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Taking a closer look

Fundamental review of the trading book
Program issues and impacts

Bank-wide impact of the FRTB

The impact of the fundamental review of the trading book (FRTB) will be felt well beyond risk, with front office, finance and IT all heavily affected. There are three key impacts:



1. Capital impact and business strategy

Banks must respond to the capital changes caused by the FRTB – the impact must be fully understood, and used to shape future business strategy.



2. Processes and controls

The FRTB introduces major front-to-back office framework changes, such as enhanced disclosure and increased requirements for risk-finance alignment. A robust set of FRTB-compliant processes and controls is key.

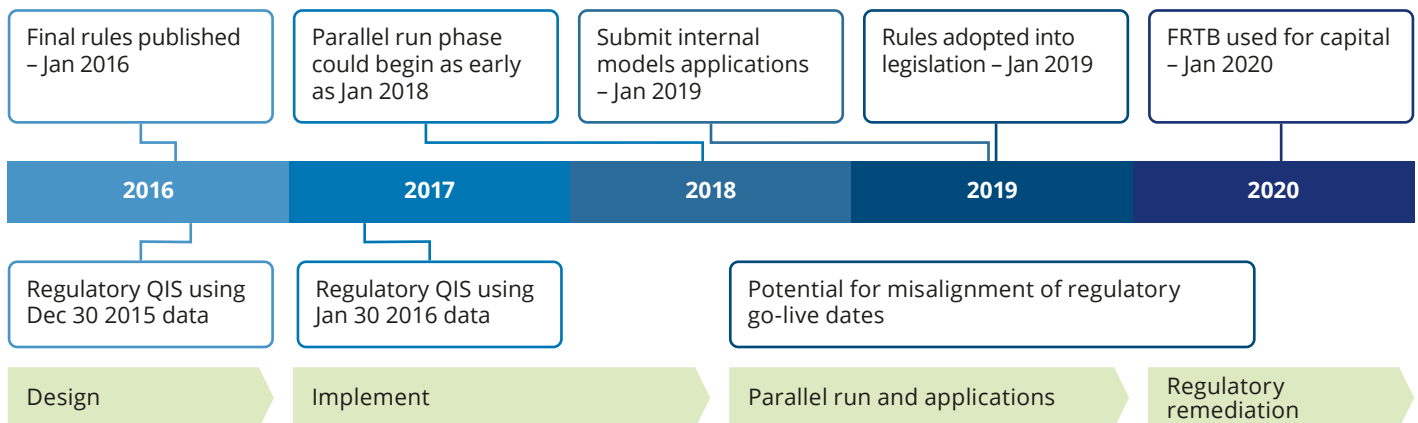


3. IT, data and implementation

Systems across risk, finance and front office will require development work, and early documentation of requirements is essential to ensure nothing is missed.

The timeline for the FRTB

The new regulation comes into force for capital requirements at the end of 2019, with transitional arrangements and parallel calculations from January 1st that year.



Regulatory uncertainty – areas of impact

Important aspects of the rules are still very much open to interpretation. This leaves banks with a dilemma: is the best approach to implement the rules under the current interpretation, or await further clarification and risk missing the deadline.



Profit and loss (P&L) Attribution

There is currently ambiguity as to whether risk theoretical P&L needs to be calculated using risk models or front office pricing models and whether Hypothetical P&L can be measured by front office or needs to be calculated independently by finance. Different interpretations lead to very different implementation choices and costs, and could give rise to very different outcomes in banks' ability to use the internal models approach.



Non-Modellable Risk Factors (NMRF)

A conservative interpretation of the requirements such as categorizing every unobservable risk factor as an individual NMRF, quickly leads to prohibitive levels of capital. Mitigating initiatives, such as finding a "golden source" of market data, would add significant time and expense to implementation.

