24 February 2016

2016 EU-Wide Stress Test

Methodological Note

Contents

List of figures

Abbreviations

A-IRB	Advanced internal ratings-based (approach)
ABCP	Asset-backed commercial paper
ABS	Asset-backed security
AFS	Available for sale (as defined in International Accounting Standard 39)
ALM	Asset and liability management
APR	All price risk
bps	Basis points
CA	Comprehensive approach
CCR	Counterparty credit risk
CDO	Collateralized debt obligation
CET1	Common Equity Tier 1
CMBS	Commercial mortgage-backed security
COREP	Common reporting framework
CRD	Capital Requirements Directive 2013/36/EU
CRR	Capital Requirements Regulation (EU) No 575/2013
CSV	Calculation support and validation
CVA	Credit valuation adjustment
DTA	Deferred Tax Asset
DVA	Debt Valuation Adjustment
EaR	Earnings at risk
EBA	European Banking Authority
ECB	European Central Bank
EIR	Effective interest rate
EMEA	Europe, the Middle East and Africa
EL	Expected loss
ESRB	European Systemic Risk Board
EU	European Union
FINREP	Financial reporting framework
FVO	Fair value option (designated at fair value through profit or loss – as defined in International Accounting Standard 39)

HFT	Held for trading (as defined in International Accounting Standard 39)
HTM	Held to maturity (as defined in International Accounting Standard 39)
IFRS	International Financial Reporting Standards
IRB	Internal ratings-based (approach)
IRC	Incremental risk charge
LGD	Loss given default
NII	Net interest income
NTI	Net trading income
OCI	Other comprehensive income
PD	Probability of default
ppt	Percentage points
P&L	Profit and loss (account)
REA	Risk exposure amount (risk-weighted exposure amount)
RMBS	Residential mortgage-backed security
SA	Simplified approach
SREP	Supervisory review and evaluation process
SRT	Significant risk transfer
SSM	Single Supervisory Mechanism
STA	Standardised approach
SVaR	Stressed value at risk
TR	Transparency
VaR	Value at risk

1. Introduction

1.1 Background

1. The EBA is required, in cooperation with the ESRB, to initiate and coordinate EU-wide stress tests to assess the resilience of financial institutions to adverse market developments.

2. The objective of the EU-wide stress test is to provide supervisors, banks and other market participants with a common analytical framework to consistently compare and assess the resilience of EU banks and the EU banking system to shocks, and to challenge the capital position of EU banks. The exercise is based on a common methodology, internally consistent and relevant scenarios, and a set of templates that capture starting point data and stress test results to allow a rigorous assessment of the banks in the sample.

3. In particular, it is designed to inform the SREP carried out by competent authorities. The disclosure of granular data on a bank-by-bank level is meant to facilitate market discipline and also serves as a common ground on which competent authorities base their assessments.

1.2 Objectives of this note

4. This document describes the common methodology that defines how banks should calculate the stress impact of the common scenarios and, at the same time, sets constraints for their bottom-up calculations. In addition to setting these requirements, it aims to provide banks with adequate guidance and support for performing the EU-wide stress test. This guidance does not cover the quality assurance process or possible supervisory measures that should be put in place following the outcome of the stress test.

5. The templates used for collecting data from the banks, as well as for publicly disclosing the outcome of the exercise, are an integral part of this document. In addition, this document should be read in conjunction with any additional guidance provided by the EBA on templates, methodology, scenarios and processes.

6. The note also lists components of banks' projections for which banks are required to provide additional qualitative information in accompanying documents (e.g. on the methods applied) as input to the quality assurance process. A summary of the minimum requirements information in this respect is provided in the annex.

1.3 Key aspects

1.3.1 Sample of banks

7. The EU-wide stress test exercise is carried out on a sample of banks covering broadly 70% of the national banking sector in the Eurozone, each non-Eurozone EU Member State and

Norway, as expressed in terms of total consolidated assets as of end 2014. Since the EU-wide stress test is run at the highest level of consolidation, lower representativeness is accepted for countries with a wide presence of subsidiaries of non-domestic EU banks.

8. To be included in the sample, banks have to have a minimum of EUR 30 bn in assets.

9. The criteria chosen are designed to keep the focus on a broad coverage of EU banking assets and to capture the largest banks. In particular, the EUR 30 bn materiality threshold is consistent with the criterion used for inclusion in the sample of banks reporting supervisory reporting data to the EBA, as well as with the SSM definition of a significant institution.

10. Competent authorities could, at their discretion, request to include additional institutions in their jurisdiction provided that they have a minimum of EUR 100 bn in assets.

11. Banks subject to mandatory restructuring plans agreed by the European Commission could be included in the sample by competent authorities if they were assessed to be near the completion of the plans. Banks under restructuring are subject to the same methodology and assumptions as other banks in the sample.

12. The list of participating banks is given in the annex.

1.3.2 Scope of consolidation

13. The exercise is run at the highest level of consolidation. The scope of consolidation is the perimeter of the banking group as defined by the CRR/CRD.

14. Insurance activities are therefore excluded both from the balance sheet and the revenues and costs sides of the P&L. Institutions may be permitted to not deduct the holdings of own funds instruments of an insurance company if this has been previously agreed with their competent authority – however, this cannot be applied solely for the purpose of the EU-wide stress test. If the contributions of insurance activities are included in the balance sheet or P&L, these need to be projected in line with the baseline and the adverse scenario. In this case, requirements defined in paragraph 395 shall apply to dividend income and other income stemming from insurance activities.

1.3.3 Macroeconomic scenarios and risk type specific shocks

15. The exercise assesses the resilience of EU-banks under a common macroeconomic baseline and adverse scenario. The scenarios cover the period of 2016 to 2018.

16. The application of the market risk methodology is based on a common set of stressed market parameters, calibrated from the macroeconomic scenario, as well from historical experience, and on haircuts for sovereign exposures.

17. The credit risk methodology includes a prescribed increase in REA for securitisation exposures, as well as prescribed shocks to credit risk losses for sovereign exposures.

1.3.4 Time horizon and reference date

18. The exercise is carried out on the basis of year-end 2015 figures, and the scenarios will be applied over a period of 3 years from end 2015 to end 2018.

1.3.5 Definition of capital

19. The impact of the EU-wide stress test will be reported in terms of CET1 capital. In addition, the Tier 1 capital ratio and total capital ratio, as well as a leverage ratio, will be reported for every year of the exercise. Capital ratios are reported on a transitional and on a fully loaded basis. For the purpose of showing fully loaded capital ratios an approximate calculation is implemented in the capital template (CSV_CAP).[1]

20. The definitions of CET1, Tier 1 and total capital that are valid during every year of the time horizon of the stress test should be applied (i.e. the CRR/CRD definition of capital with transitional arrangements as per December 2015, December 2016, December 2017 and December 2018). Capital components subject to transitional arrangements (for instance, DTAs, AFS gains and losses) are reported separately and publicly disclosed. The regulatory framework regarding capital requirements should also be applied as of these dates, including any relevant transitional arrangements. National discretions defined in the CRR/CRD apply with the exception of sovereign AFS exposures for which a common approach is given in paragraph 25.

21. Additional Tier 1 and Tier 2 instruments eligible as regulatory capital under the CRR/CRD provisions and that convert into CET1 or are written down upon a trigger event are reported as a separate memorandum item if the conversion trigger is above the bank's CET1 ratio in the adverse scenario. However, the resulting impact in CET1 capital is not taken into account for the computation of capital ratios.

22. The applicable regulatory framework includes decisions by competent authorities regarding the application of the CRR/CRD that were taken before the reference date. These should be applied as of their entry into force.

23. Any changes to the existing regulatory framework shall be applied only if, at the launch of the exercise, they are known to be legally binding during the stress test time horizon and if the requirements (including their implementation schedule) have been endorsed and publicly announced by the relevant authority. Banks are not required to anticipate other changes to the regulatory framework.

24. The leverage ratio will be reported following Article 429 of the CRR as per Delegated Regulation (EU) 2015/62 of 10 October 2014, which amends Regulation (EU) No 575/2013 on a

[1] This approximation is solely based on the effect of the transitional provisions, which may also affect the AT1 and the T2 shortfall. It does not take into account potential implications from the dynamic computation of the threshold for deductions or other minor effects.

transitional and a fully loaded basis for every year of the exercise. Banks should assume that the exposure for the computation of the leverage ratio remains constant.

25. For the purpose of the EU-wide stress test, a common approach for the application of prudential filters for gains and losses arising from sovereign assets in the AFS portfolio is required across all EU-countries. 'Minimum' transitional requirements, as set out in Article 467 and Article 468 of the CRR, apply to all EU countries independent of national derogations, e.g. including 60% of unrealised gains and losses in 2016, 80% in 2017, and 100% in 2018. This harmonised treatment of sovereign exposures is also defined in order to harmonise differences across jurisdictions that would otherwise exist for these exposures based on the second subparagraph of Article 467(2) of the CRR. For non-sovereign assets in the AFS portfolio, national rules apply. Their impact on the stress test results will be publicly disclosed. In order to achieve a consistent and common definition, the fully loaded capital ratios reported in the context of the EU-wide stress test include 100% of sovereign gains and losses from the AFS portfolio across all years.

26. Neither the roll-out of new internal models nor modifications of existing internal models or transitions between different regulatory treatments during the stress test time horizon are to be considered for the calculation of the REA.

1.3.6 Hurdle rates

27. No hurdle rates or capital thresholds are defined for the purpose of the exercise. However, competent authorities will apply stress test results as an input to the SREP in line with the EBA Guidelines on common procedures and methodologies for the SREP.[2]

1.3.7 Accounting and tax regime

28. For the purposes of the 2016 EU-wide stress test, banks are not required to anticipate changes to the accounting and tax regimes that come into effect after the launch of the exercise, e.g. the potential introduction of IFRS 9 in 2018. The regimes that are valid as at the launch of the exercise should be applied during every year of the time horizon of the stress test. However, for the purpose of the EU-wide stress test, banks are asked to apply a common simplified tax rate of 30%. Historical values until 2015 should be reported based on the regimes that were valid for the corresponding reporting dates, unless banks were required to restate their public accounts.

1.3.8 Static balance sheet assumption

29. The EU-wide stress test is conducted on the assumption of a static balance sheet. This assumption applies on a solo, sub-consolidated and consolidated basis for both the baseline as well as the adverse scenario. Assets and liabilities that mature within the time horizon of the exercise should be replaced with similar financial instruments in terms of type, credit quality at

[2] EBA/GL/2014/13

date of maturity, and original maturity as at the start of the exercise. No workout or cure of defaulted assets is assumed in the exercise. In particular, no capital measures taken after the reference date 31 December 2015 are to be assumed.

30. Furthermore, in the exercise, it is assumed that banks maintain the same business mix and model (in terms of geographical range, product strategies and operations) throughout the time horizon. With respect to the P&L, revenue and costs, assumptions made by banks should be in line with the constraints of zero growth and a stable business mix.

31. The static balance sheet assumption should also be assumed for assets and liabilities denominated in currencies other than the domestic (reporting) currency – i.e. assets and liabilities remain fixed in the reporting currency. In case the euro is not the reporting currency, all stock projections should be translated by applying the exchange rate as of 31 December 2015. In particular, FX effects should not have an impact on the projection of REA. Constraints regarding the impact on P&L items are defined in section 6.

32. There are no exemptions from the static balance sheet assumption. In particular, it also applies to those institutions subject to mandatory restructuring plans formally agreed with the European Commission that are included in the sample at the request of the competent authority (see paragraph 11). Similarly, any divestments, capital measures or other transactions that were not completed before 31 December 2015, even if they were agreed upon before this date, should not be taken into account in the projections.

1.3.9 Approach

33. The approach of the exercise is a constrained bottom-up stress test – i.e. banks are required to project the impact of the defined scenarios but are subject to strict constraints, as well as to a thorough review by competent authorities.

1.3.10 Risk coverage

34. The EU-wide stress test is primarily focused on the assessment of the impact of risk drivers on the solvency of banks. Banks are required to stress test the following common set of risks:

- Credit risk, including securitisations;
- Market risk, CCR and CVA;
- Operational risk, including conduct risk.

35. In addition to the risks listed above, banks are requested to project the effect of the scenarios on NII and to stress P&L and capital items not covered by other risk types.

36. The risks arising from sovereign exposures are covered in credit risk and in market risk, depending on their accounting treatment.

1.3.11 Process

37. The process for running the EU-wide stress test involves close cooperation between the EBA, the national competent authorities and the ECB, as well as the ESRB and the European Commission:

- The macroeconomic adverse scenario and any risk type specific shocks linked to the scenario are developed by the ESRB and the ECB in close cooperation with competent authorities, the EBA and the European Commission. In particular, the European Commission supplies the macroeconomic baseline scenario;

- The EBA coordinates the exercise, defines the common methodology as well as the minimum quality assurance guidance for competent authorities, and hosts a central question and answer facility. The EBA acts as a data hub for the final dissemination of the common exercise. The EBA also provides common descriptive statistics to competent authorities for the purpose of consistency checks based on banks' submissions;

- Competent authorities are responsible for conveying to banks the instructions on how to complete the exercise and for receiving information directly from banks. Competent authorities are also responsible for the quality assurance process – e.g. for validating banks' data and stress test results based on bottom-up calculations, as well as for reviewing the models applied by banks for this purpose. Competent authorities, under their responsibilities, may also run the EU-wide stress test on samples beyond the one used for the EU-wide stress test, and may also carry out additional national stress tests. They are also responsible for the supervisory reaction function and for the incorporation of the findings from the EU-wide exercise into the SREP.

38. The results of the EU-wide stress test on a bank-by-bank basis and in the form of aggregated analyses and reports are published by the EBA using common disclosure templates.

1.3.12 Overview of the methodology by risk type

Table 1: Overview of the methodology by risk type

Section	Scope	Impact on P&L and OCI	Impact on REA	Key constraints
Credit risk	P&L: Loans and receivables, HTM; sovereign positions included; CCR and fair value positions excluded REA: CRR scope for credit risk including securitisations; CCR and fair value positions included	Banks' internal models based on stressed point-in-time PD and LGD parameters and grade migration Additional impact for old defaulted assets based on worsening LGD Explicit projections for FX loans Prescribed loss parameters for sovereign exposures	CRR requirements based on stressed PD and LGD parameters	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, CCR and CVA	P&L: HFT, AFS, FVO, hedge accounting portfolios; sovereign positions included; CCR exposures, positions subject to CVA accounting REA: CRR scope for market risk and CVA	Banks' own projections for NTI before the impact of the market risk shock under the comprehensive approach for HFT Full revaluation of the HFT portfolio for comprehensive approach NTI; worst estimate across three market risk scenarios (macroeconomic adverse, and two historical scenarios) Revaluation of AFS/FVO positions; macroeconomic adverse scenario only Consistent valuation of hedging positions for AFS/FVO Maximum CVA across the three market risk scenarios Default of the two most vulnerable of the 10 largest stressed CCR exposures; highest impact across the three scenarios	Constant for STA approaches VaR constant in the baseline and replaced by SVaR in the adverse Stressed IRC and CVA capital requirements APR constant in the baseline and scaled in the adverse	Prescribed simplified approach 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 2-year average floored at 0) NTI projections before loss impact capped by 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

Section	Scope	Impact on P&L and OCI	Impact on REA	Key constraints
NII	P&L: All interest-earning or interest-paying positions across all accounting categories	Banks' own methodology to project NII based on the repricing of their portfolio Separate projections for margin and reference rates	N/A	NII cannot increase under the baseline or the adverse scenario Interest expenses cannot decline under 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 on liabilities cannot increase less than the highest amount between a proportion of the increase in the sovereign spread and that of an idiosyncratic component The increase of the margin on repriced assets is capped by a proportion of the increase in sovereign spreads

Section	Scope	Impact on P&L and OCI	Impact on REA	Key constraints
Conduct risk and other operational risks	P&L: Impact of potential future losses arising from conduct risk and other operational risks REA: CRR scope for operational risk	Banks' own estimations Specific approach based on qualitative guidance and additional reporting requirements for material conduct events Losses calculated as a function of gross earnings (the relevant indicator) as a fall-back approach in case banks are unable to provide historical data	Banks' own projections for the advanced measurement approach (AMA), basic approach and standard approach	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. A more conservative floor in the adverse scenario is achieved 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 times a multiplier. A more conservative floor in the adverse scenario is achieved by applying a stress multiplier to the average Capital requirements for operational risk cannot fall below the 2015 value

Section	Scope	Impact on P&L and OCI	Impact on REA	Key constraints
Non-interest income, expenses and capital	P&L and capital items not in the scope of risk types or NII	Banks' own estimates, but subject to constraints for specific P&L items Market risk methodology and macroeconomic shocks applied for real estate assets and defined benefit pension plans	N/A	Dividend, fees and commission to remain constant in the baseline, minimum of the ratio to total assets of 2015 and the average of the 2 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, derecognition, goodwill, FX effects Other operating income capped at the 2015 value For dividends paid: Pay-out ratio based on publicly 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)

2. Credit risk

2.1 Overview

39. Banks are required to translate the macroeconomic scenarios into corresponding credit risk impacts on both the capital available – i.e. via impairments and thus the P&L – and the REA for positions exposed to risks stemming from the default of counterparties. Banks are requested to make use of their models but are subject to a number of conservative constraints.

40. The estimation of impairments and translation to available capital requires the use of statistical methods and includes the following main steps: (i) estimating starting values of the risk parameters, (ii) estimating the impact of the scenarios on the risk parameters, and (iii) computing impairment flows as the basis for provisions that affect the P&L.

41. For the estimation of REA, banks should adhere to regulatory requirements based on stressed regulatory risk parameters.

42. For securitisation exposures, banks are requested to project impairments based on the risk parameters of the underlying pool. For the estimation of REA, a fixed risk weight increase will be applied to the different credit quality steps.

43. Banks' projections are subject to the constraints summarised in Box 1.

Box 1: Summary of the constraints on banks' projections of credit risk

- No negative impairments for any given exposure are permitted for any year or scenario (paragraphs 104 and 105).
- The coverage ratio for non-defaulted assets (i.e. ratio of provisions to exposure) cannot decrease over the time horizon of the exercise (paragraph 104).
- The end-2015 level of REA serves as a floor for the total REA for non-defaulted and defaulted exposures in the baseline and the adverse scenarios. This floor must be applied separately to overall aggregate IRB and STA portfolios (paragraph 115).
- For securitisation exposures, the end-2015 level of REA serves as a floor for the total risk exposures separately for aggregate IRB and STA portfolios (paragraph 138).

2.2 Scope

44. For the estimation of the P&L impact, the scope of this section covers all counterparties (e.g. sovereigns, institutions, financial and non-financial firms and households) and all positions (including on-balance and off-balance positions) exposed to risks stemming from the default of a counterparty, except for exposures subject to CCR and fair value positions (HFT, AFS and FVO), which are subject to the market risk approach for the estimation of the P&L effect (or through capital, via OCI, for AFS) as stated in section 3.

45. Hedge accounting hedges related to positions within the scope of this section can only be considered to the extent that they are already reflected in CRM or substitution effects as of the reference date – i.e. there should be no additional offsetting impact from the hedging instruments in hedge accounting portfolios measured at cost. These hedging instruments are also not to be reported in market risk templates. Economic hedges are treated according to the market risk methodology.

46. Conversely, the estimation of the REA follows the CRR/CRD definition of credit risk. Therefore, exposures subject to CCR and fair value positions (AFS and FVO) are to be included.

47. Specific requirements for securitisation positions are separately covered in section 2.7.

48. The methodology described in this section also applies to the capital charge for IRC (see paragraph 268).

2.3 High-level assumptions and definitions

2.3.1 Definitions

49. Banks are required to apply consistent definitions for the following items.

50. The **default definition** to be used for the purpose of exposure classification (defaulted vs non-defaulted exposures) must be in line with the bank's existing regulatory default recognition procedures (Article 178 of the CRR).

51. **Default flow (Def Flow)** measures the amount of exposures that defaulted during a given year out of those that were non-defaulted at the start of the period. It must include all default events that occur during a year. Exposures that defaulted several times in 2015 must be reported once. The projected values will be computed based on the methodology stated in this section.

52. **Historical default rate (Def Rate)** is defined as the flow of newly defaulted assets (Def Flow) over exposure (Exp) at the beginning of the observation period. The default rate for 2015 would, therefore, be calculated as defaulted assets flow (in 2015) over performing exposure (end 2014) for each asset class/country of the counterparty.

53. **Exposure (Exp)** is the non-defaulted exposure after substitution effects and post credit conversion factor (CCF). Exposure is the starting point for the impairment calculation. Defaulted assets are reported separately:

    - For IRB portfolios, banks should use the definition of Column 110 ('exposure value') as per COREP table CR IRB 1 as a starting point, and remove defaulted assets;

    - For STA portfolios, banks need to calculate a post CCF equivalent of Column 110 (net exposure after CRM substitution effects pre-conversion factors) as per COREP table CR SA. Since provisions have already been deducted (Column 30 in CR SA), they need to be added to the exposure. Defaulted assets must be reported in the respective column 'stock of defaulted exposures'.[3]

54. **Share of non-defaulted exposure of FX lending (Exp FX lending EUR, CHF)** is the percentage of non-defaulted exposure (Exp) as defined above, where the currency of the credit facility is different from the local currency of the borrower (see section 2.4.4).

55. **Stock of defaulted exposures (Def Stock)** refers to defaulted exposure according to the default definition. As cures are not to be recognised for exposure projections, this is a cumulative variable containing the initial stock of defaulted exposures (end 2015) plus the sum of default flows of the previous projected year(s). For example, the stock of defaulted exposures in 2017 is the sum of the stock of defaulted exposures in 2015 plus defaulted flow in 2016 plus defaulted flow in 2017.

56. **Funded collateral (available)** covers all funded collateral, including real estate property, that is available to cover the exposure (Exp) or stock of defaulted exposures (Def Stock) as defined above. Only CRR/CRD eligible collateral and only the bank's share of collateral (in case collateral is assigned to several debtors) is to be reported. No regulatory haircuts should be applied. Banks are required to provide detailed information on how the collateral values have been determined and how often appraisals are refreshed.

57. **Funded collateral (capped)** follows the definition of the available funded collateral (above) but collateral has to be capped at the exposure level. This means that, at the exposure level, collateral cannot be higher than the respective exposure.

58. The **starting values of the stock of provisions (Prov Stock)** must be the accounting figures as of end 2015 in accordance with the accounting framework to which the reporting entity is subject and in accordance with Article 34 and Article 110 of the CRR, as listed in columns 8, 9 and 10 of FINREP Table 7 ('financial assets subject to impairment that are past due or impaired'). It is split by stock of provisions for defaulted assets (Prov Stock Old) and stock of provisions for non-defaulted assets (Prov Stock non-defaulted).

[3] Defaulted assets are to be reported according to the nature of the counterparty.

59. The starting values of the **gross impairment loss (Gross Imp Flow New)** must be the accounting flow figures as of end 2015, defined on the basis of 'impairment on (non-)financial assets' (FINREP, table 16.7, column 010; reported year-to-date – i.e. for the starting value provisions that have been set aside in 2015). However, there are two important adjustments to the FINREP figure: (i) the flow should be reported for newly defaulted assets only, and (ii) the flow figures should also include direct write-offs or charge-offs of securities or other assets whose book value is reduced without creating a provision. The guiding principle for this figure is a point-in-time impairment flow, capturing all credit risk-related adjustments, regardless of whether those take the form of provisions or not. The impairment loss should correspond to total impairments of newly defaulted assets and not only to the additional ones accumulated during the year 2015 – i.e. the stock of impairments that existed at the beginning of the period for these newly defaulted assets should be included.

60. **Net impairment loss (Net Imp Flow New)** is the gross impairment loss net of the release of provisions from non-defaulted assets caused by the new default flows. The projected values will be computed based on the methodology stated in this section.

61. **Cure rates** are not observed values, but forecasted values affecting LGDpit estimation in 2015 and in the projected period across both scenarios. While the impact of cures for reducing projected exposures in the default state should not be considered for the purpose of this exercise, assumed cure rates are an important component of the LGD estimations. In doing so, banks are required to model cure rates when estimating PDs and LGDs, and report them in the templates CSV_CR_T0 and CSV_CR_SCEN according to the definitions below in a manner that is consistent with the prescribed definition of default and LGD. In case a bank does not explicitly calculate cure rates due to its methodological approach, it will be required to outline its calculations of $LGDpit^{OLD}$ and $LGDpit^{NEW}$ in more detail in the accompanying note. The following definitions apply:

    - $Cure_{NEW}(t)$ is the component of the $LGD_{NEW}(t)$ calculation that corresponds to the assumptions made for the cumulative proportion of newly defaulted exposures that cure (through repayments) with zero loss in all years following year t;

    - $Cure_{OLD}(t)$ is the component of the $LGD_{OLD}(t)$ calculation that corresponds to the assumptions made for the cumulative proportion of existing defaulted exposures that cure (through repayments) with zero loss in all years following year t. This naturally depends on the characteristics of the loans that are already in default at time t.

