the IRB Approach and the standard model in the German banking sector. It concluded that at the aggregate level, reported probabilities of default and risk weights were significantly lower for portfolios that were assessed in accordance with the IRB approach, compared with those assessed under the standard approach. By contrast, ex-post default and loss rates went in the opposite direction: Actual default rates and loan losses were significantly higher among the IRB portfolios compared with the portfolios assessed in accordance with the standard approach.

The initial reaction by individual banks to the introduction of TRIM by the ECB in 2017 suggests that the average risk weight on certain asset classes (such as mortgage portfolios) may be raised from 26 percent to 34 percent. Other analysts suggest that TRIM could hit CET1 levels by as much as 60 basis points. Accordingly, the impact of TRIM on the balance sheets of European banks should not be underestimated.

While maintaining the possibility of banks using internal models, the ECB wants to ensure that they are being used appropriately. In a statement on February 15, 2017, the ECB explicitly answered the question as to whether internal models will continue to exist after the finalization of Basel IV: "*[…] ECB believes that internal models can play a useful role in determining regulatory capital according to the institution's risk exposure, provided that certain conditions are met: risks must be modeled adequately and models must give consistent results.*"

This approach and the timing of the explanatory statement lead to the conclusion that the ECB's intention is to weaken the arguments brought forth by the critics of internal rating systems and thus establish a solid foundation for future discussions in the Basel Committee.

However, the results of the TRIM exercise remain to be seen. The ECB wants more consistency and adequacy in model outputs and comparability of risk-weighted exposure amounts. This is similar to the approach pursued by the European Banking Authority (EBA) in the draft regulatory technical standards it published in July 2016. The standards look at the specification of the assessment methodology for competent authorities regarding compliance of an institution with the requirements to use the IRB Approach.

Internal models should not be removed, as they are too important for the European banking sector, but some European banks should be braced for higher risk weights, particularly when it comes to on non-performing loan portfolios (NPLs). For example, most of the Italian banks apply zero risk weight for such non-performing loans, which does not reflect the real economic risk and lacks the necessary comparability for investors.

Outlook and solutions for credit institutions

The above considerations highlight that it cannot be said with certainty at this stage which models will be used by credit institutions to calculate their risk weights in the future. In particular, the complexity of the issues under discussion, as well as the ECB's ongoing TRIM process, raise questions about whether the review as envisaged will coexist with potential changes to the legislative framework or if such changes will be postponed and/or substituted by TRIM. Some suggest that instead of introducing output floors, increased transparency and disclosure requirements (for instance with regard to the breakdown of asset portfolios or the rationale behind increased capital requirements) would be better suited to improve market discipline

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and comparability between credit institutions' capital ratios.

The current reform on the capital treatment of securitization exposures as envisaged in the legislative package for a CRR amendment (Draft CRR) and for a Regulation of the European Parliament and of the Council laying down common rules on securitization and creating a framework for simple, transparent and standardized securitization (the STS Regulation) might serve as an indicator for future steps to be expected when calculating credit risk.

Both the review of internal models, as well as upcoming legislative changes with regard to the calculation of risk-weighted credit exposures, is likely to result in an increase in regulatory capital requirements due to significantly higher RWAs. Credit institutions therefore have to explore options to deal with the risks they are exposed to, thereby lowering their RWAs and, ultimately, the amount of regulatory capital they must hold. Risk-sharing and the transfer of certain risks from the respective credit institution's credit portfolio by means of a synthetic securitization transaction offer a viable solution in this regard, as the CRR provides for a more favorable calculation of risk-weighted exposure amounts and expected loss amounts if a *significant* portion of the credit institution's credit risk is transferred.

Which option credit institutions ultimately choose heavily depends on their current use of internal models. Institutions should, however, in all circumstances explore the options at hand as change, in whatever form it may eventually come, is on its way.

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