Fundamental review of the trading book

Managing the impact of the new market risk rules
What’s changing in market risk and why?

In January 2016 the Basel Committee on Banking Supervision published the Fundamental Review of the Trading Book (FRTB). It comes into effect from January 2019 and banks must be compliant by December 2019. The new framework will have serious implications for trading activities, and in some cases it could lead to the closure of smaller trading desks. The significance of FRTB should not be underestimated and many banks will need to rethink their strategic and business processes.

FRTB affects risk weighted assets and capital and replaces the Basel 2.5 market risk reforms of 2009. As an interim measure, Basel 2.5 addressed weaknesses exposed by the financial crisis, but became inconsistent over time. FRTB refocuses the approach to market risk management and aims to drive a more consistent implementation through clearer guidelines. It will change the way banks manage and calculate market risk arising from trading positions.

Why are the changes taking place?

There are a number of specific weaknesses under Basel 2.5. In its current form, the regulatory boundary between the trading book and banking book is unclear and open to different interpretations. The current Value at Risk (VaR) framework for risk capture is also limited and requires a more cohesive assessment to provide a better estimate of potential loss. Additionally, the Standardised Approach (SA) is no longer a credible fall back option to the Internal Models Approach (IMA), as the logic between the calculations has become flawed. FRTB aims to address some of these issues.

The key features of FRTB include:

- A clearer distinction between the trading book and the banking book, reducing the scope for arbitrage.
- Better capture of tail and liquidity risks.
- An overhauled SA for increased sensitivity to risk and a more robust fall back to the IMA.
- A more stringent IMA with desk by desk granular quantitative and qualitative processes.

Who’s affected?

All banks with a trading book, regardless of their size. However, as the trading book is now defined differently, some banks will now fall under the market risk rules, whereas previously they did not. For example, positions resulting from underwriting commitments held for short-term resale, or where the purpose is to lock in arbitrage profits (and the hedging of risks from such instruments).

FRTB currently only applies to banks, but will be rolled out to other financial services firms in the future. Failure to comply will lead to regulatory fines and potential suspension of their banking licence.

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What should banks be thinking about?

Banks have until the beginning of 2019 to implement their FRTB programmes. This leaves limited time to analyse requirements, design a suitable approach and implement it. While scoping the FRTB programme, banks should address a number of questions to make sure the right support and metrics are in place to meet business, market and regulatory requirements.

**KEY QUESTIONS FOR BANKS**

- How should an initial impact analysis be conducted against the SA and IMA method?
- What will FRTB really mean for each business team?
- Which model approach captures risk better? What method should be used to decide the approach?
- Which businesses should be sunset vs invested in and scaled?
- Where will the necessary market data come from?
- How will FRTB affect the landscape in terms of competition?
- What cultural changes have to be made across the bank?
- How does this tie into SMCR or MiFID II?
- How will this be integrated with existing processes?
- What about global books?
- How will new and expanded processes, such as increased reporting and model validation, be resourced?
- Which teams should be part of the project?
- How will the changes be captured in the ICAAP and other related documents (eg risk frameworks)?
- Do Credit Value Adjustments (CVA) need to be factored into the FRTB approach?
- What technology changes will be needed?
A closer look at the changes

FRTB introduces two major changes. The revised trade book boundary means many banks’ assets will be re-categorised and all associated activities will fall under different rules. The framework also changes the approach used to calculate minimum capital requirements for market risk. FRTB aims to drive greater consistency across the market, which means many banks will have to adjust their processes accordingly.

Changing the boundary
In its previous form, the boundary between the trading book and the banking book was unclear. It offered a degree of choice over how banks would like their assets to be classified and subsequently regulated. For example, banks could move assets between the banking book and the trading book to minimise the capital charge. FRTB removes any ambiguity to prevent potential misuse. Banks must re-assess their current assets, taking into account relevant regulations, portfolios and treatments.

Standardised approach
The standardised approach is used in three distinct ways. Banks can use it as a stand-alone method to calculate their market risk charges. They are also obliged to use it for desks that are out of scope for IMA and where there is a quantitative breach for an IMA desk.

