2016 EUROPEAN BANK STRESS TESTS

METHODOLOGY IS OUT - NOT A PASS OR FAIL EXERCISE ANYMORE

ALVAREZ & MARSAL

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SERIES #2

KEY MESSAGES

Bank coverage will be reduced allowing for more focus on quality review and assurance

1. Expected number of banks to be covered 53 (G-SIBs plus tier 1 local banks with 39 SSM banks and 14 other)
2. Asset coverage will be reduced from 85% (2013 comprehensive assessment) to approximately 70%
3. Reduced coverage will allow supervisors to focus on quality of stress testing processes of banks covered.

Stress test results will be integrated as part of SREP – we expect stricter minimum thresholds but not public.

1. In contrast to 2014 Comprehensive Assessment, 2016 test will not be a pass or fail exercise anymore - conclusions will be integrated within SREP findings, supervisory ratings and capital actions
2. Stress test thresholds expected to be increased as part of integration with SREP – Pillar 2 buffers to be increased when stress test results are higher than conservation buffer or quality of stress testing practices are poor
3. We expect integration of stress tests with regulatory capital framework using similar approach to that recently announced by Bank of England
4. We expect to see higher stressed dilution of capital for G-SIBs and more emphasis on qualitative aspects

Methodology will be similar to that used in 2013 Comprehensive Assessment with continued focus on consistency and comparability of results

1. No AQR will be conducted, thus simplifying process and eliminating need of join-up of AQR and stress test results
2. Scenario construction similar to design used in 2013 with likely more severe shocks applied to emerging markets
3. Static balance sheet assumptions will continue to be used with no credit to management actions
4. Number of constraints have been expanded to create more conservative results
5. Modifications were made in the following areas: (1) Treatment of specific provisions for old defaulted assets, (2) simplification of market risk scenarios, (3) Inclusion of conduct and operational risk charges

Timeline compressed relative to 2014 Comprehensive Assessment due to AQR absence and need to integrate with AQR

1. Scenario to be released by end of February 2016
2. Calculations to be performed during March-Mid May with quality assurance taking place in May-July
3. Final disclosures expected to be done by end of July 2016

KEY ATTRIBUTES

Few uncertainties remaining after key features of stress tests provided by EBA.

Key Features	Highlights	Level of Uncertainty Remaining Low - High
Coverage	• Reduced coverage to 53 vs. 123 banks in 2014 Comprehensive Assessment (CA). • Focus on G-SIBs plus tier 1 local banks - banks that tend to have higher capital and lower NPL rates	Uncertainty on ECB coverage and result disclosure. There will likely be two lists (EBA list with 39 SSM banks and ECB list with expanded number of SSM banks covered
Scope	• Stress tests to cover credit risk, market risk, NII, conduct & operational risk, and other income & expenses • Sovereign exposures captured in credit and market risk depending on accounting treatment	No uncertainty remaining on scope Conduct and operational risks added for this exercise
Timing	• Scenarios will be provided by the end of February 2016 with final results to be disclosed by the end of July. • Final stress methodology and templates to be provided with scenario.	No uncertainty remaining on timing
Capital Hurdle Rate	• No thresholds defined for this exercise compared to CET1 Baseline ≥ 8& and CET1 Adverse Stress Scenario ≥ 5.5% used in 2014 Comprehensive Assessment • Results to be disclosed under phased in and fully loaded	Uncertainty remains on methodology to be employed by ECB to integrate stress test results with SREP evaluation and regulatory capital framework
Scenarios	• Baseline and adverse systemic scenarios to be developed in collaboration with European Commission and ESRB with a 3-year horizon similar to 2014 CA exercise.	Details of the scenarios will be available at the end of February 2016.
Modeling Methodologies	• Banks will use their bottom-up models for loss estimation and then be subject to a regulatory challenge process including benchmarking, data quality, qualitative checks and top down estimates similar to 2014 CA exercise.	While bank internal models are allowed some uncertainty remaining on weight that will be given to EBA and ECB benchmarks.
Balance Sheet Projections	• Static balance sheets will be used. No management actions can be used to mitigate impact of stress tests. • No credit for restructuring plans this time around	No uncertainty remaining on balance sheet assumptions
Data Requirements	• Data templates are now known and provided by the EBA. • Material modifications on structure and depth of templates compared to CA 2014 templates.	No uncertainty remaining on data templates
Capital Actions	• Due to lack of hurdle rates, shortfalls to baseline or adverse will not be published and only determined through the SREP process.	Uncertainty remains on the depth and breadth of capital actions required from SREP.