62. **Impairment loss for defaulted assets (Imp Flow Old)** is a flow variable analogue to Gross Imp Flow New, but defined for defaulted assets at the beginning of each period. In addition to assumed cure rates, impairment loss for defaulted assets can be explained by other components as the ones defined below. Banks are required to report these components in the templates CSV_CR_T0 and CSV_CR_SCEN if their models allow for their computation. In case banks are not able to calculate these components due to their methodological approach, they

will be required to outline their calculations of the impairment loss for defaulted assets in more detail. The components to be reported are the following:

- Impairment flow on old defaulted assets due to assumed changes in the loss given loss (LGL), which corresponds to the change in future losses on those old defaulted assets that will never cure. LGL is the part of the LGD that occurs if the exposure does not cure. The probability of incurring this loss is equal to 1-cure rate;

- Impairment flow on old defaults due to subsequent defaults on the exposure assumed to cure as implicit within the $LGDpit^{OLD}$ parameter.

63. **Marginal impairment flow from FX lending (Imp Flow FX**) refers to the aggregate marginal contribution to the impairment flow from all FX exposures that meet the threshold (as defined in paragraph 108). The projected values will be computed based on the methodology stated in this section.

64. **Historical loss rate (Loss Rate)** is defined as gross impairment loss (Imp Flow New) over newly defaulted assets (Def Flow).

65. **Point-in-time risk parameters (PDpit, $LGDpit^{NEW}$ and $LGDpit^{OLD}$)** are the forward-looking projections of default rates and loss rates. The following requirements apply:

- Since they are reported at a portfolio level, PDs must be exposure-weighted averages, and LGDs must be PD * exposure-weighted averages;

- PDpit and LGDpit must capture current trends in the business cycle. In contrast to through-the-cycle parameters, they should not be business cycle neutral;

- Contrary to regulatory parameters, PDpit and LGDpit are required for all portfolios, including STA and Foundation IRB (F-IRB);

- LGDpit must be estimated for the stock of default ($LGDpit^{OLD}$) and newly defaulted assets ($LGDpit^{NEW}$) in each period and must take into account collateral. Its evolution is affected by PD/LGD grade migrations and such an effect must be addressed in the estimation;

- PDpit and LGDpit from FX lending for currencies as defined under exposure (Exp) must be computed accordingly for the relevant asset classes in the respective currency, subject to the threshold as defined in paragraph 108;

- Although PDpit and LGDpit are reported together with default and impairment amounts within the projected year, they must be considered to apply to exposures as of the beginning of the year.

66. **Grade migration** refers to the change in the distribution of credit quality within a portfolio over time. This includes both PD grades (corresponding to different probabilities of default)

and LGD grades (corresponding to LTVs, vintages, probabilities of curing or other factors affecting the ultimate loss estimation for that exposure).

67. **Migration contribution PDpit** refers to the marginal contribution of rating grade migration and is defined as the impact of PD grade migration – i.e. difference in percentage points between the exposure-weighted average PD of the non-defaulted stock (Exp) pre-migration vs post migration under the same scenario. Only banks that calculate risk parameters at a rating class level are requested to report this marginal contribution on an annual basis as memo items in the templates based on the following components, in which migration contribution can be broken down:

    - **Default migration contribution (portfolio improvement effect):** This effect measures the impact of the migrations to default on the PDpit. All other rating migrations to non-defaulted rating categories are not considered. It is represented by the difference between the portfolio level PDpit post default migration and portfolio level PDpit pre-migrations;

    - **Migration effect to non-defaulted rating grades**: This effect captures pure rating changes among non-defaulted rating classes and complements the portfolio improvement effect from above. It is expected that migrations to more risky rating classes will exceed migrations to less risky rating classes as a result of the deterioration of the macroeconomic scenario. It can be calculated as the PDpit post non-default migration minus the PDpit pre-migrations.

68. **Exposure value** refers to exposure serving as the basis for computation of REA, according to COREP definitions, as set out in Article 111 of the CRR (for the STA portfolio) and Articles 166 to 168 of the CRR (for the IRB portfolio).

69. **Regulatory risk parameters (PDreg and LGDreg)** refer to those parameters used for the calculation of capital requirements for defaulted and non-defaulted assets as prescribed by the CRR.

70. **ELreg** is the EL based on regulatory risk parameters following the prescriptions of the CRR/CRD for defaulted and non-defaulted IRB exposures.

71. **Level 3 assets**, which must be reported in the securisation templates, refer to the assets whose measurement is based on Level 3 inputs as defined in paragraph 86 of IFRS 13.

2.3.2 Static balance sheet assumption

72. According to the static balance sheet assumption, in line with section 1.3.8., banks are not permitted to replace defaulted assets. Defaulted assets are moved into the defaulted assets stock, reducing non-defaulted assets and keeping the total exposure at a constant level.

Furthermore, for the purpose of calculating exposures, it is assumed that no cures, charge-offs or write-offs should take place within the 3-year horizon of the exercise.[4]

73. Within the credit risk framework, and for the purpose of calculating the credit REA, the initial residual maturity is kept constant for all assets. This means that assets do not mature. For example, a 10-year bond with residual maturity of 5 years at the start of the exercise is supposed to keep the same residual maturity of 5 years throughout the exercise. It should be noted that the constant residual maturity applies, in particular, to the maturity factor used in A-IRB, but also to some provisions in STA, which allow for favourable risk weights for short-term exposures.

74. In addition fair value effects shall have not impact on exposure as well as on REA. This includes changes in the FX rate.

2.3.3 Asset classes

75. For the purpose of this stress test, banks are required to report their exposures using the asset classes specified below, which are based on the exposure classes for IRB and STA exposures in the CRR (see Article 112 and 147 of the CRR) reported in COREP. Competent authorities can require participating banks to report additional optional breakdowns for exposures where they see significant risks. The additional breakdowns are marked as optional in Table 2 and Table 3.

76. Where exposures are transferred to other classes through credit risk mitigation techniques (substitution approach), this transfer has to be performed in line with the asset classes given in Table 2 and Table 3, and should be reported in asset classes after substitution. For the remainder of this section, any definitions and calculations must be consistent with this approach. For instance, default and loss rates, as well as PDs and LGD estimations, must be calculated and estimated for portfolios after substitution.

77. The following tables contain the asset classes, including the additional optional asset classes that should be used for both credit risk impairments and REA.

Table 2: Overview of IRB asset classes

IRB asset classes
Central banks and central governments
Institutions
Corporates
Corporates – Specialised lending
Corporates – Specialised lending – Secured by real estate property
Corporates – Specialised lending – Not secured by real estate property
Corporates – SME
Corporates – SME – Secured by real estate property

[4] This is not to be confused with the inclusion of assumptions on future cure rates and write-offs in the generation of LGD parameters, which are implicitly assumed, where applicable.

IRB asset classes
Corporates – SME – Not secured by real estate property
Corporates – Others
Corporates – Others – Secured by real estate property
Corporates – Others – Not secured by real estate property
Retail
Retail – Secured by real estate property
Retail – Secured by real estate property – SME
Retail – Secured by real estate property – Non-SME
(OPTIONAL) of which: Owner occupier
(OPTIONAL) of which: Buy to let
(OPTIONAL) of which: Other secured by real estate property
Retail – Qualifying revolving
Retail – Other retail
Retail – Other retail – SME
Retail – Other retail – Non-SME
Equity
Securitisation
Other non-credit obligation assets

Table 3: Overview of STA asset classes

STA asset classes
Central governments or central banks
Regional governments or local authorities
Public sector entities
Multilateral development banks
International organisations
Institutions
Corporates
Corporate – SME
Corporate – Non-SME
Retail
Retail – SME
Retail – Non-SME
Secured by mortgages on immovable property
Secured by mortgages on immovable property – SME
Secured by mortgages on immovable property – Non-SME
(OPTIONAL) of which: Owner occupier
(OPTIONAL) of which: Buy to let
(OPTIONAL) of which: Other secured by real estate property
Items associated with particularly high risk
Covered bonds
Claims on institutions and corporates with ST credit assessment
Collective investment undertakings
Equity
Securitisation
Other exposures

2.3.4 Reporting requirements

78. Banks are requested to provide the credit risk information by regulatory approach for both the total exposures and for the most relevant countries of counterparties to which the institutions are exposed. The cells for the whole banking group contain the overall exposure of the group towards all counterparties (i.e. it is not the sum of the country by country cells).

79. The country of the counterparty refers to the country of incorporation of the obligor. This concept can be applied on an immediate-obligor basis and on an ultimate-risk basis. Hence, credit risk mitigation (CRM) techniques can change the allocation of an exposure to a country.

80. The breakdown by country of the counterparty will be reported according to a minimum of:

    i. 95% of the sum of exposure (Exp) and default stock (Def Stock), as defined in section 2.3.1, reported in aggregate for three regulatory approaches (i.e. A-IRB, F-IRB and STA);

    ii. Top 10 countries in terms of aggregate sum of exposure (Exp) and default stock (Def Stock), as stated above.

81. For example, a bank with 95% of its exposure concentrated in six countries will only fill data for those six countries. By contrast, if the aggregate sum of exposure of a bank towards the largest 10 countries is below 95% of the total aggregate exposure, the bank will fill the template only for the top 10 counterparty countries.

82. The cut-off date to define the 95% of aggregate sum exposure and top 10 countries is 31 December 2015. The selected countries of the counterparties and the order must remain constant for the three credit risk templates (CSV_CR_T0, CSV_CR_SCEN and CSV_CR_REA).

83. The same cut-off date applies for the allocation of asset classes across the regulatory approach. This means that a bank that applied the STA at the beginning of 2015 but the A-IRB approach at the end of 2015 is requested to report 2015 information (in template CSV_CR_T0) in the A-IRB section of the template.

2.4 Impact on P&L

2.4.1 Starting point-in-time risk parameters (a hierarchy of approaches)

84. The following paragraphs describe a hierarchy of methods that banks should adhere to when they set the starting (unstressed) point-in-time risk parameters. As a general principle, banks should resort to data from internal models rather than from accounting approximations:

- For IRB portfolios, banks are required to base their estimation of starting level point-in-time values on their approved internal parameter estimation models (refer to the definitions of PDpit and LGDpit above);

- For STA banks or IRB banks that cannot extract starting level point-in-time parameters from their internal models for portfolios where there are no approved models in place, banks should use non-approved models to extract point-in-time parameters provided those models are regularly used in internal risk management and stress testing, and the competent authority is satisfied with using them for the purpose of the EU-wide stress test;

- For portfolios where no appropriate internal models are in use for estimating the starting level PDpit or LGDpit, banks are expected to approximate PDpit and LGDpit starting values via default and loss rates (historically observed). While banks are expected to present parameters reflective of both 2015 macroeconomic conditions and the credit quality of the portfolios, in the calibration of point-in-time starting parameters, the overarching objective is the parameter's suitability for projection. Therefore, banks are expected to consider factors that may lead to the observed performance for 2015 being unrepresentative or unsuitable for a sufficiently conservative projection or for small portfolios in which no default has been observed. Only those adjustments of the historical values that result in a more conservative starting point are permitted.

85. Irrespective of which approach is followed and the extent of the adjustments, banks are required to provide a description of the methodology employed for deriving point-in-time parameters for all portfolios. Banks are requested to apply the EBA terminology used in this note, wherever applicable.

86. Participating banks will be subject to cross-sectional comparisons of starting level point-in-time parameters after the submission of the results, and might be asked to revise internal figures if deemed not suitable for projections.

87. Historical values and starting point risk parameters shall be reported on the starting point credit risk template (CSV_CR_T0).

2.4.2 Projected point-in-time parameters (a hierarchy of approaches)

88. Likewise, for the estimation of projected parameters, as a general principle, banks should use models rather than resort to benchmarks to determine stressed PDpit and LGDpit parameters (under both the baseline and the adverse scenario). However, banks' models will be assessed by competent authorities against minimum standards in terms of econometric soundness and responsiveness of the risk parameters to ensure the model specification results in a prudent outcome.

89. For portfolios where no appropriate satellite models are available for estimating the stressed PDpit or LGDpit, banks are expected to base their evolution on the benchmark parameters provided by the ECB. They should apply them at portfolio level, not at rating class level.

90. Irrespective of the approach, the ECB benchmark parameters will serve as an important benchmark to gauge internal PDpit and LGDpit parameter estimates in the baseline as well as in the adverse scenario as described in the following paragraphs. Moreover, banks will be subject to cross-sectional comparisons after the submission of the results, and might be asked to revise internal figures if deemed overly optimistic.

91. If banks' models allow for the estimation of the relationship between point-in-time parameters and the macroeconomic variables at a rating class level, institutions shall employ a rating transition matrix-based approach, considering the effects of PD/LGD grade migration on the level of default and impairments projected in the stress test horizon for the given scenarios. In this case, banks are required to calculate point-in-time transition matrices. Transition matrices must satisfy the following minimum criteria:

- The PD/LGD for each grade is adjusted appropriately to reflect the scenario;
- This probability of moving from one grade to another is appropriately adjusted according to the scenario.

92. Banks projecting at a rating class level are requested to report this grade migration contribution. Reported portfolio level aggregate parameters (PDs and LGDs) are rating class volume-weighted average at the starting point and along the scenario horizon. Banks are required to explain how they have accounted for the effects of grade migration in their estimations.

93. The distribution of exposures across buckets (which are used to calculate the corresponding aggregate parameters) are the result of multiplying the distribution of exposures at the end of the previous year by the point-in-time migration matrix. Box 2 provides an example of the effect of a grade migration matrix.

Box 2: Example of the outcome of applying point-in-time migration matrices to different portfolio structures

This example is provided as an illustration of the computation of rating migration contribution for different two portfolios (a balanced portfolio A and an extreme portfolio B), which leads to different portfolio PDpit over time due to the heterogeneity of both exposure distributions.

Point-in-time migration matrices (identical for both examples)

2015		A	B	C	D
Good rating	**A**	97.0%	2.0%	1.0%	0.0%
Medium Rating	**B**	2.0%	91.0%	4.0%	3.0%
Bad rating	**C**	0.0%	1.0%	84.0%	15.0%
Default	**D**	0.0%	0.0%	0.0%	100.0%

2016		A	B	C	D
Good rating	**A**	96.9%	2.1%	1.0%	0.0%
Medium Rating	**B**	1.9%	90.9%	4.1%	3.1%
Bad rating	**C**	0.0%	1.0%	83.7%	15.3%
Default	**D**	0.0%	0.0%	0.0%	100.0%

2017		A	B	C	D
Good rating	**A**	96.8%	2.1%	1.1%	0.0%
Medium Rating	**B**	1.9%	90.7%	4.2%	3.2%
Bad rating	**C**	0.0%	0.9%	83.4%	15.7%
Default	**D**	0.0%	0.0%	0.0%	100.0%

2018		A	B	C	D
Good rating	**A**	96.6%	2.2%	1.2%	0.0%
Medium Rating	**B**	1.7%	90.5%	4.4%	3.4%
Bad rating	**C**	0.0%	0.9%	82.8%	16.3%
Default	**D**	0.0%	0.0%	0.0%	100.0%

Portfolio exposure distribution and portfolio level PD evolution

Portfolio A: Balanced portfolio distribution

At the beginning of the period

Exposure (in mln. €)		2015	2016	2017	2018
Good rating	**A**	400.0	398.0	394.6	390.0
Medium Rating	**B**	500.0	464.0	430.9	400.4
Bad rating	**C**	100.0	108.0	113.5	117.0
Default	**D**	0	30.0	61.0	92.5
Total		1 000.0	1 000.0	1 000.0	1 000.0

At the end of the period

Exposure (in mln. €)		2015	2016	2017	2018
Good rating	**A**	398.0	394.6	390.0	383.8
Medium Rating	**B**	464.0	430.9	400.4	372.0
Bad rating	**C**	108.0	113.5	117.0	118.9
Default	**D**	30.0	61.0	92.5	125.3
Total		1 000.0	1 000.0	1 000.0	1 000.0
PDpit portfolio level post migration		**3.00%**	**3.19%**	**3.36%**	**3.61%**

Portfolio B: Extreme portfolio distribution

At the beginning of the period

Exposure (in mln. €)		2015	2016	2017	2018
Good rating	**A**	800.0	776.0	752.3	728.9
Medium Rating	**B**	0	18.0	34.0	48.3
Bad rating	**C**	200.0	176.0	156.1	139.7
Default	**D**	0	30.0	57.6	83.1
Total		1 000.0	1 000.0	1 000.0	1 000.0

At the end of the period

Exposure (in mln. €)		2015	2016	2017	2018
Good rating	**A**	776.0	752.3	728.9	704.9
Medium Rating	**B**	18.0	34.0	48.3	61.2
Bad rating	**C**	176.0	156.1	139.7	126.3
Default	**D**	30.0	57.6	83.1	107.6
Total		1 000.0	1 000.0	1 000.0	1 000.0
PDpit portfolio level post migration		**3.00%**	**2.84%**	**2.71%**	**2.67%**

Migration impact

Portfolio A

(mln. € / %)	2015	2016	2017	2018
Default flow pre-migrations		30.84	31.78	33.20
Default flow post-migrations	30.00	30.95	31.59	32.73
Portfolio level PDpit pre-migrations		3.18%	3.38%	3.66%
Portfolio level PDpit post default migrations		2.89%	2.80%	2.80%
Portfolio-level PDpit post non-default migrations		3.48%	3.95%	4.47%
Portfolio level PDpit post-migrations	3.00%	3.19%	3.36%	3.61%
Default migration contribution (portfolio improvement effect, ppt)		-0.29	-0.58	-0.86
Non-default migration contribution to PDpit (ppt)		0.30	0.56	0.81
Migration contribution to PDpit (total, ppt)		0.01	-0.02	-0.05

Portfolio B

(mln. € / %)	2015	2016	2017	2018
Default flow pre-migrations		30.68	28.17	26.66
Default flow post-migrations	30.00	27.56	25.56	24.47
Portfolio level PDpit pre-migrations		3.16%	2.99%	2.91%
Portfolio level PDpit post default migrations		2.69%	2.39%	2.16%
Portfolio-level PDpit post non-default migrations		3.32%	3.31%	3.41%
Portfolio level PDpit post-migrations	3.00%	2.84%	2.71%	2.67%
Default migration contribution (portfolio improvement effect, ppt)		-0.47	-0.59	-0.75
Non-default migration contribution to PDpit (ppt)		0.15	0.32	0.51
Migration contribution to PDpit (total, ppt)		-0.32	-0.28	-0.24

The **migration contribution to PDpit** is given as PD portfolio level - PD portfolio level pre-migration effect.

The **PD portfolio level pre-migration effect** for 2016 is the product of the beginning 2015 portfolio distribution and the PDs of 2016. The same logic applies for subsequent years.

94. Conversely, if a bank's models allow for the estimation of the relationship between point-in-time parameters and the macroeconomic variables at a portfolio level, a single aggregate PDpit/LGDpit for each portfolio is obtained. In addition, banks are required to document the approach followed for this estimation.

95. In the projection of both $LGDpit^{OLD}$ and $LGDpit^{NEW}$, banks must take into consideration the possible impact caused by the decrease in the fair value of credit risk mitigants (e.g. a shock on real estate prices will impact real estate collateral).

96. The LGDpit parameters need to be estimated by taking into account both the characteristics of the exposures in default and the given scenario. Prudent assumptions are required on the implicit cure rate, the costs associated with the liquidation of collateral, and any other factor affecting the level of impairment. The evolution of these assumptions across the time horizon for the given scenarios will need to be justified, including the impact of grade migrations between relevant categories of default.

97. For LGD estimations, it is assumed that there is no perfect foresight and, therefore, the macroeconomic scenarios should be seen as evolving incrementally so that only the information up to the given year is used for that year's LGD estimation. In particular, banks shall incorporate the property price shock incrementally each year in their LGD calculation. Banks shall assume that future property prices for realising collateral will remain constant for each future year after the year for which the LGD is estimated. The path for the house price is assumed to stay flat beyond the year for which the LGD is calculated. The cumulative house price shocks should not be incorporated in the first year of the LGD calculation.

98. In order to assess the projected LGD parameters, historical LGD parameters for 2015 are requested as memorandum items. In addition to the LGDs based on the coverage ratio, banks must also provide, on the starting point credit risk template (CSV_CR_T0), the LGD_{NEW} and LGD_{OLD} under the above assumption of holding the 2015 macroeconomic conditions constant.

99. Projected risk parameters shall be reported on the credit risk scenario template (CSV_CR_SCEN).

2.4.3 Calculation of defaulted assets and impairments

100. The evolution of the PDpit and LGDpit as described in the previous section must be applied to the computation of the defaulted asset flow and the impairment flow on defaulted assets.

101. Consistent with the static balance sheet assumption (see section 2.3.2), non-defaulted credit exposure only changes due to the yearly default flows. Market value fluctuations have no impact on the exposure and, in particular, cannot decrease the exposure.

102. The impairment losses for new and old defaulted assets computed (as described in the following sections) will be reported in the P&L as impairment of financial assets other than instruments designated at fair value through P&L.

103. Projected defaulted assets and impairment flows shall be reported on the credit risk scenario template (CSV_CR_SCEN).

a. Impairment losses on new defaulted assets

104. Impairment losses on new defaulted assets shall be calculated as shown in Box 3 below. No negative impairments for any given exposure are permitted for any year or scenario. Provisions for non-defaulted assets can be used for new defaults given a static balance sheet assumption. However, a decrease in the coverage ratio for the remaining non-defaulted assets is not permitted. Provisions for assets that remain non-defaulted at the end of the horizon should be recomputed in line with the accounting systems in each national jurisdiction (taking into account the effects of the scenario, including the impact of grade migration). In the case of increasing provisions for assets that remain non-defaulted at the end of the horizon, the release of provisions to be reported will be negative.

Box 3: Impairment losses on new defaulted assets

The flow of impairments on new defaulted assets at time t+1 is given by:

$$\text{Gross Imp Flow New } (t+1) = \text{ELpit } (t+1) = \text{Exp } (t) * \text{PDpit } (t+1) * \text{LGDpit}^{\text{NEW}} (t+1);$$

$$\text{Net Imp Flow New } (t+1) = \text{MAX } \{0 \text{ ; ELpit } (t+1) \text{ – release of provisions from new defaulted assets } (t+1)\}$$

$$= \text{MAX}\{0 ; \text{Exp}(t) * \text{PDpit}(t+1) * \text{LGDpit}^{\text{NEW}}(t+1) - \alpha * \text{Prov Stock non-defaulted}(t)\}.$$

Where:

- ELpit (t+1) and release of provisions from new defaulted assets (t+1) are defined by the formulas above;
- α is the share of Prov Stock non-defaulted (t) which is linked to initially non-defaulted assets at t, and which enter into default status at t+1. At a maximum, α can be equal to the share of non-defaulted assets at t, which enter into default at t+1 – i.e. $\alpha \leq \text{PDpit}(t+1)$;
- Prov Stock non-defaulted (t) is the stock of provisions against non-defaulted assets at t;
- PDpit (t+1) and LGDpit (t+1) both refer to the period from t to t+1 (year t+1).

This then leads to the following non-defaulted exposure at time t+1:

$$\text{Exp}(t+1) = \text{Exp}(t) - [\text{Exp}(t) * \text{PDpit}(t+1)].$$

b. Impairment losses on old defaulted assets

105. Box 4 below describes the approach to be used to derive the impairment flow on old defaulted assets. No negative impairments for any given exposure are permitted for any year or scenario. The projection of $\text{LGDpit}^{\text{OLD}}$ should reflect the evolution of old and new defaulted stock and macroeconomic conditions. $\text{LGDpit}^{\text{OLD}}$ can always be expressed (independently of the projection methodology) as a weighted average of the previous year's LGD parameters: $\text{LGDpit}^{\text{OLD}}$, weighted by old defaulted stock, and $\text{LGDpit}^{\text{NEW}}$, weighted by new defaulted stock, both multiplied by a stress factor. The stress factor for $\text{LGDpit}^{\text{OLD}}$ is expected to not diverge substantially from the stress factor of $\text{LGDpit}^{\text{NEW}}$ (ratio of $\text{LGDpit}^{\text{NEW}}(t)$ and $\text{LGDpit}^{\text{NEW}}(t0)$).