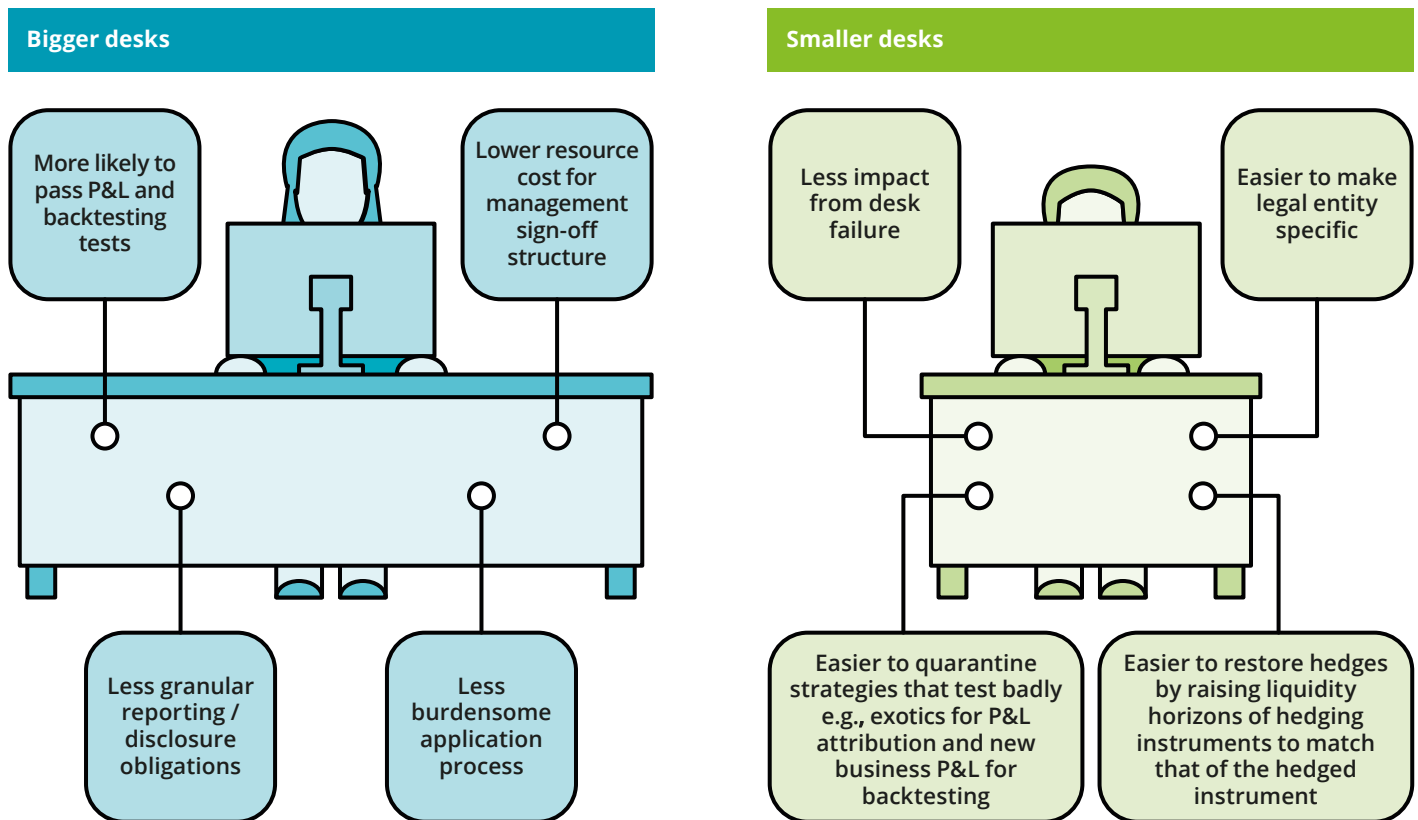
Lack of technical clarification could result in widely diverging interpretation and risk weighed assets (RWA) levels in the industry, which is precisely what the FRTB has intended to avoid.

Developing an FRTB-efficient front office

Trading desks are likely to move between the sensitivity based approach and the internal models approach, and so the front office will want input into market risk setup – regulatory compliance must be achieved in a way that benefits the business.

Banks must focus on maximizing desks with IMA approval, and then ensuring that they remain approved.