KEY METHODOLOGY CHANGES (HIGHLIGHTED IN BOLD)

Minor changes made in methodologies with newly added scope for conduct & operational risks

Risk Area	Scope	Loss Impact	RWA Impact
Credit Risk	Entire banking book with granularity by asset class (central govt. & central banks, institutions, corporates, retail, equity, securitization and other), country (up to 10 countries) and RWA method (STA, F-IRB or A-IRB) **Explicit treatment of FX lending**	• Stressed point-in-time PD and LGD for provisioning leveraging bank internal models that link macro-economic indicators to loss rates including securitisation exposures. • Additional losses on defaulted loans based on worsening LGDs. • **Use of specific provisions for old defaulted assets** • Loss haircuts for sovereign exposures	• Rating migration and stressed regulatory parameters for RWA calculation for both STA, F-IRB and A-IRM methods
Market Risk	All financial assets and liabilities assessed at fair value including held for trading (HfT), available for sale (AFS), designated at Fair Value through profit and loss (FVO), hedge accounting portfolios, sovereign positions, CCR exposures and positions subject to CVA accounting **Explicit treatment of defined benefit pension fund** and real estate assets	• Simplified approach: based on net trading income volatility (11-15 or 13-15) * 2 • Comprehensive approach: Worst case of full revaluation of exposures using **2 historical scenarios (instead of 4)** plus baseline & adverse for trading and counterparty/CVA risks • **Scaling factor to avoid end-of-year arbitrage** • Maximum CVA from 3 scenarios plus default of largest counterparty from top 10 • Impairment of AFS/FVO positions under adverse	• RWA increase for VaR/S-VaR (stressed capital charges for adverse) • IRC and CVA increase due to worsened risk parameters.
NII	Interest bearing assets and liabilities Reporting by currency and country data up to 90% coverage and 15 country/currency couples	• Bank's own methodology to project NII based on re-pricing characteristics of banking book • **Separate projections for reference rate (interest rate risk) and margin (credit and liquidity risk)** • **Application of pass-through of sovereign spreads on margin only** • **New idiosyncratic component for liabilities**	• NA
Conduct & Operational Risks	**P&L impact of losses from conduct and other operational risks**	• **Bank own estimations with several quantitative floors based on historical data experience** • **Specific approach based on qualitative estimates and reporting of conduct events**	• **Bank own estimates for AMA, basic and standard approaches**
Non-Interest Income and Expenses	Non-financial tangible assets (real estate and participations) and other	• Bank's own methodology to project fees and expenses **subject to several constraints** • **Possible adjustments of one off costs (divestitures, restructuring and lay-offs)**	• NA