Box 4: Impairment losses on old defaulted assets

To take into account the deterioration of asset quality, particularly under the stress scenario, additional impairments must be made on old defaulted assets. The impairment loss on old defaulted exposure is given by:

$$\text{Imp Flow Old}(t+1) = \text{MAX}\{0;[\text{LGDpit}^{\text{OLD}}(t)(t+1) * \text{Def Stock}(t)] - \text{Prov Stock Old}(t)\}.$$

Where:

- Prov Stock Old (t) is the stock of impairments for old defaulted assets at t. Only existing specific provisions in excess of the EL can be used to cover the impairment loss;

- $LGDpit^{OLD}(t)(t+1)$ is the LGD estimated in t+1 for the stock (at t) of old defaulted assets.

c. Impairment losses on sovereign exposures

106. Banks are requested to estimate default and impairment flows for sovereign positions recorded as loans and receivables, or HTM investments according to the macroeconomic baseline and adverse scenario. This covers positions whose exposure (Exp) is reported under the categories 'central banks and central governments' for IRB portfolios, as well as 'central governments or central banks' and 'regional governments or local authorities' for STA portfolios. For exposures to central banks contained in the above IRB and STA portfolios zero loss rates are to be applied under the baseline and the adverse scenario. Fair value positions (i.e. AFS and FVO) will be subject to the market risk approach.

107. In order to compute these impairment flows, banks will be provided with a set of stressed probability of default and loss given default parameters developed by the ECB for a selection of countries. The application of these parameters is mandatory for all banks.

2.4.4 FX lending

108. Banks with significant foreign currency exposure are requested to take into account the altered creditworthiness of their respective obligors, given the FX evolution under the baseline and adverse scenario. In particular, banks are requested to evaluate this impact for exposures denominated in a currency other than the local currency of the borrower at asset class level for each country of counterparty if the total share of exposures in foreign currencies is above the thresholds described in Table 4 and Table 6 below.

109. This effect should be accounted for in case of any depreciation of the local currency vis-à-vis foreign currency debt (from the obligor's perspective) included in the macroeconomic scenarios. While all banks have to report the share of FX lending according to the requested FX breakdown on the starting point credit risk template (CSV_CR_T0), only the latter (i.e. those that meet the threshold as indicated in Table 4 and Table 6) have to calculate the additional impact on the credit risk templates (CSV_CR_T0 and CSV_CR_SCEN). It should be noted that exposures in euros are only to be reported in case the euro is not the local currency (e.g. an exposure in euros in the Czech Republic has to be reported, while exposures in euros in Slovakia do not have to be reported).

110. The marginal impact from the risk emanating from FX lending exposure has to cover both PDs and LGDs. For PDs, the impact should be based on satellite models that link the macroeconomic scenario to the PDpit. For the LGD, the impact should be based on an add-on for the LTV ratio in the case of collateralised exposures, while, in the case of uncollateralised exposures, banks should apply the appropriate FX add-on based on relevant historical information.

111. A country aggregate average FX lending effect is implicitly considered in the estimation of benchmark parameters provided by the ECB. Nevertheless, the respective competent authority may, given the share of FX lending, evaluate the need to increase the PDpit or LGDpit to reflect the higher risk profile of the portfolio.

Table 4: FX lending threshold (per country of counterparty) – IRB asset classes

IRB asset classes	Threshold
Corporates – Specialised lending	5%
Corporates – SME	5%
Corporates – Other	5%
Retail – Secured by real estate property	5%
Retail – Qualifying revolving	5%
Retail – Other retail	5%

Table 5: FX lending threshold (per country of counterparty) – STA asset classes

STA exposure classes	Threshold
Corporate – SME	5%
Corporate – Non-SME	5%
Retail – SME	5%
Retail – Non-SME	5%
Secured by mortgages on immovable property – SME	5%
Secured by mortgages on immovable property – Non-SME	5%

2.5 Impact on REA and IRB regulatory EL

112. Banks shall simulate the impact caused on REA and IRB regulatory ELs for credit risk by the application of the macroeconomic scenarios (baseline and adverse). This applies to all approaches, all exposures (both non-defaulted and defaulted) and all credit risk mitigation techniques.

113. The exposure value of the positions included in the AFS and FVO portfolio, whose P&L impact is assessed under the market risk framework, will remain constant for the purpose of the REA estimation.

114. As stated in paragraph 26, neither the roll-out of new internal models, nor modifications of existing internal models during the stress horizon are to be considered for calculating the REA. However, the expected increase in regulatory parameters during the stress horizon, derived from their re-estimation following the addition of new data under stress conditions, must be considered. The projections should take into account any specific conditions for the continued use of such models for regulatory capital purposes – e.g. any regulatory floors and/or parameter level supervisory scalars.

115. For both STA and IRB portfolios, the end-2015 level of REA serves as a floor for the total REA for non-defaulted and defaulted assets calculated using stressed regulatory risk parameters in the baseline and the adverse scenarios. This floor must be applied separately for the aggregate IRB and STA portfolios.

116. REA for contributions to the default fund of a central counterparty (CCP) is assumed to remain constant across both scenarios.

117. The exposure composition with respect to rating classes is expected to change due to defaulted asset flows and credit deterioration. For both STA and IRB portfolios, the exposure distribution among risk grades and defaulted exposures must be adjusted (assuming rating grade migration) based on the banks' own methodology as appropriate and consistent with the estimated default flows and migrations for impairment purposes. Accordingly, exposures that are downgraded or that are defaulted must be risk-weighted at the appropriate risk weights (e.g. in the case of a STA defaulted unsecured exposures, at 100% or 150%).

118. The impact of the defined scenarios on collateral values and eligibility shall also be considered for REA and IRB EL projections.

119. For A-IRB banks, the REA for defaulted asset exposures is calculated (as in the box below) in accordance with Article 153 of the CRR.

Box 5: REA estimation for defaulted assets

$$\text{REA Def}(t) = \text{MAX}\{0;[\text{LGDreg}(t) - \text{LGDpit}^{\text{OLD}(t)}(t)] * 12.5 * \text{Def Stock}(t)\}.$$

Where:

- It is assumed that $\text{ELBE}(t)$ – i.e. the EL best estimate is equal to $\text{LGDpit}^{\text{OLD}(t)}$.

120. IRB excess or shortfall for defaulted and non-defaulted assets shall be calculated separately according to the CRR/CRD. Provisions related to exposures shall be determined as described for the estimation of impairments in section 2.4.

121. Relevant positions and the impact on the REA shall be reported in the credit REA template (CSV_CR_REA).

2.6 REA for CCR

122. The previous section 2.5 regarding the REA and IRB regulatory ELs applies to the exposures subject to CCR (both banking and trading book).

123. For the purpose of calculating the REA for CCR, regulatory exposures relating to CCR will be reported using the appropriate template (CSV_CR_REA) and asset classes listed in Table 2 and Table 3 only for this purpose.

124. CCR regulatory exposure will remain constant and will not be affected by the impact of baseline and adverse market risk scenarios nor by any offset for increased accounting CVA in the scenarios (as set out in Article 273(6) of the CRR). In particular, as set out in section 2.5, stressed regulatory PD and LGD parameters (PDreg and LGDreg) shall be applied to these constant CCR regulatory exposures for the calculation of stressed REA for CCR.

2.7 Securitisation exposures

125. All exposures subject to Chapter 5 of the CRR (traditional and synthetic, re-securitisations, as well as liquidity lines on securitisation transactions) are included in the scope of this section.

126. Originator positions where no SRT has taken place are to be treated under the credit risk methodology, and should be reported accordingly in the credit risk templates. In particular this holds for originator and investor exposures to securitisations issued or guaranteed by international organisations, multilateral development banks, governments, or government agencies, where firms are subject to the credit risk of these institutions rather than the credit risk of the underlying exposures. Securitisation exposures within correlation trading portfolios are covered by the market risk methodology and must be reported within market risk templates.

127. In line with section 2.3.2, the static balance sheet assumption should be applied by keeping the outstanding balance of all securitisation exposures unchanged throughout the time horizon of the stress test. Fair value changes should not have an impact on the exposure amount and the REA calculation for the application of the credit risk methodology.

128. For the computation of the P&L impact, banks are required to estimate the amount of impairments for securitisation exposures that are not subject to mark-to-market valuation, taking into account the features of the baseline and adverse macroeconomic scenarios. AFS and FVO are thus excluded from the calculation of impairments. The forecasted impairments should take into consideration impairments already considered in prior periods, and incremental impairments for each period must be added, and reported appropriately, in the securitisation templates. For each individual security, the underlying pool's credit and prepayment models must be stressed under the different scenarios to produce consistent impairment estimates. Estimated impairments should take into consideration the impact of credit enhancement and other structural features when applying the credit risk methodology. Banks are required to outline their calculations in an accompanying document.

129. For securitisation exposures subject to mark-to-market valuation (i.e. AFS, FVO, and HFT), banks are required to estimate the P&L impact via the mark-to-market loss incurred as a result of the impact of the scenarios according to the market risk methodology (see section 3).

130. For the estimation of the REA, the stress is applied to the securitisation positions both in banking and the trading book (within the scope of this section) according to their regulatory treatment.

131. For regulatory approaches based on risk weights (i.e. the STA and the IRB method – except exposures under the supervisory formula), a fixed risk weight increase will be applied to the different credit quality steps as of 31 December 2015 by substituting the original risk weights with predefined increased ones. The increased risk weights reflect the effect on REA of the potential rating migration of the positions. The impact will be shown separately on the securitisation templates according to regulatory approach (CSV_CR_SEC_STA, CSV_CR_SEC_IRB).

132. For this purpose, the securitisation positions are allocated to the three different securitisation categories for which the increase in REA is prescribed: low, medium and high risk. The differentiation is dependent on the structure or asset class of the transaction, regional differentiation, the credit quality of the position and the expected sensitivity to the macroeconomic scenario. The classification is based on an analysis of the migration volatility of different products and their origin, where a higher migration probability indicates a higher risk. The risk categories and allocation of products are the following:

- Risk bucket 1 (low risk): ABCP, EMEA RMBS, EMEA ABS, Americas ABS;
- Risk bucket 2 (medium risk): EMEA CMBS, EMEA CDO, Americas CMBS;
- Risk bucket 3 (high risk): Americas RMBS, Americas CDO and all other positions, including re-securitisations.

133. Banks are asked to supply information on the IRB and STA exposure per defined risk buckets. For this purpose, the securitisation positions should be reported in the securitisation templates by credit quality step, securitisation vs re-securitisation, REA calculation approach, and seniority and granularity based on corresponding CRR definitions (e.g. Articles 255, 251, 259, 261 and 262 of the CRR).

134. Banks should estimate the amount of impairments before the calculation of risk-weighted assets for securitisation positions. Impairments estimated for the computation of the P&L impact will be taken into account in accordance with CRR Article 246(1) and Article 266(2). Therefore, for exposures under the STA approach, impairments will be subtracted from the exposure to be risk-weighted. For exposures under the IRB approach, risk weights must be applied on the full exposure (gross of impairments) and then subtract 12.5 times the impairment provisions. Impairment estimates for securitisations shall be reported in the securitisation summary template (CSV_CR_SEC_SUM).

135. When external ratings are not available and the banks use the Internal Assessment Approach (IAA) for REA calculation purposes, these securitisation positions should be stressed according to what is stated in the previous paragraphs. Each securitisation position should be

assigned the respective credit quality step whose average risk weight is the closest to the one in the considered securitisation contract. As REA for positions under IAA are computed differently for the projected period compared to the starting point, IRB REA for 2015, contrary to projected values, the 2015 starting value shall be explicitly reported in the securitisation summary template (CSV_CR_SEC_SUM).

136. When the banks use the supervisory formula approach (SFA) for REA calculation purposes, they shall apply the stress factors for unsecuritised corporate or retail exposures to the risk components (PD, LGD) of the asset pool in the respective exposure class. In this case, as a precondition, the IRB banks will have to demonstrate to the respective competent authority that the internal methods can be adjusted in a way that is consistent with the scenarios. Beyond the requested data in the relevant template, banks are required to outline their calculations in the accompanying document, reporting all their driving parameters.

137. The securitisation positions under the IRB SFA and other positions (look through) shall be reported separately (CSV_CR_SEC_IRB_SF, CSV_CR_SEC_Other).

138. For both the STA and IRB portfolios, the end-2015 level of REA serves as a floor for the total REA calculated under the baseline and the adverse scenarios. This floor must be applied separately for aggregate IRB and STA portfolios.

3. Market risk, CCR losses and CVA

3.1 Overview

139. The impact of market risk on AFS and FVO positions is to be assessed via a full revaluation, after applying a common set of stressed market parameters consistent with the macroeconomic adverse scenario. Prescribed haircuts have to be applied for sovereign positions in these portfolios.

140. Regarding the HFT category, two different approaches shall be distinguished:

- The comprehensive approach relies on a full revaluation for the macroeconomic adverse and two historical scenarios, and is to be used by banks with internal models or a large share of market REA. The overall impact is then given according to the worst loss across the three scenarios. The banks' estimations are subject to a number of constraints;

- The simplified approach estimates the impact of market risk as a function of the variation of NTI over the last 5 years and is to be used by remaining banks as well as serving as a floor for the comprehensive approach in each of the three years of the stress test horizon.

141. Hedged positions and corresponding hedges are treated consistently and all hedge accounting portfolios assessed at fair value are subject to the market risk methodology. As a consequence, banks shall account for hedging effects on positions within hedge accounting portfolios. They may also opt, or be required by their competent authority, to recognise the offsetting effects from economic hedges on positions in AFS and FVO.

142. For CCR, it is assumed that the two most vulnerable of the largest 10 counterparties default. For CVA, banks have to recalculate the CVA based on the market risk scenario. Both effects need to be projected for the macroeconomic adverse and the two historical scenarios, while the total impact is again given according to the worst loss.

143. In addition, banks are required to determine the impact of the scenarios on REA; however, these are largely based on prescribed assumptions.

Box 6: Summary of the constraints on banks' projections of market risk

- No change, i.e. no deviation from the starting value, is assumed under the baseline scenario (paragraphs 203, 224, 240 and 245);
- The starting value for the NTI is defined (based on average historical values) as the minimum of the averages across the last 2, 3, and 5 years, where the 2-year average is floored at 0 (paragraph 220);
- The simplified approach for banks without a validated model or with a relatively small market risk contribution to REA based on historical NTI volatility is applied as a floor to banks' own estimates of the NTI impact (paragraph 174);
- A haircut of 25% is applied to the starting NTI in the adverse scenario before the impact of the market risk shock. This acts as a fixed impact for the SA and as a cap for banks' own estimations of NTI for 2016-2018 (paragraphs 225 and 241);
- Prescribed haircuts are to be used for AFS and FVO sovereign positions (paragraph 215);
- REA stays constant for banks using the SA (paragraphs 264 and 270), while for banks under the CA, the REA is assumed to be a multiple of the risk measures for VaR and APR (paragraphs 266 and 269);
- REA stays constant in the baseline scenario and cannot decrease below the starting value in the adverse scenario (paragraphs 264 and 265);
- The impact on REA for IRC and CVA is floored by the increase for IRB REA (paragraphs 268 and 271).

3.2 Scope

144. The scope of the market risk stress methodology is to cover all positions exposed to risks stemming from changes of market prices – i.e. positions in HFT, AFS and FVO, including sovereign exposures in these portfolios.

145. The scope includes hedge accounting portfolios designated to hedge positions assessed at fair value (i.e. AFS). This includes fair value hedges and cash flow hedges. Hedge accounting portfolios designated to hedge positions measured at cost (i.e. loans and receivables and HTM) are covered by the credit risk methodology.

146. Also in scope are all positions for which banks calculate CVA, as well as all positions subject to CCR.

147. Securitisation positions held at fair value are also covered in this section. The market risk impact for securitisation positions therefore needs to be reported in the market risk templates depending on their accounting treatment and in line with any other positions in scope of the market risk methodology. However, the stressed REA for securitisation positions that are not in the correlation trading portfolio are not in the scope of the market risk methodology, and are covered under credit risk in section 2.7.

148. Defined benefit pension funds shall be subject to the application of relevant market risk variables as defined in the adverse scenario. In particular, the same set of shocks to long-term interest rates should be taken into account for the purpose of computing the change in the actuarial discount rate (the IAS 19 discount rate for banks using IAS) and should be consistent with the evolution of long-term interest rates as defined in the macroeconomic scenarios. The asset and liability positions shall be stressed in line with the requirements for AFS and FVO positions. As outlined in section 6.4.4, the eventual shortfall of assets vs liabilities in defined benefit pension funds, resulting from the application of the scenarios, will have an impact on banks' capital. The impact shall be reported by all banks as a memo item on the market risk summary template (CSV_MR_SUM).

3.3 High-level assumptions and definitions

3.3.1 Definitions

149. Banks are required to apply consistent definitions for the following items.

150. The **Comprehensive Approach (CA)** is an approach for computing the P&L impact of the stress scenarios on HFT positions, based on the full revaluation given the ESRB or the ECB shocks to the market risk factors.

151. **CA banks are** banks applying the CA.

152. The **Simplified Approach (SA) is** an approach for calculating the P&L impact of the stress scenarios on HFT positions, based on NTI volatility as a proxy of banks' sensitivity with respect to adverse market risk conditions.

153. **SA banks** are banks applying the SA.

154. **Hedge accounting portfolios** are defined in line with FINREP. Only the fair value changes of hedging instruments (cash flow hedges and fair value hedges) that qualify as hedge accounting instruments under the relevant accounting framework (e.g. IAS 39) as of year-end 2015 are recognised as hedging effects from hedge accounting instruments.

155. **Economic hedges** are financial instruments that do not meet the requirements of IAS 39 to qualify as hedging instruments, but that are held for hedging purposes. Economic hedges are defined following FINREP. They include those derivatives that are classified as HFT but are not part of the trading book as defined in Article 4(1)(86) of the CRR. The item 'economic hedges'

does not include derivatives for proprietary trading. For this exercise, the term 'economic hedges' refers only to economic hedges related to AFS and FVO positions. Economic hedges covering other assets should be treated as all other HFT assets.

156. **Market risk factors** refer to a set of factors identified by the ESRB and the ECB as the main drivers of market risk that were used to calibrate the impact of the macroeconomic adverse and historical scenarios on fair value positions. They include interest rates and volatilities for currencies, exchange rates and volatilities for currency pairs, haircuts and changes in volatility for equity, commodity and debt instruments, changes in credit spreads for debt instruments, parameters relevant to the correlation trading portfolios and bid/ask spreads to be used for the assessment of the impact on market liquidity. Most, but not all, of these market risk factors are explicitly captured in the CA template (CSV_MR_CA).

157. **Additional risk factors** are factors other than the ESRB and the ECB market risk factors that are identified by the CA banks as being relevant in the calculation of the VaR as of 31 December 2015. This refers to all factors that are not included in the scenario but have a material contribution, explaining – together with the ones included in the scenario – at least 95% of the actual VaR.

158. **Direct sovereign positions** include the positions towards sovereign counterparties. These exposures arise from an immediate borrower basis (e.g. an exposure of 100 towards Country A, collateralised with bonds issued by Country B, is reported on Country A but not on Country B) and do not include exposures to other counterparties with full or partial government guarantees or state-owned companies. Exposures towards supranational entities and central banks are treated as non-sovereign positions.

159. **Net direct sovereign positions** are direct long sovereign HFT positions after offsetting the cash short positions that have the same maturities.

160. **Indirect sovereign positions** are positions towards other counterparts (other than sovereign) with sovereign credit risk (e.g. credit default swaps (CDS)). This item does not include exposures to counterparties (other than sovereign) with a full or partial government guarantees by central, regional and local governments or state-owned companies. Exposures towards supranational entities and central banks are treated as non-sovereign positions.

161. **NTI** is defined as in FINREP ('gains or losses on financial assets and liabilities HFT, net').[5] In particular, no one-off effects should be deducted or accounted for in the calculation of the NTI – i.e. historical data for NTI may not be adjusted unless the bank officially restated its accounts (e.g. for miss-valuing derivative positions) over the years in question. In the context of the stress test, both for calculation and reporting purposes, the NTI shall always be expressed in currency units (not as a ratio).[6] Banks that, in the course of their periodic financial reporting,

[5] FINREP template 2, row 280.

[6] With negative sign in case of losses.

present the interest income on assets in HFT, AFS, and FVO as a part of NTI, should report this income as a part of NII and remove it from the recurring NTI for historical and for projected values. This removal of NII from NTI is a requirement for all banks. Banks facing data constraints for historical values may carry out this removal on a best effort basis.

162. **NTI projected** is the projected NTI before the application of market risk losses due to the revaluation of the portfolio.

163. **Basis risks** arise when hedging an exposure to one market rate with an exposure to another similar market rate that nevertheless reprices under different conditions – i.e. there can be a difference between the change in the price of the asset being hedged and the change in the price of the underlying derivative being used for hedging.

164. **CCR exposures** are exposures related to the risk that the counterparty to a transaction could default before the final settlement of the transaction's cash flows. This refers to CCR as defined in Article 272 of the CRR, and to regulatory exposure for capital requirements as calculated in accordance with Article 273. Exposure for P&L effects as set out in section 3.8.2 refers to the stressed current exposure of the bank – i.e. current exposure following the application of the stress. The relevant exposure measure that should be used is current exposure, given by the market value and taking into account legally enforceable counterparty netting and collateral received or posted to the counterparty. Exposure for the calculation of capital requirements as set out in section 2.6 refers to regulatory exposure as defined in the CRR – i.e. covering current and potential future exposure. The exposures for both the P&L and capital requirements calculations should comprehensively capture trades and aggregated exposures across all forms of CCR at the level of specific counterparties.

165. **CVA** is an adjustment to the mid-market valuation of the portfolio of transactions with a counterparty, as per Article 381 of the CRR. This adjustment reflects the current market value of the credit risk of the counterparty to the institution, but does not reflect the current market value of the credit risk of the institution to the counterparty.

166. **DVA** is an adjustment to the measurement of derivative liabilities to reflect the own credit risk of the entity.

167. **IRC** is an approach that captures, in the calculation of capital requirements, the default and migration risks of trading book positions that are incremental to the risks captured by the VaR measure as specified in Article 365(1) of the CRR.

168. **Correlation trading portfolio and APR:** Institutions shall use this internal model to calculate a number that adequately measures APR at the 99.9% confidence interval over a time horizon of 1 year under the assumption of a constant level of risk, and adjusted (where appropriate) to reflect the impact of liquidity, concentrations, hedging and optionality (Article 377 of the CRR).

169. **Securitisation positions** are defined as in section 2.7.

3.3.2 Static balance sheet assumption

170. The market risk shock is applied as an instantaneous shock to all the positions in the scope of the market risk methodology with the exception of HFT positions when applying the SA.

171. In line with the static balance sheet assumption:

- The notional values of all assets and liabilities under the market risk scope are expected to remain constant over the time horizon of the exercise;
- Banks cannot assume any portfolio management actions in response to the stress scenarios (e.g. portfolio rebalancing or liquidation).

3.3.3 Application of the SA and the CA

172. Institutions will be classified as CA banks if they fulfil at least one of the following criteria:

- Banks with at least one VaR model in place, approved by the competent authority under the CRR;
- Banks whose total market risk capital requirement is greater than 5% of the total capital requirement;
- Banks that recognise economic hedges;
- Banks that opt for applying the CA;
- Banks that are required to apply the CA by the competent authority.

173. All remaining banks will be treated as banks with less significant trading activities and shall apply the SA.

174. CA banks must run both the SA and the CA. For these banks, the overall NTI in 2016, resulting from the application of the CA to HFT positions, should not be higher than the NTI estimated using the SA.

3.3.4 Reference date and time horizon

175. The reference date for applying the market risk shocks is 31 December 2015.

176. The overall impact on P&L (or capital, in the case of AFS positions) of the market risk shocks should be fully recognised in the first year of the stress test horizon (i.e. in 2016). For HFT positions, a fixed haircut is also applied to the NTI for the following years in the SA, which takes into account eventual turmoil that may arise as a consequence of the shock or a reduction in NTI not solely due to the fair value of the banks' positions (e.g. due to reduced client trading). The same haircut defines a cap for banks' internal estimations in the CA.

177. The P&L impact of the market risk stress shall be an instantaneous shock – i.e. no holding period assumptions can be made for any positions for the calculation of gains or losses.

