Forge ahead of the FRTB

*Efficiently achieve FRTB compliance with
IBM solutions*

Highlights

- FRTB regulation of the banking industry represents the biggest changes to market risk capital requirements in over a decade.

- Help your bank achieve FRTB compliance with a range of integrated software and technology solutions from IBM®.

- IBM solutions for the FRTB offer the flexibility for your bank to pick and choose which IBM technologies will be deployed to enhance or replace the core capabilities of their current market risk infrastructure.

Meeting requirements of the Fundamental Review of the Trading Book (FRTB) regulations by January 2019 will take the infrastructures of each bank through unique development paths. Choosing the most efficient path for your bank will require you to assess your current market risk infrastructure to identify what key challenges must be overcome to meet FRTB standards.

IBM risk analytics software and technology is used by top banks worldwide, setting the standard for risk management best practices. IBM solutions for the FRTB offer each bank the flexibility to pick and choose which IBM technologies will be deployed to enhance or replace the core capabilities of their current market risk infrastructure.

IBM can help your bank achieve FRTB compliance and outperform the market with integrated risk management solutions that support risk analytics at the deal-time speeds of the front office, and the rigorous methodologies of the middle office.

FRTB challenges for banks

FRTB regulatory requirements are driving banks to invest in reforming their risk management infrastructure across several areas. Some of the most significant challenges introduced by the FRTB are highlighted below:

Risk reporting and aggregation

Senior decision makers are demanding dashboards that perform the dual functions of compiling standardized FRTB reporting for regulators and enable continuous enterprise-wide monitoring of trends. Efficient and up-to-date reporting relies on an integrated infrastructure which supports the enterprise-wide aggregation of risk analytics and risk data.

Risk analytics

Traders are asking for what-if capabilities that enable them to assess the impacts of new trades on risk measures at deal-time speeds. Risk managers require tools for rigorous validation of the risk and capital measures produced. Banks are struggling with developing an integrated platform that is capable of delivering consistent results across both teams, which includes the following:

Common pricing model library: accessible to suit different use cases within the front and middle office.

Adaptive modeling choices: users can choose the modeling approach used by calculation engines based on required speed and quality of results to suit different use cases. For example, choose between when it is more appropriate to use pricing models that are less computationally intensive to meet speed and performance requirements of the front office, versus middle-office models designed to support the more rigorous backtesting and profit and loss (P&L) attribution tests that are essential to obtaining internal model approval.

Highly efficient simulations: a system that can optimize simulations to meet a much higher volume of analytics without the need to dramatically scale hardware requirements. Optimizing requires that the solution understands the set of modelable risk factors that each trade depends on, and determines exactly what trades need to be revalued in each of the 63 simulation-based expected shortfall calculations required by the FRTB.

Sensitivities: the ability to calculate the large volume of sensitivities efficiently and consistently across different asset classes and trading systems, which is a key challenge with the FRTB sensitivities-based method. Banks need a system that provides full flexibility to mix and match sensitivities generated within the risk system or front-office pricing models.

Default risk charge (DRC): the FRTB requires a default correlation model with 10 years of data using two systemic risk factors based solely on equity or credit spreads. Real-world probability of default estimates must now be used when calculating the DRC, while the recovery rates of individual assets must also be correlated to the movements in the probability of default.

Deal-time measures of market risk and limits: traders are looking for deal-time market, credit, liquidity and capital measures that will help them optimize trading decisions and enable them to do more business within established limits.

Risk data management

The most challenging and time-consuming aspect of FRTB-driven reforms is managing the growth in data required to feed risk models, and orchestrating the input and output risk analytics at every step of the process on a daily basis. To appropriately maintain and manage the risk data requirements of the new standardized and internal model approaches, risk analysts and IT staff need the support of new technology, which can help them to:

Detect and correct data errors: use interfaces to detect and highlight potential errors in trade, market and static data, and enable rapid error correction by users with the appropriate permissions and full tracking of corrections.

Automate associated edits: choose systems that understand the relationship between the trades and the simulations that they contribute to, enabling the automation of rapid corrections with full operational control.

Data lineage and provenance: track data as it moves from input sources and is transformed to output analytics.

Data content

To effectively collect and manage the variety of data required, trade, market and static data information must be stored and organized to be available on demand for analysis. Avoid the pitfalls of traditional data warehousing with more flexible and distributed big data solutions that can store large volumes of data to support multiple-use cases.

Governance and controls

The more prescriptive model validation standards under the FRTB, is prompting investments in automating the model validation process to reduce model risks and operational costs. Firms expect the automation of model validation to deliver a high return on investment, because if lax validation standards lead to a trading desk losing approval to use the less punitive Internal Model Method (IMM), then a hefty increase in regulatory capital will be required under the more punitive standardized approach.

IBM solutions for the FRTB

IBM solutions for the FRTB offer a range of capabilities that is designed to enable your bank to address any gaps between the capacity of your current risk infrastructure and the demanding new requirements of the FRTB. IBM consultants can advise banks on plans for what technology will be deployed and when, as the bank progresses towards an integrated risk platform that can outperform the market.

