

FRTB BUSINESS IMPACTS AND RISKS

ÉVÉNEMENTS EIFR: FRTB ET RÉFORME DES RISQUES DE MARCHÉ, QUELLE FINALISATION ?

RISK

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Paris, 24th January 2019



BNP PARIBAS

The bank for a changing world

Internal model approach (IMA)

- ❑ Stringent model validation at desk level
 - Back-testing (BT)
 - P&L attribution test (PLAT)
- ❑ Failed desks must be capitalised with the standard approach

Stressed Expected Shortfall

- For liquid risk factors only
- Average losses over a 97.5% confidence level
- Capturing liquidity horizon
- Limitation on diversification

Capital for less liquid risk factors (NMRF)

- Correlated sum of stressed test charges per risk factors

Default risk charge

- 1 year 99.9% confidence level
- No migration
- Include equity exposures



Standardised approach (SA)

- ❑ For desks invalidated for internal models
- ❑ Only approach for
 - Securitisations
 - Non daily looked through funds

Sensitivity based method

- A parametric VaR like charge
- Delta Vega and Curvature risk
- 5 asset classes

Residual risk add-on

- For all risks not otherwise captured
- Based on gross notional amount

Default risk charge

- Include equity exposures



Still too early to tell what would be the business adaptation to FRTB

- ❑ The Basel framework **RWA implications** are still not fully understood
 - ❑ The identification of desks likely to fail eligibility tests, and hence the proportion of businesses to be capitalised in SA, is still not known
 - Depends on the final calibration of thresholds suitability
 - Depends on future model developments
 - ❑ Own funds requirements for Non-Modellable Risk Factors (NMRF) still largely uncertain
 - What benefits in risk factor observability will result from third party data vendors ?
 - Newly published final framework RWA implications still not well assessed
 - NMRF capitalisation will follow a methodology devised by an EBA RTS which is still in waiting
- ❑ **Desk profitability** may drastically change under FRTB
 - ❑ Desk trading more exotic products may see their capital charge increase from:
 - Longer risk factors liquidity horizons (LH) for the stressed expected shortfall (ES) derivation
 - Larger number of NMRF
 - Higher risk of failing eligibility tests
 - ❑ Correlation Trading Portfolio profitability is likely to be severely hampered due to a very penalising framework and a default risk charge (DRC) not aligned with risk management
 - ❑ Trading of non-daily look-through funds profitability to be assessed
- ❑ **FRTB timeline** as a capital requirement still relatively distant and uncertain



- ❑ Desk management may remain driven by the current period VaR or ES
 - ❑ Desk VaR/ES as well as sensitivities of the desk VaR/ES to risk factors is mandated
- ❑ Desk Capital Metrics may be difficult to analyse, a mix of:

- ❑ Stressed expected shortfall:

$$ES = ES_{Reduced,Stressed} \cdot \frac{ES_{Full,Current}}{ES_{Reduced,Current}}$$

- Calculated on modellable risk factors only
 - Scope of modellable risk factors to be assessed on a quarterly basis
 - No offsetting or diversification between modellable and non-modellable risk factors
- Stress period to be re-calibrated at least monthly
- Reduced set of risk factors
 - Capturing at least 75% of the full ES model
 - Determined on a monthly basis
- ❑ NMRF Capital charge
 - Stress-test like capitalisation
 - At least as conservative as a stressed expected shortfall 97.5% over supervisory liquidity horizons
 - Constrained diversification benefit

