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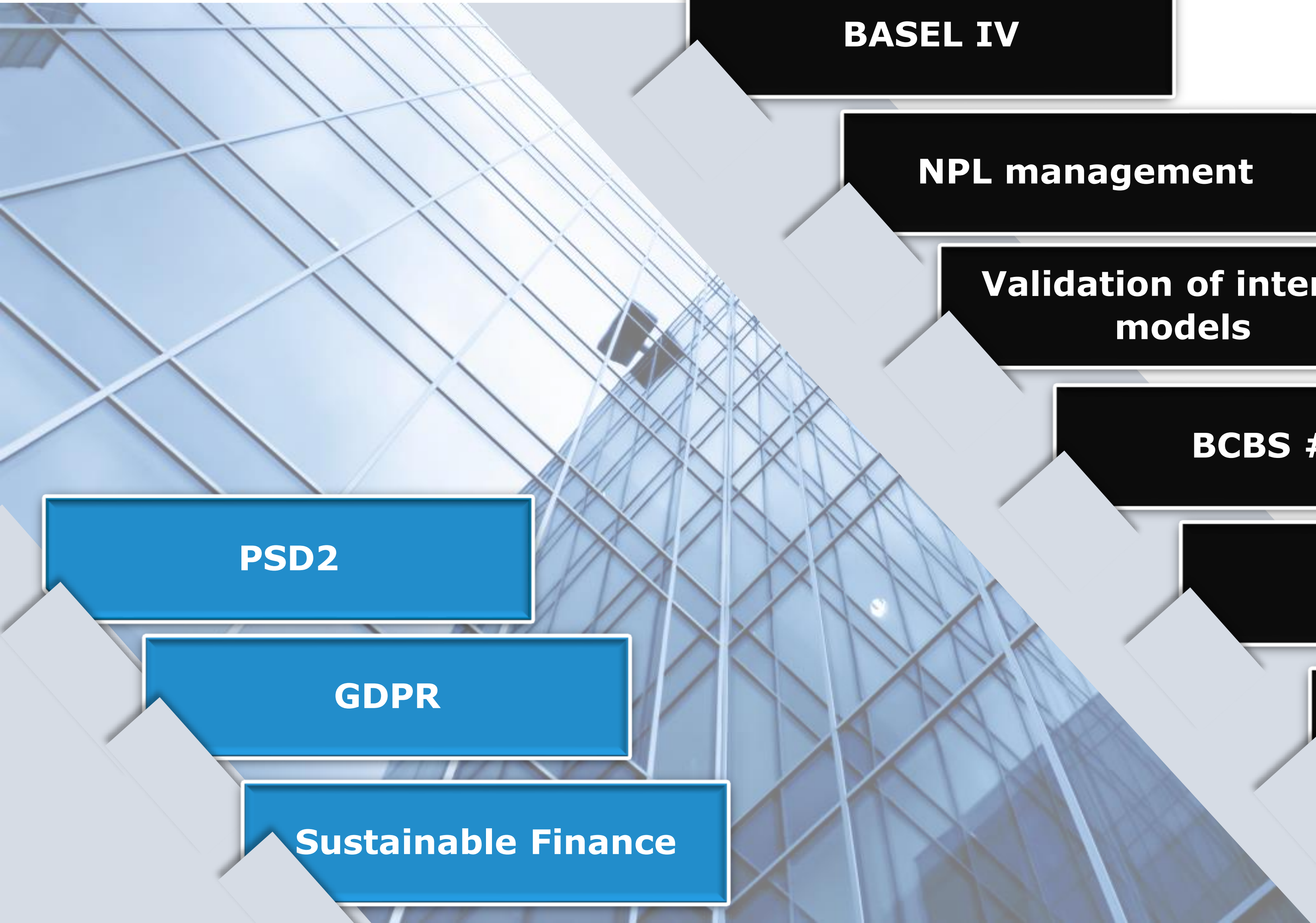
Risk Management Trends

July 2019

Deloitte Banking Risk Lab

Challenging regulatory requirements

Strategically address the requirements



- BASEL IV
- NPL management
- Validation of internal models
- BCBS #239
- AnaCredit
- Internal Audit

- PSD2
- GDPR
- Sustainable Finance

Basel IV: what are the new challenges?
Changing regulatory landscape

Substantial changes to all Basel Pillars force banks to reassess their business models and strategy in the attempt to secure a viable and sustainable future.

Pillar I (minimum prudential requirements)

- New standardised approach for credit risk
- Revision of the use of internal models (IRB)
- New Framework for Market Risk (FRTB)
- New standardised approach for measuring counterparty credit
- Revisions to the securitisation framework
- Standardised Measurement Approach (SMA) for Operational Risk
- Capital floors
- Review of the CVA Risk Framework
- Review of the Leverage Framework

Pillar II (supervisory review)

By introducing the new SREP guideline, the EBA is changing Pillar II requirements significantly

The degree of freedom for measuring all risk types is reduced tremendously while institutions must simultaneously cope with changing Pillar I requirements

Interest Rate Risk in the Banking Book (IRRBB)

Pillar III

BCBS Disclosure requirements

EU's bank capital legislative package (CRD5/CRR2/BRRD2) published on **7th of June 2019**. TLAC requirements, will apply immediately on the 27 June. Most of the package is effective 2 years after entry into force (**27.06.2021**).

Impact on: Capital Planning, Business Model, Profitability Management

NPL Regulation

A growing regulatory pressure on NPL management

ECB NPL Guidance

Representing the Supervisory Authority's expectations regarding the entire management process of the NPEs from the definition of the NPL management strategies to the management of the collateral

EU Council NPL Action Plan (07/2017)

Action plan for the management of NPL in terms of: i) Supervision; ii) Structural reforms of the legal framework; iii) Measures to boost the secondary market for NPLs; iv) Reforms

Addendum ECB NPL GUIDANCE (03/2018)

Expectations of the Supervisory Authority on the **prudential provisioning levels** of a bank for non performing exposures based on period spent in default (i.e. 2 years for unsecured positions, 7 for secured)

EBA NPE Guidelines (10/2018)

Paper on the guidelines for the management of **non performing loans** and **forbearance measures** applicable to all Banks (not only to the SSM perimeter) with high levels of NPL

EBA Guidelines on definition of default (07/2016)

The Guidelines introduce several changes to the **current definition of default** with the aim of increasing the comparability of risk estimates and capital requirements

IFRS 9 (07/2014)

The principle does not introduce new elements on the definition of default but presents several aspects **interconnected with the NPL management strategies**

The understanding of the Regulator's requirements implies the **analysis of a complex set of regulations** with significant impacts not only for Significant Institutions but **also for smaller banks**, especially those with NPL ratio above the attention threshold (5%).

Validation of internal models

Key Challenges

What is the regulatory foundation for validation of IFRS9 model?

