
Stand out for the right reasons
Financial Services Risk and Regulation

FSRR Hot Topic

CRD 5 FRTB – Sizing up the trading book

CRD 5/ CRR 2 proposal (the CRR 2 package) published on 23 November 2016 includes the EU implementation of the fundamental review of the trading book (FRTB). In the UK, the proposal impacts firms with a trading book and market risk exposure.

Highlights

The EU specific adjustments to FRTB in CRD 5 are:

Phasing in of the overall level of own funds requirements over a three year period by applying a 65% multiplication factor

Derogations for small and medium size trading book businesses. Simplified standardised approach for medium size trading book businesses. Possible replacement of market risk with credit risk own funds requirements for small size trading book businesses

Better treatment for EU sovereigns and covered bonds regarding liquidity horizon under internal models approach and for risk weights under standardised approach

Guidance on P&L attribution test and application of non-modellable risk factors deferred to EBA RTS and guidelines.

In terms of methodologies for the own funds calculation approaches, CRD 5 broadly follows the Basel framework. The proposal introduces the new more risk sensitive standardised approach (SBA) and variations to the internal models approach (IMA). The new SBA includes the calculation of delta, vega and curvature risk. The revised IMA requires desk level model approval and P&L attribution tests. It also replaces Value-at-Risk (VaR) with Expected Shortfall (ES) and includes a range of liquidity horizons for different product sets. And the proposal introduces the revised boundary between the trading and banking book.

This note covers the key aspect of the proposals, together with some perspectives on their implications for banks.

1. Implementation

- CRD 5 is expected to come into force in 2019. For three years after the FRTB application date, firms using the revised SBA and IMA can multiply their market risk own funds requirements by 65%.
- This transitional provision is different to the Basel framework, which proposed 2019 for implementing the FRTB changes.
- During the three year phase-in period, the European Banking Authority (EBA) will review and report to the European Commission (EC) on the appropriateness of the FRTB framework.

2. Derogations and simplified approaches

Another significant change is the derogations for small and medium size trading businesses, which CRD 5 introduces to address proportionality. Please see table 1 below for more detail.

Table 1

Trading business	Criteria	Derogation
Small size trading businesses	Size of the on and off-balance sheet trading book business: 1. $\leq 5\%$ of the firms' total assets, and 2. $\leq \text{€}50\text{m}$ on a monthly basis	Replace the own funds requirements for market risk with the own funds requirements for credit risk and dilution risk Exclude certain interest rate, equities, and credit derivatives contracts from the own funds calculation
Medium size trading businesses	Size of the on and off-balance sheet trading book business is 1. $\leq 10\%$ of the firms' total assets, and 2. $\leq \text{€}300\text{m}$ on a monthly basis	Use the simplified standardised approach, which follows the same rules as in CRD4

3. Trading and banking book boundary

In line with the Basel framework, CRD 5 proposes a revised boundary between the trading and banking book. The proposal outlines a prescriptive list of instruments and hedging positions that shall/shall not be included in the trading book. The Basel framework lists standards for assigning instruments to the trading book. For example, instruments held for the purpose of short term sale, profiting from short term price movements, locking in arbitrage profits and hedging the risks related to instruments meeting the above criteria. However, CRD 5 states trading intend as the standard for assigning instruments to the trading book. It does not include the standards articulated by the Basel framework.

4. Trading desk structure

Similar to the Basel framework, CRD 5 proposes a clear desk structure where one trader must be assigned to one trading desk only. There must be a head trader for each trading desk. It also adopts other requirements from the Basel framework such as the need for clear business strategies, position limits, regular reports, annual business plans, and remuneration policy.

5. Internal models approach

5.1 P&L attribution and regulatory backtesting

To satisfy the P&L attribution requirement, CRD 5 adopts the same methodology as the Basel framework. There are two elements firms need to consider. The first element is theoretical changes in a trading desk portfolio's value based on the institution's risk measurement model. The second element is hypothetical changes in the trading desk portfolio's value based on the institution's pricing model. The requirement is to ensure these two elements are sufficiently close. The Basel framework provides quantitative thresholds, which will determine a pass or fail on the P&L attribution test. CRD 5 does not provide such thresholds but indicates that the EBA will develop the regulatory technical standards (RTS) setting those out.

The regulatory backtesting requirements and the add-ons for calculating the multiplication factor in CRD 5 are similar to the Basel framework. CRD 5 requires firms to notify competent authorities within five working days of the overshootings taking place and provide an explanation for those overshootings. This will help the authorities monitor the appropriateness of the multiplication factor and the compliance of the trading desks with the backtesting requirements. The Basel framework does not specify any timeline for the firms to report their overshootings to competent authorities.

5.2 Liquidity horizon

There are two changes to the liquidity horizon that CRD 5 proposes, which are related to sovereigns and covered bonds as shown below in table 2.

