

Fundamental Review of the Trading Book

Perspectives on requirements and impact

3rd Dec 2015 by Thomas Obitz

The Fundamental Review of the Trading Book requires to deal with higher capital demands and operational change

- The Fundamental Review of the Trading Book (FRTB) is a regulation which reacts to actual and perceived issues in market risk practices in banks
- Four quantitative impact studies (QIS) have reviewed the changes in capital demand and found considerable increment in participants by up to 800%
- The regulation is planned to go live in 2018. Rules are supposed to be finalized by end of 2015
- Banks need to assess their options under the new regime, but also get their risk operating model and infrastructure ready for new requirements
- This paper highlights critical requirements and levers for banks to deal with the requirements of FRTB

Increased capital demand

- The move to expected shortfall (ES), the default risk charge (DRC) and the charge for non-modellable risk factors (NMRF) increase market risk capital requirements by 74% at average, with peaks up to 800% (QIS 3¹⁾)
- The capital under QIS 4²⁾ revised standardized approach is 4.2 times higher than today, with 47% as a residual risk add-on (RRA) which is not risk sensitive and may act as a tax on volume

Dramatic cliff effects for Standardized Approach

- The gap between internal model (IMA) and revised standardized approach (SA) is between 2.1 and 4.6 depending on asset classes²⁾
- A majority of banks and desks within the banks failed at least one of the P&L attribution tests, potentially excluding part of the business from IMA²⁾
- Less liquid risk factors are facing hurdles from modellability or may become non-modellable for purely statistical reasons

Additional operational requirements

- Demands for quality and consistency of risk data between front office and risk increase dramatically and have direct financial impact by driving modellability
- Presumption of trading or banking book for certain instruments, with high hurdles and process complexity to change designation
- Internal risk transfers are restricted
- Internal Model Approval processes are becoming more complex

- Banks have to act at multiple levels
 - Implement the operating model changes required by the new market risk framework
 - Optimize existing capabilities, such as model consistency, the quality of risk processes and of risk data
 - Take strategic decisions on profitability of business lines
- This paper
 - Analyses the demands of the regulation, identifies their areas of impact and suggests actions.
 - Identifies a structure for addressing the change
 - Reviews synergies with and dependencies on other regulatory change initiatives

1) Fundamental Review of the Trading Book – Interim Impact Analysis November 2015 (“QIS3”), <http://www.bis.org/bcbs/publ/d346.pdf>

2) Key findings of the Joint Associations' FRTB QIS Analysis (“QIS4”), <https://www.iif.com/publication/regulatory-report/key-findings-joint-associations-frtb-qis-analysis>

The FRTB is a major revision of the market risk framework

- The Fundamental Review of the Trading Book (FRTB) is a major overhaul of the complete market risk framework introduced by Basel 2, 2.5 and 3. Further papers published by the Basel Committee introduce related changes in the CVA framework and on interest rate risk in the banking book.
- These regulations imply several interrelated changes which increase capital requirements considerably, i.a. through non-modellable risk factor charges, longer holding periods, desk level risk measurement and the exclusion of securitization from modellability. Residual risk add-ons were introduced with QIS 4 and have almost doubled trading book capital. Requirements appear volatile, closing them in 2015 for a 2018 go-live will be a challenge.
- Four quantitative impact studies have identified substantial increases in capital requirements for the trading book, at average by a factor of 4.2 under SA (QIS 4).

