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Basel IV Revised trading and banking book boundary for market risk

Thinking strategically – both from investment and capital perspective.



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Motivation and context The revised trading/banking book boundary

Starting in 2012, the Basel Committee published several consultation papers on a Fundamental Review of the Trading Book (FRTB) to adapt existing rules for the capitalisation of market risk. One of the most apparent changes to the trading book regime is the revised trading/ banking book boundary definition

- Under the current regime, the trading intent is the main factor for determining whether a position belongs to the trading book or not. However, it has been observed that the trading intent is an insufficient criteria for the assignment to the trading book, as it offers to much room for individual decision leading to limitations in the comparability.
- Currently a position is assigned to the banking book, if the requirements for an assignment to the trading book are not met – in other words only a negative delimination in the formulation of the trading intent can be reasonably made.
- Different assignments of the same position may lead to very different capital requirements, which leads to a limited comparability across banks and the appropriateness of their capitalisation.
- Presently, there are no adequate approaches available to prevent inappropriate reduction in capital requirements through allocation and reallocation of products between banking book and trading book.

FRTB still builds on the "intent based" criteria for trading/banking book assignment but supplements it with essential prescriptive rules in order to provide more objectiveness.

The revised requirements will lead to increased demands on the availability of data as information has to be made available for each instrument with regard to the structure and design, accounting treatment, availability of prices, risk & finance figures (such as RWA impact), portfolio allocation, trading desk (strategy) or hedging relationship.

Besides the data-related issues technical and business decisions need to be considered in order to facilitate a successful and effective calculation of market risk capital requirements – either under the revised standardised (sensitivities-based method) or the internal model approach. Due to the diverse and complex nature of these criteria, a thorough approach is required to assign the position correctly from both an investment and capital perspective. This brochure will help you gain an overview over the proposed rules to prepare for the tasks ahead.

Kind regards,

Martin Neisen Global Basel IV Leader

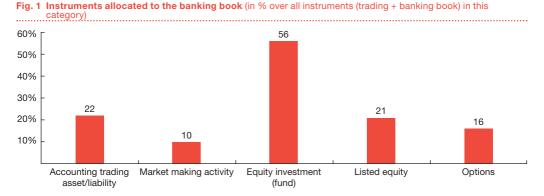
Matthias Eisert WS Markets & Treasury

Allocation of Instruments

Trial allocation in 2015

A bank must have clearly defined policies, procedures and documented practices in order to determine the correct allocation of instruments to the trading book and to calculate their regulatory capital requirement for market risk. There is a strict limit on the ability of banks to move instruments between the trading book and the banking book by their own choice after initial allocation.

Reports show, that currently large equity positions are allocated to the banking book. Due to the upcoming regulations the current assignments of instruments have to be analysed, and if necessary revised.



Total sample: 14 banks; BCBS QIS with reporting date 31.12.2014 and rules based on discussion papers of Oct., 2013 and Dec., 2014 (d346, Nov. 2015)

Tighter rules for the allocation

Mandatory assignment to the trading book

General purpose for holding the instrument

- Short-term resale
- Profiting from short-term price movements
- Locking in arbitrage profits
- Hedging risks that arise from instruments above

leads to instruments

- ... being managed on a trading desk
- ... that are part of the correlation trading portfolio
- ... that are giving rise to a net short credit or equity position in the banking book
- That results from underwriting commitment

Banks may only include a financial instrument, foreign exchange, or a commodity in the **trading book** when there is **no legal impediment** against selling or fully hedging it.

Additionally they must determine the fair value daily for each trading book instrument and recognise any gain or loss through profit and loss (PnL).

Any instrument not meeting these requirements at inception must be assigned to the banking book

Presumed assignment to the trading book

Alternative allocation possible through explicit supervisory approval

There is a general presumption that any of the following instruments are being held for at least one of the above mentioned purposes and therefore are trading book instruments.