ADDITION OF MORE CONSERVATIVE CONSTRAINTS

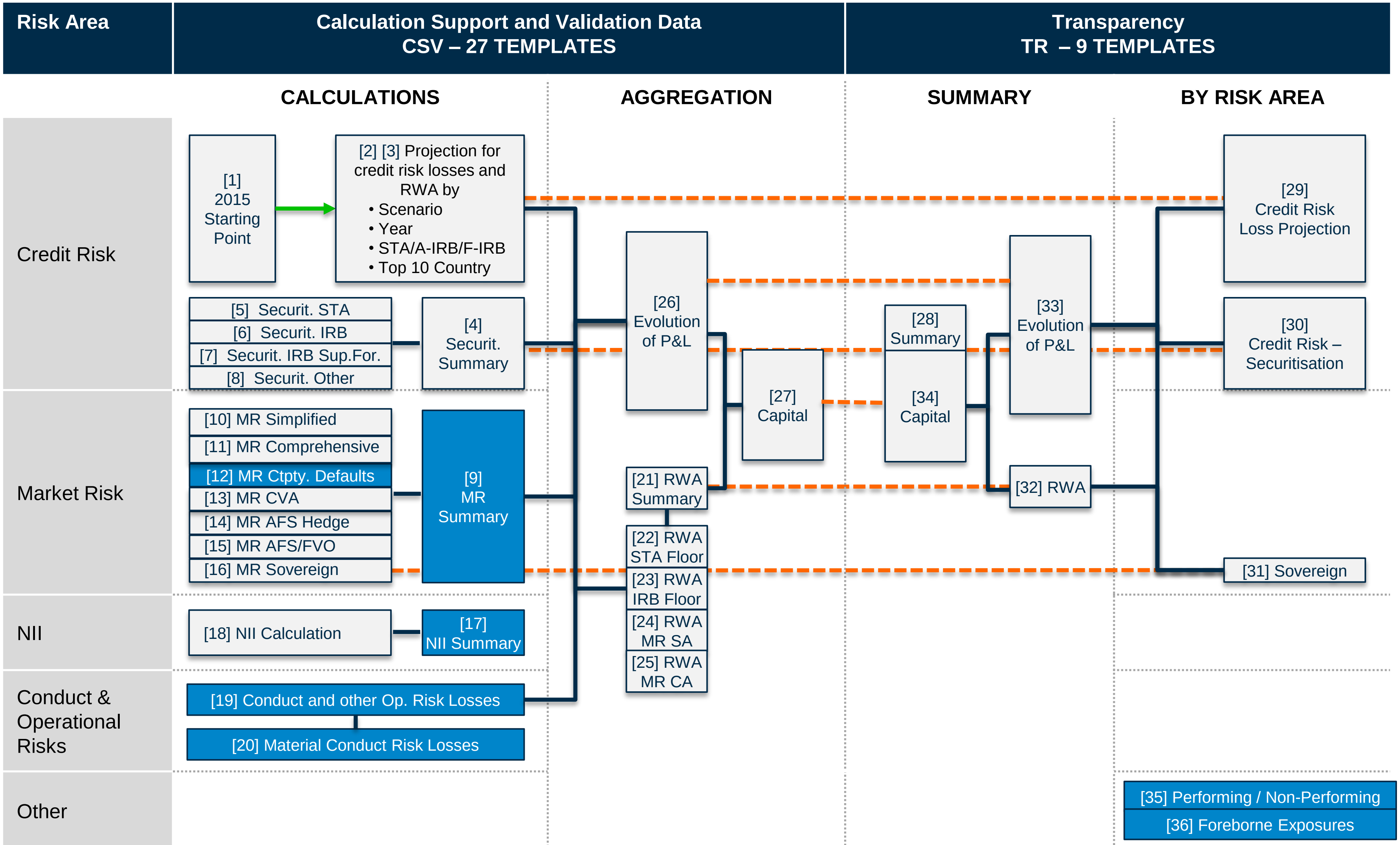
Multiple new constraints have been added – primarily in NII, to ensure conservative estimates

Risk Area	List of Constraints
Credit Risk	• No negative impairments permitted • The coverage-ratio for non-defaulted assets cannot decrease • REA floored by 2015 value (separately by regulatory approach and defaulted, non- defaulted exposures) • Prescribed increase for securitisations and REA for securitisations floored separately for aggregate STA and IRB portfolios.
Market Risk	• Prescribed simplified approach (SA) based on historical NTI volatility for HFT • NTI starting values prescribed as the minimum of the averages across the last 2,3, and 5 years (the two-year average floored at 0) • NTI projections before loss impact capped by 0.75% of the starting value • Simplified approach serves as floor for the impact of the comprehensive approach • Prescribed haircuts for AFS/FVO sovereign positions • REA for IRC and CVA floored by the increase for IRB REA
NII	• Interest expenses cannot decline under the adverse scenario • Neither the net interest margin nor NII can increase under the baseline or the adverse scenario • No income on defaulted assets under the adverse scenario, except income from discount unwinding (capped by the 2015 value and a constraint depending on the changes in provisions and defaulted exposure) • The margin paid cannot increase less than the highest amount between a proportion of the increase in the sovereign spread and that of an idiosyncratic component • The interest expenses of re-priced liabilities cannot decline under the adverse scenario • The margin on re-priced assets is capped by the starting value
Conduct & Operational Risks	• Losses from new conduct risk events are subject to a floor, computed in the baseline scenario as the average of the historical conduct risk losses reported by the bank during the 2011-2015 period for non-material events only – more conservative floor in the adverse scenario by applying a stress multiplier to the average • Other operational risk losses are subject to a floor computed in the baseline scenario as the average of the historical losses 2011-2015 period – more conservative floor in the adverse scenario by applying a stress multiplier to the average • Losses for other operational risk in the adverse scenario cannot be less than the greatest annual loss in 2011-2015 • Capital requirements for operational risk cannot fall below the 2015 value
Non-Interest Income and Expenses	• Dividend, fees and commission: Ratio to total assets constant in the baseline, minimum of this ratio of 2015 and the average of the two years with the smallest value that occurred 2011-2015 in the adverse • Administrative expenses and other operating expenses cannot fall below the 2015 value – unless an adjustment for one-offs is permitted • Common tax rate of 30% applied • No impact for realised gains or losses, negative goodwill, foreign exchange effects • Other operating income capped at the 2015 value • For dividends paid: Pay-out ratio based on publically declared dividend policies. If no policy is available the pay-out ratio in the baseline is the maximum of 30 % and the median of the pay-out ratios in profitable years 2011-2015; in the adverse the same amount of dividends is assumed (0 accepted for loss making banks)