- ❑ Default Risk Charge

➔ Dichotomy between capital metrics and risk management practices



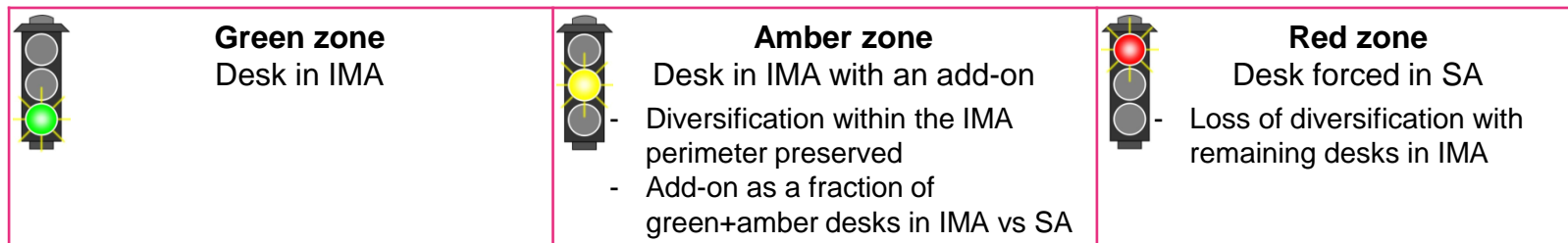
❑ Desk profitability may be volatile

❑ Changes in risk factor modellability status

- NMRF Charge calibrated conservatively (at least as conservative as a stressed 97.5% ES)
- Limited diversification between non-modellable risk factors
- No diversification with risk factors remaining in the ES scope

❑ Desk failing eligibility test

- Back-testing: a pass or fail regime
 - Failing desks are to be capitalised with the Standardised Approach
- P&L attribution test: a traffic light approach



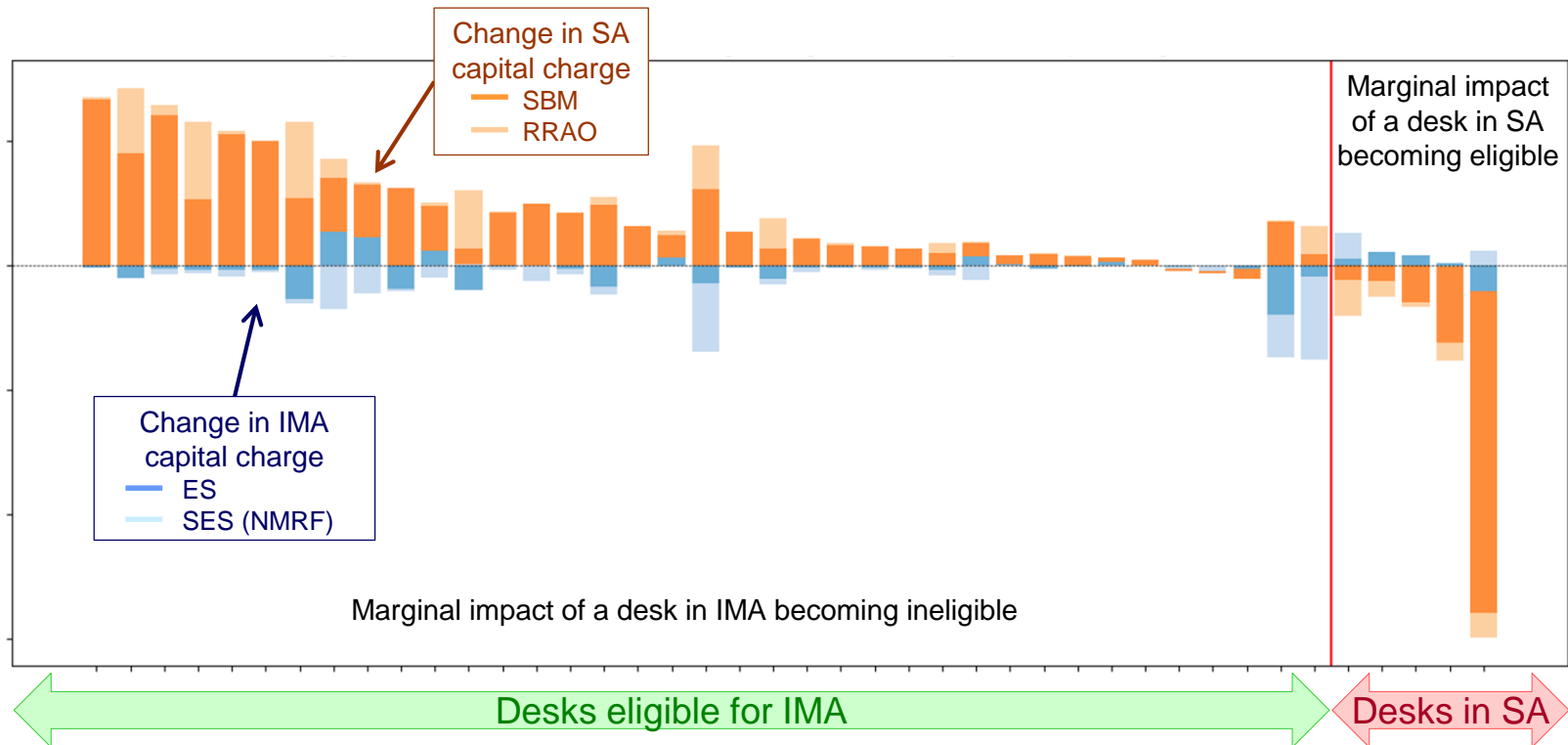
❑ Each desk's profitability depends on eligibility status of every other desks, too