IFRS 9 STANDARD	There is no explicit evidence about the relationship of IFRS9 impairment and validation. But, it is specified that: "An entity shall regularly review the methodology and assumptions used for estimating expected credit losses to reduce any differences between estimates and actual credit loss experience.
GCRAECL (BIS 2015)	Principle 5 – ECL validation: A credit institution should have policies and procedures in place to appropriately validate models used to measure ECL Quantitative and qualitative validation is required and an independent validation unit should perform the validation.
EBA/CP/ 2017/ 06	Financial institutions are requested to have in place an effective model validation process to ensure that the credit risk assessment and measurement models are able to generate accurate, consistent and unbiased predictive estimates, on an ongoing basis. This includes establishing policies and procedures which set out the accountability and reporting structure of the model validation process, internal rules for assessing and approving changes to the models, and reporting of the outcome of the model validation
GPPC	Interpretations, assumptions and methodologies will also need to be documented and monitored by management as these may become inappropriate over time and solutions will need to be adaptable to changing circumstances. Establishing a strong governance and controls framework over ECL estimation and reporting, focusing on data integrity and model validation given the large population of data, models and systems that either did not previously exist or were not used in financial reporting.

Validation of internal models

New challenge for IRB models

ECB announced on the 5th of March 2019 the launch of the annual validation reporting on internal models used for calculating own funds requirements for credit risk. The individual communicated deadline for most institutions is October 1st 2019.

- ECB requires significant institutions to **report specific data on the validation of internal models** used for calculating own funds requirements for credit risk and operational risk.

- **This data collection does not replace institutions’ own internal validation processes, but establishes a common minimum set of metrics to be reported to the ECB on an annual basis together with institutions’ annual review documentation.**

- All related documents to the launch of the validation reporting on internal models for credit risk and operational risk were published on February 2019 on ECB’s website, together with the respective templates to be filled in and submitted annually to the ECB by significant institutions.

- The information from the validation reporting on internal models for credit risk will play an important role in the ECB’s future supervision of institutions’ internal models. In particular, **it will enable the ECB to enhance the prioritisation of on-site and off-site model reviews**, to monitor the completeness of validation reports prepared according to the annual validation cycle and to monitor and **challenge the results of the internal validation reports** over time using transparent statistical measures and tests

- Institutions that are already using internal models will receive individual ECB supervisory decisions requesting the information, including the date when the reporting will become mandatory for them. Institutions that receive permission to use internal models in the future will receive their decision letters in due course.

BCBS #239 Transformation

Data quality and accurate reporting on focus

Addressees

- Aimed primarily at the **global systemically important banks (G-SIBs)**
- Compliance for systemically important banks in **domestic markets (D-SIBs) is recommended**

Key Goals

Increase in the **stability of the international financial system** by preparing processes and infrastructure of risk management functions for **crisis and stress situations:**

- Removal of vulnerabilities in risk data, systems and processes
- Greater transparency and reporting capacities at group level
- Improved control and planning as well as reduction in risks
- Faster and more flexible availability of information
- Clear management involvement

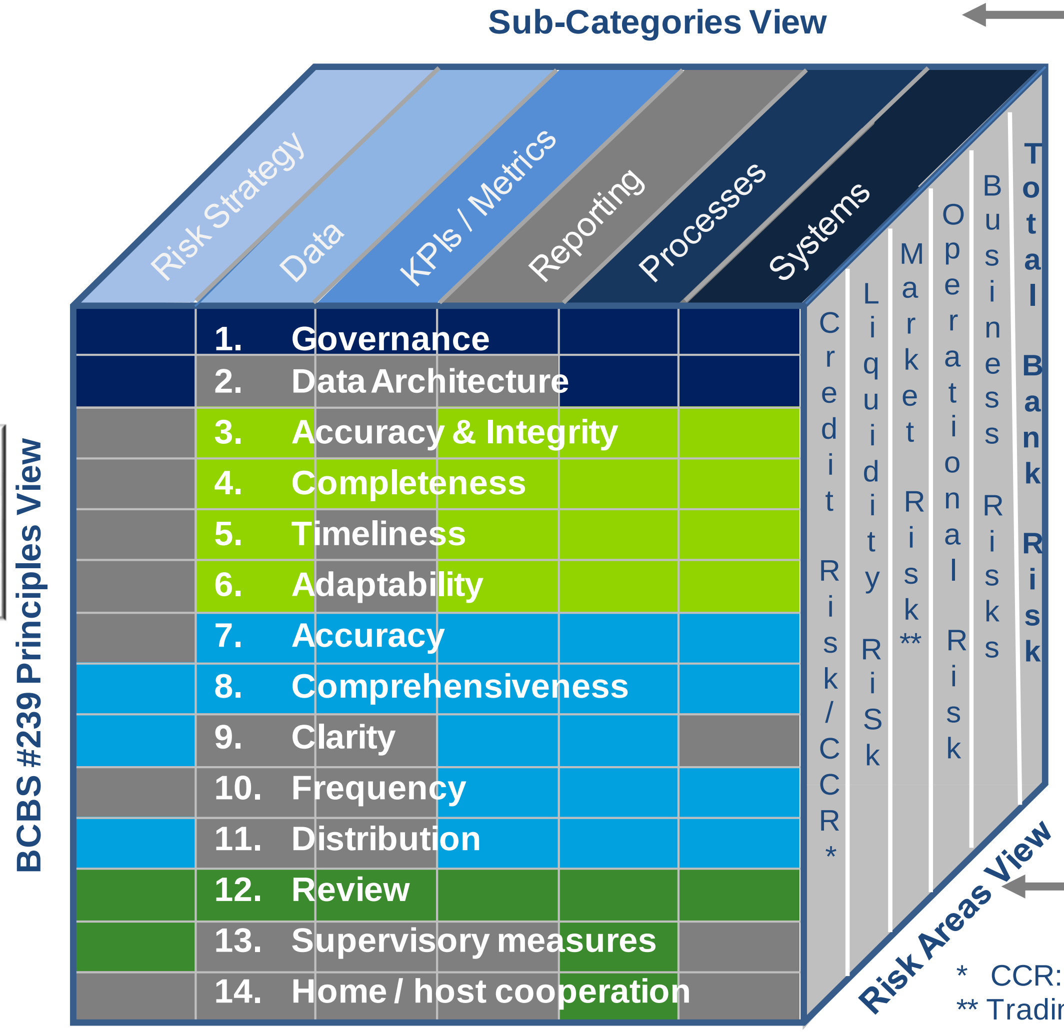
Timelines

- Implementation until **January 2016 (G-SIBs)**
- Or three years after designation (D-SIBs)
- **The principles were initially aimed at G-SIBs, but supervisors are encouraged to roll out BCBS #239 to their D-SIBs and potentially O-SIIs.**

There were already a number of onsite inspections referring to BCBS #239 indirectly with special focus on topics like data quality and data governance.