The redesigned SA aims to be more sensitive to risk. It is based on explicitly specified risk sensitivities for each instrument and aggregated across trading desks. It also captures default risk and uses a residual add-on for all uncategorised risks.

A firm will be required to apply the SA if they fail the qualitative or quantitative criteria for IMA.

Sensitivity Based Method

Risk factor sensitivities
- Delta Risk
- Vega Risk (instruments with optionality)
- Curvature Risk (instruments with optionality)

Risk classes
- General interest rate
- FX
- Credit Spread: securitisation (non-correlation)
- Credit Spread: securitisation (correlation)
- Credit Spread: non-securitisation
- Commodity
- Equity

The weighted risk factor sensitivity calculation is repeated for every risk class.

The total for each risk class must be added together.

This calculation is repeated for each correlation scenario.

The highest figure across the correlation scenarios is the ultimate portfolio level risk capital charge.

Default Risk Charge
Captures the jump-to-default risk in three independent capital charge computations for default risk of non-securitisations, securitisations (non-correlation trading portfolio) and securitisation correlation trading portfolios.

Residual Risk Add-on
Other risks not captured elsewhere:
- Gap risk
- Correlation (parameter) risk
- Behavioural risk
- Risk from an exotic underlying

Case study: Optimising front office data
A global financial services firm engaged us to optimise front office data in light of changing regulatory and business requirements. We developed a methodology and tools to support the management of revised data, leading to improved market risk calculations.
Different approaches
Under FRTB, once a bank has categorised their assets in terms of the trading book or banking book, they must identify which approach is suitable for calculating their market risk capital. Banks must use SA, unless they meet IMA requirements on an ongoing basis, in which case they must run SA alongside it, acting as a capital floor. Under Basel 2.5, this was only the case for correlation trading portfolios under the Comprehensive Risk Measure (CRM). Banks must also regularly reassess assets to check IMA continues to be the most appropriate methodology.

Internal Models Approach
IMA aims to fully capture all risk factors, regardless of the instrument category or contractual form they take. Each trading desk will also need to gain approval for every model, based on assessment of model performance. They must also have distinct thresholds for breaches of back testing and profit and loss (P&L) attribution processes. The expected shortfall will be the primary risk measure to improve the capture of tail risk, compared to the VaR measure. IMA also captures default risk and any non-modellable risk factors. This approach is applicable to banks of all sizes and should not be overlooked.

The revised Internal Model Approach can be calculated as follows:

### Internal Model Approach Calculations

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<tr>
<td><strong>1. Expected Shortfall (ES)</strong></td>
<td><strong>2. Default risk charge</strong></td>
<td><strong>3. Non-modellable risk factor</strong></td>
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<td><strong>Base calculation:</strong> 97.5% 10-day ES full revaluation</td>
<td>99.9% VaR over one year horizon, based on the following:</td>
<td>Capitalised with a stress scenario that is at least as prudent as the equivalent ES calculation</td>
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<td></td>
<td>• Two factor default simulation (listed equity prices, credit spreads)</td>
<td>Two kinds:</td>
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<td></td>
<td>• One year stress (using 10 year historical data and 250 day liquidity horizon)</td>
<td>• Arising from idiosyncratic credit spread risk</td>
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<td></td>
<td></td>
<td>• Others</td>
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<tr>
<td><strong>Illiquidity adjustment:</strong> Combine total ES with partial ES values, scaled up to each liquidity horizon (10, 20, 40, 60, 120)</td>
<td></td>
<td>The capital charge is floored at a multiple of the average capital charge over the last 60 days, with a conservative multiplier for the non-modellable risk component of between 1.5 and 2, depending on back testing performance</td>
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<td><strong>Stress calibration:</strong> Combine three ES values to produce stress period with full set of risk factors</td>
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<td><strong>Diversification mitigation:</strong> Calculate equally-weighted average of total and non-diversified (sum of partial) ES values [each of the regulatory risk classes - interest rate, equity, FX, commodity, credit spread]</td>
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Case study: Preparing for FRTB
We are supporting a large global bank to prepare for FRTB. Our team is reviewing their data integrity to ensure information gathered is fit for purpose. As part of their quantitative criteria analysis, our experts are conducting P&L attribution testing and improving their readiness for FRTB implementation. This year long project continues to support our client meet the data requirements for FRTB.
So how much will it really affect banks?