- Equity investment in a fund with the possibility of daily look-through
- · Listed equity
- · Instruments held as accounting trading assets or liabilities
- · Market-making activities
- · Trading-related repo-style transactions
- Options including bifurcated embedded derivatives (credit or equity risk)

However banks are allowed to **deviate from the presumption according to the following process**: Banks have to submit a request to their supervisor and receive explicit approval. In its request, a bank must provide evidence that the instrument is not held for any of the purposes listed before. In cases where this approval is not given by the supervisor, the instrument must be allocated as a trading book instrument. Banks must document any deviations from the presumptive list in detail on an on-going basis.

Any instrument not meeting these requirements at inception must be assigned to the banking book

Tighter rules for the "Initial-Allocation"

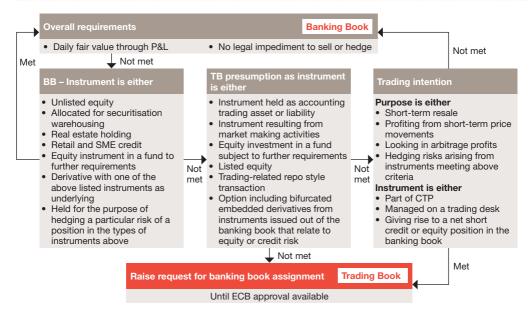
Mandatory assignment to the banking book

The new market risk requirements clarify, that the following instruments must be assigned to the banking book:

- Unlisted equity
- · Securitisation warehousing
- · Real estate holdings
- · Retail and SME credit
- Equity investments in a fund, including but not limited to hedge funds, in which the bank cannot look through the fund daily or where the bank cannot obtain daily real prices for its equity investment in the fund
- Derivative instruments that have the above instrument types as underlying assets
- Instruments held for the purpose of hedging a particular risk related to the above mentioned instrument types

Additionally to these instruments any other instrument has to be assigned to the banking book that is not a trading book position.

Fig. 2 "Initial-Allocation" decision tree



Re-allocation of instruments Strongly restricted after initial allocation

Any re-allocation between books must be approved by senior management, documented and determined by the internal review to be in compliance with the bank's policies and publicly disclosed. Such a re-allocation is **irrevocable**. If an instrument is reclassified to be an accounting trading asset or liability there is a presumption that this instrument is in the trading book. Only in this case an automatic switch without approval of the supervisor is acceptable.

- Approval by senior management
- · Compliance with bank's policies
- Supervisory approval
- Public disclosure
- Documentation
- Pillar 1 capital surcharge

Fig. 4 Initial-/Re-Allocation (functional requirements)

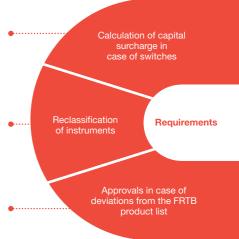
Switching trades in order to gain regulatory arbitrage effects as well as capital benefits, is strictly prohibited. If capital reduces as a result of a switch, the difference will be disclosed as a **Pillar 1 capital surcharge**.

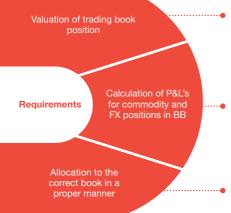
The FRTB system(s) are required to calculate this capital component.

Presumably instruments reclassified to be an accounting trading asset or liability are to be assigned to the trading book.

In case of **deviation** from the FRTB product list for a certain trade, a **request** can be submitted to the supervisor **for explicit approval**.

It will be required to **track approvals** as well as exceptional approvals on a trade by trade basis **via reports**.





Any trading book position must be fair **valued on a daily basis** and any valuation change must be recognised in the profit and loss.

For FX and commodity positions in the banking book, the actual, hypothetical and risk theoretical P&L has to be calculated daily.

Internal controls must be set up to determine wether trades are properly allocated to the correct book (TB/BB). This requirement is not only valid for the book- but also for the product structure.

Fig. 5 Product list (functional requirements)

The following products are to be flagged as such by the systems:

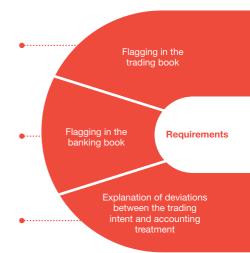
- · accounting trading assets or liabilities
- · products from market-making activities
- · equity investment in a fund
- · listed equities
- · trading-related repo-style transaction
- options

The following products are to be flagged as such by the systems:

- unlisted equities
- · products allocated for securitisation warehousing purposes
- · real estate holdings
- · retail and SME credit
- · equity investments in a fund
- · derivative products
- · hedging trades

Trading **intent might be derived** from the current accounting treatment and alignment with IFRS9.