BCBS #239 Assessment Framework

Impacted category by risk type



The principles have **an impact on various sub-categories,** ranging from **risk strategy** to aspects that relate to affected **IT systems**

All 14 principles are relevant to the banks.

Differentiated view according to risk types, as they have substantial influence on the processes as well as on affected areas and systems

* CCR: Counterparty Credit Risk
** Trading and non-Trading

BCBS #239 Assessment Cube is the basis for a tool-based assessment of current and desired compliance.

AnaCredit

Quick facts

01 **Dataset with detailed information on individual bank loans (to legal entities) is required in the Eurozone as of reporting period 30 September 2018**

02 **Requires new data than existing national credit registers. Aimed to achieve a harmonized database that mainly supports statistical, but also several other, central banking functions**

03 **Is based on harmonized concepts and definitions and on a complete coverage for (at least) all euro area member states**

- **Expanding responsibilities and tasks of the ECB:** monetary policies, micro-prudential supervision, macro-prudential policies
- **A clear trend from reporting aggregated data** towards reporting microdata, resulting in higher requirements for data granularity
- **A great push for data and reporting processes** to become more efficient and harmonized
- **Various initiatives are led by ECB** to improve the reporting processes

Soaring demand for data & information

ECB's Goal: Integrate and harmonize the data and reports

Proposed new model of reporting

- Banks' Integrated Reporting Dictionary (BIRD)
- European Reporting Framework (ERF)
- Single Data Dictionary (SDD)
- Full granular reporting by 2027

AnaCredit

The first big step to fulfill the ambition

Reporting Key Considerations and Challenges

BCBS#239 and AnaCredit an opportunity to reevaluate the data management strategy

Data Model

Creation of single points of true reference for the entire organization.

Infrastructure

Create an integrated infrastructure based on data lake solution or hybrid.

Data Quality

Definition of a framework for all the bank's functions.

Data Management

Definition of a Chief Data Officer who controls the centralized government of data.

Data Lineage and metadata management

Adoptions of tools that allow the traceability of information and the documentation of metadata

GDPR and PSD2

No longer new regulatory requirements. How banks can balance GDPR and PSD2?

- ✓ **PSD2 aims to create access to personal data.** Through its access to accounts rule, PSD2 can gain entry to the financial data of consumers – or payment services users (PSUs) – allowing third parties to enter the payments market and provide new account information and payment initiation services.
- ✓ These services are offered by account information services providers (AISPs) and payment initiation service providers (PISPs), respectively.

- ✓ **GDPR aims to protect personal data**, making it easier for consumers to know where their data is being used and raise objections about its use.
- ✓ While PSD2 opens up the banking market, encouraging competition and innovation in different products and services, any access these new products and services have to personal data must comply with GDPR. Non-compliance carries heavy fines and reputational damage.

41% of European banks did not comply with the March 2019 PSD2 deadline, which required them to provide a testing environment for third-party providers (TPPs), according to research from open banking platform provider Tink that analyzed 442 banks across 10 markets.

EBA RTS will come into force on 14 September 2019 and most of the banks are rushing to meet the deadline.

Sustainable finance

New regulatory requirements

2018Q1 - 2019Q4	The **European Commission is considering incorporating climate risks into firms' risk management policies and potential calibration of banks' capital requirements under CRR/CDR**
2019Q2	The **European Commission technical expert group** is expected to: - provide an EU classification system (taxonomy) for climate change adaptation and environmental activities - report on an EU standards for green bonds and on the design and methodology of the low-carbon benchmark
2019Q2	**ESMA** is expected to assess practices in the credit rating market and to include environmental, social and governance information in its guidelines on disclosure for credit rating agencies
2019Q2	The **European Commission** is expected to carry out a study on sustainability ratings and market research
2019Q2	Expected publication of conclusions of the fitness check of **EU legislation** on public corporate reporting. Expected revision of guidelines for companies on how to disclose non-financial information in relation to climate-related data.
2019Q2	The **European Commission** is expected to assess potential measures to promote corporate governance more conducive to sustainable finance
2019Q3	The **EU classification system (taxonomy)** for climate change and sustainable activities is expected to come into effect
2019	**ECB** ran a pilot stocktake on a sample of banks to gather evidence on how they are approaching these challenges, considers how to reflect in capital position, stress testing.

Stress Testing & Integrated Forecasting

Institution Stress testing: supervisory expectations

What are the requirements?

The information submitted by institutions should cover at a minimum:

- data architecture and IT infrastructure,
- governance arrangements,
- methodologies,
- scenarios,
- key assumptions,
- results
- planned management actions

Qualitative. Competent authorities will check the:

- appropriateness of the selection of the relevant scenarios;
- appropriateness of the underlying assumptions;
- underlying methodologies;
- the use of stress test results in institutions' risk and strategic management;
- the extent to which stress testing is embedded in an institution's risk management framework;
- the involvement of senior management and of the management body in the stress-testing programme;
- the integration of stress testing and its outcomes into decision-making throughout the institution;
- the institution's ability and the infrastructure available, including with regard to data, to implement the stress testing programme in individual business lines and entities and across the group, where relevant;
- if management actions were completed and implemented during the time horizon of the stress test.

Quantitative. Competent authorities will:

- assess and challenge the choice and use of scenarios and assumptions, their severity and their relevance to the business model of the institution, as well as the results of such stress
- *when challenging scenarios, assumptions, and the outcomes of institutions' stress tests done for ICAAP and ILAAP purposes, competent authorities should use, where appropriate, the outcomes, scenarios and assumptions from supervisory stress tests, including relevant regional stress test exercises done by various authorities, such as the EBA, the IMF and the ESCB/ESRB, as well the qualitative assessment as specified above, to determine the extent to which the institution's stress testing programme and its outcomes can be relied on.*
- Check if the institution considered all known future regulatory changes affecting institutions within the scope and time horizon of the stress test exercise

Supervisory Stress Testing: EBA Stress Test

Key Aspects

- The exercise will follows **bottom-up approach**.
- Banks are required to project the impact of the defined scenarios but are subject to **strict constraints**.
- The EU-wide stress test is conducted on the assumption of a **static balance sheet**.
- Banks under restructuring are subject to the **same assumptions**.

- The exercise is **not be a pass-fail exercise** (i.e. no hurdle rates or capital thresholds are defined for the purpose of the exercise)

- However, CAs will apply stress test results as an **input to the SREP**.

- Banks are required to stress:
  - Credit risk, incl. securitizations;
  - Market risk, CCR & CVA;
  - Operational risk and conduct.

- Banks are also required to stress **NII** and to stress **P&L and capital items.**

- The exercise includes 2 common scenarios: a **baseline scenario** and an **adverse scenario**.

- The impact is reported in terms of **CET1 capital**. In addition, the **TIER 1 capital ratio** and total capital ratio, as well as a **leverage ratio**, are reported.