NEW EBA TEMPLATE ARCHITECTURE

Stress test proposed 36 templates will require extensive data gathering, modeling, and data quality controls.

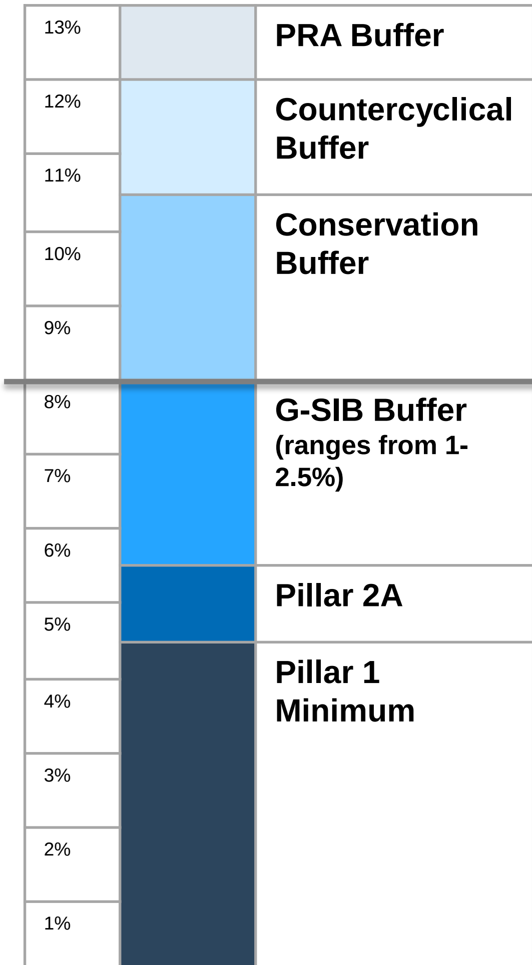
New Template
Calculation Linkages
Reconciliation
Reference



INTEGRATION WITH SREP

EBA will propose a methodology to integrate regulatory capital management framework (Pillar 1 and 2) with stress tests. We expect to see a similar approach to that proposed by the Bank of England to stress testing of the UK Banking System (October 2015).

Static View	Dynamic View



❶ **HOW MUCH IMPACT DOES THE STRESS TEST GENERATE?**

- PRA buffer is built if stressed losses are greater than the conservation and countercyclical buffer

