### OVERVIEW

#### Objectives
- Reduce variability of Risk Weighted Assets (RWA) stemming from internal models
- Improve consistency among banks' methodologies
- Restore credibility and adequacy in capital requirements

#### Expectations
- Demonstrate regulatory compliance with the model framework, including compliance to EBA Consultation Paper on estimation of PD and LGD
- Produce evidence of adequate model validation processes
- Show policies and procedures for model governance and data systems, including audit trails

#### Impact
- ECB identifies best practices resulting in new minimum standards
- Banks will have to update their internal model approaches based on the review, especially banks that are outliers in peer analyses
- TRIM results may trigger new regulatory requirements

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### SCOPE

**Five ECB competence centres**, each staffed by members of ECB, NCA and external resources:
- Centre for general topics, independent of risk type
- Model-Mapping centre to prioritize models under review
- Three competence centres for specific risks aiming to define TRIM's risk-specific methodology

**TRIM-ECB APPROACH**

- **The ECB multi-step approach to reach TRIM objectives:**
  - Identification of models for on-site inspections
  - Development of a TRIM methodology
  - In-depth on-site inspection by JST (6-9 people)
  - Identification of triggers for follow-up actions

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### TIMELINES AND ACTIVITIES

#### Structural preparations and responses

<table>
<thead>
<tr>
<th>Preparatory Phase</th>
<th>Targeted Review Phase</th>
<th>Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Objective</strong></td>
<td><strong>On-site inspections in 2017 – 2018</strong></td>
<td><strong>Remediation and monitoring of findings</strong></td>
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<tr>
<td>Selection of models</td>
<td>On-site in-depth model reviews</td>
<td>Remediation and monitoring of findings</td>
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<tr>
<td>Create review handbooks</td>
<td>Horizontal reviews of selected models</td>
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<tr>
<td><strong>ECB</strong></td>
<td><strong>Review of IT and data quality</strong></td>
<td><strong>Communicate findings of Targeted Review Phase</strong></td>
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<td>Prepare and conduct surveys</td>
<td>Collect and process data</td>
<td>Monitoring of findings</td>
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<td>On-site interviews and collection of documentation</td>
<td>On-site in-depth methodological review per portfolio</td>
<td>Identify new guidance</td>
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<td>Define model selection criteria</td>
<td>Horizontal review and benchmarking</td>
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<tr>
<td>Prepare model review methodology</td>
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<tr>
<td>Finalize selection of models</td>
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<tr>
<td><strong>Banks</strong></td>
<td><strong>High availability of internal stakeholders expected</strong></td>
<td>Remediating findings possibly covering:</td>
</tr>
<tr>
<td>General preparation for TRIM based on ECB documents e.g. Regulatory Technical Standards</td>
<td>Supply all model documents</td>
<td>- Model methodology</td>
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<td>Perform quick fixes and create model development planning</td>
<td>Provide all relevant policies</td>
<td>- Model governance &amp; organisation</td>
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<td>Set up response team</td>
<td>Demonstrate model use</td>
<td>- Processes &amp; use test</td>
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<td></td>
<td>Delivery of high data quality</td>
<td>- Data and IT systems</td>
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<td>Q&amp;A sessions</td>
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#### Competence centres