- ➔ Where and how to attribute the capital increase due to loss of IMA eligibility by a given desk?
- ➔ Desk profitability may become doubtful if ineligible: should they be closed?

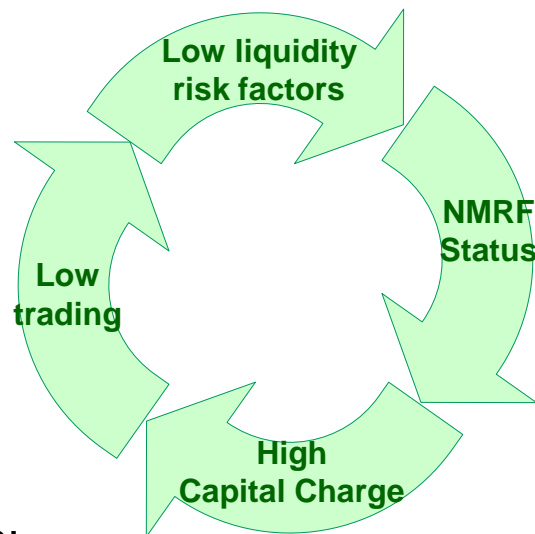
Desks eligibility for IMA

Desks IMA eligibility change of status may have very different effect on own funds requirements

- Change of IMA capital charge results predominantly from the NMRF capital charge
- Overall Capital charge may actually be lower with some desks in SA rather than IMA
- Some mix desks in IMA / desks in SA may results in a higher Capital charge than all desks being in SA



- ❑ FRTB may reduce liquidity of instruments of mid or low liquidity and prevent the development/growth of new markets
 - ❑ Instruments of low liquidity have few real price observations (RPO)
 - ❑ Their associated risk factors are not considered modellable
 - ❑ They attract a higher capital charge (via NMRF stress test)
 - ❑ It de-incentivise banks from trading those instruments and providing liquidity to the market



➔ The negative feedback loop:

- ❑ Reduce further liquidity of some markets (ex. emerging markets)
- ❑ Hinder the development of new products or markets



- ❑ Timeline and speed of implementation unclear
 - ❑ EU FRTB framework not yet stabilised
 - Important RTS (NMRF identification & capitalisation, PLAT inputs, metric and penalty function) to be drafted within 9 months after the CRR2 publication to the JO
 - ❑ NMRF third party data vendors
 - Scope of data availability, benefits in observability ?
 - ❑ Timeline for internal model validation still not fully stabilised
 - ECB anticipations, based on a reporting of IMA starting beginning of 2023:
 - Letter of intent for a model validation by mid 2020
 - Full application package to be submitted from end of 2020
 - ❑ Difficulties in implementation
 - ❑ How much more complex a model can be to meet requirements?
 - Risk factor definition and number
 - Accuracy of Risk pricers for non-linear products
 - Number of calculations (reduced/full RF set, current/stressed period, liquidity horizons, desks)
- ➔ Are the efforts to make IMA work worth it ?