CPQi

FRTB

A Simple Guide to the Main Technical Challenges

May 2016

Scenario

Implementation of FRTB is required before the 1st January 2019 and is a fundamental change to the means of calculating capital for market risk.

Given the short time horizon, banks are now beginning to consider the technical implications of this major regulatory change.

This document provides a simple overview of the main elements of the new rules and the potential technical work required for trading book systems

Trading Book and Asset Definition

Regulation	Technical work
All assets will need to be defined as either Banking Book or Trading book	All assets will need to be reviewed and categorized. You will have to ensure that they are managed on a system which has the right designation
Once allocated to a book the asset cannot change to the other book except in exceptional circumstances and with regulatory approval	At the very least you will need an operational process to ensure that this is respected and it may be advisable to have a workflow control built for approval of any exceptions
Any allowed change of an asset from one book to the other must have at least the same capital allocation	Your capital calculation engines must be able to accept this added on value if such a change of book occurs
Assets will be broken into risk classes	You will need to be able to allocate the assets on your system to one of the following risk classes: 1. General Interest Rate Risk 2. Credit Spread Risk non-securitized 3. Credit Spread risk securitized not correlated 4. Credit Spread Risk securitized correlated 5. Equity Risk 6. Commodity Risk 7. Foreign Exchange Risk
Risk Weights will be mapped to risk classes	Different risk classes will have different risk factors, but most relate to the maturity date, although not all. You must be able to map them by class
Buckets of assets are permitted	You need to be able to group assets with a similar set of characteristics into a single bucket

Standardized Approach to Market Risk

Regulation	Technical Work

Standardized Approach to Market Risk calculations are mandatory	Even if your bank is not planning to use this model, you must still be able to calculate it on demand.
	
	There are three elements of calculation as follows:
	• Sensitivities method with three parts
	    ○ Delta risk
	    ○ Vega Risk
	    ○ Curvature Risk
	• Default Risk Charge
	• Residual Add-on Risk

Internal Risk Model

Regulation	Technical Work
A bank may use an internal model if it is approved and appropriate. **<u>However:</u>** The internal model must meet **qualitative** standards	Your system must have **<u>segregated responsibilities</u>** for the Risk part of your organization You must be able to **<u>back test</u>** your projected profit and loss on a regular basis. This back testing must show if your model is Green (up to 4 exceptions), Yellow (up to 9 exceptions) or Red. If Red is hit then you will need to transfer to the Standardized Approach to Market Risk. If Yellow is hit then you will need a very good explanation why and an immediate remedial action to keep your internal model You will need to have a robust **<u>stress testing</u>** set of models for both the quantitative and qualitative parts of your model. Such scenarios should include actual historic extreme events as well as other tests related to the specific nature of your banks trading that will test the limits of exposure. You will need to have a record of all compliance events available on demand
The internal model must meet **quantitative** standards	Your system must be able to calculate the measurement of Expected Shortfall (ES) to the 97.5 percentile for your assets Your system needs to also be able to calculate Expected Shortfall under stressed scenarios and conditions Most of your data sets need to be updated at least once a month Your Profit and Loss needs to be attributed back to each desk You need to have a reasonable model for capital allocation relating to illiquid assets

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About CPQi

CPQi operates throughout the American continent and is an international reference point for building, implementing and supporting financial market systems for the leading American economies. The company provides solutions for a client base that includes global and local banks, exchanges, hedge funds and asset managers.

With more than eight years of history and rapid growth of over 30% per annum since its inception in 2007, CPQi maintains a strong position in the American continent.

The company works across a broad spectrum of investment banking areas from front office, through to trade capture, risk management, P&L, compensation, liquidity, deposits, accounting, reconciliation, insurance and other areas.

CPQi operates throughout the American continent with clients and offices in Brazil, USD, Chile, Mexico, Colombia, Canada, Argentina and Peru. Our client base includes global banks such as HSBC, BTMU Brazil, Citibank, BTG Pactual, Standard Bank, Itau, JP Morgan, Bank of America Merrill Lynch, Barclays, Scotiabank and others.

The company was officially formed in 2007 and the majority of our business comes through our work in the implementation and support of major platforms. However, we also work in development delivering world class services for the capital markets that helps our clients drive global revenue, manage risk and ensure client loyalty.

Our strategic alliance program has developed strongly over the years and today we are approved partners with Calypso, Murex, Openlink, Misys, Fundtech and Moody's Analytics.`

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AMERICAN ECONOMIES