Area	Change	Typical challenges
Modellability and revised models-based approach	<ul style="list-style-type: none"> ▪ More robust IMB approval process, model approval at desk level ▪ Model performance assessment - Enhanced backtesting, P&L attribution ▪ Strict requirements for data availability 	<ul style="list-style-type: none"> ▪ More complex IMB approval ▪ Data quality and availability ▪ Capital for non-modellable risk
Risk Metrics	<ul style="list-style-type: none"> ▪ Stressed calibration ▪ Expected Shortfall (97.5%), liquidity horizons by risk factor/ product type ▪ Non-Modellable Risk Factors ▪ Residual Risk Add-ons (QIS 4) 	<ul style="list-style-type: none"> ▪ Stress period to be defined ▪ Capital impact ▪ Calculation and interpretation of ES
Risk Measurement	<ul style="list-style-type: none"> ▪ Revised standardized approach to be calculated for all positions – may become benchmark or floor ▪ Limitation to hedging/ diversification benefit through split correlations ▪ Stressed correlations for standardized models ▪ Reporting at desk level 	<ul style="list-style-type: none"> ▪ Standardized calculations in addition to IMB ▪ Stressed correlations, “risk buckets” ▪ Gold not as FX anymore ▪ Production and monitoring of desk level data
Risk Reporting	<ul style="list-style-type: none"> ▪ Proposed desk level reporting and disclosure 	<ul style="list-style-type: none"> ▪ Leakage of confidential information
Credit Treatment	<ul style="list-style-type: none"> ▪ Securitized products: Standardized charges ▪ Non-securitized products: Incremental Default Risk (IDR) Charge 	<ul style="list-style-type: none"> ▪ Punitive capital charges for securitizations
CVA	<ul style="list-style-type: none"> ▪ Migration to a market implied/ risk-neutral framework (CVA paper) ▪ CVA still as a separate component rather than by modelling CP spread 	<ul style="list-style-type: none"> ▪ Further development from Basel III
Trading/ Banking Book Boundary	<ul style="list-style-type: none"> ▪ Reduce permeability by stricter rules ▪ Reduce opportunity for arbitrage, better supervisory tools ▪ Presumption of trading book for certain instruments, including options ▪ Capital penalty for switching ▪ Internal risk transfers (IRT) as a limited transfer instrument 	<ul style="list-style-type: none"> ▪ Potential inconsistencies between regulators ▪ Difficulty recognizing hedge instruments for banking book (apart from IRTs) ▪ Instrument taxonomy for regulatory treatment ▪ Booking of switching penalties
Governance	<ul style="list-style-type: none"> ▪ Trading strategy to be defined at desk level 	<ul style="list-style-type: none"> ▪ Leakage of confidential information

The regulation impacts at a business, system and data level

- Addressing the requirements of FRTB and related papers requires activity at multiple levels.
- Coordination between several layers of the operating model is required to achieve compliance and minimize impact.
- A coordinated approach reduces execution risk and allows to manage trade-offs.

Organisation and product portfolio

- FRTB is going to increase capital requirements on the trading book considerably. Key drivers are standardized models for securitizations, longer liquidity horizons and non-modellable risk factors.
- This will severely impact the profitability of business models in trading businesses. Some securitizations are likely to require more capital than the actual market value of the instrument.
- The industry is concerned that the impact is not completely understood either by the banks nor the regulator. The recent Quantitative Impact Study (QIS 3) still is not considered to provide sufficient granularity.
- The split correlations used in the standardized models impact the capital benefit of hedging and in some cases even disincentivise delta neutrality
- It is still unclear whether and how the regulator will react to these concerns. It is expected that securitizations considered “simple”¹⁾ will be treated in less heavy-handed way.

Process, data quality and availability

- Processes for trading/ banking book designation have to be strengthened. Regulatory re-assignment is possible.
- Regulatory trading desks have to demonstrate effective P&L attribution and backtesting performance to be eligible for internal modelling.
- Risk factors have to be observable frequently enough in the market to be modellable. Observation frequency drives time horizon for non-modellable stress scenarios.
- Insufficient data quality may result in desks or positions falling into standardized models