'Trading intent' might supersede the allocation by the FRTB product lists and any deviations need to be **tracked in the system via reports** and audit trail.





Control reports for identifying deviations

A **FRTB product list (flag)** for the banking and trading book based on the current presumptive list defined by BCBS (CRR II) needs to be stored in the system(s).

A **mapping** of the FRTB products/ product categories on the BCBS (CRR II) presumptive list to a bank's product list via a GUI needs to be implemented.

The system needs to support the maintenance of **adding, changing and deleting** of the product list including products including an **audit trail** of any changes made.

The system(s) need to generate a **control report with any deviations** from the product list, and any re-allocated trades.

Additional requirements arising from CRR/CRD IV review (CRR II proposal)

The updates to the Capital Requirements Regulation (CRR II) maintain the qualitative approach for determining the trading book boundary, while providing more specifications and guidance to banks, aiming to reduce chances for regulatory arbitrage that became apparent during the financial crisis. The highlights of the CRR II draft:

- CRR II/CRD V is expected to come into force in (2020). For a transitional period of three years after the FRTB application date, banks with a large Trading book using the revised SBA and IMA can multiply their market risk own funds requirements by 65%.
- **2** This transitional provision is different to the Basel framework, which proposed 2019 for implementing the full FRTB changes.
- **3** During the three year phase-in period, the European Banking Authority (EBA) will review and report to the European Commission (EC) on the appropriateness of the FRTB framework.
- 4 The proposed changes benefit especially institutions with low trading volumes however the requirements for derogation for small trading book business is becoming more comprehensive. Credit institutions, whose on- and off-balance sheet positions are equal to or less than the threshold of 5% of the institution's total assets or EUR 50 million, are subject to new criteria for the calculation of own funds requirement of the trading book and notification rules to the authorities.

- **5** The CRR II draft does not follow the accounting rules and arguments entirely; the possibility for approvals for the banking book allocation is expected to remain valid. Even though resulting in a change of current rules, the CRR II draft requires banks to assign financial assets and liabilities measured at fair value to the trading book (not only held for trading instruments (HFR), but also available for sale (AFS) products). However, IFRS 9 will come into force before CRR II and the AFS (Available For Sale) distinction will no longer have any relevance in the standard. In addition, it is to be mentioned that fair-value changes can be recognised directly in the OCI instead of the P&L under IFRS 9.
- 6 Documentation requirements have been increased and specified for a clear policy of re-allocation financial instruments to the trading book. In addition to stipulating a clear documented trading strategy, approval by senior management and the inclusion of expected holding periods are also required.
- 7 Concerning the restrictions on moving instruments between the trading and banking book, it is strictly prohibited to switch instruments for regulatory arbitrage and is only allowed in rare circumstances. For the definition of "rare circumstances", the EBA has been instructed to publish guidelines no later than two years after the entry into force of CRR 2.0.
- 8 Substantial specifications were made to instruments of the correlation trading portfolio that are to be assigned to the trading book, focusing on credit derivatives and structured securitisation instruments.

Trading Desks

The new relevance of trading desks accompanied with higher requirements on reports and documentation

Within the **definitions of the revised trading book boundary** an instrument that is managed on a trading desk must be included in the trading book. According to BCBS 352 a trading desk is defined as "a group of traders or trading accounts that implements a well-defined business strategy operating within a clear risk management structure." Detailed information regarding the named criteria are shown on the next slide.

Moreover, for every trading desk it is requested that the **bank prepares**, evaluates, and have available

- Inventory ageing reports,
- Daily limit reports including exposures, limit breaches, and follow-up action,
- Reports on intraday limits and respective utilisation and breaches for banks with active intraday trading,
- · Reports on the assessment of market liquidity.