3.4 Treatment of hedging

178. For positions in hedge accounting portfolios designated to hedge positions assessed at fair value, banks have to conduct full revaluations of the hedged positions and the hedging instruments separately (cash flow hedges and fair value hedges). In line with the respective treatment of other sovereign or non-sovereign AFS and FVO positions, banks are requested to conduct full revaluations of their positions for the adverse macroeconomic scenario; no changes for the baseline scenario are required. Gains and losses are fully attributed to the first year. The stress effects of the full revaluation are to be reported in the hedge accounting template and accounted according to the relevant accounting rules. As a general principle, even within hedge accounting portfolios, any ex ante netting of the stress effects from hedged items and hedging instruments is not permitted (i.e. banks are required to report the impact on hedges and hedged positions separately).

179. For positions in hedge accounting portfolios, based on the changes in the fair value of the hedged item and the hedging instrument, the hedge effectiveness is to be assessed and the valuation changes in the hedging instrument related to the ineffective part are to be reported as hedge ineffectiveness in the dedicated cells of the template. In accordance with the static balance sheet assumption, it is assumed that a change in the hedging effectiveness will not lead to a discontinuation of hedge accounting.

180. As stated in more detail in section 3.6.2, for sovereign positions in hedge accounting portfolios assessed at fair value, the revaluation of the hedging instruments follows the same principles as the valuation of the related hedged sovereign positions.

181. As a general rule, derivatives other than those used in hedge accounting are stressed on a stand-alone basis according to the treatment of the accounting category. This includes HFT derivatives used for hedging other positions in HFT. Accordingly, the same methodology used for other HFT positions applies for HFT derivatives other than those used in hedge accounting.

182. Banks can, however, be required by their competent authority or opt (subject to the approval by the competent authority) to report the offsetting impact from derivatives classified as economic hedges on related positions in AFS or FVO. Economic hedges covering other items should be treated as all other HFT assets.

183. Banks that recognise the offsetting effects of economic hedges on non-sovereign and sovereign positions in AFS and FVO will be considered as CA banks, as defined in paragraph 172. To avoid a double counting of stress test impacts, the effects of the revaluation of economic hedges reported together with related positions in AFS or FVO are excluded from the change in NTI resulting from the CA. The approach for market REA is not affected by the treatment of economic hedges.

184. For banks that recognise economic hedges on AFS or FVO sovereign and non-sovereign positions, the calculation of the gains and losses from economic hedges is aligned with the treatment of the related AFS or FVO positions. Banks are requested to conduct full revaluations of all AFS or FVO positions and related hedges, separately, for the adverse macroeconomic scenario and recognise the full impact in the first year. No changes for the baseline scenario are required. To be consistent with accounting treatment, the offsetting effects from economic hedges are captured in the stressed P&L (via gains or losses on financial assets and liabilities HFT) even if they relate to positions categorised as AFS.

185. Banks that recognise the effect of economic hedges shall do so for all economic hedges in scope of the FINREP definition and for those that are related to AFS and FVO positions.

186. For banks recognising the offsetting effects of economic hedges, the historical NTI is modified via a scaling factor to compensate for the impact of fair value changes of non-trading book positions on NTI. The historical end-of-the-year NTI values for 2011-2015 are subject to a scaling factor according to the ratio of economic hedges related to AFS and FVO positions (notional) to the total derivative HFT positions (notional) and the relative proportion of derivatives (carrying amount) in HFT as reported in FINREP (see Box 7). The scaling factor is calculated as of 31 December 2015 and held constant over the period 2011-2015.

187. As stated in more detail in section 3.6.2, for banks recognising the offsetting effects from economic hedges the revaluation of the hedging instruments follows the same principles as the valuation of the related hedged sovereign positions.

Box 7: Definition of the scaling factor that accounts for economic hedges

$$\text{Scaling factor } x = \max[0.25;\ 1 - (\frac{\text{economic hedges related to AFS and FVO}}{\text{derivatives HFT}} * \frac{\text{derivatives}}{\text{financial assets HFT}})].$$

Where:

- economic hedges related to AFS and FVO = (F10.00 row 020 column 030 + F10.00 row 080 column 030 + F10.00 row 140 column 030 + F10.00 row 200 column 030 + F10.00 row 260 column 030 + F10.00 row 280column 030) excluding economic hedges related to positions other than AFS and FVO;
- derivatives trading = F10.00 row 290 column 030;
- derivatives = F01.01 row 060 column 010;
- financial assets HFT = F01.01 row 050 column 010; and
- All values are calculated as of 31 December 2015.

188. The use of the scaling factor affects the NTI before stress (which is used as a starting point for both the SA and the CA), and the baseline and adverse loss derived from the SA.

189. The scaling factor is calculated on the template for the SA (CSV_MR_SA).

190. The impact of the hedges related to AFS non-sovereign positions in hedge accounting portfolios shall be reported on CSV_MR_AFS_HEDG. The impact of economic hedges for non-sovereign AFS and FVO positions shall be reported on CSV_MR_AFS_FVO_OTHER. The hedging impact for sovereign positions shall be reported on the sovereign template (CSV_MR_SOV).

191. Banks are requested to provide a narrative with additional information on the accounting framework applied and details on the hedging relationships.

192. An example of the application of the scaling factor to account for economic hedges is given in Box 8. The example shows the full calculation of the impact in the adverse scenario, i.e. not just the calculation of the scaling factor that accounts for economic hedges. Remaining formulas for this calculation are introduced in the next sections.

Box 8: Example of the application of the scaling factor that accounts for economic hedges

Assumptions

Historical NTI is given in the following table:

Year	2011	2012	2013	2014	2015
NTI	300	-200	150	-100	115

The calculated parameters for the starting point and the loss are:

- 5-year average: 53;
- 3-year average: 55;
- 2-year average: 8;
- 5-year standard deviation: 201;
- 3-year standard deviation: 135.

The proportion of economic hedges related to AFS and FVO in HFT (= scaling factor) is assumed to be 0.5. Economic hedges are used to hedge interest rate risk of FVO positions, and have the following impact:

- Adverse losses CA: -200;
- Of which economic hedges for FVO positions: 100;
- Adverse mark-to-market losses FVO: -150;
- Offsetting effect from economic hedges: 100.

The starting value

The starting value is given by:

- NTI starting value with no recognition of economic hedges: 8;
- NTI starting value with recognition of economic hedges: 4.

The SA

The impact of the SA with and without applying the scaling factor for economic hedges on the

2016 NTI is:

- NTI with no recognition of economic hedges: -397;
- NTI with recognition of economic hedges: -198.

The CA

The impact of the CA with and without applying the scaling factor for economic hedges on the 2016 NTI is:

- NTI with no recognition of economic hedges: -194;
- NTI with recognition of economic hedges: -297.

The SA is therefore binding if economic hedges are not recognised and not binding if they are recognised (with an impact of -397 and -198 respectively).

Total impact with and without recognising economic hedges

The total impact from the 2016 HFT and FVO without recognising economic hedges becomes:

- Before the application of the SA floor: -194 - 150 = -344;
- After the application of the SA floor: -397 - 150 = -547.

However, recognising economic hedges, the impact from the 2016 HFT and FVO becomes (SA floor is not binding):

- Before and after the application of the SA floor: -297 - 50 = -347.

The recognition of economic hedges via the scaling factor accounts for offsetting effects across accounting categories that would otherwise not be recognised due to the fact that the SA acts as a floor for trading losses in HFT.

3.5 Market risk factors

193. Scenarios have been defined in terms of shocks to market risk factors in order to project gains and losses on all fair value positions (AFS, FVO and HFT), with the exception of sovereign positions in the AFS and FVO accounting categories (for which haircuts are provided) and all HFT positions under the SA (for which NTI is stressed directly, based on its historical variation).

194. Not all risk factors provided in the market risk scenarios are explicitly captured in the CA template (CSV_MR_CA). Banks' impact projections should take into account all market risk factors provided in the scenario – e.g. the impact for equity instruments will not only depend

on the shocks provided for equity indices, but also on the volatility assumptions in the scenario.

195. The stressed market risk factors have been estimated for the adverse scenario by the ESRB and the ECB. In addition, for the HFT accounting category, banks using the CA are provided with two historical scenarios consistent with past stress events related to the global financial crisis and the sovereign debt crisis.

196. As the risk factors provided may not necessarily capture all of banks' market risk drivers in the HFT portfolio, CA banks are required to report additional risk factors that are not included in the scenario but have a material contribution – i.e. on a cumulative basis, the additional risk factors show a relevant impact, and, along with the factors already considered, explain at least 95% of the actual VaR. In addition, banks need to report the calibration of these risk factors and their impact in an accompanying document. This information will be relevant in the quality assurance process in order to assess the degree of fitting between the additional stress factors and the ones included in the scenarios.

197. Banks shall differentiate between two kinds of additional risk factors:

i. Risk factors that are part of aggregated risk factors in the given scenario – e.g. swap rates or credit spreads as part of the aggregated risk factor provided for Asia or different types of oil as part of the oil risk factor;

ii. Risk factors that are not included in the scenario in aggregate form – e.g. inflation risk.

198. For the first type of risk factors defined in paragraph 197, banks shall, in general, not extend the set of risk factors to additional more granular risk factors but shall apply the shocks given in the scenario directly. However, banks should assess whether the resulting stress is adequate for their portfolio. If this is not the case due to illiquid positions in a bank's portfolio or concentrations in more volatile positions, banks may also extend the scenario to more granular risk factors. This approach may only increase the stress impact of the bank. Only the impact for the second type of risk factors should be reported under additional risk factors.

199. In the case of interest rate and credit curves, the shocks for tenors that are not provided in the market risk scenario should be computed by interpolation. For tenors that are shorter or longer than the range of tenors available in the scenario, the the impact from shocks to the shortest and the longest tenor available respectively should act as a floor.

200. CA banks should define their own approach to translate the scenarios to shocks to the additional risk factors, and need to provide evidence to show that this approach is: i) appropriate (i.e. methods and relationships relied upon should be valid); ii) comprehensive (i.e. material market risks should not be left unstressed); iii) conservative (i.e. where it is impossible to accurately reflect the impact of the stress scenario, banks should overestimate

rather than underestimate its impact); and iv) reviewed and governed (i.e. the process and result have been checked and challenged by appropriate officers of the bank).

201. The treatment of additional risk factors, as well as the optional and additional information required by competent authorities, is specified in Box 9. Data that is available in banks' internal systems and is sourced from standard market data providers can be used for the purpose of calibrating shocks to the additional risk factors.

202. SA banks are not required to include additional risk factors in their projections.

Box 9: Treatment of additional risk factors

Banks should distinguish between additional risk factors that cannot be derived from the risk factors provided by the EBA and the ones that can be directly derived from these risk factors, as well as between the historical scenarios and the macroeconomic scenario.

In all the cases where supporting information is required, competent authorities will assess the reliability of the shocks applied as part of the quality assurance process.

Approaches for the calibration of the shocks to additional risk factors directly derived from the risk factors provided in the scenario

- Most of the banks risk factors should be derived directly from the risk factors provided by the scenario and reported in the associated rows in the CA template (CSV_MR_CA).
- Where good quality data is available, one of the following approaches should be adopted:
    - Similar scenario: If good quality data from a historical scenario that is 'similar' to the particular scenario is available, this should be used to calibrate the shift in the additional risk factor. The corresponding evidence should be provided, including reasons for deeming the alternative historical scenario to be similar (especially with regard to the risk factor considered);
    - Calibrated statistical relationship between risk factors and additional risk factors: If good quality data is available in sufficient quantity to support a statistical relationship between the additional risk factor and one (or more) of the risk factors in the scenario provided, this relationship should be used to calibrate the shock to the additional risk factor, and the statistical evidence to support this relationship should be provided, including evidence to indicate how this relationship holds up in stressed market conditions.
- Where good quality data is unavailable (e.g. for a newly issued corporate bond), such that the variable itself is unobservable over the reference period and its relationship with other variables cannot be statistically determined, theoretical reasons to support the calibration of

the risk factor shift should be provided. For example, there may be arbitrage reasons to support the calibration. In particular, the value of certain illiquid and/or complex trading book positions depends upon unobservable, or difficult to observe, parameters. Such parameters (and the valuation methods in which they are used as inputs) should be adjusted to reflect the severity of the market shock associated with the scenario. For example, if the severity of the market shock might lead to circumstances that would require a re-marking of the equity correlation book, correlations, illiquid parameters, associated basis factors and the valuation methodology should be adjusted accordingly.

Approaches for the calibration of the shocks to additional risk factors that cannot be derived from the risk factors provided in the scenario

- Some banks may have to add risk factors that are not correlated to the risk factors provided in the scenario. The impact of these additional risk factors should be reported under the rows for other risk factors in the CA template (CSV_MR_CA).

- If good quality data is available in sufficient quantity to support a statistical relationship between the risk factor and the macroeconomic variables for which projections are provided in the macroeconomic scenario, this relationship should be used to calibrate the risk factor, and the statistical evidence to support this relationship should be provided, including evidence to indicate how this relationship holds up in stressed market conditions.

- Where good quality data is unavailable such that the variable itself is unobservable over the reference period or its relationship with other variables cannot be statistically determined, theoretical reasons to support the calibration of the risk factor shift should be provided.

For historical scenarios

- Banks have to project market risk losses under two different historical scenarios. The historical periods that were considered when calibrating the scenarios are:

    - Historical scenario 1: Subprime crisis (June 2007 to October 2009)

    - Historical scenario 2: European sovereign debt crisis (April 2010 to September 2012)

- Banks can estimate the shocks to be applied to the additional risk factors in different ways. In any case, the estimated impact of the shock to a given risk factor under a specific scenario cannot be lower than the impact obtained assuming a shock equal to the change in the risk factor between the initial and the final dates indicated in the corresponding reference period above. Where good quality data from the period referenced by the particular historical scenario is available, banks shall use these data to calibrate the shift in the risk factor and the corresponding evidence provided.

- Where good quality data from the period referenced by the particular historical scenario is unavailable (and only in this case), then one of the approaches for the calibration of the

shocks to additional risk factors presented above should be considered.

Macroeconomic adverse scenario

- Macroeconomic adverse scenarios are hypothetical, and if no historical data specific for the given scenario are available, then for the calibration of the shocks to additional risk factors, the approaches listed above should be considered.

3.6 Impact on P&L and OCI – AFS and FVO positions

203. In the baseline scenario, no impact is assumed (i.e. the impact should be set to zero).

204. Prudential filters will be treated as prescribed in paragraph 25.

205. The impact on AFS and FVO positions shall be projected and reported by main asset classes and, if relevant, maturities. In particular, banks need to report (depending on the portfolio):

- The fair value or accounting value and notional of the positions;
- The gain or losses broken down by risk factor;
- The share of the impact that is hedged for hedge accounting portfolios (i.e. gains and losses from hedged risk) or economic hedges and gains and losses from hedging for other portfolios.

206. The total impact shall then be separately reported for the following items:

- The impact on OCI from revaluation effects of non-hedged risk factors on hedged item – i.e. the impact on OCI after hedging;
- Gains and losses from hedging ineffectiveness (attributable to P&L);
- Gains and losses on FVO positions (attributable to P&L);
- Gains and losses from economic hedges (attributable to P&L).

207. Resulting gains and losses on FVO positions shall be reported separately in the P&L template (CSV_P&L) for sovereign and non-sovereign positions.

208. Resulting gains and losses on AFS positions due to market price movements directly impact the OCI, and shall be separately reported in the capital template (CSV_CAP) for sovereign and non-sovereign positions.

3.6.1 Non-sovereign

209. Banks are requested to conduct full revaluations of their positions for the adverse macroeconomic scenario (see section 3.5) and recognise the impact on P&L or OCI, in line with accounting standards.

210. In line with paragraph 176, gains and losses on AFS and FVO non-sovereign positions shall be fully recognised in the first year of the stress test.

211. For the purpose of the stress test, banks shall not take into account possible valuation adjustments on debt securities and gains resulting from credit spread widening of own liabilities under any circumstances. Hence, following a deterioration of own creditworthiness, the bank is not allowed to book a gain on those debt securities (or any other fair valued liabilities) that represent a net liability to the bank.

212. The relevant positions and projections (including the impact of hedging) shall be reported on CSV_MR_AFS_HEDG and CSV_MR_AFS_FVO_OTHER, depending on whether an AFS position is within hedge accounting portfolios or not.

213. If an AFS position is within a hedge accounting portfolio but also hedged with an economic hedge and the bank recognises economic hedges, the position shall be reported on CSV_MR_AFS_HEDG but the economic hedge on CSV_AFS_FVO_OTHER.

3.6.2 Sovereign

214. Banks are required to report and stress both direct sovereign exposure by country and residual maturity and related hedges for the adverse scenario. Exposures are reported as book value and gross of hedging. The hedging effect is reported separately.

215. Sovereign positions in AFS and FVO are subject to the market risk parameters (mark-to-market) and haircuts corresponding to the year 2016 as provided by the ESRB and the ECB. The haircuts separate the (general) interest rate impact (swap rate change) and the credit spread impact (sovereign spread over swap) for a specific sovereign and residual maturity. The shock is allocated to the first year of the scenario (i.e. 2016). No shock or recovery is foreseen for the subsequent years of the scenario. Haircuts are applied to direct exposures only (see definition in section 3.3.1). Whenever available banks are required to use the haircuts provided. For countries or regions for which no haircuts are provided banks should apply the macroeconomic adverse market risk scenario.

216. In line with section 3.4, the stress for the corresponding hedging positions should be based on the application of the same risk factor shocks (i.e. interest rates and credit spreads only) as for the related hedged sovereign positions. It is assumed that the banks will not be able to benefit from any potential misalignment of the shocks on hedged sovereign positions (i.e. haircuts) and the market risk shocks on hedging instruments. The offsetting effect from hedging instruments on sovereign positions in AFS and FVO must be proportionate to the

stress effect stemming from the application of the haircuts for the hedged risk. The proportion of the market risk shock that may be compensated by hedging instruments is given by the hedge effectiveness as of the reference date.

217. The impact of the stress test on the positions valued at fair value will be reflected in the sovereign template (CSV_MR_SOV). Additionally, exposures covered in the credit risk section (i.e. loans and receivables and HTM positions), HFT positions, as well as direct sovereign exposures in derivatives and indirect sovereign exposures are also disclosed in the template as memo items. All banks, i.e. CA banks and SA banks, need to report these positions as memo items.

3.7 Impact on P&L – HFT positions

3.7.1 Starting value of the NTI

218. Gains and losses on HFT positions shall be reported in the market risk summary template (CSV_MR_SUM) and ultimately in the P&L template (CSV_P&L). In line with paragraph 174, for CA banks, the P&L impact will be equal to the minimum of the impact of the SA and the impact of the CA (i.e. impact that is less beneficial to the bank).

219. For both CA and SA banks, the net P&L impact in each year of the stress test time horizon will be added to the starting value of the NTI assumed for the purpose of the stress test.

220. The starting value of the NTI is defined as the minimum between: the average of the 2014 to 2015 NTI (floored at 0), the average of 2013 to 2015 NTI, and the average of 2011 to 2015 NTI (see Box 10). It will be calculated on the simplified market risk template (CSV_MR_SA).

Box 10: Definition of the starting NTI value

$$\text{NTI}_{\text{Starting Value}} = \text{Min}\{\text{Average(NTI)}_{\text{2013-2015}}, \text{Average(NTI)}_{\text{2011-2015}}, \text{Max}(0, \text{Average(NTI)}_{\text{2014-2015}})\}.$$

Where:

- $\text{Average(NTI)}_{\text{2014-2015}}$ is the simple average NTI over 2014-2015;
- $\text{Average(NTI)}_{\text{2013-2015}}$ is the simple average NTI over 2013-2015;
- $\text{Average(NTI)}_{\text{2011-2015}}$ is the simple average NTI over 2011-2015.

221. In line with this definition, regardless of the approach used in the market risk stress test, all banks have to report their NTI for the years 2011 to 2015. The latest 2016 year-to-date trading P&L available at the point of the results will be collected separately.

3.7.2 CA

222. For the market risk stress test of HFT positions, the same calculation requirements laid down in section 3.6.1 for FVO positions apply.

223. For banks that fail to perform a full revaluation, a prudential add-on may be applied by the competent authority to the overall impact of the market risk stress test, in order to account for possible non-linearities and for the limited accuracy of the projections. For this purpose, positions for which the banks can only deliver full or partial sensitivity results have to be reported separately.

224. In the baseline scenario, NTI (before the application of market risk losses) should be kept constant at the starting NTI computed as per paragraph 220.

225. In the adverse scenario, banks should calculate NTI projected for the years 2016-2018, taking into consideration how the macroeconomic scenarios provided would impact trading revenues. Banks' projections will be subject to a cap, which is defined as the starting point NTI as used for the baseline scenario, multiplied by a haircut specified in Box 11.

226. In order to account for the possible lack of representativeness of the end-of-the-year HFT positions, the total loss projected by banks in each scenario computed shall be multiplied by a portfolio scaling factor that is computed as follows for the HFT portfolio:

- Calculate the ratio between: (i) the 75th percentile of daily VaR figures for the full year 2015, and (ii) the daily VaR reported for the reference date 31 December 2015;
- Floor this ratio at 1 and cap the ratio at 1.5;
- The scope of positions is permitted to be the prudential trading book, which may not necessarily align with the HFT portfolio. When a regulatory approved VaR model is not available, for the calculation in paragraph 226, banks shall apply internally used VaR models.

227. The full calculation of NTI is illustrated in Box 11.

Box 11: Formalised description of the comprehensive market risk stress approach

$$NTI_{2016,2017,2018\ (baseline)} = NTI_{\ starting\ Value};$$

$$NTI_{2016\ (adverse)} = NTI_{2016\ projected} + Loss_{CA} * \text{portfolio scaling factor};$$

$$NTI_{2017\ (adverse)} = NTI_{2017\ projected};$$

$$NTI_{2018\ (adverse)} = NTI_{2018\ projected}.$$

Where:

- $\text{NTI}_{2016,2017,2018\ \text{projected}} \leq \text{NTI}_{\text{starting Value}} * \beta$ is the NTI projected for each year by the bank;
- $\beta = 0.75$ if $\text{NTI}_{\text{starting Value}} > 0$ and $\beta = 1$ otherwise;
- Loss_{CA} is the market risk loss due to the revaluation of the portfolio;
- the portfolio scaling factor is defined in paragraph 226.

228. In the adverse scenario, the overall impact on P&L will be the worst-case scenario (i.e. minimum resulting P&L) between the impacts of the adverse and the two historical scenarios, when applied for this purpose only.

229. In line with paragraph 174, the NTI in 2016 resulting from the CA will be capped by the SA NTI.

230. The loss calculation for HFT positions, including sovereign positions in this accounting category, shall be shown in the comprehensive market risk template (CSV_MR_CA). The final impact for these positions shall be reported in the market risk summary template (CSV_MR SUM).

231. To allow comparison, assessment and monitoring of the changes in market risk due to the stressed risk factors but also to account for the influence of hedging strategies on risks and the P&L sensitivity of the trading book, banks are required to report:

- The breakdown of the full revaluation's P&L effect to individual risk factor categories in each scenario, independent of all other market risk factors, and the cross risk factor categories' P&L effects of the shocks in each scenario (i.e. the difference between the total full revaluation result and the sum of the impact of different risk factor categories);

- The delta, gamma and vega contribution to the P&L – i.e. the euro amount resulting from the application of the sensitivities as of the reference date (31 December 2015) to the positions as of the reference date and the relevant risk factor shock. The delta, gamma and vega contributions to the P&L effect should be reported as additional information for quality assurance purposes, and do not necessarily sum up the total full revaluation impact, as they, for example, exclude higher order effects or cross gamma effects;

- In the case that banks are not able to carry out a full revaluation, they are required to report positions for which they can only deliver the P&L effect of full or partial sensitivities and the corresponding impact of individual risk factors;

- The delta, gamma and vega sensitivities as of the reference date (31 December 2015);

- The stand-alone VaR per risk factor category for HFT positions. If the bank does have an approved VaR model in use for a factor category internally used, the VaR models shall be applied;

- The fair value by risk factor category. If positions are subject to several risk factor categories, they should be allocated in full to all relevant risk factor categories. The total fair value reported as of 31 December 2015 can therefore deviate from the sum of the fair value across risk factor categories.

232. CA banks shall also compute the market liquidity shock due to an exogenous widening in the bid-ask spread for the whole HFT portfolio.