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<thead>
<tr>
<th>Competence centres</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
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</thead>
<tbody>
<tr>
<td><strong>General Topics</strong></td>
<td>Institution-specific review: Governance Framework</td>
<td>Institution-specific review: IT and data quality</td>
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</tr>
<tr>
<td><strong>Model Map &amp; prioritization</strong></td>
<td>Model Map &amp; prioritization (incl. benchmarking)</td>
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<td>Model Map &amp; prioritization (incl. benchmarking)</td>
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<tr>
<td><strong>Credit Risk</strong></td>
<td>Methodological harmonization and definition of assessment criteria</td>
<td>Ongoing methodological support for On-site teams</td>
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<td><strong>Market Risk</strong></td>
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<td><strong>Counterparty Credit Risk</strong></td>
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<tr>
<td><strong>Outlook</strong></td>
<td>Preparation &amp; pilots:</td>
<td>Model-specific review:</td>
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<td></td>
<td>- Questionnaire on Market- and Counterparty Credit Risk</td>
<td>- On-site inspections of high-default portfolios</td>
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<td></td>
<td>- Questionnaire on general topics, Model Map &amp; prioritization</td>
<td>- Market Risk TBC</td>
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**TRIM results** will be used by the regulator to request adjustments and improvements to current methodologies, governance structures and data quality, and may also trigger new regulatory developments in the future. Depending on the outcome, the use of internal models for Pillar 1 purposes might be restricted to fewer asset classes.

* Sometimes multiple on-sites per bank, each on-site lasting approx. 3 months.
**Targeted Review of Internal Models — TRIM**

**DELOITTE METHODOLOGIES**

**Initial Analysis**
- Evaluate existing documentation and review TRIM questionnaires; conduct workshops with bank specialists

**Determination of Minimum Requirements for On-site Reviews**
- Elimination of Priority 1 deficiencies (i.e., quick wins)

**Gap Prioritization**
- Presentation of gaps relating to TRIM Investigations; estimation of the importance of Gaps with priorities 1-3

**Recommendations and Remediation**
- Priority 1 deficiencies to be closed via immediate remediation; Priority 2 & 3 Gaps to be classified according to importance based on roadmap

Deloitte’s offering to your bank can consist amongst others:

- **HOW CAN WE HELP**
  - Prepare your bank to be aware of the potential TRIM findings and assist on required analysis and actions
  - Collect all internally and externally required approvals and (model) documentation
  - Deep-dives on selected portfolios and topics, as a simulation and preparation for on-site inspections
  - Support data deliveries
  - Create a centralized project management team to setup and run the project to ensure a successful completion of the On-site inspection:

**Completion of new IRB requirements:**
- Rating process
- Internal audit
- Realization plan and Partial Use
- Use Test and Experience Test
- Definition of default
- Self-developed rating models
- Externally procured rating models
- Data quality and IT systems

**Key Elements**
- Extent of IRB audit procedure
- IRB rating procedure
- Independence of validation function
- Quality of rating systems and data maintenance
- Comprehensive examination of rating systems
- High documentation standards
- Harmonization and concretization of parameter estimation
- Stress testing of banks’ capital adequacy

**Implications**
- High barriers when returning to less demanding approaches (PPU)
- Organizational and operational adjustments are necessary to ensure independency of validation function
- Increasing documentation requirements
- Changes within process, model and method are necessary
- If necessary, revision of parameter estimates, especially calibration

**Model Governance**
- The central aspect of TRIM goes beyond the quality of the models, and includes the entire Model Governance process

**Review Model Map**
- Inventory review of all internal models

**Known Findings**
- Existing findings or known weak points will be resolved

**Qualifications**
- More than 250 professionals in internal models
  - Broad-based experience on quantitative topics relating to internal models regarding all relevant risk types
- Advisory focus within Risk Methodologies
  - Technical conception & validation of PD, LGD and CCF models as well as market and counterparty credit risk models
- Global Quant Team
  - Global resource and knowledge network: topic clarifications and refinements, training, benchmarking, exchange of technical questions and leading practices
- Audit areas within Risk Methodologies
  - Support in revisions on (IRB-) rating procedures; Quality assurance regarding the execution of supervisory determinations; Supporting major clients with annual financial statements regarding special topics
- Eminence and Publications
  - Lectures, publications, ad-hoc analyses, Deloitte Quant Blog
- BUCF and ECRS
  - Collaboration on an international level through the Banking Union Centre in Frankfurt (BUCF) and the EMEA Centre for Regulatory Strategy (ECRS)

**Benchmarks**
- Consideration of best-practice approaches and implementation of peer comparisons, as well as the application of specific guidance

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