With regard to the **internal models approach** and within the scope of further quantitative assessment on the profit and loss attribution-test, a breakdown to the level of the regulatory trading desk is embedded. A rigorous and comprehensive stress testing program will be conducted at both the trading desk and bank-wide level.

Criteria for each trading desk

Fig. 6 Requirements on trading desks

- A group of traders or trading accounts
- An indisputable and unambiguous unit of observation in accounting for trading activity.
- Head Trader,
- Each trader/trading account assigned to only one trading desk
- A clear reporting line
- A clear and formal compensation policy.

Clear risk management structure

- Risk management responsibilities,
- Limit setting at the desk level based on the appropriate risk metric or just overall notional limit,
- Risk reporting at least once a week: P&L reports, internal and regulatory risk measure reports

Well defined business strategy

- A clear description of the economics of the business strategy for the desk, its primary activities and trading/hedging strategies,
- A clear annual plan for budgeting and staffing of the desk,
- Regular Management Information reports, covering revenue, costs and RWA for the desk.

Proposed by the bank but approved by supervisors

- The bank should be allowed to propose the trading desk structure,
- A policy document for each desk,
- Definition of the trading desk as part of the initial model approval for the desk,
- Supervisors may decide whether the definition is sufficiently granular, and they should check whether the criteria are met.



Trading Desk

Internal Risk Transfer

Stricter rules for eligible hedges

An internal risk transfer is an internal written record of a transfer of risk within the banking book, between the banking and the trading book or within the trading book (between different desks). There is no regulatory capital recognition for internal risk transfers from trading to banking book. In the case of risk transfers from banking to trading book, differentiation between credit or equity risk and interest rate risk transfers is necessary.

That is, for certain **credit or equity risk transfers** an external hedge is eligible for risk mitigation of banking book positions. That might be the case if the trading book enters into an external hedge with an eligible third-party protection provider that exactly matches the internal risk transfer and an external hedge is eligible for credit risk mitigation vis-à-vis banking book position or, in case of equity risk, the external hedge is recognized as a hedge of a banking book equity exposure. For **interest rate risk transfers** the banking book leg has to be included into teh banking book's interest rate risk if and only if the transfer is subject to trading book stand-alone capital requirements, executed with a dedicated trading desk that is approved for such purposes and documented with respect to the interest rate risk being hedged and the sources of such risk.



¹ only if the above named requirements are met.

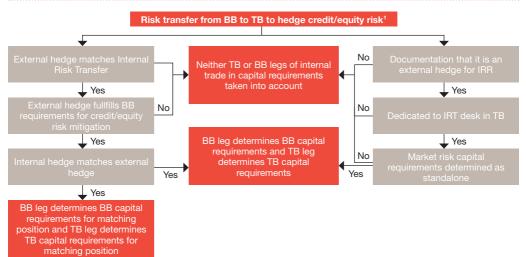
Internal Risk Transfer (IRT)

Fig. 8 "Recognition" decision tree



¹ Capital requirements for banking book to trading book are governed by a specific set of rules not applicable by other internal transfers

Fig. 9 "Banking book to trading book" decision tree



¹ Capital requirements for banking book to trading book are governed by a specific set of rules not applicable by other internal transfers

Implementation

Implementation of the boundary

Within the upcoming regulatory requirements strong emphasis has been put on the regulations regarding the boundary between trading and banking book, so that incentives for regulatory arbitrage will be mitigated.

Before the implementation of the revised regulations market participants require an extended set of information on the instrument and intention. Market participants are asked to provide an organisational diagram of trading desks including personnel structure, i.e. trader groups, head traders and trading accounts, as well as a business or trading strategy. Moreover, an approval of trading desks by supervisors and an overview and design of the risk management structures are main issues on the agenda. Additional documentation, like trading desk level documents, i.e. inventory ageing reports, trading limits and liquidity metrics, will be assessed. On that basis, data is collected to exactly determine the **assignment of positions to the respective books**. The main topics, that are of special interest for the allocation, are:

- Analysis of fund investments (including contractual details)
- Analysis of fair value positions (e.g. IFRS 9)
- · Analysis of derivatives holdings
- · Identification and analysis of internal risk transfer
- · Identification of reasons for holding instruments
- · Product information regarding all trading and banking book instruments