The number one driver of IMA approval will be how each desk performs on backtesting and P&L attribution tests. Therefore, making the right decisions around desk structure and desk size are key:



FRTB programs across the industry

FRTB program design structures vary widely across the industry and are often influenced by how firms are set up internally. The key is to ensure core program principles are followed together with groupings of deliverables that maximize synergies. Examples of program structures across the industry include:

Workstreams	(1) Large European bank	(2) Large UK bank
	(I) Front office	(I) Reporting and disclosure
	(II) Models and methodology	(II) TB/BB boundary
	(III) IT and infrastructure	(III) Desk-level tests
	(IV) Process and controls	(IV) Front-office desks
	(V) Data	(V) IMA expected shortfall
	(VI) QIS and analytics	(VI) IMA NMRFs
	(VII) Regulatory liaison	(VII) IMA default risk
	(VIII) Finance	(VIII) Reporting and disclosure
	(IV) Standardized approach	

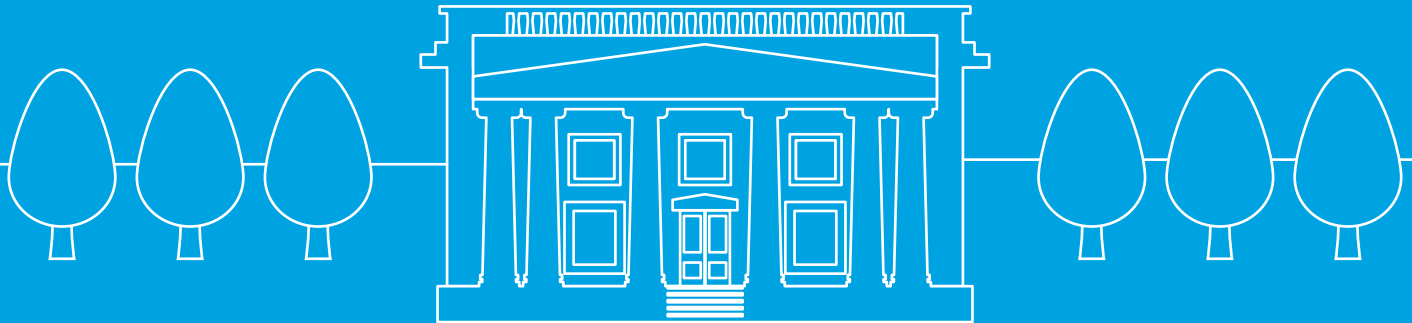
It is equally important that the onerous requirements under FRTB are met with a strategic response – major design decisions and priorities should be informed by the business, which means that a parallel strategic work stream must not be overlooked.

Strategic workstream

The strategic work stream should require significant input from the front office to avoid missing an opportunity to streamline front office processes, which can minimize RWA impact over time. Examples of key strategic decisions include:

- Defining a new regulatory desk structure. This raises questions about legal entity and hedging model.
- Shaping the business response to changing capital requirements.
- Decisions as to priorities for model approval and implications for the implementation timeline.
- Defining KPIs for the risk appetite and various risk metrics under the new regime.

Challenges facing smaller banks



Given the work required to implement even the standardized approach, every bank with a trading book has a tough task ahead.

Standardized approach

In the past, banks opting for the standardized approach may have avoided the more onerous requirements typically associated with internal models. However, requirements under the FRTB SA means that this is no longer the case.

In addition to front office sensitivities, the standardized approach requires good quality static data to be associated with each risk factor. For example, industry sector, region, market capitalization and credit rating are all required attributes. Some of these inputs may not yet exist in production therefore, depending on the bank's current capabilities, significant technical enhancements may be required.

Internal models approach

Requirements for desk-level approval and on-going desk eligibility tests will likely be challenging. For banks lacking the sufficient experience in developing, validating and backtesting internal models, there is an extra layer of complexity.

This could lead to banks specializing in a particular product offering, potentially with exotic type derivatives that pose potential difficulties in backtesting being withdrawn.

FRTB – CVA (Credit Valuation Adjustment)

Regulators are consulting on a overhaul of the current CVA VaR framework. The most recent proposal aims to draw a conceptual parallel with FRTB market risk by introducing a sensitivities based approach for SA-CVA, but also forbids the use of IMA-CVA, narrowing down the available design choices.

Replacement of internal models by an advanced standardized approach

The FRTB-aligned SA-CVA will act as the new 'advanced approach' for banks that meet the minimum requirements, with a highly conservative fall-back on the basic approach (BA-CVA).