Current CET1 Level

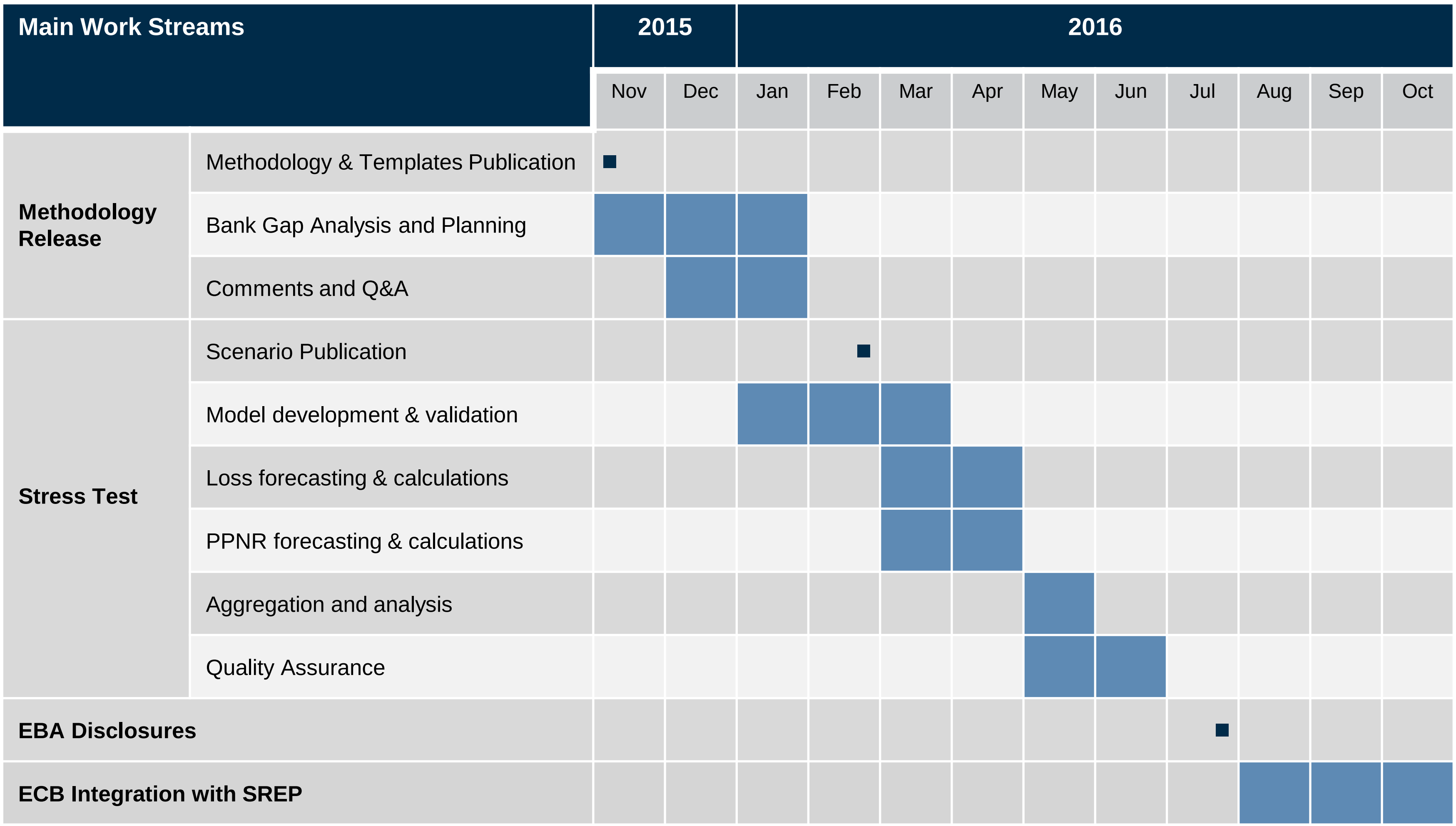
Minimum Threshold

❷ **HOW FAR DO STRESS LOSSES GO IN CAPITAL STRUCTURE?**

- If stressed losses go below Pillar 1 + 2-A + G-SIB Buffer capital actions are required

EXPECTED TIMELINE

Release of results by the end of July to allow for integration with SREP findings and actions.



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Our comprehensive service offering to help meet the broad needs of banks in capital planning and stress testing

A&M SERVICES IN THE AREA OF CAPITAL PLANNING AND STRESS TESTING

Assessment and Planning

- Capabilities Assessment in relation to regulatory expectations and industry practices
  - Governance
  - Capital Planning Processes
  - Supporting Analytics and Methodologies
  - Internal Controls
  - Data and Infrastructure
- Implementation roadmap development and detailed project planning
  - Roadmap Strategy
  - Detailed project planning
  - PMO office set up
  - Ongoing PMO
- Pro-forma impact analysis

Design

- Operating model design
  - Organizational Structure
  - Committee structure
  - Staffing and skill set analysis
  - Central vs. decentralized units
  - Risk and capital framework
- Capital adequacy methodology design
  - Capital measures
  - Targets, guidelines and limits
  - Capital buffers
- Capital policies and procedures development
- Board / management awareness training
- Risk and capital reporting structure and dashboard design

Implementation

- Material risk identification and assessment
- Scenario design methodology and execution
- Business activity, balance sheet and PPNR forecasting
- Loss forecasting
  - Credit
  - Trading
  - Operational
  - Investments
  - Conduct regulatory
- Capital aggregation toolset and analytics (e.g., sensitivity analysis, benchmarking, etc.,)
- Integration with capital contingency and recovery plans
- Data sourcing, reporting template and disclosure production

Control and Sustainability

- Stress test and capital model validation and results challenge
- Documentation support
  - Capital Plan
  - Playbook
  - Models and analytics
- Support to Internal audit review of capital planning process
- Process streamlining and workflow management
- Stress testing / capital data management program
- Assistance in related MIS and analytical tools selection and implementation
- Alignment with performance measures

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