Considering further requirements (1/2)

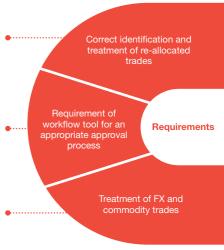
Fig. 10 Functional requirements

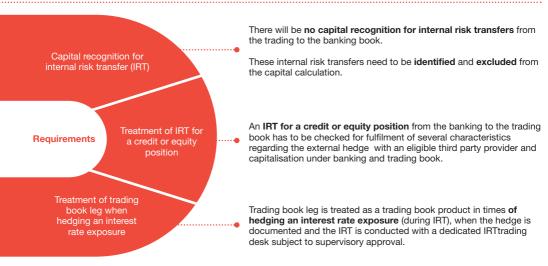
The system(s) will require re-allocation to occur only once, a **further** re-allocation is disallowed under FRTB. More than one allocation might be allowed in the future so the system needs to be flexible.

The system(s) will incorporate a workflow tool that will allow **approval** by users for re-allocation.

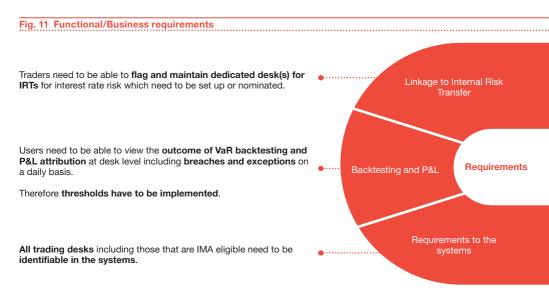
Furthermore the tool will include but will not be limited to information on **accounting treatment changes, approval** by senior management, approval by the regulator and the nature of the re-allocation.

Any **FX** or commodity trade held in the banking book will be included in the market risk capital charges. For regulatory capital calculation, these positions will be treated as if they were held in notional trading desks within the trading book.





Considering further requirements (2/2)





Individual trader or trading account must be **assigned to only one trading desk**.

Trader mandates must be in place.

Definition has to be documented and updated in the systems.

Users need to be able to view and maintain **information of a desk's reporting** line to senior management and a clear **compensation policy**.

Documented **business strategy** including an annual budget and regular **management information reports** have to be available for the traders.

A documented **risk management structure** including clearly defined **trading limits** based on the business strategy of the desk has to be available.

Trading desk must produce at least weekly appropriate **risk** management reports.

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Responsibilities

(Further) Internal and external lines of defence

In order to strengthen the internal Risk Infrastructure and to be compliant with the revised requirements, clear responsibilities are set out for the involved parties.

Within the bank's internal processes,

- The senior management takes account of the allocation and re-allocation of instruments and reviews trading limits at trading desks.
- Product control is in charge of the revision, validation and modification of P&L reports on trading desk level.
- Beside these business functions, independent ongoing evaluation of initial allocation and internal reviews, determining if re-allocation is compliant with policies, are conducted.
- The internal audit function needs to asses on annual basis the compliance of allocation with the policies and procedures is to be established.
- With respect to internal risk transfers, specialized bank's committee (e.g. ALM) are approving material changes to the methodology of identifying and quantifying banking book risk to be hedged, whereas risk management reviews methods which ensure and control effectiveness of risk mitigation.

External assessment is to be performed by the supervisor, who approves, reviews and in special cases also demands information or internal actions.

Any re-allocation between books, proposed trading desk structures or material changes to the methodology of identifying and quantifying banking book risk that is to be hedged, needs to be approved. Subsequently, the supervisor reviews positions and amounts to be excluded from market risk capital requirements and if needed, demands re-allocation of an instrument or modifies insufficient policies and procedures for the allocation as well as reviews the results of internal audit.