What the standardized model has in store is far from trivial

The standardized approach (SA-CVA), analogous to its FRTB market risk counterpart, uses internal CVA sensitivities as inputs. This is far from a trivial requirement, and the production of reliable CVA sensitivities to market risk factors will prove challenging even for the most sophisticated banks.



For this reason, banks should anticipate considerable supervisory oversight – there is likely to be a high-burden of proof to demonstrate SA-CVA eligibility and this should be factored into remediation efforts.

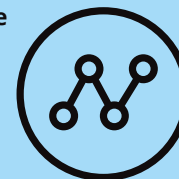
Fallback on basic is expected to have material capital impact

Absent a drastic recalibration, BA-CVA is expected to be prohibitively expensive at 5-7x current standardized CVA charge. For a bank wishing to remain active in the OTC space, SA-CVA is a non-negotiable, high-priority item.



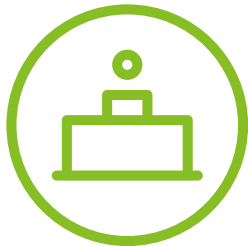
Roadmap to the required future state

The proposed CVA changes represent a material departure from the existing approach and the gap between banks' current state and supervisory expectations is significant. Meeting the requirements would likely require a vast body of remedial work, centrally coordinated across risk, finance, front office and IT



Impact of the trading book/banking book boundary

Regulators are establishing a more objective boundary to mitigate capital arbitrage between the regulatory trading book and banking book. The rules governing the treatment of internal risk transfers (IRT) across the boundary are now far more onerous – meeting these requirements may likely be costly while on-going compliance presents a wide range of significant challenges.



Exposure to much greater supervisory scrutiny

Banks will need to consult more actively with supervisors than is the case today. Supervisors will review and in some cases, have the right to reject risk management strategies and specific transactions.



Reduced flexibility likely leads to higher costs

Restrictions on transfers between the regulatory books will likely increase capital requirements. The new IRT rules effectively reduce or remove any capital benefit resulting from being a universal bank. The need to match external hedges to IRTs can be costly and raises questions as to whether this can provide the market with increased visibility into the bank's banking book hedging strategies.



Increased public disclosures

Re-designations between the different regulatory books, if permitted at all, will be subject to public disclosures.



Enhancements to existing systems and controls is required

Banks will be expected to implement and maintain a robust systems and control framework to ensure segregation between the regulatory books at all times. Adequate systems are required to identify and map external hedges with their corresponding IRTs.



Documentation and risk management

Standardized approach banks will be subject to more onerous documentation and risk management standards with respect to the maintenance of the boundary.

Key insights: Capital impact

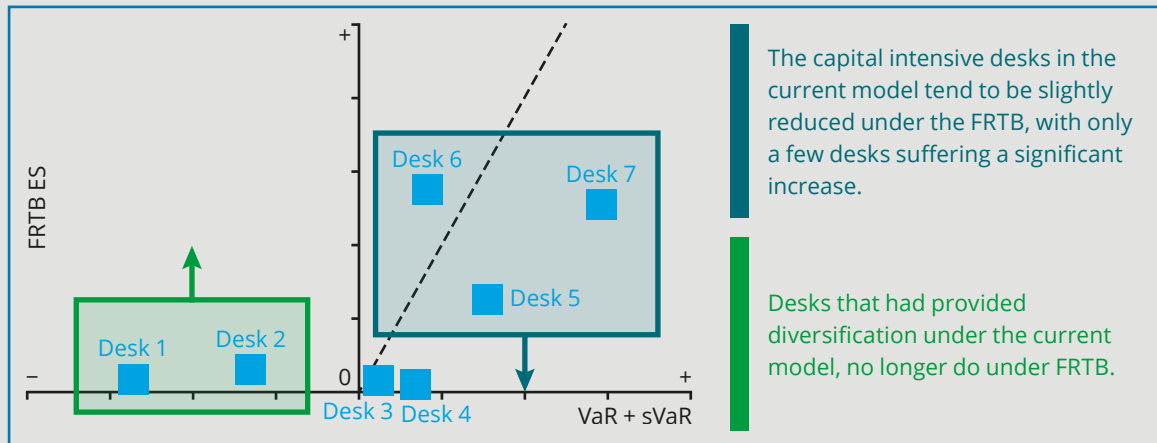
An appropriate methodology for allocating capital across specific desks and business areas is a valuable tool for understanding the key drivers – this could shape a bank’s strategic response to the FRTB.