233. The impact of different risk factors should be reported without basis risk. Banks should report the impact of all their basis risks separately, and use their own methodology to stress basis risk. Key basis risks are expected to cover (inter alia) interest rates, credit spreads and commodity prices. In all cases, banks should assume relative changes in the bases (compared to the values observed as of 31 December 2015) that are consistent with the scenario. For each basis risk factor, a positive impact from the change in the basis shall be set to zero, allowing only for a negative impact of the full revaluation. Competent authorities can ask banks to provide more granular information on the impact of basis risk.

234. In general the market shocks are intended to be applied and reported not at product level but rather by relevant risk factors. For instance for a bond the key risk factors to be considered are interest rate and credit risk. Exceptions to this general rule are represented for example by funds, RMBS and CMBS for which the scenarios do include the relative change in the fair value respectively the yield of the products and for which there is no need to disentangle the effects in underlying shocks. In case of asset classes similar to the ones for which fair value changes are given, banks shall apply the same approach and shocks. For example for covered bonds the relative shocks for senior RMBS and CMBS shall be applied. For structured products with embedded derivatives (e.g. optionalities) the bank is expected to disentangle the financial instrument in its main components (e.g. plain vanilla bond and options) before the application of the market risk factor shocks.

235. The impact of the shock on correlation trading portfolios shall be reported by relevant risk factors together with other positions on the CA market risk template (CSV_MR_CA). CA banks holding a correlation trading portfolio in excess of 1% of total REA are deemed to hold a significant correlation trading portfolio. Competent authorities can ask these banks to provide additional information on the impact of these portfolios.

236. When reporting results for the HFT positions, multivariate effects, as well as scenario correlation assumptions deriving from the application of the market risk parameter shocks, shall be taken into account and cumulatively shown in the template (CSV_MR_CA) for each major class of risk factors (separately from the one-factor P&L effects). For the macroeconomic scenarios and each of the two historical scenarios, the total P&L effect stemming from the

application of the market risk shocks to HFT positions will be the sum of linear and non-linear P&Ls, rescaled according to paragraph 226.

237. The projection of losses for the sovereign positions in HFT should be consistent with other positions. Haircuts as defined in section 3.6.2 should not be applied. As a memo item, the fair value loss on all sovereign HFT positions, direct positions and derivatives – which is included in the CA loss – shall be reported separately.

3.7.3 SA

238. Banks classified as SA banks according to the criteria set out in paragraph 172 shall estimate the market risk stress test impact on HFT positions only based on the SA described in this section. CA banks will also compute the impact according to the SA and will use it as a cap to the NTI obtained from the CA as described in section 3.7.2.

239. The rationale underpinning the SA is to apply the variation in NTI as a proxy of banks' sensitivities with respect to adverse market risk conditions. The approach is calibrated in such a way that a higher variation in banks' NTI results in higher losses under stress conditions.

240. In the baseline scenario, NTI (before the application of market risk losses) should be kept constant at the starting NTI computed as per paragraph 220.

241. Under the adverse scenario, the overall adverse loss is estimated as two times the maximum between the standard deviation, with respect to the previous 3 years (2013-2015) and the standard deviation with respect to the previous 5 years (2011-2015). This loss is assumed to be the overall stress impact on the P&L (to be subtracted from the starting NTI value defined in paragraph 220) for the first year of the stress test after applying a haircut to the starting value (see Box 12). To take into account the post-crisis spill-over effects mentioned in paragraph 176, banks should also apply this haircut to the 2017 and 2018 NTI respectively.

Box 12: Formalised description of a simplified market risk stress approach

$$NTI_{2016\text{-}2018\ (baseline)} = NTI_{\ Starting\ Value};$$

$$NTI_{2016\ (adverse)} = NTI_{\ Starting\ Value} * \beta - 2 * \max\{StDev(NTI)_{\ 2013\text{-}2015}, StDev(NTI)_{\ 2011\text{-}2015}\};$$

$$NTI_{2017\ (adverse)} = NTI_{\ Starting\ Value} * \beta;$$

$$NTI_{2018\ (adverse)} = NTI_{\ Starting\ Value} * \beta.$$

Where:

- $NTI_{\ Starting\ Value}$ is defined in Box 10;

- $\mathrm{StDev(NTI)}_{\mathrm{years}}$ is the standard deviation of the NTI over the years indicated;
- $\mathrm{NTI}_{\mathrm{year\ (baseline,\ adverse)}}$ is the NTI per year of exercise and scenario;
- $\beta = 0.75$ if $\mathrm{NTI}_{\mathrm{Starting\ Value}} > 0$ and $\beta = 1$ otherwise.

242. The calculations referred to in paragraph 241 shall be conducted in currency units (not in terms of any NTI ratio) and will be calculated on the simplified market risk template (CSV_MR SA).

3.8 CCR losses and CVA losses

243. CCR losses arising from the stress test have two components: mark-to-market losses arising from changes in CVA for counterparties that do not default, and losses upon the default of counterparties.

244. For the purpose of the CCR losses and CVA stress test losses (as detailed in this section), all banks are required to stress exposures based on the market risk scenarios and risk factor shocks described in section 3.5. This does not affect regulatory CCR exposure as reported in the credit risk templates for the calculation of the CCR exposure amount, for which the credit risk methodology set out in section 2.6 applies.

245. No additional CCR losses or CVA losses are assumed for the baseline scenario.

3.8.1 CVA impact on P&L and exclusion of the DVA impact

246. The negative P&L adjustments arising from CVA changes will reflect deteriorating credit quality for some counterparties under the market risk stress, and, in calculating the adjustments, all banks, irrespective of whether they are CA or SA banks, should maintain consistency with the calculation of CVA in their accounts and apply their internal methodology. Banks should calculate CVA losses as the CVA at the reference date minus the CVA under the market risk stress, with the latter derived from the application of the prescribed market risk shocks for the macroeconomic adverse and the two historical scenarios. The final CVA loss that will impact the P&L is the highest CVA loss among the three scenarios, when applied for this purpose only.

247. The projection of CVA losses covers all portfolios in which CVA losses can occur according to the accounting treatment of the bank – i.e. it is not limited per se to HFT positions or to positions for which a CVA capital charge is calculated. All losses will be captured in the P&L. No separate materiality thresholds are set, as firms should follow their accounting treatment.

248. In deriving the CVA under the market risk stress, banks may exclude counterparties in default, but should pay particular attention to material counterparties whose credit spread is significantly and adversely correlated with the risk factors that drive the CVA held by those counterparties or the collateral posted by those counterparties. The P&L impact of CVA hedges

in place at the reference date should be recognised, but no adjustment to those hedges should be assumed.

249. For the purposes of the stress test, the banks shall not take into account possible DVA. Hence, following a deterioration of own creditworthiness, the bank is not allowed to book a P&L profit on those derivatives (or any other fair valued liability) that present a net liability to the bank.

250. Banks are not allowed to offset the projected CVA fair value impact by any existing reserves.

251. The resulting CVA impact shall be reported using the CVA template (CSV_MR_CVA).

3.8.2 Counterparty defaults

252. In addition to the P&L associated with changes in CVAs, counterparty credit losses may arise if counterparties actually default in the stress. This is calculated in the CCR template (CSV_MR_CCR). To gauge the possible impact of this source of P&L, competent authorities will require banks to calculate and report CCR exposure as at the reference date, stressed exposure, and appropriate stressed LGD for their top 10 largest counterparties, as described below.

253. In considering counterparty defaults in conjunction with market risk stresses, market risk factor shocks should be applied to the exposure, whether uncollateralised or collateralised. In the case of collateralised exposures, banks should also stress the collateral in line with the market risk shocks, assuming (in line with the general assumption of no portfolio rebalancing) that no additional collateral is provided beyond what is currently held. Exposures should be stressed based on the scenarios as defined in section 3.5.

254. To identify their top 10 largest counterparties, banks should rank their counterparties in all accounting portfolios subject to CCR (i.e. including HFT, AFS, FVO and HTM) by stressed current exposure after netting (if contractually permitted) for the macroeconomic adverse and the two historical scenarios. Collateralised and uncollateralised exposure should be included in this ranking. Exposure shall be reported net of stressed collateral. No collateral that is to be called beyond what is held at the reference date may be assumed.

255. For each of the three scenarios, banks are required to assume the default of the two most vulnerable counterparties within their top 10 largest counterparties – i.e. depending on the impact of the scenario, two different counterparties can be assumed to default.

256. Central governments, central banks, CCPs and other market infrastructures, counterparties explicitly guaranteed by the central government and intra-group exposures should not be included in the set of counterparties and names used to identify the largest exposure.

257. The selection of the two most vulnerable counterparties involves judgement on the part of the bank of the creditworthiness of these counterparties, in the light of the size of the exposures. In making this judgement, banks should consider both the current creditworthiness of these counterparties and how that creditworthiness might deteriorate under the scenario in question. The judgement of the bank should not be based on a simple application of measures, such as banking book PDs and external credit ratings, but should also take into account idiosyncratic credit factors that would not necessarily be captured in such measures, again with particular reference to the scenario in question. Banks should pay particular attention to exposures to shadow banks and exposures to counterparties exposed to commodity risk.

258. The overall CCR loss will be calculated as the default exposure of the counterparty identified in paragraph 257 multiplied by the appropriate stressed LGD and minus the accounting CVA impact on P&L (before the application of the market price stress). Here, the appropriate stressed LGD should be consistent with the banking book risk parameters estimates carried out by the bank. This loss will be added to the total losses resulting from the market risk scenario.

259. The final loss stemming from the default of the two most vulnerable counterparties that will impact the P&L is the highest CCR loss among the three scenarios, when applied for this purpose only.

260. The default of the two most vulnerable counterparties covers the effect that the whole CCR exposure assigned to this counterparty has on the P&L in case the counterparty defaults. In addition to the CCR exposure, banks are asked to calculate losses from the jump-to-default of the direct credit exposure to this counterparty in the HFT, AFS and FVO portfolios. Here jump-to-default is the net profit or loss resulting from an issuer's instantaneous default. Indirect exposures to the issuer (i.e. CDS) should be included, as this corresponds to the default of the reference entity.

261. The algorithm for identifying and defaulting CCR exposures is summarised in Box 13.

262. The resulting losses will be captured as impairments in the P&L. The projection of counterparty defaults should be carried out independently from the projection of credit risk losses as defined in section 2.4 – i.e. no adjustments should be made for credit risk exposure or credit risk parameters for the projection of credit risk losses as defined in section 2.4, based on assumed counterparty defaults.

Box 13: Algorithm for identifying and defaulting CCR exposures

- Exclude exposures not within the scope of the largest counterparty default (i.e. central governments, central banks, CCPs and other market infrastructures, counterparties explicitly guaranteed by the central government and intra-group exposures);
- Apply stress factors defined in the market risk scenario to all traded positions for each of the three scenarios;
- Calculate stressed current exposure without assuming any collateral to be called beyond what is currently held (considering only positive exposures);
- Rank counterparties by stressed current exposure for each of the three scenarios. The exposure has to take into account the change in the mark-to-market exposure to the counterparties, as well as the revaluation of the collateral;
- Consider only the 10 largest counterparties in terms of stressed exposures for each scenario;
- Calculate the impact of the default for each of the largest counterparties. This is equal to the stressed current exposure multiplied by the respective stressed LGD, netting the CVA impact on the P&L before application of the stress. The impact is prudentially floored to zero;
- Calculate the overall impact of default in each scenario by summing up the impact of the two most vulnerable counterparties that default for each particular scenario;
- The final P&L impact will be the maximum between the overall impact across the three scenarios.

3.9 Impact on REA

263. The starting values for market REA are the respective values reported as of 31 December 2015.

264. For the purpose of this exercise, banks that apply the SA or that do not have a VaR model approved by the competent authority in place are assumed to maintain market risk regulatory requirements constant at their starting value for both the baseline and adverse scenario.

265. For CA banks that have a VaR model approved by the competent authority, market risk capital requirements for each year of the stress test horizon are defined as the maximum between:

- The initial value of capital charges as of 31 December 2015;

- Capital charges resulting from VaR and SVaR models, IRC, APR and own funds requirements for CVA, as described in paragraphs 266, 267, 268, 269, 270 and 271.

266. Under the baseline scenario, VaR and SVaR are assumed to remain constant at the level reported for the reference date 31 December 2015. Under the adverse scenario, the VaR will be replaced by the SVaR as of 31 December 2015 (see Table 6).

267. In case of partial use of internal models for market risk, the baseline capital requirements are assumed to remain constant at the value reported for the reference date 31 December 2015. Under the adverse scenario, the new VaR and SVaR (i.e. 2 times SVaR, based on paragraph 266) capital charge is added to the capital requirements computed under the STA, which are also assumed to remain constant.

Table 6: VaR assumptions for the calculation of the REA

Ref Date	Baseline	Adverse
VaR	VaR	SVaR
SVaR	SVaR	SVaR

268. Banks modelling IRC must estimate the stress impact of the scenarios based on stressed parameters in accordance with section 2.5. Overall, under each scenario, the relative increase in the IRC should be floored with the relative increase of REA in the IRB portfolio in the corresponding scenario.

269. For correlation trading portfolios, the APR will be assumed constant in the baseline scenario. In the adverse scenario, the following scaling is assumed to derive the stressed APR capital charge:

- 8% floor is not binding: 1.5 times the APR capital charge;
- 8% floor is binding: 2 times the floor.

270. The capital charges for correlation trading positions under the STA are assumed to remain constant at the level of 31 December 2015 under both the baseline and the adverse scenarios.

271. All banks that are subject to a credit risk capital charge for CVA, including banks applying the standardised method, are required to calculate stressed regulatory capital requirements for CVA under the adverse scenario. To determine additional CVA capital needs, banks are requested to recalculate the CVA charge under stress conditions, based on their regulatory approach in use for all books within the scope of that approach. To this end, banks should translate the macroeconomic scenarios into underlying risk parameters and determine respective stressed capital charges. Overall, the increase in the CVA charge for the adverse scenarios should be floored with the average relative increase of REA in the IRB portfolio in the

corresponding scenario. To be consistent with the approach for the CCR exposure amount, the regulatory exposure used for the calculation of the stressed CVA REA shall be kept constant.

272. The impact on REA shall be reported using the market REA templates, depending on the whether the SA or the CA is applied (CSV_REA_MR_CVA_SA or CSV_REA_MR_CVA_CA).

273. REA for the CCR capital requirements are calculated using the approach described in section 2.6.

274. Finally, REA for securitisation positions are expected to change in accordance with the securitisation methodology described in section 2.7 as part of the credit risk methodology.

4. NII

4.1 Overview

275. Banks may use their own methodology and their existing ALM systems and EaR models to project their NII, relying on their assumptions regarding the pace of the repricing of their portfolio, together with their projections for risk-free reference rates and margins both under the baseline and the adverse scenarios. The split between reference rate and margin components of banks' assets and liabilities is introduced to distinguish two risks affecting banks' NII under stress:

- The risk related to a sudden change in the general 'risk-free' yield curves. This risk is aimed to be captured via the changes in the reference rate components of banks' repriced assets and liabilities and off-balance-sheet short-term and long-term positions;

- The risk related to a sudden change in the 'premium' that the market requires or the bank sets for different types of instruments and counterparties, reflecting the impact on credit and other market risks (e.g. liquidity).

276. Banks' projections are subject to the constraints summarised in Box 14.

Box 14: Summary of the constraints on banks' projections of NII

- Assumptions underlying the scenarios cannot lead (at group level) to an increase of the bank's NII, compared with the 2015 value, neither under the baseline scenario nor the adverse scenario (paragraph 308).

- Banks' interest expenses cannot decline at group level under the adverse scenario, compared with the 2015 value (paragraph 309).

- Under the adverse scenario, income on defaulted assets should not be recognised, with the exception of income stemming from discount unwinding. Income from discount unwinding is capped by the 2015 value, and is subject to a constraint depending on the changes in provisions and defaulted exposure (paragraph 310).

- Under the baseline scenario, banks are required at a minimum to reflect a proportion of the changes in the sovereign bond spread of the country of exposure in the margin component of the EIR of their repriced liabilities (paragraph 327).

- Under the adverse scenario, the margin paid on interest-bearing liabilities cannot increase

less than the higher between a proportion of the increase in the sovereign spreads of the country of exposure and the same proportion applied to the increase of an idiosyncratic component, derived from the impact on banks' wholesale funding rate of a rating downgrade (paragraph 327).

- Banks are required to cap the margin component of the EIR on their repriced assets by a proportion of the increase in the sovereign spreads of the country of exposure (paragraph 330).
- Although no methodological constraints are imposed on the reference rate of newly originated instruments, it is expected that the change in the reference rate of these instruments is consistent with the macro-financial scenarios for risk-free yield curves (paragraph 320).

4.2 Scope

277. All interest-earning or interest-paying positions across all accounting categories, including not only instruments subject to amortised cost measurement but also those subject to fair value measurement (such as HFT positions, AFS positions, FVO positions, and hedge accounting instruments), are in the scope of this section.

278. Banks that, in the course of their periodic financial reporting, present the interest income on assets in HFT, AFS, and FVO as a part of NTI, should report this income as a part of NII and remove it from the recurring NTI in line with the provisions of paragraph 161 of this note. Only NII for these positions is within the scope of the NII methodology; the fair value impact on these positions of the stress test scenarios is captured within the market risk methodology, and the impact on the economic value of equity, as required for Pillar II analysis, is not needed. The fair value impact on derivatives not recognised for hedge accounting should continue to be recognised in the market risk templates, in addition to this NII impact.

279. Fees and commissions that are recognised as NII in the accounting framework are also within the scope of this section. The fees and commissions that can be directly linked to loans should be stressed through the loan's EIR. All other fee and commission income is out of the scope of the NII methodology.

280. Banks are required to provide information on both their fixed and floating rate portfolios.

281. Banks are requested to split their derivatives positions between 'derivatives used for hedge accounting' and 'derivatives not used for hedge accounting'.

282. The definition of 'hedge accounting instruments' is in line with paragraph 154, i.e. the FINREP definition. Other derivative instruments should be reported under 'derivatives not used for hedge accounting' throughout the stress period. Banks are requested to provide a

narrative with additional information on the accounting framework applied and details on the hedging relationships.

4.3 High-level assumptions and definitions

4.3.1 Definitions

283. Banks are required to apply consistent definitions for the following items.

284. **Reference interest rate (Ref Rate)** is defined as the general underlying 'risk-free'[7] rate relevant for the given instrument, as used by banks in the management of their interest rate risk in the banking book.[8] That rate should not include instrument-specific or entity-specific credit risk spreads or liquidity risk spreads. Examples of acceptable rates are swap rates, or, for reference rate tenors below 1 year, the applicable interbank rate (e.g. EURIBOR, LIBOR). For fixed-rate instruments, banks should use the same reference rate curve for all instruments denominated in a given currency, originated at the same time, and the reference rate tenor should align with the original maturity of the instrument. For floating rate instruments, instruments may be contractually linked to a particular reference rate, in which case this rate should be used as the reference rate instead.

285. **Margin** is defined as the 'premium' charged/paid by banks over the instrument's/ portfolio's reference rate, and is equal to the spread between the actual rate of the instrument and the reference rate.

286. **Effective Interest Rate (EIR)** for a given instrument, time interval and component (margin or reference rate) is the rate that equals the ratio of interest income/expenses to the average volume.

287. **Maturity date** is defined as the contractual date on which the Margin or the Ref Rate component of the asset/liability is repriced:

- For fixed-rate instruments it is assumed that the maturity dates of the Ref Rate and the Margin are the same, and equal to the contractual maturity of the instrument;

- For floating rate instruments it is assumed that the Margin is repriced at the contractual maturity of the instrument, while the Ref Rate component is repriced whenever the index rate of the floating rate instrument resets.[9] Therefore, the maturity dates for the Ref Rate and the Margin of floating rate instruments will, in many cases, be different. It is generally expected that the Ref Rate component resets prior to the Margin in most of the cases.

[7] The free-yield curve shall be the one provided in the scenario, when available.

[8] See the EBA Guidelines on the management of interest rate risk arising from non-trading activities (EBA/GL/2015/08).

[9] In this context, as mentioned above, for floating rate products, the index rate of the instrument should be used as the reference interest rate.

288. **Original maturity** is defined as the total time between the asset/liability's time of origination and the maturity date.

289. **Average point of maturing** is defined as the average fraction of a year at which the maturing positions mature. For each relevant portfolio, the average point of maturing should be computed as an average across the maturing positions in the years 2016-2018. The maturing positions to be considered in this context are those contained in the maturity schedule at the cut-off date[10].

290. **Existing position (Exist)** refers to the volume, which is not repriced within the time interval of interest.

291. **Maturing position (Vol Mat)** refers to the average volume of instruments maturing within the time interval (i.e. exiting the stock of existing positions of the previous year). The average volume is computed as the product of the notional amount of maturing positions and the average point of the maturing of the relevant portfolio.

292. **New position (Vol New)** refers to the average volume of instruments whose margin or reference rate are repriced within the time interval. It should be noted that the average volumes reported in Vol Mat and Vol New sum to the total volume of maturing position within the time interval.

293. **Volume** stands for the notional amount of an instrument. In particular, projected volume should abstract from projected fair value changes both under the baseline and the adverse scenarios. The average volume represents the average balance of the item over the time interval of interest. For each time interval, banks are requested to decompose the average volume of instruments between existing, maturing and newly repriced positions. For each instrument, volumes attached to the reference rate and margin components of the EIR might differ as a result of the discrepancy in the respective maturity dates. All volumes shall include defaulted volumes, unless otherwise stated.

294. **Sovereign spread (Sov Spread)** is the difference between the yield-to-maturity of a given sovereign's debt security and the swap rate for the same currency and maturity.

4.3.2 Static balance sheet assumption

295. The projections of NII are based on the assumption of a static balance sheet. Assets and liabilities (both in the banking and in the trading book) that are repriced (i.e. mature) within the time horizon of the exercise should be replaced with similar financial instruments in terms of type, credit quality at the time of repricing and original time to reprice (both reference interest rate and margin) of the instrument. With regard to the loans and receivables portfolio,

[10] As an illustration, and assuming the bank's repayment schedule is defined on a monthly basis, the average point of maturing will be equal to [(1/12*CF1+2/12*CF2+ … +12/12*CF12)+(1/12*CF13+2/12*CF14+ … +12/12*CF24) +(1/12*CF25+2/12*CF26+...+12/12*CF36)]/∑CFi, where CFi denotes the monthly cash flow.

the static balance sheet assumption applies to the portfolio as a whole – i.e. when considering both the non-defaulted and defaulted part. Indeed, it is expected that, under stress, the total volume of non-defaulted assets will decrease and simultaneously, defaulted assets will increase.

296. In this context, banks should make a distinction between existing positions, maturing positions and new (i.e. repriced) positions in terms of both the average volumes of each of these three components and the Margin and Ref rate.

297. Under the static balance sheet assumption, the sum of the existing, maturing and new positions' average volumes (both in the banking and in the trading book) should remain constant over time.

298. The banks' interest income and expenses evolve over the stress test time horizon as a result of: (i) the repricing of maturing assets/liabilities, (ii) the change in the margin and/or reference rate components earned/paid on assets/liabilities, and (iii) the migration of performing positions to default.

4.3.3 Treatment of maturing assets and liabilities

299. As specified above, banks are required to assume that the residual maturity of their assets and liability equals the contractual date on which the Margin or the Ref Rate component of the asset/liability is repriced. No additional behavioural assumption should be taken into account. Against this background:

- Banks are requested to assume that their sight deposits reprice immediately. As a result, they should always be considered as a maturing position, regardless of the length of the time interval, and the average point of maturing should be 0;
- Debt liabilities that are callable by the bank's counterparty prior to their overall maturity are expected to be exercised on the first possible call date;
- Concerning loans, each repayment shall be treated as an individual maturing product, and shall be reported in the maturity schedule on its expected repayment date and then repriced with similar financial instruments in terms of type, credit quality at the time of re-pricing and original time to re-price (both ref rate and margin), in line with the static balance sheet assumption.
- No difference in average volumes between baseline and adverse scenario is expected.

300. Banks are requested to report their existing, maturing and new positions as average volume over the relevant time interval (see Box 15).

301. For the sake of simplicity, banks are required to assume that the default volume is proportionally distributed across existing, maturing and new positions. Default events are assumed to take place at the beginning of each time interval.

302. Instruments with embedded options should reflect the impact of the option in the reference rate component. Upon maturity, it is assumed that the instrument will be replaced with the same instrument with no embedded option.