Our Services

An opportunity to prioritise and optimise The focus will be on capital, risk and business models

The shadow-banking sector is also carefully evaluating the products it will be able to supply, as it is aptly poised to replace traditional banks as counterparties to many of the trades with institutional & professional investors, e.g. currency forwards used in large part by institutions for currency hedging



Banks will look to the consequences borne out of regulatory changes embodied in Basel III, Basel IV, FRTB and IFRS 9

A number of large game changers are on their way: they will give rise to both risks & opportunities. The more a bank can prepare, the better it will be able to navigate the sea of changes, adapt its business and benefit from the opportunities. The right changes and adjustments can lead to the bank having a better business model, capital structure, clientele and product focus.



A lot of banks shall only focus on the compliance aspects – this shall create business opportunities for smart and forward looking banks

Large and fundamental changes to the banking domain will alter the financial markets and their pricing. The regulatory changes will emphasize the divide between regulated and unregulated entities even more, creating interesting market opportunities for the latter – the latter being outside the scope of the CRD IV/V.



PwC have practitioners from the financial markets and have provided advice to a number of banks, institutional investors and unregulated entities on this subject.

Whether the optimal response shall be a change in the product suite, the customer segments targeted or the framework around the transactions with customers, PwC has the experience and know how to have a dialogue as a trusted advisor to both Tier1 and Tier2 banks as well as Institutional Investors.



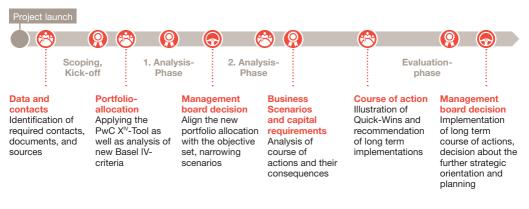
Our International Markets and Treasury team covers all aspects from basic Impact studies to fully fledged implementation reviews.

We pride ourselves on not just providing the compliance and regulatory knowledge but also the ability to translate this into business relevant potential opportunities and fine tuning of the existing business models.

PreStudy to show the implications from both an investment and capital perspective

Banks must understand the business impact of the revised trading book boundary regime and take ownership of rising costs. Key decisions must be made to support the front office, risk, treasury and compliance more holistically – although some of these decisions could be painful for management, especially in terms of transforming analytics and technology frameworks. Before strategic decisions are finalised, institutions can take clear first steps to assessing the overall business impact of the revised trading book boundary for each of their desks from a profitability perspective and the effect on regulatory requirements. By asking the right questions and having the right strategy in place, executives and heads of trading and risk can quickly and efficiently obtain a clear picture of the business impact today and into the future.

Fig. 12 PwC X[™]-PreStudy project approach





Regular status meetings during the entire project progression

Necessary decisions of the management board

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PwC X^{IV} – Prestudy: Flexible solution to link data of various sources

Fig. 13 PwC X^{IV}-Tool

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PwC X^{IV}-Tool

- PwC offers an Excel-based Tool to define the trading and the banking book
- Adaptable solution (e.g. for adjustments of macros/ interface for supplying FO-/BO-systems)
- Results from this tool could be used for the quality management (e.g. for the implementation in the FO-/ BO-systems)

PwC X^{IV}-Prestudy

General

- A Status Analysis based on Basel IV requirements
- Diverse opportunities to perform pragmatic Scenario Analysis (prior to implementation)
- Source for the PwC SBA Tool to calculate the capital requirements and cost-benefit analysis (interface exists)

Added value for the institute

- A documentation framework for application forms that are subject to approval (e.g. for risk neutral books; buzzword "Internal Risk Transfer")
- BCBS 352 Decision Tree: The decision tree in XIV Tool operationalizes the requirements regarding the allocation of an instrument/portfolio
- Recommendation for action for the institute: Point out Quick-Wins and strategic barriers

We present short term Quick-Wins, course of actions for long term implementation steps, and requirements related to the governance