Models and systems

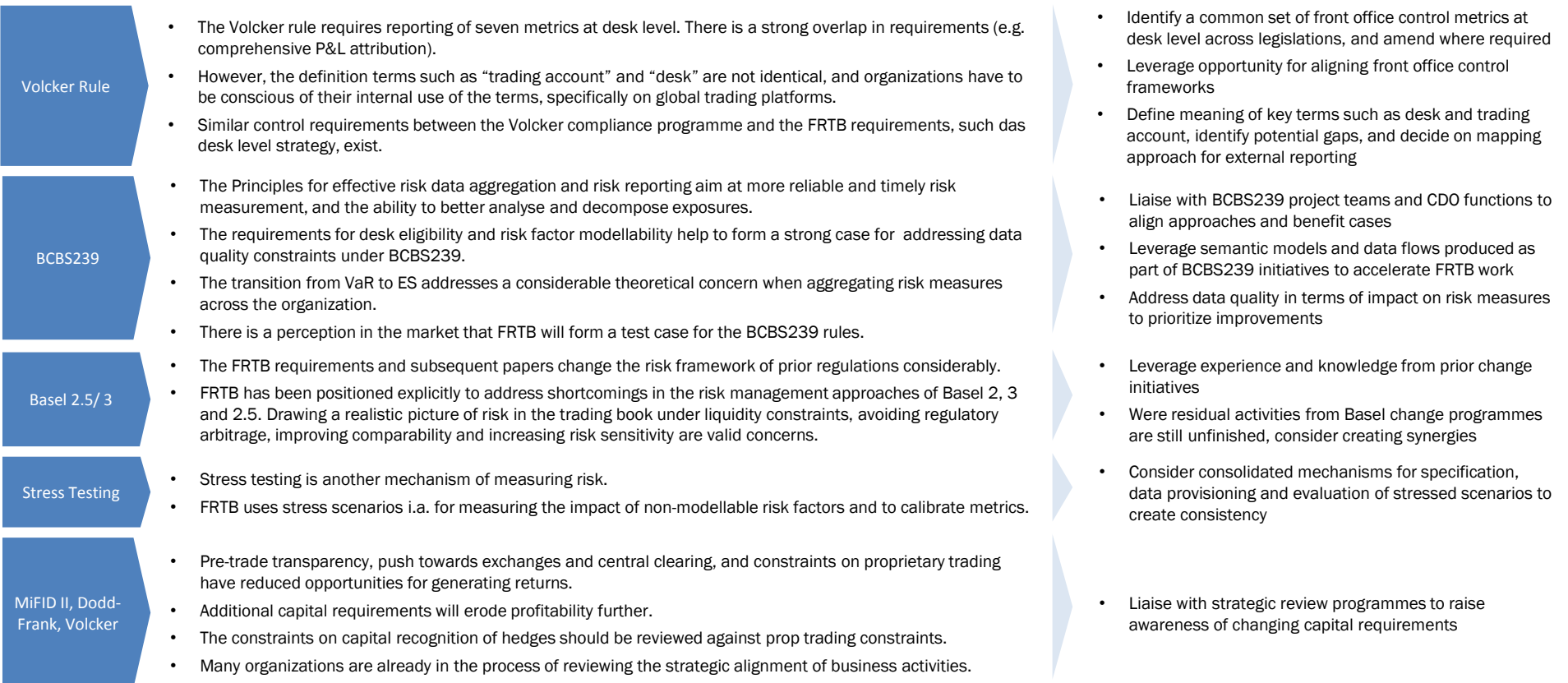
- Implementation and calculation of standardized models required even for portfolios which have internal model approval
- Calculation and aggregation of expected shortfall, variable liquidity horizons
- Calculation and model performance at desk level

- Participation in QIS and own analysis to assess the impact on portfolios
- Identify reasons of non-modellability of risk factors and non-eligibility of desks
- Review desk structure to understand and isolate non-modellability and standard models
- Review product structure for non-modellable risk factors and risk factors with long liquidity horizon. Use capital requirement as a key element of product design. Identify product optimizations.
- Analyse drivers for P&L and backtesting issues. Use six sigma techniques to minimize process variability.
- Identify data quality issues. Identify opportunities for better data sourcing and upfront data cleansing processes.
- Analyse the impact of technical data quality onto the risk outputs and drive materiality driven improvements.
- Models to be implemented/ sourced
- Model performance management processes to be defined and managed
- Considerable change in front office, risk and risk aggregation systems

¹⁾ Criteria for identifying simple, transparent and comparable securitisations, Basel Committee for Banking Supervision, July 2015