FRTB reporting

Banks that already have a market risk infrastructure capable of computing FRTB-required risk analytics need a solution to perform aggregation of the data and analytics required to prepare FRTB regulatory reporting.

IBM offers an advanced reporting solution that adapts to a bank's existing infrastructure, automating the importing of data and analytics as required across positions, sensitivities, and P&L vectors.

FRTB modeling and reporting

Often banks need to improve the performance of their market risk infrastructure and prepare standardized FRTB regulatory reporting.

IBM offers solutions to complement virtually any existing infrastructure, and can rapidly implement IBM technology that meets FRTB reporting requirements. These solutions are also designed to efficiently compute required new FRTB analytics, such as standardized and internal model approaches.

Integrated risk platform

Some banks are looking for an integrated market and credit risk platform with pricing model flexibility and high end-to-end operational efficiency for computing risk analytics.

IBM offers a breadth of solutions that can be deployed as an integrated risk platform, designed to deliver consistent results across multiple-use cases, such as FRTB regulatory reporting, real-time, what-if analysis of FRTB analytics, and model risk governance.

	FRTB reporting	**FRTB modeling and reporting**	**Integrated risk platform**
Risk reporting and aggregation	IBM Algo® aggregation	IBM Algo aggregation	IBM Algo aggregation
Risk analytics • End-of-day measures of risk and capital • Internal model approach • Standardized approach • Deal-time measures of market risk and limits	Existing infrastructure	IBM Algo One®	IBM Algo One
		IBM Algo One add-on	
Risk data management Data content		Existing infrastructure	
Governance and controls	IBM OpenPages	IBM OpenPages	IBM OpenPages®

Figure 1: **Forge ahead of the FRTB.** Banks can efficiently comply with the FRTB and strive to outperform the market by adopting the latest risk management technologies.

FRTB governance and controls

FRTB compliance programs can be enhanced with governance programs to manage model risk. IBM solutions can help banks establish a risk model inventory and further automate risk model validation and other assessments in adherence with new FRTB requirements, such as the identification of modelable and non-modelable risk factors.
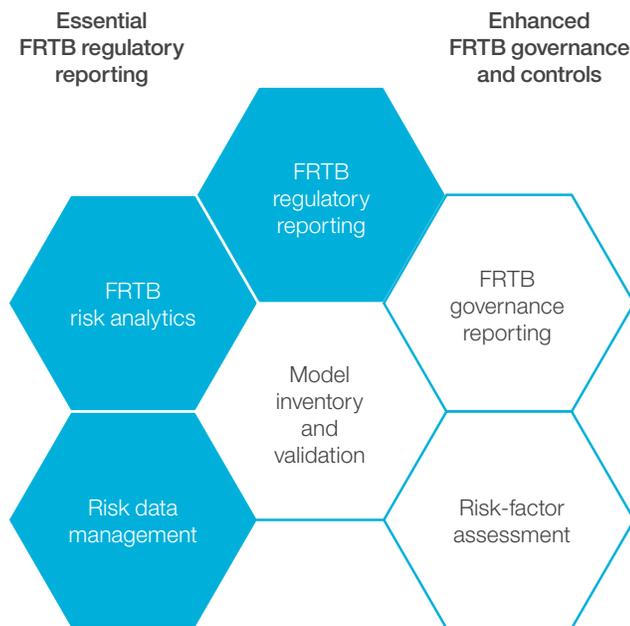
Essential
FRTB regulatory
reporting

Enhanced
FRTB governance
and controls

FRTB
regulatory
reporting

FRTB
governance
reporting

FRTB
risk analytics

Model
inventory
and
validation

Risk data
management

Risk-factor
assessment

Figure 2: IBM OpenPages enables banks to implement enterprise model risk governance in adherence with the new FRTB requirements.

What is your next step?

The regulatory reforms of the FRTB represent the biggest changes to market risk capital requirements in over a decade.

Banks of every size and sophistication will face challenges in reforming their current infrastructure to support FRTB reporting requirements, such as the mandatory calculation of the revised standardized approach and the more operationally complex revised internal model approach.

Contact IBM to have our experienced consultants assess your current infrastructure and recommend the most efficient path for your bank to meet FRTB requirements with the latest IBM solutions.

About IBM analytics

IBM analytics software delivers data-driven insights to help organizations work smarter and outperform their peers. This comprehensive portfolio includes solutions for business intelligence, predictive analytics and decision management, performance management, and risk management.

IBM analytics solutions enable companies to identify and visualize trends and patterns in areas, such as customer analytics, that can have a profound effect on business performance. They can compare scenarios; anticipate potential threats and opportunities; better plan, budget and forecast resources; balance risks against expected returns; and work to meet regulatory requirements. By making analytics widely available, organizations can align tactical and strategic decision making to achieve business goals.

For more information

For further information please visit **ibm.com**/riskanalytics