Fig. 14 Illustrate implications, both from investment and capital perspective					
Strategy	Implication of general strategies (business, risk, and trading strategy)				
Risk management & risk inventory	 Consideration of the hedging risk Consideration of foreign currency and commodity positions by market risk New process for handling internal risk transfers (IRT) to equity risk and interest rate risk (from banking book to trading book), see also BCBS 352 				
MaRisk AT 8	 Adjustment of the New Product Approval (NPP) regarding examination of trading book relevance under the new Basel IV requirements Adjustment of the process regarding the change of operating processes or structures in the scope of Basel IV 				
Internal Control System	 Implementation of a regular portfolio review, monitoring of the volume limitations under Basel IV and expected holding period Required authorisations in case of deviations regarding the allocation, and ensure that the allocation is correct and deviations are authorized by the supervisor Process for reclassification: monitoring, disclosure, determining capital backing if necessary with additional Pillar 1 capital charge, authorisation, prohibition of retrogressive reclassification If necessary implement employee surveys regarding features which are TB-critical under Basel IV 				
Internal Audit	At least annual Audit regarding documentation and compliance of operating instructions.				

Revisions to the Trading/Banking book boundary

Fig. 15 FRTB Survey – results and recent project experiences

TBB/BBB regulatory requirements							
FRTB TBB/BBB Definition	FRTB product list	Allocation to TBB/BBB	Internal Risk Transfer	Trading Desks			
Affected Features of a bank							
Gap Analysis • Requirements acc. to CRR (Art. 102 ff) vs. CRR II (draft) • "Simulation" of ECB onsite inspection	 Development Senior Management reporting and amendment of risk reporting processes Delta analysis of trading intent (Regulatory vs. Accounting) Requirements to and flagging of relevant products in a bank's system (FDW) 	Implementation Implementation of theoretical FRTB requirements into functional requirements with regards to Initial-/Re- Allocation IT-Infrastructure Monitoring and approval processes Trading strategy vs. trading intent	 Review Internal Risk Transfer processes and reclassification of products (TBB vs. BBB) Trading desk structure of implemented FRTB frameworks and requirements 	 Validation Controls currently in place and potential future developments Current validation processes in a bank's system Valuation principles 			
PwC Solutions							

Major Business Model Implications for Tier 2 Banks, Major Corporates and Life & Pension Institutions

Fig. 16 Examples of Analysis of Business Challenges and some Possible Responses

- New Regulatory environment including SBA shall make for much increased complexity and significantly tougher economics in servicing corporate and institutional customers with their hedging needs and requirements
- Looking to white label solutions and strategic/tactical co-operations with major league banks, shall be some of the obvious responses.
- · Impact and sensitivity studies for Tier 2 banks with focus on alternative directions to take and possible solutions
- Major financial incentive under Basel IV for European alignment with US in terms of securitisation of lending to major corporates
- Need for information, restructuring and analysis of lending portfolio for banks and fundamental re-orientation of funding struture for many large cap corporates
- Optimisation studies on capital structure for corporates and optimisation of business and product mix plus asset portfolios for Tier 2 banks
- Identify key drivers of product implications for Life & Pension and Asset Managers; specific look at liqidity and portfolio implications in the financial market place.
- Market changes following Basel IV and Opportunity Reviews for specific Asset Classes, new entrants and the competitive landscape.
- Analysis of comparative advantages in the light of regulatory changes big picture trends and the macro economic outlook for institutional investors.

Our Expertise

Whether regarding the Basel Committee, EU-regulation or national legislation – we use our established know-how of the analysis and implementation of new supervisory regulation to provide our clients with high-quality services. Embedded into the **international PwC network**, we have access to the extensive knowledge of our experts around the world.

PwC's Global Basel IV Initiative was established to support you in all aspects of getting compliant with the new regulatory requirements to the **trading book** – accomplishing a prestudy as a first step, supporting you at quantitative impact studies (QIS) up to the implementation at all business units and areas of the bank.

PwC can draw on long lasting experience of implementing new regulatory requirements by supporting a number of banks in completing quantitative impact studies prior to the implementation of **Basel II and Basel III** and by the functional and technical implementation of the final regulations. The PwC-Tools used during the QIS are flexible and will be updated automatically in case of new consultations by the Basel Committee.

About us

PwC helps organisations and individuals create the value they're looking for. We're a network of firms in 157 countries with more than 195,000 people who are committed to delivering quality in assurance, tax and advisory services. Tell us what matters to you and find out more by visiting us at www.pwc.com. Learn more about PwC by following us online: @PwC_LLP, YouTube, LinkedIn, Facebook and Google+.

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