303. Banks will be provided with templates that automatically determine the amount of existing, maturing and new positions, for each instrument and time interval (see Box 15), under the assumptions that:

- The replacement of maturing positions related both to the Ref Rate and the Margin for all years is based on the average point of maturing;

- The rounding of original maturity to the nearest integer above its current value (e.g. 2.4 years original maturity is rounded up to 3 years).[11]

[11] In exceptional circumstances, when the rounding assumption leads to significant differences between the NII projected relying on the volume formulas encompassed in the template and the NII projected relying on the real payment schedule, banks are allowed to relax this rounding assumption for assets and liabilities with original maturity <2Y. These deviations would have to be documented by the bank and will be thoroughly reviewed by the competent authorities.

Box 15: Calculation of volumes – Illustration

Floating rate portfolio

Product: Floating product with a notional of EUR 2 000 m, residual maturity of 0.25 years (equal to the average point of maturing for both Margin and Ref Rate) – i.e. maturing on 30 March 2016, an original maturity of 1.5 years (rounded to 2 years in line with paragraph 300); the index rate is EURIBOR 3 m with quarterly resetting date.

Initial state:

	Initial state	Maturity schedule of the total portfolio at the cut-off date, split by original maturity				
EIR component	2015	2016			2017	2018
	Volume (average over 2015, in m EUR)	Total amount (in m EUR)	With original maturity <1Y (volume to be repriced in 2016, 2017, 2018) (in m EUR)	With original maturity >=1Y and <2Y (volume to be repriced in 2016, 2018) (in m EUR)	Total amount (in m EUR)	Total amount (in m EUR)
Margin	2 000	2 000	0	2 000	0	0
Ref Rate	2 000	2 000	2 000	0	0	0

The light shaded cells are directly reported by the bank.

Projections:

	Total volumes (in m EUR)								
	2016			2017			2018		
EIR component	Existing	Maturing	New	Existing	Maturing	New	Existing	Maturing	New
Margin	0	500	1 500	2 000	0	0	0	500	1 500
Ref Rate	0	500	1 500	0	500	1 500	0	500	1 500

Calculations:

Volumes related to the Ref Rate EIR component:

The product is assumed to be reset quarterly, hence the first resetting will take place in 2016. Against this background, and under the assumption of repricing according to the average point of maturing of the instrument, total volume regarding the Ref Rate component is split between the maturing position (Vol Mat) and the new position (Vol New) each year, following the formula:

Vol Mat = Total volume*average point of maturing = 2 000*0.25 = 500;

Vol New = Total volume*(1-average point of maturing) = 2 000*0.75 = 1 500.

Volumes related to Margin EIR component:

As the Margin EIR component is assumed to be rolled over (and repriced) in 2016 with a new maturity of 1.5 years (rounded to 2 years), the average maturing volume is split between maturing and new positions in 2016 and 2018 according to the average point of maturing, and is considered as an existing position in 2017.

In 2016:

Vol Mat 2016 = Avg. point of mat. * (position maturing 2016 according to the original maturity schedule at the cut-off date) = 0.25 * 2 000 = 500;

Vol New 2016 = (1- Avg. point of mat.) * (position maturing 2016 according to the original maturity schedule at the cut-off date) = 0.75 * 2 000 = 1 500;

Vol Exist 2016 = Vol Exist 2015 – (Vol Mat 2016 + Vol New 2016) = 2 000 – (500 + 1 500) = 0.

In 2017:

Vol Mat 2017 = Avg. point of mat. * (position maturing in 2017 according to the original maturity schedule at the cut-off date + position maturing in 2016 with original maturity below 1Y) = 0.25 * (0) = 0;

Vol New 2017 = (1 - Avg. point of mat.) * (position maturing in 2017 according to the original maturity schedule at the cut-off date + position maturing in 2016 with original maturity below 1y) = 0.75 * (0) = 0;

Vol Existing 2017 = Vol Exist 2016 + (Vol Mat 2016 + Vol New 2016) – (Vol Mat 2017+ Vol New 2017) = 0 + 2 000 – 0= 2 000.

In 2018:

Vol Mat in 2018 = Avg. point of mat. * (position maturing in initial state as of 2018 + position maturing in initial state as of 2016, and hence in 2017, with original maturity below 1Y + position maturing in initial state as of 2016 with original maturity below 2Y) = 0.25 * (0 + 0 + 2 000) = 500;

Vol New in 2018 = (1 - Avg. point of mat.) * (position maturing in initial state as of 2018 + position maturing in initial state as of 2016, and hence in 2017, with original maturity below 1y + position maturing in initial state as of 2016 with original maturity below 2y) = 0.75 * (0

$$+ 0 + 2000) = 1\,500;$$

$$\text{Vol Exist 2018} = \text{Vol Exist 2017} + (\text{Vol Mat 2017} + \text{Vol New 2017}) - (\text{Vol Mat 2018} + \text{Vol New 2018}) = 2\,000 + 0 - 2\,000 = 0.$$

Fixed-rate portfolio

For fixed-rate portfolios, the calculation of existing, maturing and new volumes related to the Margin EIR component is similar to the floating rate portfolio. The mechanism for the volumes with regard to the Ref Rate EIR component, however, is different from that applied for floating rate products: as reference rate and margin are expected to reprice at the same time, volumes for reference rate are set equal to the volumes calculated for the Margin EIR component of the relevant instrument.

4.3.1 Curve and currency shocks

304. Where required, banks should only use linear interpolation to add tenors to the provided interest rate curves in the macro-financial scenario. In line with paragraph 199, for tenors that are shorter or longer than the range of tenors available in the scenario, the shocks to the shortest and longest tenor available respectively should be applied as floors. Currencies should be stressed independently, based on the curves provided for each currency in the scenario. For currencies where no stress is provided, banks should generate their own curves consistent with the macro-financial scenario and provide justification for this expansion.

4.3.2 Reporting requirements

305. Starting point positions and projected positions, as well as the NII impact based on the approach described in this section, shall be reported on the NII template (CSV_NII). Additional historical (2011 to 2015) NII information on interest income and expenses, as well as historical (2011 to 2015) and projected (2016 to 2018) discount unwinding, shall be reported on the NII summary template (CSV_NII_SUM).

306. Banks are requested to report volumes and project the interest rates earned (or paid) of all their assets and liabilities (including derivatives) split into the margin and reference rate components with the exception of defaulted assets, for which the projected EIR will be reported entirely as margin at total group level and also at country/currency level.

307. For the country/currency breakdown in the templates, banks shall report the country of the location of the activity for all assets and liabilities, with the exception of exposures towards sovereigns, for which banks will report the country of residence of the counterparty. The number of country/currency pairs reported will be subject to the materiality thresholds specified in Box 16. First, banks will be requested to limit their reporting to the most significant country/currency pairs. Second, banks whose activities are heavily focused on their domestic market and currency will not be requested to provide this additional information. Intra-group transactions shall not be included in the reporting by country/currency.

Box 16: Application of the materiality constraint on the currency/country breakdown requested

The following algorithm should be followed to determine the materiality of the country/currency breakdown:

i. For each couple of country/currency, banks must compute the maximum between the notional amount of total assets and total liabilities, excluding (only for the purpose of ranking the country/currency couple) the notional amount of derivatives. This will define the volume associated with each country/currency couple;

ii. Banks must rank the country/currency couple according to their volume;

iii. Banks are requested to report the country/currency breakdown, either:

- Up to a 90% coverage of the sum of all country/currency volumes; or
- Up to 15 country/currency couples.

Domestic banks – i.e. banks whose non-domestic exposures are less than 10% of the sum of domestic and non-domestic country exposures, and whose foreign currency exposures are less than 10% of the sum of domestic and foreign currency exposures – are not requested to report any country/currency breakdown but need to only report the results at the banking group level.

4.4 Impact on P&L

4.4.1 High-level constraints on NII

308. Assumptions underlying the scenarios cannot lead (at group level) to an increase in the bank's NII, compared with the 2015 value, neither under the baseline nor the adverse scenarios.

309. Under the adverse scenario banks' interest expenses cannot decline at group level with respect to the 2015 value.

4.4.2 Interest on defaulted loans

310. Under the baseline scenario, banks are required to project the interest accrued on defaulted loans in line with their standing accounting practice (e.g. no recognition of unpaid income, where only cash interest received is treated as income). Under the adverse scenario, income on defaulted assets should not be recognised, with the exception of income from discount unwinding,[12] whose treatment is detailed in Box 17 below.

Box 17: Treatment of discount unwinding

Banks are entitled to recognise the interest income arising from discount unwinding; however, they should take due account of the stress applied to their credit portfolio – in particular, the stress on the LGD for the stock of defaulted assets and the increase in the stock of defaulted assets. Against this background, banks are asked to provide their own projections of interest income from discount unwinding, subject, under the adverse scenario, to the simplified constraint below:

$$\text{II unwind (t)} \leq \text{II unwind (t0)} \times \text{Min}\,(1, [\text{Def Stock (t)}/\text{Def Stock (t0)}]*[(1-\text{Provisions (t)} / \text{Def Stock (t)}\,)/\,(1-\text{Provisions (t0)} / \text{Def Stock (t0)})]).$$

Where:

- II unwind (t) stands for the interest income from discount unwinding for a given portfolio for the time interval t;
- Def Stock (t) stands for the notional value of the stock of defaulted assets for the time interval t;
- Provisions (t) stands for provisions for defaulted assets for the time interval t;
- t0 stands for the year preceding the stress test time horizon.

The above constraint should be applied at bank level. It requires banks to reduce the interest income stemming from discount unwinding proportionally to the increase in the stock of provisions of their credit exposures, while allowing them to recognise more discount unwinding effects due to the increase in the stock of defaulted assets. In addition, income stemming from discount unwinding cannot exceed the income recognised at the cut-off date.

311. Banks will be allowed to recognise income from discount unwinding only if this source of income was clearly reported in their financial statements or, alternatively, they will need to

[12] For the definition of discount unwinding, please refer to IAS 39, AG 93.

present supporting evidence provided by their auditors. The effect of discount unwinding shall be reported in the NII summary template (CSV_NII_SUM).

312. In order to achieve consistency with the banks' projections of defaulted exposures reported in the credit risk template, banks shall apply the following provisions when reporting defaulted volumes in the CSV_NII template:

- The volume of defaulted positions at the cut-off date in the NII template shall be consistent with the data reported in FINREP;
- The total (i.e. at total group level and not at country level) default flows reported in the credit risk template CSV_CR_SCEN in 2016, 2017 and 2018 shall be considered as the increase in defaulted positions when the bank reports the volume of defaulted assets in each year in the CSV_NII template, and shall be allocated to the corresponding NII asset type according to the mapping given in Table 7 and Table 8;
- The default flow reported under securitisations in the CSV_CR_SCEN template shall be allocated to the different asset types in the CSV_NII template (i.e. 'credit institutions and other financial corporations' and 'non-financial corporations') in proportion to their non-defaulted volumes in the previous year;
- The total default flows reported in the CSR_CR_SCEN template shall be reported in the CSV_NII template by country/currency breakdown, and allocated in proportion to the country/currency volume of non-defaulted assets in the previous year.

Table 7: Mapping of the IRB credit risk asset class to the NII asset type

Credit risk – Asset class	**NII – Asset type**
Central banks and central governments	Assets – Loans and receivables – Central banks and general governments
Institutions	Assets – Loans and receivables – Credit institutions and other financial corporations
Corporates – Specialised lending – Secured by real estate property	Assets – Loans and receivables – Non-financial corporations – Other
Corporates – Specialised lending – Not secured by real estate property	Assets – Loans and receivables – Non-financial corporations – Other
Corporates – SME - Secured by real estate property	Assets – Loans and receivables – Non-financial corporations – SMEs
Corporates – SME – Not secured by real estate property	Assets – Loans and receivables – Non-financial corporations – SMEs
Corporates – Others – Secured by real estate property	Assets – Loans and receivables – Non-financial corporations – Other
Corporates – Others – Not secured by real estate property	Assets – Loans and receivables – Non-financial corporations – Other
Retail – Secured by real estate property – SME	Assets – Loans and receivables – Non-financial corporations – Other
Retail – Secured by real estate property – Non-SME	Assets – Loans and receivables – Households – Residential mortgage loans

Credit risk – Asset class	NII – Asset type
Retail – Qualifying revolving	Assets – Loans and receivables – Households – Other
Retail – Other retail – SME	Assets – Loans and receivables – Non-financial corporations – Other
Retail – Other retail – Non-SME	Assets – Loans and receivables – Households – Other
Equity	Assets – Other assets
Securitisation	Assets – Debt securities – Credit institutions and other financial corporations/assets – Debt securities – Non-financial corporations
Other non-credit obligation assets	Assets – Other assets

Table 8: Mapping of the STA credit risk asset class to the NII asset type

Credit risk – Asset class	NII – Asset type
Central governments or central banks	Assets – Loans and receivables – Central banks and general governments
Regional governments or local authorities	Assets – Loans and receivables – Central banks and general governments
Public sector entities	Assets – Loans and receivables – Central banks and general governments
Multilateral development banks	Assets – Loans and receivables – Credit Institutions
International organisations	Assets – Loans and receivables – Central banks and general governments
Institutions	Assets – Loans and receivables – Credit institutions and other financial corporations
Corporates – SME	Assets – Loans and receivables – Non-financial corporations – SMEs
Corporates – Non-SME	Assets – Loans and receivables – Non-financial corporations – Other
Retail – SME	Assets – Loans and receivables – Non-financial corporations – SMEs
Retail – Non-SME	Assets – Loans and receivables – Households – Other
Secured by mortgages on immovable property – SME	Assets – Loans and receivables – Non-financial corporations
Secured by mortgages on immovable property – Non-SME	Assets – Loans and receivables – Households – Residential mortgage loans
Items associated with particularly high risk	Assets – Other assets
Covered bonds	Assets – Debt securities – Credit institutions and other financial corporations/assets – Debt securities – Non-financial corporations
Claims on institutions and corporates with a ST credit assessment	Assets – Loans and receivables – Credit institutions and other financial corporations/assets – Loans and receivables – Non-financial corporations – Other
Collective investments undertakings (CIUs)	Assets – Other assets
Equity	Assets – Other assets
Securitisation	Assets – Debt securities – Credit institutions and other financial corporations/assets – Debt securities – Non-financial corporations
Other exposures	Assets – Other assets

4.4.3 Projection of the components of the EIR

313. Banks will use their own methodology to project their interest expenses and interest income. In their projections, they will take into account the assumptions given in the following paragraphs.

314. For fixed-rate products, the margin and reference rate are assumed to remain constant until the contractual maturity. For floating rate products, it is assumed that the margin is repriced at the contractual maturity of the instrument, while the reference rate component is repriced whenever the index rate of the instrument resets according to the contractual schedule.

315. For each time interval of the projections, banks are requested to provide separate projections for the margin and reference rate components of the EIR. In addition, banks are requested to provide a split of the EIR rates between existing, maturing and newly repriced positions.

316. For fixed-rate instruments/portfolios, banks will project the reference rate, applying the general risk-free yield curve used in analysis of interest rate risk in the banking book. The reference rate should be calculated for the original maturity of the instrument using a yield curve taken from the time of origination for the relevant currency. Examples of acceptable reference rates are interest rate swaps, or, for reference rate tenors below 1 year, the applicable rate on unsecured interbank transactions.

317. For floating rate products that are contractually linked to an index rate, banks will use the index rate as the reference rate, which should evolve in line with the macro-financial scenario. In particular, the reference rate of the floating leg of interest rate swap should be the index rate of the swap, while the reference rate of the fixed leg of the swap will be the fixing of the swap itself (hence the margin on the fixed leg of the interest rate swap is zero).

318. For assets for which banks have the option to adjust the margin at their discretion prior to the maturity of the instrument, it is assumed that banks do not exercise this option.

319. The change in the margin of repriced instruments will be subject to the so-called pass-through constraints, which provide floors for interest-bearing liabilities and caps for interesting-earning assets. These constraints do not apply to instruments prior to the contractual maturity of the products. In particular, they are not relevant for floating rate instruments whose reference rate is adjusted before the expiration of the instrument's contract (i.e. before the repricing of the margin).

320. Although no methodological constraints are imposed on the reference rate of repriced instruments, it is expected that the change in the reference rate of repriced instruments is consistent with the macro-financial scenarios for risk-free yield curves.

321. In order to be coherent with the static-balance sheet assumption, banks need to ensure that the projected deposit rate will not result in an outflow of deposits, i.e. the margin paid on deposits should allow banks to maintain the volume of deposits under stress. This applies in particular to zero interest rate deposits, for which banks shall not assume that zero interest rates can be maintained under a rising rate and spread scenario.

322. The reference rate of sight deposits, which are not at variable rates is assumed constant over the scenario, such that any change in interest income/expenses earned/paid on this instrument should be recognised as a change in the margin of the deposits. Subject to this restriction, it is recommended that banks use a reference rate of zero, and reflect interest rate projections entirely in the margin component.

323. Concerning variable rate deposits, banks are expected to use internal characterisation analysis to assess repricing in the projection of the reference rates, always based on the reference rate shock as defined in the scenario. Margin projections, subject to the pass-through constraints, shall also be related to macroeconomic developments foreseen by the stress-test scenarios.

324. Reference rates of deposits with rates calculated using a regulatory defined formula shall be calculated according to this formula. In this regard banks are required to provide legal/regulatory evidence about the prescribed application of regulatory formulas. The margin component should be zero, and should remain zero throughout the scenario (i.e. it will not be subject to the pass-through constraints).

325. While there is no explicit forecast of monetary policy in the stress test scenarios, banks are expected to factor in the projected changes in short-term market rates into the costs of central bank funding. More specifically, banks are required to compute the spread between the central bank rates and the relevant short-term rates at the cut-off, and apply it to the projected path of expected reference market interest rates over the stress test time horizon as provided by the scenario. In line with the static balance sheet assumption, the volume of central bank funding is assumed to remain constant and central bank funding instruments are rolled-over into similar central bank instruments.

326. The impact of interest rate derivatives used for hedging interest rate risk should be recognised in the NII templates by reporting the interest cash flow stemming for those instruments in separate lines. For example, in the case of a 3-year fixed-rate loan with a matching interest rate swap, the reference rate on the loan would be recognised as the 3-year relevant risk-free rate at origination throughout the entire loan period, regardless of interest rate movements. Here, the items in the derivative lines will represent both legs of the swap. In this example, the fixed leg would be represented within the hedging derivatives' liabilities, with the floating leg within the hedging derivatives' assets.

Box 18: Calculation of the NII – Illustration

The NII, excluding income stemming from discount unwinding, is calculated in two steps. First, the total interest income earned and interest expenses paid on all assets (i.e. including both non-defaulted and defaulted exposures) and liabilities are computed. Then, the interest income relating to the defaulted part of the line item is subtracted from the total. This illustrative example presents the calculation performed for the floating rate product introduced in Box 15.

Projections:

Projections of volumes and EIR for both components and all positions (existing, maturing and new) from the previous examples are used.

	INITIAL STATE		PROJECTIONS and CALCULATIONS								
	2015		2016			2017			2018		
EIR component	Existing	New	Existing	Maturing	New	Existing	Maturing	New	Existing	Maturing	New
Margin	1.0%	1.0%		1.0%	2.0%	2.0%	4.0%	2.5%		2.0%	3.0%
Ref Rate		1.2%	1.2%	1.2%	0.5%	0.5%	0.5%	1.5%	1.5%	1.5%	2.0%

Defaulted assets

	Volumes – DEFAULTED (Vol Def)			EIR component – DEFAULTED (EIR default)		
EIR component	2016	2017	2018	2016	2017	2018
Margin	100	110	110	1.9%	2.2%	1.7%
Ref Rate						

The light shaded cells are reported values provided by the bank.

Calculations – Step 1 Total interest income/expense:

Total interest income/expense is computed following the relation provided below:

$$\text{Total interest income/expense} = (\text{EIR Exist} * \text{Vol Exist} + \text{EIR Mat} * \text{Vol Mat} + \text{EIR New} * \text{Vol New}).$$

	Total interest income/expense		
EIR component	2016	2017	2018
Margin	35	40	55
Ref Rate	13.5	25	37.5

Calculations – Step 2 Impact on total interest income/expense of the defaulted assets:

Step 2a: Difference between the EIR component for the defaulted and the non-defaulted asset multiplied by the defaulted volume (split into existing and maturing)

The cells in the table are computed in the following way:

$$\text{Diff Exist} = (\text{EIR default} - \text{EIR Exist}) * \text{Vol Def};$$

$$\text{Diff Mat} = (\text{EIR default} - \text{EIR Mat}) * \text{Vol Def};$$

$$\text{Diff New} = (\text{EIR default} - \text{EIR New}) * \text{Vol Def}.$$

Step 2b: Subtracting the difference on interest between defaulted and non-defaulted assets

The impact of defaulted assets is proportionally distributed among existing and defaulted assets following the relation provided below:

$$\text{Interest income/expense} = \text{Total Interest income/expense} + (\text{Diff Exist} * \text{Vol Exist} + \text{Diff Mat} * \text{Vol Mat} + \text{Diff New} * \text{Vol New}) / (\text{Vol Exist} + \text{Vol Mat} + \text{Vol New}).$$

a. Constraints on the margin component for liability positions

327. Under the baseline scenario, banks are required (at a minimum) to reflect a proportion of the changes in the sovereign bond spread of the country of location of the activity in the margin EIR component of their repriced liabilities. Under the adverse scenario, the margin paid on interest-bearing liabilities cannot increase less than the higher between a proportion of the changes in the sovereign spread of the country of location of the activity and the same proportion applied to the increase of an idiosyncratic component, derived from the impact on banks' wholesale funding rate of a rating downgrade as described in Box 19; the impact shall be applied immediately at the beginning of the time horizon.

Box 19: Floor for the evolution of the margin paid on new liabilities (pass-through constraint)

The Margin on banks' new liabilities at time t is floored by:

$$\text{Margin NewL (t)} = \text{Margin NewL (t0)} + \gamma \text{ Max } (0, \Delta\text{Sov Spread (t)}, \Delta \text{ idiosyncratic component}).$$

Where:

- Margin NewL (t) stands for the Margin EIR component on their repriced liabilities during time interval t;
- t0 stands for the year preceding the stress test horizon;

- $\Delta \text{Sov Spread}(t)$ is the change in the relevant sovereign spread – i.e. difference between the yield-to-maturity of the 10-year sovereign's debt security and the swap rate for the same currency and maturity, between t and t0;

- γ is a factor specific to the different types of liabilities, which reflects the heterogeneity in the relationship between the sovereign spreads and the funding rates across different types of liabilities as summarised in the table below:

	Retail deposits – sight	Retail deposits – term	NFC deposits – sight	NFC deposits – term	Gov. and central banks deposits – sight	Gov. and central banks deposits – term	Deposits from credit institutions and other financial corporations	Debt securities (excl. covered bonds)	Covered bonds	Certificates of deposits and repos
γ	0.1	0.5	0.2	0.5	0.2	0.5	1	1	0.75	0.2

- Δ idiosyncratic component stands for the impact on the idiosyncratic component. Under the baseline scenario, the Δ idiosyncratic component will be 0; under the adverse scenario, it will represent the expected change in the margin of senior unsecured debt, issued in the bank's country of origin or main country of funding, denominated in local currency with 5 years residual maturity, in the event of an instantaneous External Credit Assessment Institution (ECAI) credit rating downgrade (taking the rating as of end 2015 as the start point). Under the adverse scenario, Δ idiosyncratic component shall be calculated as a single number per bank, used for all liabilities in all countries/currencies and assumed constant over the scenario. The idiosyncratic component is floored, under the adverse scenario, by the values listed below:

Credit rating (Standard & Poor's classification) 31 December 2015	Shock to the idiosyncratic component (bps)
AAA	25
AA+	30
AA	35
AA-	40
A+	45
A	50
A-	60
BBB+	70
BBB	80
BBB-	95
BB+	110
BB	125
BB-	145
B+	165
B	185
B-	220
CCC+/CCC/CCC-/CC+/CC/CC-	300

In order to apply the floor, and in cases where the bank has more than one rating from nominated

ECAIs, the following creiteria will apply:

- Long-term credit ratings will prevail over short-term credit ratings;
- Where two credit ratings are available from nominated ECAIs and the two correspond to different impacts on the margin component of the EIR, the rating leading to a more severe impact shall be chosen;
- Where more than two credit ratings are available from nominated ECAIs, the two ratings generating the two less severe impacts shall be referred to. Out of the two preselected, the one with a higher impact will be chosen.

If the applicable rating is issued by a nominated ECAI other than S&P, the bank shall map it to one of the ratings envisaged in the idiosyncratic component floor table. In this mapping, the following constraint will apply: both ratings shall share the same credit quality step according to the Annex III of the Joint final draft Implementing Technical Standards on the mapping of ECAIs' credit assessment under Article 136(1) and (3) of the (CRR).