Supervisory Stress Testing: EBA Stress Test

Methodology overview

Credit risk

- Banks are required to assess their credit risk impact on both the **capital available** and the **REA** for positions exposed to risks stemming from the default counterparties.
- A few **key assumptions** have been made regarding the application of **IFRS 9**.

Conduct risk and other operational risk

Banks will stress their conduct risk losses under one of the following approaches:

- **Qualitative**: Estimate of losses arising from historical and new conduct risk events by assigning probabilities to these events.
- **Quantitative**: project the P&L impact of conduct risk losses over the 3-year period using own methods.

Other operational risk losses will be stressed using own methods.

Market risk, CCR and CVA

- The impact of market risk on all positions at partial or full fair value measurement is to be assessed via **full revaluation** after applying a set of stressed market risk factor shocks.
- Under the **trading exemption**, banks are allowed to not apply a full revaluation on items held with a trading intent and on their related hedges.
- For CCR, it is assumed that the two most vulnerable of the largest 10 counterparties default. The impact of the scenarios on risk weighted exposures will be based largely on prescribed assumptions.

Non-interest income and expenses

Banks shall use their **own methodology** to project their non-interest income and expenses items not covered by credit risk, market risk and operational risk for both scenarios

Net interest income

- Banks may use their **own methodology** and **existing AML systems** and **EaR models** to project their NII.
- Assumptions cannot lead to an increase in a bank's NII compared with the 2017 value under the adverse scenario.

Supervisory Stress Testing: ECB Liquidity Risk – Stress Test 2019

Exercise focuses on assessing banks' ability to handle idiosyncratic liquidity shocks

The exercise covers…

Sensitivity analysis is based on **hypothetical shocks** drawn upon **supervisory experience.**

- The exercise simulates **cash outflows** of retail and commercial deposits and a full freeze of wholesale funding. Moreover, banks face rating downgrades and additional drawdowns of committed lines.
- At the same time, banks find themselves **unable to generate liquidity from deleveraging** commercial lending activities
- Banks' ability to withstand the shocks is driven by their **counterbalancing capacity**, the amount of liquidity they can generate instantaneously based on available collateral
- The exercise will also test banks' intragroup liquidity flows as well as those denominated in a non-EUR currency; and their ability to mobilise further collateral beyond what is immediately available.

…and it excludes

- The exercise will not assess banks' structural funding risk and it makes **no reference to systemic liquidity crises** (i.e. general changes in risk premia or asset valuations, etc.)

- Liquidity shocks will **not rely on any macroeconomic or geopolitical scenario**. Accordingly, the exercise is carried out without any reference to monetary policy decisions.

TIMELINE

- Quality Assurance will last until **May/June 2019**
- **Integration** of results **into the SREP** will be discussed bilaterally with banks in **Q3 2019**
- **Decision on the publication of aggregated results** in Q3/ Q4 2019 pending

Stress testing lessons learned

How can institutions leverage results and lessons learnt from previous years and use it to increase efficiencies and improve the process?

Banks have to **enhance their capabilities** in stress testing and improve their understanding of the firm's vulnerabilities. This objective should be critical to any bank's core strategy.

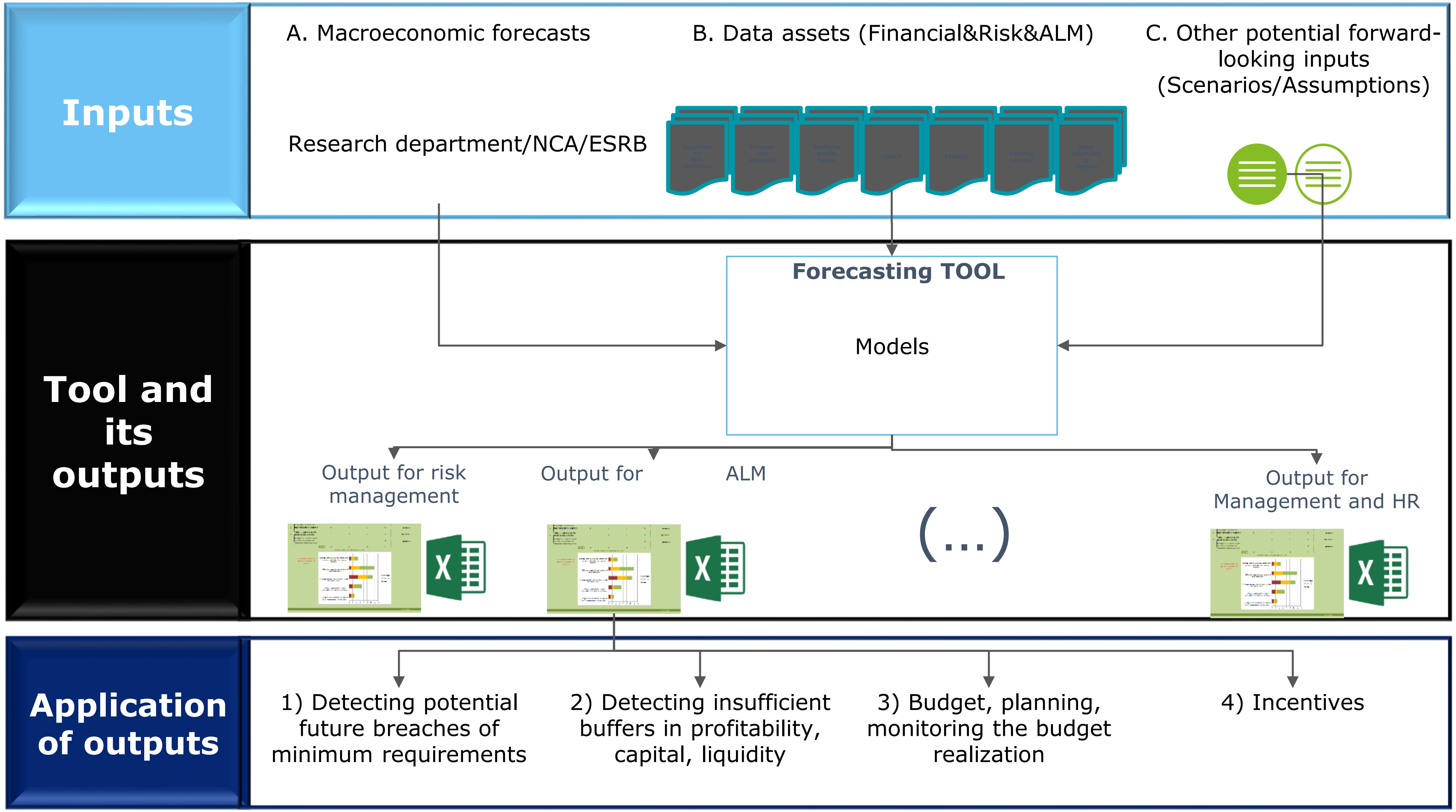
Banks have to **streamline** the processes required to run stress testing to make it a more efficient operation. By streamlining the process institutions will get to spend less time on running the exercise and **more time thinking about what the results are and building strategy.**

Banks have to critically examine of all areas of the timeline and discover opportunities for **efficiency gains**. Simple things some banks have done: to **timely engage in methodology discussions before the production;** to go through key issues that are recurrently raised in reviews; to perform challenge sessions during the production period, and then ensure those issues are vetted and discussed earlier on in the process.