Table 2

Risk factor	Risk factor subcategory	CRD 5 Liquidity horizon	Basel liquidity horizon
Credit spread	Sovereigns	10 days for all EU sovereigns and EU central banks (no distinction between investment grade and high yield) 20 days for third country investment grade sovereigns	20 days for all investment grade sovereigns
	Covered bonds	20 days for EU investment grade covered bonds	No specific liquidity horizon for covered bonds

The Basel framework provides a list of liquid currency pairs will that get a preferential treatment under foreign exchange (FX) risk. However, CRD 5 does not outline this list, instead the EBA will provide these details in the draft RTS.

5.3 Non-Modellable risk factors (NMRFs)

While CRD 5 adopts the Basel conditions to determine the modellability of risk factors, there is no further guidance on the application of the standards for NMRFs. The Basel framework states firms must determine the extreme scenarios of future shocks to calculate the own funds requirements for NMRFs. CRD 5 also states firms must determine the extreme scenarios of future shocks but without providing details on what is deemed an acceptable stress scenario. The EBA will provide details of the stress scenarios in the draft RTS.

5.4 Default risk charge

Firms must adopt an internal default risk model to measure the default risk of the individual issuer and simultaneous default of multiple issuers for credit spread and equity risk positions. CRD 5 states firms should model the default of the issuer using at least two systemic risk factors and one idiosyncratic risk factor. The model shall reflect the economic cycle, including the dependence between recovery rates and the systemic risk factors. The Basel framework does not propose the model should use the idiosyncratic risk factor and economic cycle.

6. Standardised approach (SBA)

CRD 5 adopts the revised approach proposed by the Basel framework, where the own funds requirements is a sum of the requirements under the sensitivities based method, default risk, and residual risk. There is a preferential risk weight for EU sovereigns and covered bonds for credit spread risk under the sensitivities based method as shown in table 3 below.

Table 3

Risk class	Sector	CRD 5 risk weight	Basel risk weight
Credit spread risk non-securitisation	Sovereigns	0.5% for all EU sovereigns (no differentiation between investment grade and high yield/ unrated exposures)	0.5% for investment grade sovereigns 3% for high yield and unrated sovereign exposures
	Covered bonds	2% for covered bonds issued by EU credit institutions.	4% for all covered bonds

		4% for those issued by third country credit institutions	
Credit spread risk securitisation (CTP)	Sovereigns	4% for all EU sovereigns (no differentiation between investment grade, high yield and unrated)	4% for investment grade sovereigns 13% for high yield and unrated sovereign exposures
	Covered bonds	3% for covered bonds issued by EU credit institutions 6% for those issued by third country credit institutions	6% for all covered bonds

Basel states the SBA will serve as a floor to the capital requirements calculated using the IMA. But CRD 5 does not indicate that the SBA should act as a floor to capital requirements under the IMA.

7. EBA RTS and guidelines

As part of the proposal, the EC has given the EBA mandates to develop RTS and guidelines. The expected timeline for submission of these RTS and guidelines to the EC varies from six months to two years after CRD 5 comes into force. Please refer to Appendix A for the list of expected RTS and guidelines.

8. Qualitative requirements

As with CRD4, CRD 5 also emphasises the importance of internal audit and third party reviews. For example, the internal audit should review the trading book policies and procedures and risk management process at least annually. The internal audit or third parties should validate the internal models when they are developed and when they undergo any significant changes. In addition, the internal audit or third parties should validate the internal models periodically.

9. Impact for firms

The desk level model approval process tends to be a more rigorous regulatory process. Firms will require time and resources to

- analyse and conclude upon the appropriate FRTB desk structure and future business strategy,
- implement governance and controls framework at a desk level,
- agree the roles and responsibilities for the revised target operating model, and
- document methodology and procedures for the model capability.

Institutions using the IMA should incorporate an appropriate framework to distinguish between modellable and NMRFs. Firms should consider adopting the methodologies and approaches to reduce the number of NMRFs and hence, reduce the capital add-on. As an example, the capital add-on will have more impact to firms with trading exposures to exotic products and emerging market products.

Although CRD 5 does not indicate the use of SBA as a floor to the capital requirements under the IMA, discussions are still ongoing on this topic. While the capital add-on under the IMA will impact firms with certain exposures, the new residual risk add-ons under the SBA are also deemed to be capital intensive. The capital floors and add-ons are key drivers that firms should consider in adopting the IMA versus SBA for capital requirements calculation.

CRD 5 does not provide all the required guidance. However, given the magnitude and impact of the changes, firms should push ahead with their plans to implement the FRTB framework.

What do firms need to do?

Firms should undertake a desk level analysis based on capital factors (SBA requirements, IMA requirements and related regulatory backtesting and P&L attribution test implications) and non-capital factors (profitability, return on equity, liquidity, balance sheet management etc.) to agree the appropriate desk structure and future business strategy.

Although CRD 5 does not provide further guidance on the P&L attribution test, firms should begin to consider how to improve and further align their processes and systems across various functions. This will increase the chances of passing the P&L attribution test.

Target operating model revisions should also be an important element to this programme. Firms should redefine the roles and responsibilities across the firm to monitor, manage and report the capital consumption of the positions traded at the desk level. They should also consider the costs and benefits of onshore and offshore operating models.