Example: The shock to the idiosyncratic component for a bank with a credit rating of AA- as of end 2015 will be +40 bps over the entire stress test period under the adverse scenario. Similarly, the shock to the idiosyncratic component for a bank with a credit rating of BB- as of end 2015 will be 145 bps under the adverse scenario.

328. The pass-through constraint on the evolution of the EIR applies to all interest expense positions, except derivatives instruments.

329. Any legally mandated restrictions to pass-through mechanisms should be identified before submission of the data and explained in accompanying documents. Discussions during the quality assurance process may, in exceptional circumstances, lead to deviations from this rule.

b. Constraints on the margin component for asset positions

330. Under both the baseline and the adverse scenarios, banks are required to cap the margin on their repriced assets by the sum of the margin starting value and a proportion of the change in the sovereign bond spread in the country of exposure, as explained in Box 20.

331. Exceptional cases of legally prescribed funding matches between the assets and liabilities sides may be identified as part of the quality assurance process, which would need to be taken into account in the stress test when considering the application of the pass-through constraints.

Box 20: Cap on the evolution of the margin earned on new assets (pass-through constraint)

The Margin EIR component on banks' new repriced assets at time t is capped by:

$$\text{Margin NewA (t)} = \text{Margin NewA (t0)} + \lambda(\text{Max}(\Delta\text{Sov Spread (t)}, 0).$$

Where:

- Margin NewA (t) stands for the Margin on the repriced assets in the time interval t;
- t0 stands for the year preceding the stress test time horizon;
- ΔSov Spread (t) is the change in the relevant sovereign spread – i.e. difference between the yield-to-maturity of the 10-year sovereign's debt security and the swap rate for the same currency and maturity, between t and t0;
- λ is a factor specific to the different types of assets under consideration, which reflects the heterogeneity in the relationship between the sovereign spreads and the lending rates across different types of assets as summarised in the table below:

	Household – Residential mortgage	Household – Other	Financial corporations	Non-financial corporations	Central bank	Government
λ	0.15	0.15	0.5	0.15	0	1

332. These caps on pass-through rates apply to all interest income earning positions except derivative instruments.

5. Conduct risk and other operational risks

5.1 Overview

333. Banks shall project the P&L impact of losses arising from conduct risk and other operational risks, using, when relevant, their internal models and, in the case of conduct risk, available qualitative information.

334. Banks shall also project capital requirements for operational risk within the time horizon of the exercise.

335. Banks' projections are subject to the constraints summarised in Box 21.

Box 21: Summary of the constraints on banks' projections of conduct risk and other operational risks

- Projections of losses that may arise from new conduct risk events are subject to a minimum 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 – i.e. excluding past losses of historical material conduct risk events reported during this period. This floor is more conservative under the adverse scenario and requires the banks to apply a stress multiplier to the average (paragraph 373);
- Projections of losses due to other operational risks are subject to a minimum floor, computed under the baseline scenario as the average of other historical operational risk losses reported by the bank during the 2011-2015 period times a multiplier. This floor is more conservative in the adverse scenario and requires banks to apply a stress multiplier to the average (paragraph 378);
- Total capital requirements for operational risk in each year of the projection horizon shall not fall below the actual minimum capital requirements for operational risk reported by the bank at the beginning of the exercise (paragraph 381).

5.2 Scope

336. The scope of the operational risk stress is defined to cover the impact on the P&L of potential future losses arising from conduct risk and other operational risks. This also covers the effect of the stress on operational risk capital requirements.

5.3 High-level assumptions and definitions

5.3.1 Definitions

337. Banks are required to apply consistent definitions for the following items.

338. **Conduct risk** is defined as the current or prospective risk of losses to an institution arising from an inappropriate supply of financial services, including cases of wilful or negligent misconduct. Banks shall refer to paragraphs 253–257 of the EBA Guidelines on common procedures and methodologies for the SREP. For the purpose of reporting historical data and projections in the stress test templates, conduct risk losses will be approximated by banks to event type 4 ('clients, products and business practices') and event type 1 ('internal fraud') of the COREP template for operational risk (C 17.00). Institutions shall justify the exclusion from the consideration as conduct risk of any event classified as event type 1 or 4. In addition, banks shall report as conduct risk any events that match the definition provided, even if they are reported as an event type other than 1 or 4 of the above-mentioned COREP template, providing evidence to the competent authority that justifies this classification.

339. **Other operational risk** is defined as the risk of losses according to the definition provided in the CRR (i.e. 'operational risk' means the risk of losses resulting from inadequate or failed internal processes, people and systems or from external events, and includes legal risk), but excluding all conduct-related losses. For the purpose of reporting historical data and projections in the stress test templates, banks will consider as other operational risk all event types that are not defined as conduct risk events above.

340. A **historical material conduct risk event** is defined as any misconduct issue that has triggered aggregate gross losses greater than 10 bps of the end-2015 CET1 capital of the institution at a consolidated level during the period 2011-2015.

341. A **new conduct risk event** is defined as a misconduct issue that, as of the start of the exercise (31 December 2015), is unknown to the bank or is already known but has had no material P&L impact (below 10 bps of the end-2015 CET1 capital of the institution at a consolidated level) during the 2011-2015 period. In this context, new known conduct risk events are material if the firm expects the event to trigger gross losses greater than 10 bps of the end-2015 CET1 capital of the institution at a consolidated level during the 3 years of the exercise.

342. **Number of loss events** is defined as the number of operational risk events accounted for the first time in the P&L statement within the reporting period (2011-2015 for actual data and

2016-2018 for projections). In the case of loss adjustments within the reporting period, no additional numbers of loss events should be reported.

343. **Recovery** is defined as an independent occurrence related to the original operational risk loss that is separate in time, in which funds or inflows of economic benefits are received from first or third parties, such as insurers or other parties.

344. **Gross loss** is defined as a loss stemming from an operational risk event or event type before recoveries of any type.

345. **Rapidly recovered loss event** is defined as an operational risk event that leads to losses that are partly or fully recovered within five working days. In case of a rapidly recovered loss event, only the part of the loss that is not fully recovered (i.e. the loss net of the partial rapid recovery) should be considered and reported as gross loss.

346. **Date of accounting** is defined as the date when an operational risk gross loss or reserve/provision was accounted for the first time in the P&L statement.

347. **Total loss recovery** is defined as the sum of the recoveries accounted for within the reporting period, relevant to loss events included into the 'total amount of gross losses'.

348. The **relevant indicator (RI)** is defined as in Article 316 of the CRR.

5.3.2 Reporting requirements

349. All banks are required to report historical data on incurred gross losses on conduct risk and other operational risks on a yearly basis from 2011 to 2015 in the general operational risk template (CSV_OR_GEN) at a consolidated level, irrespective of the operational risk approach applied.

350. Banks shall report, in each year of the reporting period, the total amount of gross losses resulting from the sum of the following elements:

- The gross loss amounts equal or larger than EUR 10 000, corresponding to operational risk events accounted for the first time in the P&L during that specific year, within the reporting period (2011-2015), irrespective of when they have occurred and;

- The net loss adjustments arising e.g. from additional settlements, increases of provisions, and releases of provisions with accounted during that year and that are equal or larger than EUR 10 000, corresponding to operational risk events accounted for the first time later than January 2005.

351. In those cases where capital requirements are modelled using AMA or standardised approaches, banks will report historical data on incurred gross losses for conduct risk and other operational risks by loss-size-based buckets (minimum size is EUR 10 000) in CSV_OR_GEN. They shall report such data under the constraint that the threshold for internal

data collection is EUR 10 000 (or the equivalent, applying an FX rate at the time of recording the loss) and it is homogeneous across operational risk categories. Historical material conduct risk events will be reported separately in CSV_OR_CON. Banks shall group all payments relating to the same material conduct risk event for the purpose of populating both CSV_OR_GEN and CSV_OR_CON (thus ensuring that material conduct risk events comprising a large number of small items are appropriately captured).

352. Banks applying the basic indicator approach are also expected to report yearly operational risk-incurred losses from 2011-2015 in CSV_OR_GEN, with a split between conduct risk and other operational risks but without further details per loss-size-based buckets. Historical material conduct risk events shall be reported separately in CSV_OR_CON by these banks as well, when relevant.

353. In the case of events with a lifespan of over several years, the initial impact and/or the net loss adjustments should be reported in the pertinent years of accounting. The sum of the initial impact and/or net loss adjustments accounted during the reporting period (2011-2015) will determine the total size of the event for the purpose of classifying it as material or not material, as well for reporting its amounts (i.e. initial impact and/or loss adjustments) in the relevant loss-size-based bucket. If e.g. in 2011 the event happens with an initial loss of EUR 15,000, then in 2012 an additional provisison is booked of EUR 50,000 for the same event, in 2013 another provision of EUR 200,000 is booked for the same event and finally in 2014 a further provision of EUR 30,000 is again booked for the same event, the bank should report this event as follows, in accordance with the COREP instructions:

- in 2011, EUR 15,000 in the bucket '≥ EUR 10,000 and < EUR 20,000';
- in 2012, EUR 50,000 in the bucket '≥ EUR 20,000 and < EUR 100,000';
- in 2013, EUR 200,000 in the bucket '≥ EUR 100,000 and < EUR 1,000,000';
- in 2014, EUR 30,000 in the bucket '≥ EUR 100,000 and < EUR 1,000,000'.

354. In the case of a rapidly recovered loss event, only the part of the loss that is not fully recovered (i.e. the loss net of the partial rapid recovery) should be considered and reported as gross loss.

355. In case of a common operational risk event or multiple events linked to an initial operational risk event generating several events or losses, the related losses should be grouped and entered into the template as a single loss. The bank should report one event in case of a common operational risk event and/or the number of the several events linked to the root event, in case of multiple events.

356. In accordance with Article 322(3)(b) of the CRR, operational risk losses that are related to market risk shall be included in the operational risk templates, while operational risk losses that are related to credit risk shall be excluded.

357. When reporting the gross losses, banks will include the following items, in accordance with letters (a), (b), (c) and (f) of Article 28 of the EBA Final Draft RTS on AMA assessment (EBA/RTS/2015/02):

- Direct charges, including impairments and settlement charges, to the P&L and write-downs due to the operational risk event;
- Costs incurred as a consequence of the operational risk event, including: external expenses with a direct link to the operational risk event (such as legal expenses and fees paid to advisors, attorneys or suppliers), and costs of repair or replacement to restore the position prevailing before the operational risk event;
- Provisions or reserves accounted for in the P&L statement against probable operational risk losses;
- Timing losses[13].

358. When determining the scope of the gross losses to be reported, banks should also consider the provisions included in Articles 29(3), 29(4) and 29(6) of the Final draft RTS on AMA assessment.

359. Banks are also requested to provide, in the CSV_OR_GEN template, data on the number of loss events, on total loss recovery and on the relevant indicator.

360. The quality assurance by supervisors of banks' projections is of special relevance in the case of conduct risk, given the high variability of the potential outcomes of the issues when settled, especially the material ones. Banks should support their projections for material conduct risk events with all available evidence, both quantitative and qualitative. Banks may also be asked by their competent authorities to provide evidence regarding issues that are widespread in the industry and have resulted in losses for other institutions, which could be of relevance for them based on their business activities. When quality assuring bank's projections, competent authorities will take into account not only their supervisory knowledge of the particular bank, but also a comparison to the sector and the impact of similar issues in the bank's peer group.

5.4 Impact on P&L

5.4.1 Conduct risk treatment

361. Banks will stress their conduct risk losses by applying either a qualitative or a quantitative approach according to the instructions below. In both cases, a minimum floor for new non-material conduct risk losses will apply.

[13] For the definition of timing losses please refer to the EBA/RTS/2015/02 Article 1(f).

362. Under both approaches, the P&L impact of banks' conduct risk estimates will be included in 'gains or losses arising from operational risk' in the P&L template (CSV_P&L), taking into account the applicable floor.

363. Institutions will apply the qualitative approach when they report any historical material conduct risk event during the period 2011-2015. Institutions reporting no historical material conduct risk event during 2011-2015 will also apply the qualitative approach if new material events are expected, or if the relevant competent authority deems it necessary based on their knowledge of the bank and on their supervisory judgment (if they deem that the institution may face any new material conduct risk event in the future).

364. All remaining institutions will apply the quantitative approach.

a. Qualitative approach to estimating future conduct risk losses

365. Banks applying the qualitative approach shall:

- Report historical data on incurred gross losses on conduct risk in the general template (CSV_OR_GEN) as indicated in paragraphs 349 to 352 above. In the same template they will report projections of losses for non-material events during the time horizon of the exercise;

- Identify and report (separately) historical material conduct risk events in the conduct risk template (CSV_OR_CON), including an estimate of all potential losses that may still arise from them, in excess of accounting provisions and losses already booked by December 2015, during the time horizon of the exercise. This is applicable for both the baseline and the adverse scenarios;

- Include, in the conduct risk template (CSV_OR_CON), a projection of potential losses that may arise from new material conduct risk events during the time horizon of the exercise, both under the baseline and the adverse scenarios.

366. Banks shall report individually in the CSV_OR_CON the 25 largest historical material events in terms of aggregate projected losses, and also the 25 largest new material events in terms of aggregate projected losses. The rest of material events not included among the 25 historical largest and/or the 25 new largest (if any) shall be reported jointly in a different single row for historical events and in another single row for new events.

367. Banks' estimates of future conduct costs linked to historical material conduct risk events or new conduct risk events reported in the conduct risk template (CSV_OR_CON) shall be determined, irrespective of whether a provision has been recognised, by evaluating a range of settlement outcomes for each issue and assigning probabilities to these outcomes. Adverse outcomes should be attributed higher probabilities under the adverse scenario compared to the baseline scenario, so that banks should have a high level of confidence that, under the adverse scenario, the losses would not exceed the loss estimate for material conduct risk

events. These estimates are expected to exceed provisions, except for events where there is a high degree of certainty regarding the eventual cost.

368. When projecting conduct risk losses linked to historical material conduct risk events and new conduct risk events, banks will consider the time dimension and report the projected loss in the year that the settlement of the misconduct issue will most likely occur. If there is uncertainty on when the issue will be settled, then banks should prorate the projected loss over the 3 years of the exercise.

369. Table 9 below provides an illustration on the approach to follow in order to project conduct risk losses in the adverse scenario.

Table 9: Projection of conduct risk losses under the qualitative approach and in the adverse scenario – Illustration

Existing treatment of the misconduct issue	**Possible approach to projecting future conduct risk losses**
An accounting provision has been raised. There is a high degree of certainty over the eventual cost.	The estimate will equal the existing provisions.
An accounting provision has been raised. There is a high degree of uncertainty over the eventual settlement cost. While the IAS 37 provision strikes a balance between potential upside and downside, the likelihood of adverse outcomes exceeding existing provisions is greater rather than remote.	The estimate should exceed the existing provision. Banks are expected to provide an estimate, even if they are unable to reliably quantify the full range of potential outcomes, by exercising expert judgement and targeting a high level of confidence of settling at or below their estimate.
An accounting provision has not been raised. While a settlement cost is not probable, there is sufficient evidence to determine a range of settlement outcomes, and the possibility of a significant settlement cost is greater than remote.	An estimate should be determined by evaluating a range of settlement outcomes and assigning probabilities to these outcomes. In the adverse scenario, banks should have a high level of confidence that the loss would not exceed the loss estimate for material conduct risk events. Adverse outcomes should be attributed higher probabilities under the adverse scenario compared to the baseline scenario.
An accounting provision has not been raised. While a possible obligation has been identified, current evidence is insufficient to be able to reliably quantify any potential liability, or range of liabilities, that may exist. The possibility of a significant settlement cost is greater than remote.	An estimate should be determined by exercising expert judgement and targeting a high level of confidence of settling at or below the estimate.

370. Banks shall provide supervisors with any information – both quantitative and qualitative – they have used in forming this assessment. This information shall include the extent of their business in relevant areas.

b. Quantitative approach to estimating future conduct risk losses

371. Banks applying the quantitative approach shall directly in the general template (CSV_OR_GEN) project the P&L impact of conduct risk losses over the 3-year time horizon using banks' own methods.

c. Floor for conduct risk loss projections

372. Projections of conduct risk losses linked to new non-material conduct risk events shall not fall below a binding floor over the 3-year stress test time horizon under both the baseline and the adverse scenarios. The floor is applicable to the total losses from new non-material conduct risk events for the 3 years, but not year by year. In the case that the floor applies, the amount of losses will be projected pro-rata along the 3 years of the time horizon.

373. In the baseline scenario, the 3 year floor for potential losses linked to new non-material conduct risk events will be computed as 3 times the average of the historical losses reported by the banks during the 5 years prior to the beginning of the exercise (the 2011-2015 period) for non-material conduct risk events only (i.e. excluding past losses of historical material conduct risk events reported during this period). In the adverse scenario, the floor will be more conservative and banks will be required to apply a stress multiplier to the average. This calculation is detailed in Box 22.

Box 22: Floor for conduct risk losses

$$\text{CR floor}_{(\text{b or adv}),3\ years} = 3 * \Omega_{(\text{b or adv})} \frac{1}{5} \sum_{y=2011}^{2015} (\text{historical conduct losses for non material events})_{\text{y}}.$$

Where:

- In the baseline scenario, the stress multiplier is $\Omega_{(\text{CR, b})} = 1$;
- In the adverse scenario, the stress multiplier is $\Omega_{(\text{CR, adv})} = 2$.

374. Aggregate projections of conduct risk losses arising from new non-material conduct risk events for the 3-year stress test time horizon will be the maximum between the banks' own projections of conduct risk losses (corresponding to new non-material conduct risk events for the 3 years) and the floor calculated according to the formula in paragraph 373 (three times the average of historical losses for non-material events only, weighted according to the multiplier applicable in each scenario). Potential losses that may still arise from historical and new material conduct risk events are, in any case, added according to banks' own projections, after being quality assured by competent authorities.

375. In all circumstances, banks will be expected to identify their material risks and potential conduct risk losses and these will be subject to challenger models from supervisors – for example, based on statistical models which look beyond simple averages to identify the specific nature of conduct risk, or by using uncertainty-adjusted means to project potential material conduct risk losses and to challenge banks' own projections.

5.4.2 Treatment of other operational risks

376. Banks shall enter the P&L impact of other operational risk losses over the 3-year time horizon directly in the general template (CSV_OR_GEN) using the banks' own methods. Banks' projections should be made considering the 50th percentile of the historical yearly aggregate amount of losses under the baseline scenario, and should reach the 90th percentile of the historical yearly aggregate amount of losses under the adverse scenario. Percentiles refer to the aggregate loss distribution, based on the bank's internal data on the frequency and severity of losses.

377. The projection of losses for other operational risks shall be reported in 'gains or losses arising from operational risk' in the P&L template (CSV_P&L), taking into account the applicable floor.

378. Projected losses under the adverse and the baseline scenarios, for each year of the projection horizon, must at least be equal to the bank-specific floor computed as shown in Box 23.

Box 23: Floor for the projection of other operational risk losses

$$\text{OOR floor}_{\text{(b,i) or (adv,i)}} = \Omega_{\text{(b or adv)}} \frac{1}{5} \sum_{y=2011}^{2015} (\text{OOR losses})_{\text{y}}.$$

Where:

- OOR means 'other operational risk losses';
- In the baseline scenario, the loss factor is $\Omega_{(\text{oOR,b})} = 0.8$;
- In the adverse scenario, the loss factor is $\Omega_{(\text{oOR,adv})} = 1.5$.

5.4.3 Fall-back solution

379. In case a bank is unable to report relevant historical losses for conduct risk and other operational risks or in the case that relevant historical losses are provided only for material events and the projected losses for the material events are not deemed appropriate by the competent authorities, overall operational risk loss projections (aggregate for the 3 years of the exercise) will be calculated as a function of the relevant indicator, as shown in Box 24. In

cases where this method applies, the amount of losses will be projected pro-rata along the 3 years of the time horizon.

Box 24: Fall-back solution for other operational risk losses

$$L_{(\text{b or adv})} = \Omega_{(\text{b or adv})} * RI_{2015}.$$

Where:

- RI is the relevant indicator;
- L is the total loss projected for the 3 years of the time horizon, meaning that in each of the 3 years, the loss will be L/3;
- In the baseline scenario, the scaling factor is $\Omega_{(b)=}0.06$;
- In the adverse scenario, the scaling factor is $\Omega_{(adv)=}0.15$.

5.5 Impact on capital requirements

380. Total capital requirements for operational risk in each year of the projection horizon shall not fall below the actual minimum capital requirements for operational risk, as reported by the bank at the beginning of the exercise (31 December 2015).

5.5.1 AMA

381. Banks are required to use their internal models to estimate their capital requirements for operational risk (which includes both conduct risk and other operational risks) over the time horizon of the exercise, both for the baseline and the adverse scenarios. For this, banks using the AMA shall take into account the flow of losses projected according to this note, exceeding the existing provisions already considered by the AMA models (i.e. ex-ante provisions are not included in the caluculation of the capital requirements) in the loss database used to estimate the capital requirements. Projections of operational risk capital requirements will be challenged by competent authorities during the quality assurance process.

5.5.2 Basic approach and standard approach

382. For operational risk categories where capital requirements are calculated using basic and standard approaches, capital requirements shall be projected according to the CRR provisions contained in Articles 316 (basic indicator approach) and 317 (STA).

6. Non-interest income, expenses and capital

6.1 Overview

383. A prescribed formula is applied to the main income items (i.e. dividend income and net fee and commission income based on historical values relative to banks' assets). Banks shall use their own methodology to project their other non-interest income and expenses items that are not covered by credit risk, market risk or operational risk, both for the baseline and the adverse scenarios. These projections are subject to the constraints summarised in Box 25. The macroeconomic shocks and market risk methodology shall be applied for stressing real estate assets and defined benefit pension plans, respectively.

Box 25: Summary of the constraints on banks' projections of non-interest income, expenses and capital

- For dividend and net fee and commission income, net income from each item has to remain constant at the 2015 level in the baseline scenario. In the adverse scenario, the minimum between the ratio of net income from each item over total assets in 2015 and the average of the two years with the smallest ratios that occurred over the last 5 years should be assumed (paragraph 395);
- Administrative expenses and other operating expenses cannot fall below the value observed in 2015 – unless an adjustment of this floor for one-offs is permitted by the competent authority. Likewise, profit or loss from discontinued operations are to be set at zero for the stress test time horizon – unless an adjustment for one-off is permitted (paragraph 396);
- Other operating income is capped at the 2015 value (paragraph 408);
- A common tax rate of 30% shall be applied (paragraph 413).
- No impact is assumed for realised gains or losses on financial assets and liabilities not measured at fair value through P&L, gains or losses on derecognition of non-financial assets, or investments in subsidiaries, joint ventures and associates, negative goodwill, impairments on goodwill, FX effects (paragraphs 391, 405, 406, 407, 409 and 411).
- For dividends paid, under the baseline and the adverse scenarios, banks shall apply a pay-out ratio based on their publicly declared projected dividend policies. If no dividend policy is available or documented, the bank shall apply the following rule. The pay-out ratio in the

baseline should be the maximum between 30% and the median of the observed pay-out ratios in profitable years over the last 5 years. In the adverse scenario, the same amount of dividends as in the baseline scenario shall be assumed, unless the bank can provide evidence that it can deviate from this rule and the deviation is approved by the relevant competent authority. In both cases, a zero dividend is accepted if the bank is loss-making (paragraph 403).

6.2 Scope

384. The projections of non-interest income and expenses exclude any P&L positions and capital impacts covered in the approaches for credit risk, market risk, operational risk or NII.

385. The following FINREP P&L items are part of non-interest income and expenses:

i. Expenses on share capital repayable on demand;

ii. Dividend income;

iii. Fee and commission income, net;

iv. Gains (losses) on derocognition of financial assets and liabilities not measured at fair value through profit and loss, net;

v. Exchange differences, net;

vi. Gains or losses on derecognition of non financial assets, net;

vii. Other operating income;

viii. Other operating expenses;

ix. Administrative expenses;

x. Depreciation;

xi. Impairment on non-financial assets;

xii. Negative goodwill recognised in profit or loss;

xiii. Other income and expenses from continuing operations (provisions or reversal of provisions, other impairments or reversal of impairments on financial and non-financial assets, share of the profit or loss of investments in subsidiaries, joint ventures and associates, profit or loss from non-current assets and disposal groups classified as held for sale not qualifying as discontinued operations);

xiv. Profit or loss after tax from discontinued operations.