Every institution will have their own **particular issues** when it comes to building a more efficient capital planning and stress testing process. So it is important to look at the **end-to-end production** and identify the best opportunities to improve the process. **Finding ways to automate manual processes or data handoff is probably the most obvious area that institutions explore to streamline the process**. This is important and there are multiple solutions available, ranging from focusing on **consolidating** most of the data and models into a few systems or building tools on the existing infrastructure to better link systems and modeling tools together.

Integrated Forecasting/Stress Testing – indicative operating model

The financial integrated tool generates BS, P&L and main KPIs (default rate, ROE, ROA) in a consistent way.



Most financial institution approach to forecasting and budgeting is:

- manual,
- fragmented,
- sequential,
- facing data quality issues,
- aggregation and reporting significant time
- requires additional capacity

ILAAP

SREP: Supervisory Review and Evaluation Process

Overview – General framework (EBA/GL/2014/13 & 2018/3)

Classification of credit institutions

Monitoring of key indicators

Business Model Analysis	Assessment of internal governance and institution-wide controls	Assessment of risks to capital	Assessment of risks to liquidity and funding

Overall SREP assessment: Risk Score and Viability Score

Supervisory measures

Quantitative capital measures	Quantitative liquidity measures	Other supervisory measures

Early intervention measures

General observations

1 Complete and structured framework

- The EBA Guidelines provide a broad framework and significantly extend the perimeter of the traditional SREP exercise by proposing **a more structured approach**
- The supervisory bodies are expected to evaluate the **individual elements of the SREP** on a scale of 1 to 4. The score is based on the risk assessment and the ability to manage and mitigate these risks by the institution
- Each institution is given an overall score (1-4 and 'F' which represents the possibility of failure)
- Supervisor is expected to conduct an accurate analysis of the business model and the internal control system

2 ECB Priorities 2019

Improvement of banks ICAAP and ILAAP

- Internal capital and liquidity adequacy assessment processes (ICAAPs and ILAAPs) are key risk management instruments for credit institutions. ECB Banking Supervision reviews the quality of institutions' ICAAPs and ILAAPs as a fundamental part of the SREP. Following on an intensive dialogue with banks, the finalised ECB guides on ICAAP/ILAAP will become available for use from 2019 onwards. Work will also continue on improving the transparency around the risk-by-risk composition of the Pillar II capital requirements

Liquidity Stress Test

- As in 2017, the annual supervisory stress test in 2019 will be conducted with a focused scope. The 2019 stress test will seek to assess banks' resilience against liquidity shocks. The individual banks' stress test results will inform the SREP assessments

SREP-Liquidity Perimeter

SREP: Supervisory Review and Evaluation Process

Focus on liquidity position

- The SREP main purpose is a **periodic monitoring** and standardized (and, as far as possible, centralized) **supervision** activity by the banking system's Regulator
- In details, the Regulator should aim **to formulate an overall judgment** on the bank position and to activate, if necessary, the **related corrective measures**
- Within the SREP, liquidity is deepened in two sections, the first concerning the short and long-term liquidity risk (Liquidity Assessment) and the second on the definition/quantification of the Banks' minimum liquidity requirement (Liquidity Requirements Quantification)

ILAAP

- ✓ **Internal assessment process** regarding the adequacy of the internal risk monitoring system on liquidity risk
- ✓ Definition of an **internal framework** concerning liquidity and funding monitoring systems and any potential room for improvements

RAS

- ✓ **Standardized and structured quantification of risk assessment** based on a set of key regulatory indicators (LCR,NSFR) in normal and stressed conditions
- ✓ **Scoring adjustment** for additional liquidity requirements based on bank's business model

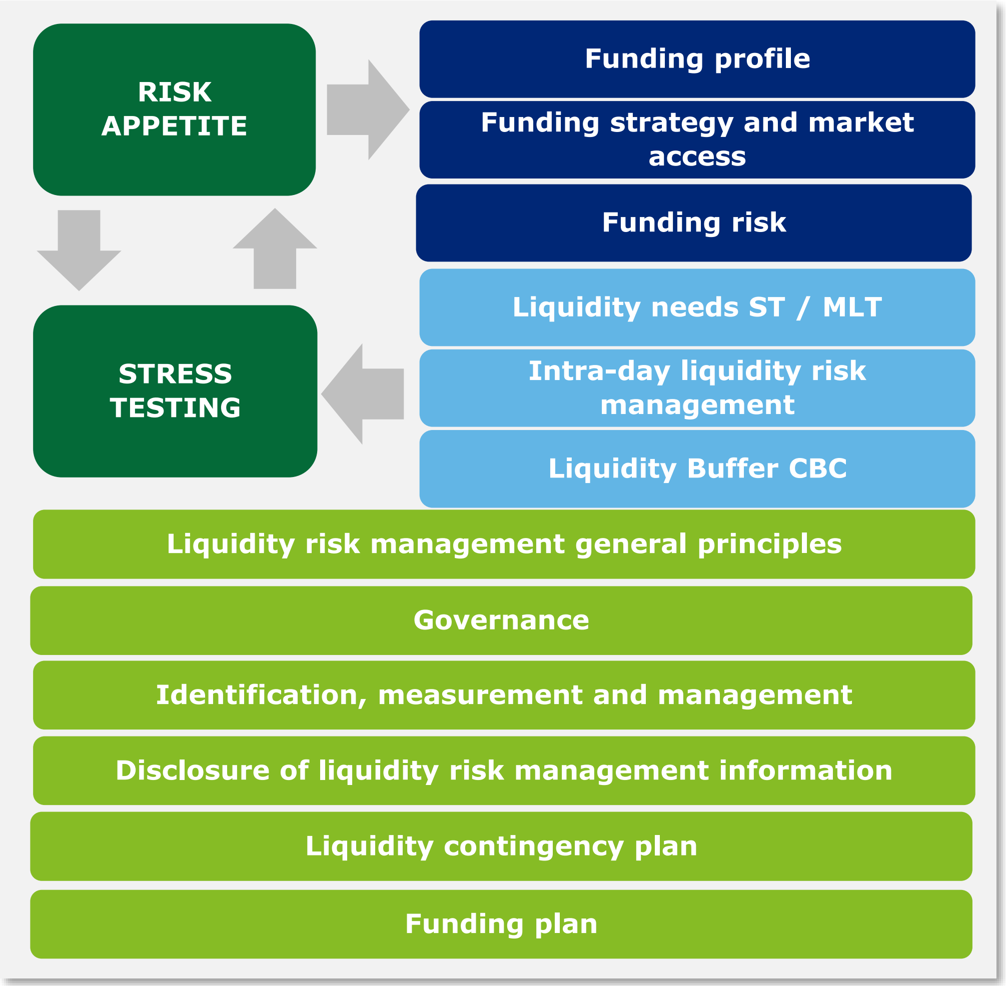
Liquidity Requirements Quantification

- ✓ **Identification of the liquidity target** required according to the bank's assessment (i.e. scoring) and regulatory standard grids
- ✓ **Quantification of additional liquidity needs** based on regulatory indicators (i.e. buffer add-on)