Impact Analysis can lead to valuable insight

Limited diversification results in capital ‘smoothing’ across desks...

- The move from single portfolio-wide VaR and sVaR to multiple asset class and liquidity horizon calculations ‘smooths’ capital across desks
- As a result, fewer desks suffer very high or very negative capital costs

FRTB expected shortfall vs. VaR + sVaR



The capital intensive desks in the current model tend to be slightly reduced under the FRTB, with only a few desks suffering a significant increase.

Desks that had provided diversification under the current model, no longer do under FRTB.



Result

Many banks may have to completely rethink how they hedge their exposure, and could heavily impact certain desks business models.

Raising liquidity horizons can reduce capital...

The use of multiple liquidity horizons can break hedges, with 'more liquid' risk factors dropping out of expected shortfall calculations.

- Despite the larger scalar multiplier associated with higher liquidity horizons, it can actually be beneficial to restore hedges by raising these horizons (e.g., FX from 10 day to 20 day horizons, or credit from investment grade to high yield)
- Increasing liquidity horizons alone can reduce capital by 5–10 percent.

Desk	Equities					FX					All asset classes				
	10	20	40	60	120	10	20	40	60	120	10	20	40	60	120
Desk A	-11.30	-10.80	6.30	6.60	0.00	-0.50	6.40	1.50	1.40	0.00	-29.00	-12.30	16.40	13.80	0.00
Desk B	0.00	0.00	0.00	0.00	0.00	-5.50	0.40	1.50	1.00	0.00	-13.20	-2.80	1.50	1.90	0.00

- The table shows an illustrative case in which a detailed decomposition of the capital charge – by desk, asset class and liquidity bucket – shows the offset between equity spot and Vol being broken by liquidity buckets – a clear candidate for raising of horizons.



Result

Banks will need the appropriate tools to identify exactly where to raise liquidity horizons, and assess its impact on capital.

FRTB is, in many ways, far more complex than the existing framework.

It is important for banks and regulators to engage with each other early, to avoid duplicating efforts and mitigate the significant potential of unintended consequences associated with any major regime change.

Key insights: Capital optimization

Banks that take the opportunity offered by the FRTB to optimize their front office, rather than just 'get over the line,' will likely be at a distinct advantage in the post FRTB world.

An initial view on desk structure and optimization could be formed relatively quickly using prototype models and desk eligibility test results. Here we outline a general approach to consider, which could be modified depending on progress already made on each stage.

1



Preparation: Automate prototype models and data feeds; Agree allocation methodology

Capital impact and optimization decisions will need to be tested over a variety of scenarios over time. This requires an agreed top-down allocation methodology and finance data to estimate risk factor contributions to capital.

2



Iterative testing of optimization approaches

It is important to agree key design principles and set in motion an ongoing process of iterative optimization.

The process must be both data-driven and guided by careful judgement. Ongoing improvement of prototype models and desk eligibility tests is essential if results are to be meaningful.

FRTB may require a fundamental rethinking of many business structures and operating models. But capital optimization should aim to streamline these, rather than add complexity and opacity.

3

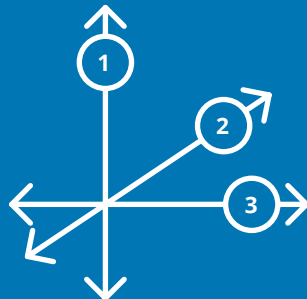


Stakeholder engagement

Any reshape of the front office will need buy-in from across the business. More detailed decisions about trading and hedging strategies will need to be taken by the business not the FRTB analysis.

In addition to impact on RWA, each optimization decision needs to be assessed along three key business dimensions:

1. Cost impact of optimization
2. Optimization fits spirit of FRTB rules
3. Optimization logical for business



4



The result: A toolkit for ongoing optimization

Optimization and strategic restructuring will take place up to – and beyond – FRTB go-live. The aim of an initial strategic analysis cannot be to find all the answers, but rather to define an approach and toolkit for ongoing optimization and secure agreement across the bank as to the scale of change required.