The impact of FRTB should not be underestimated. It will be expensive to resource, implement and maintain, and banks should recognise the scale of revisions to their overall market risk strategy. Banks with a small number of trading desks may have to weigh up the cost of implementation against the benefit of keeping them open. FRTB will have a significant impact on a bank’s wider strategy and business processes, as demonstrated below.

### Strategy and business model
FRTB will call into question the viability of existing business models and trading desks. Under FRTB, capital requirements will also be considerably more portfolio sensitive. Trading strategies will need to be reviewed in light of FRTB, as will risk appetites. Trading authorities and product approvals will be tightened to prevent accidental boundary breaches, which would move parts or even the entire portfolio under a more onerous set of requirements.

FRTB will also potentially lead to higher capital requirements, with a knock-on effect across the business. Traders may have to reconsider their pricing structures to cover the difference.

### Processes and organisation
FRTB will demand a number of organisational changes. The changes require further granularity around calculations, reporting and monitoring, and will impact current risk management processes.

As such, many banks will need to change their organisational infrastructure. Larger banks may be better placed to absorb these costs, while many smaller banks could struggle with the cost of compliance.

Banks operating across multiple jurisdictions will need to check their FRTB implementation against local regulation for consistent application.

### Systems and data management
Good data management will be central to FRTB implementation. Whether banks are following IMA or SA, both now require more calculations to determine the market risk capital.

These calculations are also more complex and some banks will need to upgrade their IT systems in order to complete them. Regulators will need to be comfortable that banks are managing their data effectively – if not they may be subject to higher capital requirements.

This will lead to significantly higher system requirements compared to the current VaR approach.

To calculate expected shortfall, banks will need to run multiple scenarios taking into account different liquidity horizons and diversification configurations. The ongoing validation of such models will also require its own calculations.

### Calculations
The new regulation will have considerable impact on calculation processes within the SA and IMA. There are new limitations on allowable hedging across books and trading products in different buckets.

The SA includes correlation scenarios, factor granularity and hedge recognition for the default risk charge.

The IMA offers partial recognition of diversification, stress-period choice and additional dynamics of limited recognition of diversification. There are also reduced correlation benefits, including limitations on netting and stricter interpretation of basis risk.

We undertook a gap analysis of a bank’s existing market risk framework against current and proposed regulatory requirements, leading to a road map of key actions needed to close gaps. We worked with the bank to implement the key actions and gave them the tools to enhance the framework as new regulations were developed.
How can we help?

FRTB implementation will be challenging. Grant Thornton is already working with some of the largest global financial institutions on FRTB implementation. We can draw on this insight of best practice to support smaller and mid-tier banks to develop pragmatic approaches to FRTB, which are proportionate to their size and scale.

At Grant Thornton, we offer best in class advisory and assurance services to support your business to adopt the framework. Our services are delivered by subject matter experts at the forefront of their field. They will work with you to ensure your FRTB implementation complements your overall business strategy.

We can assist your FRTB implementation in the following areas:

- **Assessment of your existing market risk framework** – to produce a full gap analysis against the new requirements, including an action plan for compliance.
- **Impact assessments** – to understand the strategic implications of FRTB including the effect on your business model, capital planning and revisions to your policy framework.
- **Review and validation of your risk models (particularly P&L attribution and backtesting)** – including a capital absorption analysis and assessment of how this relates to existing capital models.
- **Pre-implementation assurance reviews** – to evaluate FRTB programme design and check implementation plans are adequate, with a robust project governance and control framework.

Firms typically require assistance across the following areas:

- **Strategy and business model**
- **Capital calculations and implications**
- **Project management and business analysis**
- **Organisational structures**
- **Employee awareness and training**
- **Infrastructure (data, computational and documentation)**
- **Governance and reporting**
- **Gap analysis**
- **Embedding understanding and cultural change**
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