SREP: Supervisory Review and Evaluation Process

ILAAP - Overview

- ILAAP (**Internal Liquidity Adequacy Assessment Process**) is the internal process for identifying, measuring, managing and monitoring liquidity provided by Directive 2013/36 / EU (Art.86)



- SSM, EBA, ECB consider the data and models used to manage banks' liquidity risk as a strategic asset to manage as key input in risk assessment and corporate decision-making processes
- The **principles underlying the ILAAP must not be considered separately** as they are **interconnected** and together constitute an **effective liquidity risk management framework**
- The implementation of the ILAAP require the drafting of an integrated liquidity risk framework, with specific attention to the interconnection between the *risk identification, risk measurement, strategic planning, stress testing, risk limits and contingency planning processes*

ILAAP implementation

Hot topic

1 Governance

- Drafting liquidity risk management **policies and procedures**
- Committment of top management
- **Validation** process for ILAAP
- **Proportionality principle**

2 Identification, measurement and management

- Development of **behavioural liquidity models** in order to generate maturity calendars
- Develop a methodology for allocating the **liquidity buffer costs**
- **Liquidity indicators**
  - **Regulatory and managerial perspective** (LCR, NSFR, Survival period, maturity ladder, concentration of funding)
  - **Actual and forward looking perspective** (LCR at end of month vs LCR forward looking)

3 IT system

- IT system available for supporting liquidity measurement
- Data quality

4 Intraday Liquidity

- Implementation of **intraday liquidity indicators**

5 Stress test

- Definition of an integrated stress test framework

ILAAP implementation

Feedback …

…from the regulator

- Link between different ILAAP components not sufficiently addressed. E.g. outcome of liquidity stress tests are not are being used as input for determining the internal liquidity limits and/or the risk appetite
- Calculation of liquidity maturity calendars (both contractual & behavioural) does not meet required standards. E.g. no full balance sheet scope and not all required dimensions available.
- Systems of early warnings and limits has not been specified in sufficient detail
- Data quality in general is considered insufficient
- Emphasis on diversification of funding
- Improvement required in involvement senior management (organising dry runs, engagement crisis teams)
- Improvement required in governance (e.g. standard procedure to set and update the system of limits)

… from the industry

- Regulators require a funding plan which is on such a detailed level, that the bank losses its flexibility in funding itself
- ILAAP implementation has major impact on the organisation and requires major resources and investment in systems, models and data.
- Quantitative templates Central Bank are based on COREP/FINREP and not always fit liquidity data
- Setting Early warnings and limits narrows doing business and looking for opportunities
- Emphasis on diversification of funding restricts market opportunities

IRBB

Regulatory background

Interest rate risk in the banking book requirements

BCBS IRRBB, 07/2004

EBA/GL/2015/08, 05/2015

BCBS d368 IRRBB, 04/2016

EBA/GL/2018/02, 07/2018

Implementation of requirements: 06-12/2019

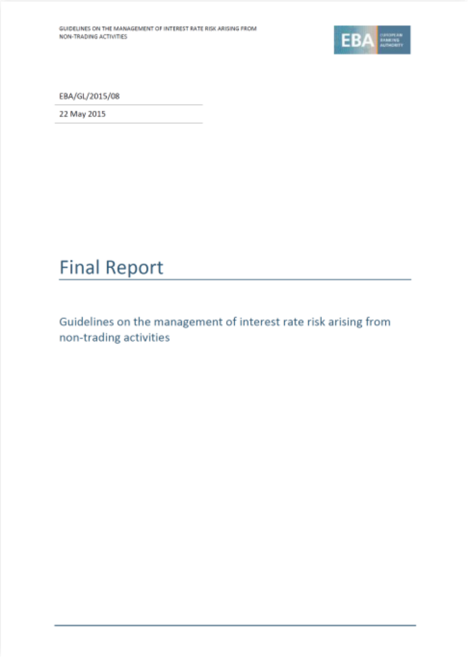
The **EBA** published guidelines on the management of interest rate risks arising from non-trading activities in May 2015. The detailed guidelines included:

Scenarios and stress tests.

Interest rate risk measurement methods - more detailed assumptions for the IRRBB in the area of **measurement of potential changes in economic value** and definition of new guidelines in the area of **potential changes according to the expected net interest income**.

Interest rate risk management - requirement to have a robust IRRBB management framework with a defined strategy and policies and a risk reporting system with timely and comprehensive information on the IRRBB.

Identification, measurement and allocation of capital for interest rate risk.


GUIDELINES ON THE MANAGEMENT OF INTEREST RATE RISK ARISING FROM NON-TRADING ACTIVITIES

EBA/GL/2015/08

22 May 2015

Final Report

Guidelines on the management of interest rate risk arising from non-trading activities

Interest rate risk in the banking book

Framework

Interest rate risk in the banking book

Interest rate risk Identification

Risk Types

- Gap risk
- Basis risk
- Option risk
- CRSBB

Balance shhet exposures

- Asset positions
  - Customer loans
  - FVTOCI
  - Other assets
- Liability positions
  - Retail funding
  - Wholesale funding
  - Equities
  - Other liabilities
- Off-balance sheet positions
  - Pipeline credit
  - Revolving credits

Rate Profile

- Fixed rates
- Floating rates
- Rates with embedded options
- Cross-basis rates
- Cross-currency rates

Risk assessment & mitigation

Measurement methodologies

Full revaluation static / Partial revaluation Dynamic

Economic value
Maturity gap
Duration gap
Earnings at risk
Net interest income
Interest margin
Value at risk

Stress testing

- Sensitivity analysis
- Scenario analysis
- Adverse stress tests

Behavioral assumptions

- Effective maturity of assets
  - Performing loans
  - Impairments and provisions
- Effective maturity of liabilities
  - Non-maturing deposits
  - Short-term money market funds
- Off-balance sheet position
- Intra- and inter-risk correlations
- Prepayments and extensions

Interest rate & income hedging

- Derivatives
- Equity investment
- Non-interest rate sensitive hedging
- Interest rate forecast and balance sheet planning

Risk Governance & Control

Governance

- Governance structure
- Roles and responsibilities
- Framework, policy & processes
- Decision mechanism

Strategy

- Risk appetite statements
- Business model
- Risk warning and triggers
- Hedging strategies
- Balance sheet planning
- Interest rate optimization

Controls

- Reporting
- Monitoring
- Regulatory compliance
- Capital adequacy
- Data and model validation
- Independent review

Infrastructure

- IRRBB management system
- Data quality and assumptions
- Resources

First line of defense | **Second line of defense**

Third line of defense

Interest Rate Risk in the Banking Book: 2017 Deloitte Survey

Purpose and scope of the survey

After introducing significant changes to the IRRBB proposed by BCBS, Deloitte conducted a survey at the end of 2016 covering European and South African countries.