Deloitte Global FRTB contacts

Global Financial Services Leadership



Robert Contri
Global Leader, Financial Services
Industry DTTL
+1 212 436 2043
bcontri@deloitte.com



Anna Celner
Global Leader, Banking and
Securities DTTL
+41 58 279 6850
acelner@deloitte.ch



Rick Porter
Global Leader, Financial Services
Risk Advisory DTTL
+1 561 962 7792
rickporter@deloitte.com

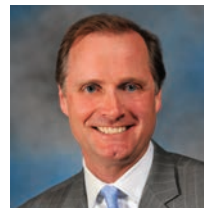


Edward Hida
Global Leader, Risk and Capital
Management DTTL
+1 212 436 4854
ehida@deloitte.com

FRTB Global Leads



Zeshan Choudhry
Partner – Deloitte United Kingdom
+44 20 7303 8572
zchoudhry@deloitte.co.uk



Craig Brown
Managing Director –
Deloitte United States
+1 212 436 3356
cbrown@deloitte.com

FRTB country specialists

Australia

Kevin Nixon

Partner – Deloitte Australia
+61 2 9322 7555
kevinixon@deloitte.com.au

Timothy Oldham

Partner – Deloitte Australia
+61 2 9322 5694
toldham@deloitte.com.au

Steven Cunico

Partner – Deloitte Australia
+61 3 9671 7024
scunico@deloitte.com.au

Brazil

Rodrigo Mendes Duarte

Partner – Deloitte Brazil
+55 11 5186 6206
rodrigomendes@deloitte.com

Canada

Azer Hann

Partner – Deloitte Canada
+1 416 601 5777
ahann@deloitte.ca

Mario El-khoury

Partner – Deloitte Canada
+1 416 601 6091
mareelkhoury@deloitte.ca

Robert Cranmer

Director – Deloitte Canada
+1 416 775 8669
rcranmer@deloitte.ca

France

Frederic Bujoc

Partner – Deloitte France
+33 1 55 61 23 83
fbujoc@deloitte.fr

Samuel Feron

Director – Deloitte France
+33 1 55 61 79 60
sferon@deloitte.fr

Germany

Joerg Engels

Partner – Deloitte Germany
+49 211 8772 2376
jengels@deloitte.de

Frank Mueller

Director – Deloitte Germany
+49 697 5695 6225
frmueller@deloitte.de

Italy

Paolo Gianturco

Partner – Deloitte Italy
+39 028 332 3209
pgianturco@deloitte.it

Japan

Tsuyoshi Oyama

Partner – Deloitte Japan
+81 90 9834 4302
tsuyoshi.oyama@tohmatsu.co.jp

Luxemburg

Peters Jean Philippe

Partner – Deloitte Luxembourg
+352 45145 2276
jppeters@deloitte.lu

Martin Flaunet

Partner – Deloitte Luxembourg
+352 45145 2334
mflaunet@deloitte.lu

South Africa

Wayne Savage

Partner – Deloitte South Africa
+27 11 209 8082
dsavage@deloitte.co.za

Monique De Waal

Senior Manager – Deloitte South Africa
+27 11 304 5417
modewaal@deloitte.co.za

United Kingdom

Zeshan Choudhry

Partner – Deloitte United Kingdom
+44 20 7303 8572
zchoudhry@deloitte.co.uk

Daniel Mayer

Senior Manager – Deloitte United Kingdom
+44 20 7007 2566
dmayer@deloitte.co.uk

Peter McCloskey

Director – Deloitte United Kingdom
+44 20 7007 3620
pmccloskey@deloitte.co.uk

Francesco Bellasi

Director – Deloitte United Kingdom
+44 20 7007 1756
frbellasi@deloitte.co.uk

United States

Edward Hida

Partner – Deloitte United States
+1 212 436 4854
ehida@deloitte.com

Craig Brown

Managing Director – Deloitte United States
+1 212 436 3356
cbrown@deloitte.com

Sean Hirsch

Senior Manager – Deloitte United States
+1 213 553 3103
sehirsch@deloitte.com



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