Granular, relevant and accurate data is required to model the calculated risk factors and sensitivities under both the SBA and IMA. Data capture, identification, sourcing and application of consistent data standards should be a key element in the design of the FRTB plan.

Firms should consider enhancing the infrastructure to handle greater data processing volumes and computational requirements. Improving processes to minimise the manual adjustments and reduce data reconciliations should be a key component of the FRTB design. They should also consider the synergies of FRTB and other regulatory initiatives such as 'Basel IV', IFRS 9 and standardised approach to counterparty credit risk when designing and implementing the data and technology changes.

Finally, these proposals are still in draft and firms need to engage with the process when the European Parliament and Council discuss and finalise CRD 5.

Contacts

Ben Higgin

Ben.Higgin@pwc.com
Tel: +44 207 213 3901

Luis Prazeres

Luis.prazeres@uk.pwc.com
Tel: + 44 207 804 5421

Suddankumar Subbaroyan

Suddankumar.Subbaroyan@pwc.com
Tel: +44 207 212 6003

Martin Neisen

Martin.neisen@de.pwc.com
Tel: +49 69 9585-3328

Abdellah M'barki

Abdellah.mbarki@nl.pwc.com
Tel: +31 88 792 5566

10. Appendix A

List of expected EBA RTS and guidelines

S.No	RTS/ Guidelines	Related to	Expected submission to the Commission
1	Guidelines	Exceptional circumstances related to reclassification of a position from the trading book to the non-trading book	2 years after CRD 5 comes into force
2	RTS	Own funds requirements for non-trading book positions subject to foreign exchange risk and commodity risk	6 months after CRD 5 comes into force
3	RTS	Own funds requirements for collective investment undertakings (CIU) under the SBA	15 months after CRD 5 comes into force
4	RTS	Instruments exposed to residual risk add-on under the SBA	15 months after CRD 5 comes into force
5	RTS	Jump to default calculation for the default risk charge under the SBA	15 months after CRD 5 comes into force
6	RTS	Emerging and advanced economies for determining the risk weight for equity risk under the SBA	15 months after CRD 5 comes into force
7	RTS	Conditions for extending and changing the use of internal models under the internal models approach (IMA)	2 years after CRD 5 comes into force
8	RTS	Circumstances where competent authorities can permit the use of internal models even if they don't meet the requirements	6 months after CRD 5 comes into force
9	RTS	Liquidity horizon mapping and liquid currency pairs under the IMA	6 months after CRD 5 comes into force
10	RTS	Definitions of actual and hypothetical changes for backtesting under the IMA	6 months after CRD 5 comes into force
11	RTS	P&L attribution requirements under the IMA	6 months after CRD 5 comes into force
12	RTS	Future shock scenarios related to non-modellable risk factors under the IMA	6 months after CRD 5 comes into force
13	Guidelines	Own funds requirements for default risk, recognition of hedges, and specific requirements for the internal default risk model under the IMA	2 years after CRD 5 comes into force
14	RTS	Requirements for estimating the default probabilities and loss given default in the default risk model under the IMA	15 months after CRD 5 comes into force

Stand out for the right reasons



Alert

Financial services risk and regulation is an opportunity.

At PwC we work with you to embrace change in a way that delivers value to your customers, and long-term growth and profits for your business. With our help, you won't just avoid potential problems, you'll also get ahead.

We support you in four key areas.

- By alerting you to financial and regulatory risks we help you to understand the position you're in and how to comply with regulations. You can then turn risk and regulation to your advantage.
- We help you to prepare for issues such as technical difficulties, operational failure or cyber attacks. By working with you to develop the systems and processes that protect your business you can become more resilient, reliable and effective.
- Adapting your business to achieve cultural change is right for your customers and your people. By equipping you with the insights and tools you need, we will help transform your business and turn uncertainty into opportunity.
- Even the best processes or products sometimes fail. We help repair any damage swiftly to build even greater levels of trust and confidence.

Working with PwC brings a clearer understanding of where you are and where you want to be. Together, we can develop transparent and compelling business strategies for customers, regulators, employees and stakeholders. By adding our skills, experience and expertise to yours, your business can stand out for the right reasons.

For more information on how we can help you to stand out visit www.pwc.co.uk



Protect



Adapt



Repair

This publication has been prepared for general guidance on matters of interest only, and does not constitute professional advice. You should not act upon the information contained in this publication without obtaining specific professional advice. No representation or warranty (express or implied) is given as to the accuracy or completeness of the information contained in this publication, and, to the extent permitted by law, PricewaterhouseCoopers LLP, its members, employees and agents do not accept or assume any liability, responsibility or duty of care for any consequences of you or anyone else acting, or refraining to act, in reliance on the information contained in this publication or for any decision based on it.

© 2016 PricewaterhouseCoopers LLP. All rights reserved. In this document, "PwC" refers to the UK member firm, and may sometimes refer to the PwC network. Each member firm is a separate legal entity. Please see www.pwc.com/structure for further details.

161205-104322-JD-OS