The main purpose of the survey was to measure banks' readiness to implement new regulations and the direction of their changes in interest rate risk management, related IT models and systems.

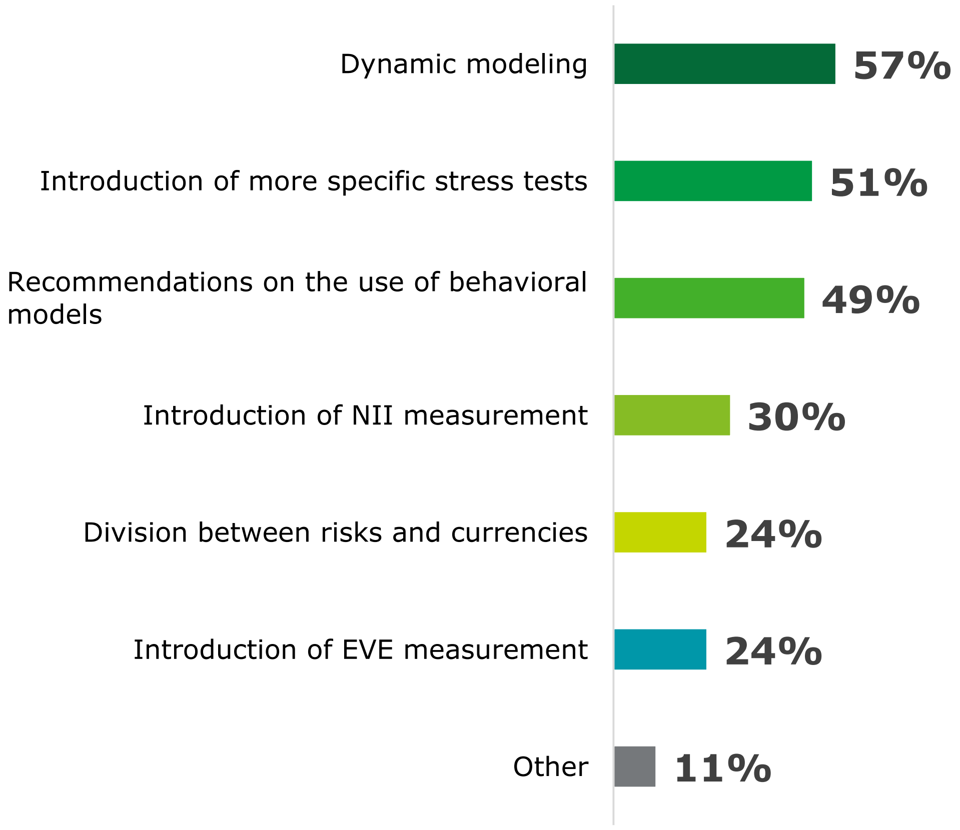
The survey focused on the assessment of banks' current practices in relation to the new BCBS provisions.

- Countries from **Europe and South Africa** participated in the survey.
- A total of **37 leading banks** of all sizes and business models took part in the survey
- Identification of **current practices** and **planned future changes** in the scope of IRRBB
- The survey covered **6 different sections** of the IRRB and consisted of **80 questions** on IRRB practices.

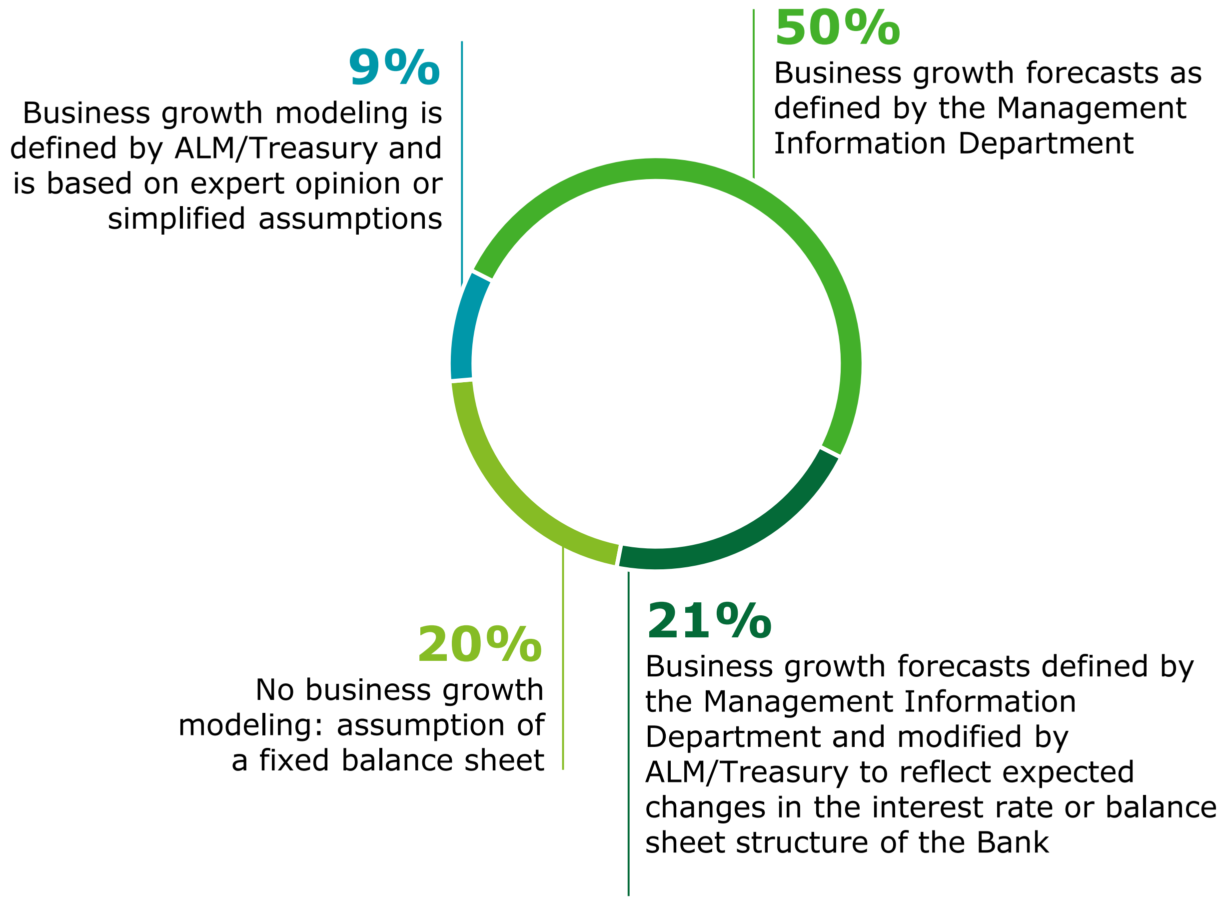
Interest Rate Risk in the Banking Book: 2017 Deloitte Survey

Impact of new regulations

Which regulatory recommendations will have the greatest impact on the IRRBB methodology in your bank (you can select more than one answer, maximum 3)?