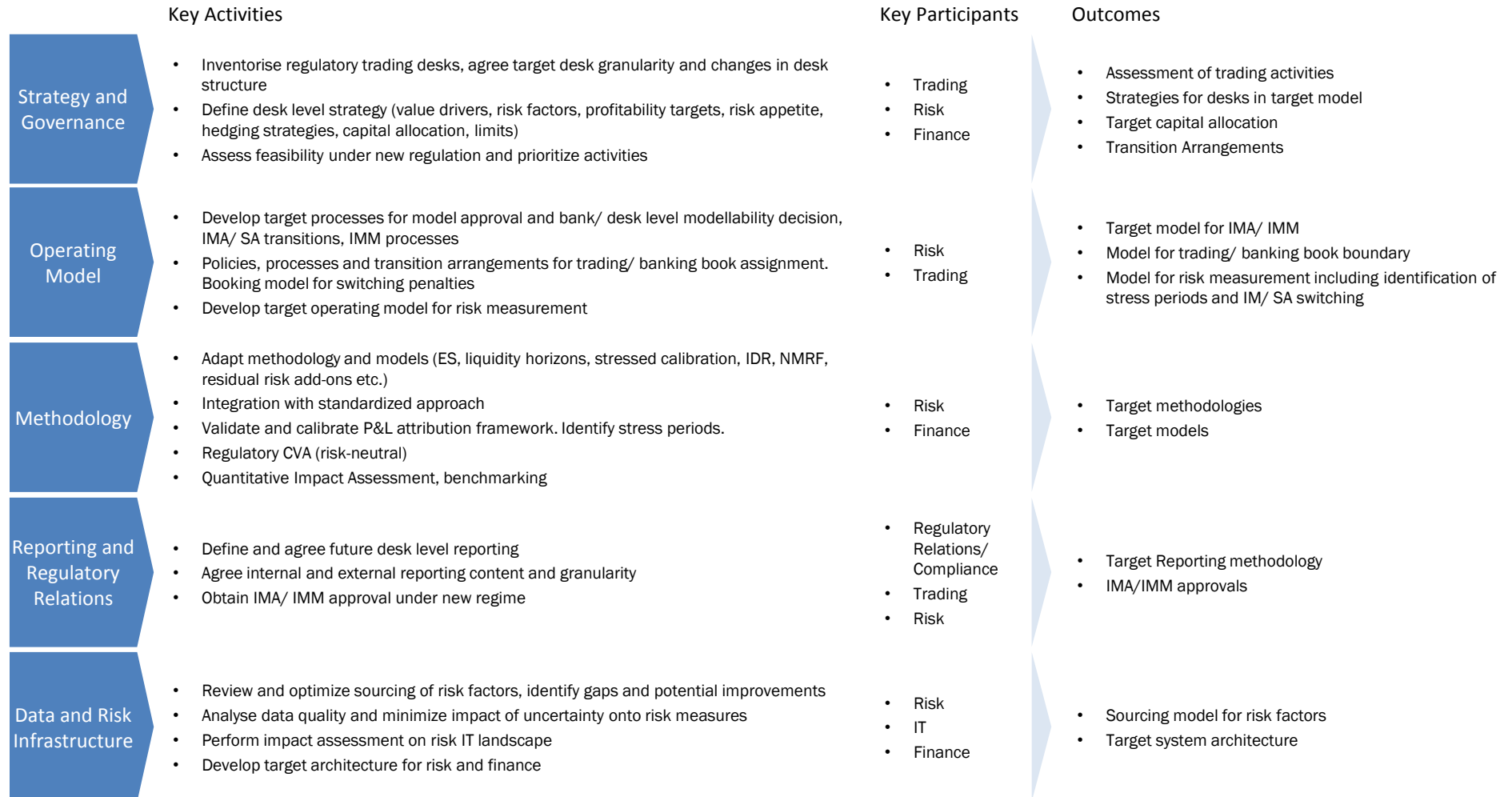
Managing the overlap with other regulations can reduce project risk and reap synergies

- The interdependencies of FRTB with other regulations are largely based on three mechanisms:
 - Requirements for changes to the same processes, models, systems and data which are already impacted by other regulations (Basel 2.5/ 3, stress testing)
 - Requirements for implementation of FRTB (BCBS239)
 - Increase of capital requirements for the trading book together with other regulatory impact may make businesses non-feasible (MIFID II, Dodd-Frank/ Volker)
- There is a strong benefit aligning change across initiatives to reduce risk, cost and contention.



To deal with FRTB effectively, banks need to set up a multi-disciplinary team

- As FRTB touches several areas of trading activities, it requires involving several functions including trading (strategic and operational), risk, finance and IT
- Mobilization can be accelerated by using appropriate patterns and templates



Timeline

- 2011
 - Messages from the academic literature – raises fundamental questions on risk management, including the use of VaR vs coherent risk measures
- 2012
 - May 2012 - First consultation paper on FRTB (BCBS219/ CP1)
- 2013
 - Jan 2013 - Investigation into market risk weighted assets – regulatory consistency assessment programme (RCAP)
 - Oct 2013 - Second consultation paper on FRTB (BCBS265/ CP2)
- 2014
 - Sept 2014 – Publication of hypothetical portfolio exercise
- 2015
 - Dec 2014 – “Outstanding issues” on FRTB (D305/ CP3)
 - June 2015 – Interest rate risk in the banking book
 - July 2015 – Review of the Credit Risk Adjustment Risk Framework (D325)
 - Oct/ Nov 2015 – QIS 3 results published. QIS 4 preliminary results
- 2016
 - End of 2015 – Finalization of rules planned
 - From 2016 – Calibration phase for 2 – 3 years
- 2017
- 2018
 - 2018 – Tentative go-live date**

- The industry is concerned that the aggregate effect of the FRTB regulation has not been understood completely.
- In a letter from Feb 2015, the three industry bodies ISDA, GFMA and IIF raised a request to include results from the June 2015 QIS with the final policy.
- Although the BIS and industry bodies have run four impact studies, the level of change in the framework during 2015 with high impact (such as the residual risk add-on in QIS 3 with 47% of SA capital) raise concerns how well-understood and how predictable its impact is on specific banks as well as on the market place as a whole.
- By end of 2015, only a few banks have advanced implementation activities, but many are ramping up projects. The changes in risk governance, in risk measurement and in the system landscape require banks to act swiftly and decisively to be ready for a 2018 deadline.