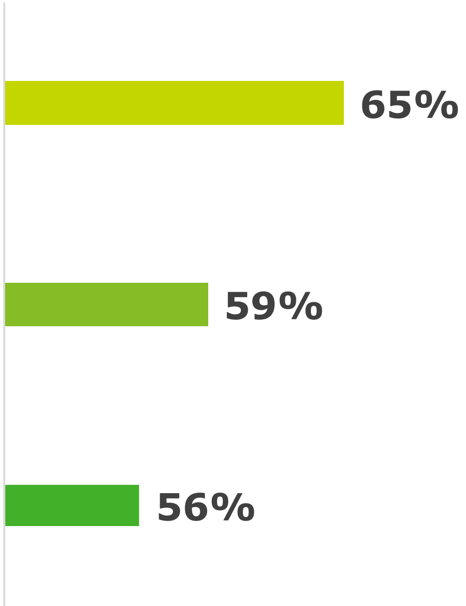
How did you calibrate your expectations for business growth?



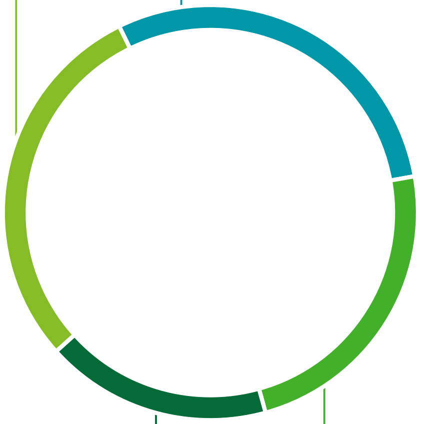
Interest Rate Risk in the Banking Book: 2017 Deloitte Survey

NII & EVE measures

Which type of NII measure is used?
(more than one answer could have been marked)



How is the EVE measure calculated?



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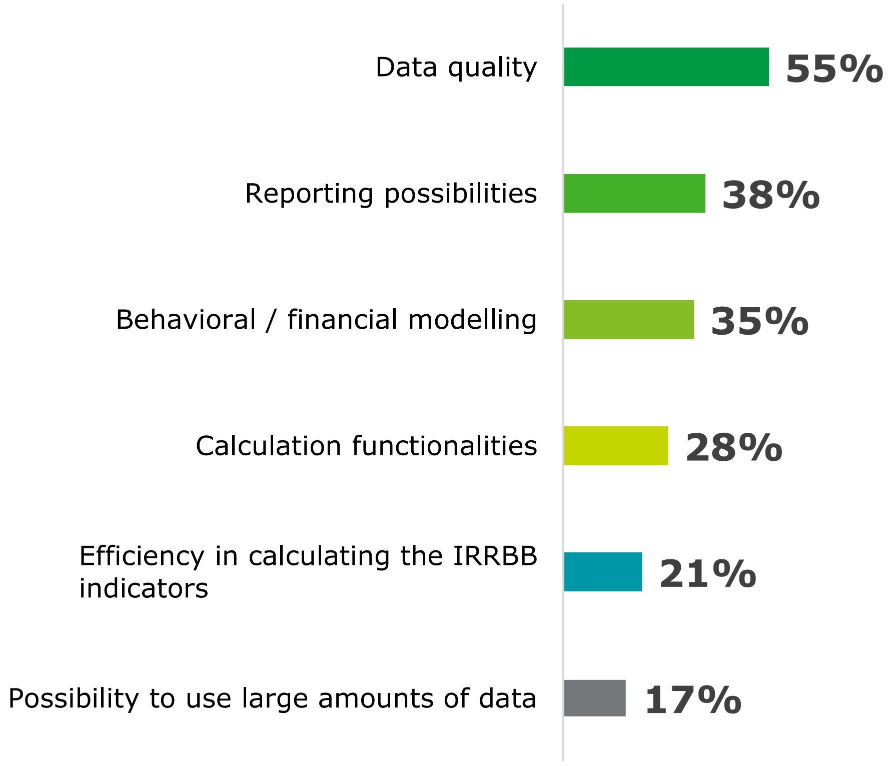
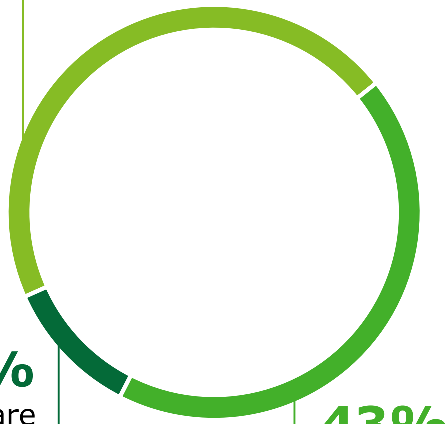
IT systems

What functionalities of the IRRBB system do not meet business needs (you can select more than one answer)?



What is the current level of integration of the IRRBB system with other systems (e.g. planning, performance measurement, etc.)?



46%

IRRBB analyses are carried out in many systems and data consistency requires considerable effort. Lack of integration between the IRRBB system and other systems

11%

The analyses of the IRRBB are carried out in one system which is not directly integrated with other systems, but ensures overall consistency in the management of the IRRBB and consistency of the data with other relevant systems of the bank

43%

The analyses of the IRRBB are carried out in one system which is not directly integrated with other systems but ensures overall consistency in the management of the IRRBB

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Summary

The changes introduced in the IRRBB framework cover all main aspects of the governance of the IRRBB. The implementation of the new procedures takes into account, e.g. the IRRBB management policy depending on the size and level of sophistication of the bank, internal controls, the requirement for more detailed data and data quality assurance.

THE RESULTS OF THE SURVEY INDICATE:

- that **the highest priority** has been given to dynamic analysis and stress scenarios.
- an approach towards increased **control of behavioral models and IRRBB indicators.**
- the choice of **the standardised approach** by the majority of banks
- a noticeable increase in the **need for system integration and the synergies** resulting from such integration.
- **an increased scope of reporting** of qualitative and quantitative information within the IRRBB.