386. In addition to the P&L items listed above, this section captures the impact of taxes, defined benefit pension schemes and dividends paid on capital.

6.3 High-level assumptions and definitions

6.3.1 Definitions

387. All items follow IFRS definitions. Banks shall align with FINREP reporting. If national accounting frameworks are used, banks shall map their accounting framework to the IFRS framework. Banks are requested to provide a mapping table in an accompanying document.

388. Net non-interest income is defined as the collection of items (ii) and (iii) mentioned in section 6.2.

6.3.2 Approach

389. Banks will have to use their own methodology in projecting non-interest income and expense paths for the baseline and the adverse scenarios for all items not covered in sections 6.4.1, 6.4.2, 6.4.3 and 6.4.4.

390. The projections shall incorporate both exogenous factors and bank-specific characteristics. They shall also take into account the specific developments of the originating country. Given potential differences in the business cycle of these countries, the respective income and expense streams accrued by the bank in question will be affected.

391. In line with the static balance sheet assumptions, no FX effects should be accounted for regarding the above-listed P&L items. The only two channels via which FX rate changes effect the P&L are an indirect credit risk from foreign currency lending that is related to the depreciation of local currencies (see section 2.4.4), and market risk effects due to revaluation effects of trading and other fair value portfolios (see section 3). Banks should therefore abstain from accounting for both positive effects (e.g. reduced administrative expenses in countries where a currency depreciates vs the reporting currency) and negative effects (e.g. reduced income in countries where a currency depreciates vs the reporting currency).

6.3.3 Reporting requirements

392. Banks are required to provide 5 years of historical data together with their projections. Banks shall comment in the accompanying documents on how historical P&L items are affected by mergers and acquisitions, and how specific projected P&L values have been determined. If the FINREP data is not available for historical years, banks may report pro forma data.

393. Gains (losses) arising from operational risk need to be reported as a separate item. To avoid any double counting, other P&L items therefore have to be adjusted to exclude these gains (losses) whenever relevant.

394. All historical and projected values shall be reported on template CSV_P&L. Any additional impact to capital shall be reported on the capital template (CSV_CAP).

6.4 Impact on P&L and capital

6.4.1 Dividend income and net fee and commission income

395. For dividend income and net fee and commission income, the projection in the baseline and the adverse scenarios shall follow the following rules:

- Under the baseline scenario: For each item, net income is to be kept constant at its 2015 value;

- Under the adverse scenario: The minimum between the value of the ratio in 2015 and the average of the 2 years with the smallest values for the respective ratios to total assets that occurred over the last 5 years is to be used.

6.4.2 Administrative expenses, profit or loss from discontinued operations, and other operating expenses

396. Administrative expenses and other operating expenses shall be projected by bank-internal models, but cannot fall below the value observed in 2015. Profit or loss from discontinued operations shall be zero for the stress test time horizon. Adjustments of these constraints for one-off effects are only permitted as defined in this section, but are subject to a thorough quality assurance based on available uncontroversial evidence of the non-recurrence of the event and a reasonable estimate of the recurring part of the cost (based on, and linked to, the historical data of the bank).

397. In addition, and as a necessary condition, banks shall submit a list of those one-off events for consideration to the respective competent authority ahead of the submission of the stress test results. This list of one-off events shall distinguish between one-off events having a positive P&L impact and those having a negative impact, and will be limited to five items in total. Failure to submit the list shall lead to automatic disallowance of all one-offs, whereas submission alone constitutes no claim to eventual recognition by the competent authority. In case of a rejection of items from the list, banks are not allowed to resubmit further applications. The following instances shall be permissible for assessment by the competent authority:

- Future cost reductions are expected due to divestments of business units under the following conditions:

  - The affected business unit was fully divested during the course of 2015; and

  - Further follow-up expenses for these divestments were considered in the forecast;

- Business unit restructuring, including measures that are part of a restructuring plan approved by the European Commission, leading to increased integration of one-off costs before synergies can be realised, subject to the following conditions:
    - The restructuring (but not the full restructuring plan in the case of a restructuring plan approved by the European Commission) must have been completed in 2015; and
    - Permissible restructuring costs are post-merger integration costs (subject to the merger having been completed by 31 December 2015) and set-up costs for a bad bank, wholly taken in 2015;
- Employee restructuring/lay-offs and the associated severance costs, subject to the following conditions:
    - Separation must have been completed in 2015;
    - Severance costs must have been paid in full by the end of 2015;
    - Any expected future restructuring payments and severance costs still need to be considered in the forecast.

398. Other instances than those listed in paragraph 397 may be considered by the competent authority in exceptional cases. The following exceptions are explicitly not considered:

- Income and expenses for which a methodology has already been prescribed in this note. This includes, in particular – but is not limited to – conduct and litigation costs, which shall be treated according to the methodology as prescribed in section 5;
- All actions that are not fully implemented by 31 December 2015. This includes, in particular – but is not limited to – mergers and run-off of businesses, which are expected but not executed until year-end 2015. It also includes measures defined in restructuring plans or any contingency plans for stress situations if they are not fully implemented by 31 December 2015;
- Changes in variable compensation;
- Exceptional fees on professional services engagements;
- Changes in real estate/occupancy costs due to, for example, a move.

399. In projecting administrative and other operating expenses, banks shall include the phase-in of ex ante contributions to the Single Resolution Fund, as established in EU Regulation 2015/81.

400. All exceptional projected cost reductions can only be considered if the adjustment of any corresponding income is taken into account, and is consistent with the remaining methodology as presented in this note (e.g. in setting any caps on income projections based on 2015 levels).

6.4.3 Dividends paid

401. The pay-out ratio referred to below is defined to include all voluntary reductions in the capital base. These refer to the ratio between: (i) dividends, other than those paid in a form that does not reduce CET1 capital (e.g. scrip-dividends), distributed to owners of the entity; and (ii) profit after tax attributable to owners of the entity. If, for a given year, the ratio between (i) and (ii) is negative or above 100%, the pay-out ratio shall be deemed to be 100%. If for a given year, (ii) is zero, the pay-out ratio shall be set to 0% if (i) is zero and 100% if (i) is above zero.

402. Under the baseline and the adverse scenarios, banks shall apply a pay-out ratio based on their publicly declared projected dividend policies. This includes legally binding contracts, such as profit/loss transfer agreements and policies concerning preferred shares. If no dividend policy is available or documented, the bank shall apply the following rules:

- Under the baseline scenario, the bank shall apply a pay-out ratio equal to the maximum of 30% and the median of the observed pay-out ratios in profitable years over the last 5 years. If the bank is loss making, a zero dividend is accepted;

- Under the adverse scenario, if the bank is loss-making, a zero dividend is accepted. If the bank is profit-making, the bank shall pay the same absolute amount of dividends as in the baseline scenario, unless it can provide evidence that it can deviate from this rule and the deviation is approved by the relevant competent authority. In such a case, the projections will be subject to a thorough quality assurance analysis and will be challenged by the competent authorities, taking into consideration the eventual declaration of dividend policies in the annual reports. This rule shall be applied to share buybacks as well.

403. When projecting dividends paid, the banks shall observe Article 129 of the CRD regarding the requirement to maintain a capital conservation buffer and the associated restrictions on distributions set in Article 141.

6.4.4 Other P&L and capital items

404. **Expenses on share capital repayable on demand:** Expenses should be projected in line with the contractual requirements for banks. In the baseline scenario, they cannot fall below the 2015 value. In the adverse scenario, expenses can only be lower than in the baseline if the bank can provide evidence that this reduction is in line with publicly declared pay-out policies.

405. **Gains (losses) on derecognition of financial assets and liabilities not measured at fair value through profit and loss, net:** No realised gains or losses are expected from the sale of

financial assets and liabilities not measured at fair value through profit and loss i.e. the P&L impact should be set to zero.

406. **Exchange differences:** In line with paragraph 391, no impact will be assumed in the baseline and the adverse scenarios – i.e. the P&L item should be set to zero.

407. **Gains or losses on derecognition of non financial assets, net:** No impact will be assumed in the baseline and the adverse scenarios –, i.e. the P&L item should be set to zero.

408. **Other operating income:** Projected other operating income shall not be higher than the 2015 value.

409. **Other impairment on other financial and non-financial assets:** Impairments on participations shall be computed in line with the results of the (IFRS) test of impairment and will be consistent with the scenarios. This requirement extends to participations in other banks included in the sample of the EU-wide stress test. No impact should be assumed for the impact on impairments on goodwill – i.e. the P&L item should be set to zero.

410. **Impairment on non-financial assets:** Impairment on residential and commercial real estate will be computed by the application of the shocks on real estate prices (as envisaged in the macroeconomic scenarios). Additionally, commercial real estate shocks given in the macroeconomic scenarios shall be applied to the net book value of own used property as of 31 December 2015.

411. **Negative goodwill recognised in profit or loss:** No impact should be assumed for the baseline or the adverse scenarios – i.e. the P&L item should be set to zero.

412. **Profit or loss from non-current assets and disposal groups classified as held for sale not qualifying as discontinued operations:** In accordance with the static balance sheet assumption non-current assets and disposal groups classified as held for sale shall remain on the balance sheet in the exercise and shall be stressed by the application of the relevant shocks given in the macreoeconomic and market risk scenarios. The impact shall be reported in line with the accounting treatment of the banks in the P&L account or as OCI.

413. **Tax effect:** Banks shall apply a common simplified tax rate of 30%. DTAs are only expected to be created as a consequence of the offsetting of negative pre-tax profits – i.e. DTAs that rely on future profitability but do not arise from temporary differences. These rules only affect DTAs that are created during the time horizon of the exercise – i.e. banks shall not recalculate and account for a stock from past DTAs using the simplified tax rate. Addtionally, banks are reminded of section 3, sub-section 1 of the CRR, in particular Article 36(1)(c) and related Articles 38, 39 and 48. Full phase-in of the deduction of DTAs from CET1 capital as per Article 469 and the associated schedule in Article 472 and all ancillary rules as outlined in the CRR shall apply. Banks shall also take into account any accelerated phase-in schedule as established by national legislations and the applicable competent authority. The resulting effects shall be included in the banks' projections and reported in template CSV_CAP.

414. **Defined benefit pension schemes:** In accordance with the static balance sheet assumption, banks shall disregard the cash flows into and out of the scheme (regardless of whether these are contractually agreed), disregard changes to the liability profile (such as any additional accrual or the maturing of the scheme), and disregard any asset rebalancing or planned changes to the asset allocation. This allows the market risk stresses related to the macroeconomic scenarios to be applied to the assets and liabilities on 31 December 2015 as if they were an instantaneous shock. As specified in paragraph 148, this only needs to be applied for the adverse macroeconomic scenario (including the market risk factors), and not for the two historical market risk scenarios. The actuarial gain/loss shall then be apportioned to the first year, as described in the market risk methodology. The impact shall be reported by all banks as a memo item on the market risk summary template (CSV_MR_SUM) and impact capital via OCI.

415. **Expenses and provisions or reversal of provision for conduct risk and other operational risk:** Banks are asked to report expenses and provisions for conduct risk and other operational risk for historical data in line with their accounting practice. Projected losses shall be reported on the P&L template (CSV_P&L) under 'gains or losses arising from operational risk'. In order to avoid a double-counting of projected losses, banks shall separate these projections from the P&L item relevant according to their accounting practice, where historical data are being reported on the P&L template in line with 393, i.e while historical data might be reported in the P&L template under different items, like for instance 'impairment of non-financial assets', 'administrative expenses', and 'provisions or reversal of provisions', in line with the relevant accounting practice, projections of conduct and other operational risk losses will only be included under 'gains or losses arising from operational risk' consistently with figures reported on the general operational risk template (CSV_OR_GEN template).

Annex I: Sample of banks

Country	Bank
AT	Erste Group Bank AG
	Raiffeisen-Landesbanken-Holding GmbH
BE	Belfius Banque SA
	KBC Group NV
DE	Bayerische Landesbank
	Commerzbank AG
	DekaBank Deutsche Girozentrale
	Deutsche Bank AG
	DZ Bank AG Deutsche Zentral-Genossenschaftsbank[14]
	Landesbank Baden-Württemberg
	Landesbank Hessen-Thüringen Girozentrale
	Norddeutsche Landesbank Girozentrale
	NRW.BANK
	Volkswagen Financial Services AG
DK	Danske Bank
	Jyske Bank
	Nykredit Realkredit
ES	Banco Bilbao Vizcaya Argentaria S.A.
	Banco de Sabadell S.A.
	Banco Popular Español S.A.
	Banco Santander S.A.
	BFA Tenedora de Acciones S.A.U.
	Criteria Caixa, S.A.U.
FI	OP Osuuskunta [15]
FR	BNP Paribas
	Groupe BPCE
	Groupe Crédit Agricole
	Groupe Crédit Mutuel
	La Banque Postale
	Société Générale S.A.
GR	National Bank of Greece S.A.[16]
HU	OTP Bank Nyrt.
IE	Allied Irish Banks plc
	The Governor and Company of the Bank of Ireland

[14] In a merging process in 2016 and therefore not assessed in the 2016 EU-wide stress test

[15] Formerly OP-Pohjola osk

[16] Covered by the ECB's Comprehensive Assessment 2015 and therefore not assessed in the 2016 EU-wide stress test.

Country	Bank
IT	Banca Monte dei Paschi di Siena S.p.A.
	Banco Popolare - Società Cooperativa
	Intesa Sanpaolo S.p.A.
	UniCredit S.p.A.
	Unione Di Banche Italiane Società Per Azioni
NL	ABN AMRO Group N.V.
	Coöperatieve Centrale Raiffeisen-Boerenleenbank B.A.
	ING Groep N.V.
	N.V. Bank Nederlandse Gemeenten
NO	DNB Bank Group
PL	Powszechna Kasa Oszczędności Bank Polski SA
SE	Nordea Bank - group
	Skandinaviska Enskilda Banken - group
	Svenska Handelsbanken - group
	Swedbank – group
UK	Barclays Plc
	HSBC Holdings plc
	Lloyds Banking Group Plc
	The Royal Bank of Scotland Group Public Limited Company

Annex II: Template overview

Table 10: Overview of CSV templates

Section or topic	Template name	Description
N/A	Instructions	Summary of templates and colour code applied
N/A	Input	Input of bank name and relevant countries for credit risk and country/currency pairs for NII
Credit risk	CSV_CR_T0	Credit risk – Starting point
Credit risk	CSV_CR_SCEN	Credit risk – Scenarios (projection for credit risk losses)
Credit risk	CSV_CR_REA	Credit risk – REA
Credit risk	CSV_CR_SEC_SUM	Securitisations – Summary
Credit risk	CSV_CR_SEC_STA	Securitisations – STA (REA)
Credit risk	CSV_CR_SEC_IRB	Securitisations – IRB except exposures under supervisory formula (REA)
Credit risk	CSV_CR_SEC_IRB_SF	Securitisations – IRB supervisory formula (REA)
Credit risk	CSV_CR_SEC_Other	Securitisations – Other positions (look through) (REA)
Market risk, CCR losses and CVA	CSV_MR_SUM	Market risk – Summary
Market risk, CCR losses and CVA	CSV_MR_SA	Market risk – SA
Market risk, CCR losses and CVA	CSV_MR_CA	Market risk - CA, HFT portfolio excluding AFS and FVO economic hedging items when treated separately
Market risk, CCR losses and CVA	CSV_MR_CCR	Market risk – Counterparty defaults
Market risk, CCR losses and CVA	CSV_MR_CVA	Market risk – CVA
Market risk, CCR losses and CVA	CSV_MR_AFS HEDG	Market risk – Non-sovereign AFS within hedge accounting portfolios
Market risk, CCR losses and CVA	CSV_MR_AFS_FVO_OTHER	Market risk – Non-sovereign AFS/FVO (except hedge accounting portfolios)
Market risk, CCR losses and CVA	CSV_MR_SOV	Market risk – Sovereign
NII	CSV_NII_SUM	NII summary
NII	CSV_NII_CALC	NII calculation
Conduct risk and other operational risks	CSV_OR_GEN	Conduct and other operational risk losses
Conduct risk and other operational risks	CSV_OR_CON	Material conduct risk losses
REA	CSV_REA_SUM	REA summary
REA	CSV_REA_STA	REA – STA floor
REA	CSV_REA_IRB	REA – IRB approach floor
REA	CSV_REA_MR_CVA_SA	REA market risk and CVA (SA)
REA	CSV_REA_MR_CVA_CA	REA market risk and CVA (CA)

Section or topic	Template name	Description
Non-interest income and expenses/P&L	CSV_P&L	Evolution of P&L
Capital	CSV_CAP	Capital

Table 11: Overview of TR templates

Section or topic	Template name	Description
N/A	TRA_SUM	Summary adverse or baseline scenario (stress test results)
Credit risk	TRA_CR_STA	Credit risk (loss projection) STA
Credit risk	TRA_CR_IRB	Credit risk (loss projection) IRB
Credit risk	TRA_CR_SEC	Credit risk – Securitisations (REA projection)
Market risk, CCR losses and CVA	TRA_MR_SOV	Market risk – Sovereign (exposures starting point)
REA	TRA_REA	REA (projection)
Non-interest income and expenses/P&L	TRA_P&L	P&L (projection)
Capital	TRA_CAP	Capital (projection)
N/A	TRA_NPE	Information on performing and non-performing exposures (historical)
N/A	TRA_FORB	Information on forborne exposures (historical)

Annex III: Summary of qualitative information to be provided by banks

416. This annex summarises the requirements given across all sections of the methodological note for qualitative information to be provided by banks to their competent authorities as input to the quality assurance process. It differentiates information that is required for all banks and information that are subject to the discretion of the competent authority.

Table 12: Credit risk (excluding securitisations) – qualitative information to be provided by banks

Description	Requirement	Reference
Description of the methodology employed for deriving point-in-time parameters for all portfolios (both starting values and projections)	For all banks	Paragraph 85
Methodology applied to estimate migration effect on point-in-time PD and LGD	For all banks	Paragraph 92
More detailed information on banks' models to estimate credit risk losses including the following information only in case of projections substantially deviating from benchmark figures/are implausible: portfolios to which apply (mapping to assets classes, approval or not by supervisors, assumptions made to account for PD and LGD parameter estimation (e.g. cure rates, etc.), technical information on econometric soundness and responsiveness of risk parameters to ensure a model specification results in a prudent outcome	Subject to the discretion of the competent authority	Paragraph 88
Detailed information on funded collateral values linked to exposures including how collateral values have been determined and how often appraisals are refreshed	Subject to the discretion of the competent authority	Paragraphs 56, 57

Table 13: Credit risk (securitisations) – qualitative information to be provided by banks

Description	Requirement	Reference
Outline of impairments' calculation for securitisations	For all banks	Paragraph 128
Outline of risk exposure amount calculation for securitisations: Other and IRB SFA	For all banks	Paragraph 136

Description	Requirement	Reference
Descriptions of the IAA positions and the mapping to credit quality step	Subject to the discretion of the competent authority	Paragraph 135

Table 14: Market risk, counterparty credit risk losses and CVA – qualitative information to be provided by banks

Description	Requirement	Reference
Description of the hedge relationships of positions in hedge accounting portfolios assessed at fair value	For all banks	Paragraph 191
Description of the hedge relationships of economic hedges vis-à-vis positions in AFS/FVO	For all banks	Paragraph 191
Calibration and impact of additional risk factors used for the application of the market risk approach	For all banks	Paragraph 200
Description methodologies and models used for assessing the stress impact	Subject to the discretion of the competent authority	Paragraph 223
Explanation on the calculation of the scaling factor for economic hedges	Subject to the discretion of the competent authority	Paragraph 186
Explanation on the calculation of historic NTI for banks that have to correct NTI for interest income on positions assessed at fair value	Subject to the discretion of the competent authority	Paragraph 161
Description of assumptions used for the projection of NTI 2016, 2017 and 2018 for CA banks	Subject to the discretion of the competent authority	Paragraph 225
Description of the different scope of application of the internal models applied for the stress test exercise and the computation of the capital requirements	Subject to the discretion of the competent authority	Paragraph 223
Description and justification of actions which have been carried out to appropriately identify and include basis risk for the application of the market risk approach	Subject to the discretion of the competent authority	Paragraph 233
Definition of ‘most vulnerable’ counterparty and risk criteria applied	Subject to the discretion of the competent authority	Paragraph 257

Table 15: NII – qualitative information to be provided by banks

Description	Requirement	Reference
Explanation of legally mandated restrictions to pass through mechanisms	For all banks	Paragraphs 329, 331
Description of the methodology applied to project NII	For all banks	Paragraph 275
Information on the accounting framework applied to hedging and details on the hedging relationships	For all banks	Paragraph 282
Evidence provided by their auditors to recognise income from discount unwinding in case this source of income not clearly reported in financial statements	For all banks	Paragraph 311
Description of the methodology employed for splitting margin and reference rate component on existing, maturing and new portfolios	Subject to the discretion of the competent authority	Paragraph 306
List of bank's models to project the margin and reference rate component on new businesses, including inter alia the following information: i) portfolios to which they apply, ii) technical information on the models' econometric soundness and responsiveness of interest rate components to ensure a model specification which results in a prudent outcome, iv) information on the data used for the estimation of models, v) relationship with the macro-financial scenario	Subject to the discretion of the competent authority	Pragraph 313
Information on the calibration of the idiosyncratic component	Subject to the discretion of the competent authority	Paragraph 327
Information on the standing accounting practice applicable to the interest accrued on defaulted exposures	Subject to the discretion of the competent authority	Paragraph 310

Table 16: Conduct risk and other operational risk – qualitative information to be provided by banks

Description	Requirement	Reference
Qualitative and quantitative information that supports banks' projections of losses arising from each material conduct risk event reported individually including the identification of a range of outcomes and assigned probabilities	For all banks	Paragraphs 360, 370

Description	Requirement	Reference
Information on the internal models used for projecting losses and REA including the scope of application	Subject to the discretion of the competent authority	Paragraph 381

Table 17: Non-interest income, expenses and capital – qualitative information to be provided by banks

Description	Requirement	Reference
Mapping of national accounting framework to IFRS	For all banks	Paragraph 387
P&L items affected by mergers and acquisitions	For all banks	Paragraph 392
List and background information on non-recurring events ('one-off events')	For all banks	Paragraph 397

Annex IV: Summary of key constraints and other quantitative requirements

417. This annex provides a summary of key constraints, i.e. caps and floors, and other quantitative requirements that need to be met by banks as a minimum for the correct application of the common methodology, and that will be assessed by competent authorities. In addition, the tables indicate which constraints that are already implemented in the common templates. The annex solely serves as a summary of information elsewhere in the methodological note and does not constitute additional requirements for banks.

Table 18: Credit risk (excluding securitisations) – key constraints and quantitative requirements

Description	Implementation in templates	Reference
No negative impairments for any year of the scenario	No	Paragraphs 104, 105
No cure of defaults (i.e. no negative default flow for any year or scenario)	No	Paragraph 29
Exposure for the calculation of credit risk losses is not affected by market value fluctuations	CSV_CR_SCEN	Paragraph 101
The coverage ratio for non-defaulted assets cannot decrease over the time horizon for both scenarios	No	Paragraph 104
Total IRB risk exposure amount cannot decrease over the time horizon for both scenarios	CSV_REA_IRB	Paragraph 115
Total STA risk exposure amount cannot decrease over the time horizon for both scenarios	CSV_REA_STA	Paragraph 115
Exposure value for the calculation of risk exposure amounts is not affected by marked value fluctuations	No	Paragraph 104
The stress factor for $LGDpit^{OLD}$ is expected to not diverge substantially from the stress factor of $LGDpit^{NEW}$	No	Paragraph 105
α is the share of Prov Stock non-defaulted (t) which is linked to initially non-defaulted assets at t which enter into default status at t+1. At a maximum α can be equal to the share of non-defaulted assets at t which enter into default at	No	Box 3

Description	Implementation in templates	Reference
t+1, i.e. PDpit(t+1)		
Prescribed formula to calculate impairment flow new	No	Box 3
Prescribed formula to calculate impairment flow old	No	Box 4
Prescribed calculation of the end of year stock of provisions from defaulted assets	No	Box 4
Prescribed formula to calculate REA on defaulted assets	No	Box 5

Table 19: Credit risk (securitisations) – key constraints and quantitative requirements

Description	Implementation in templates	Reference
No cure of defaults (i.e. no negative default flow for any year or scenario)	No	Paragraph 29
Total IRB risk exposure amount (IRB Non-SFA plus IRB SFA plus IRB Other) cannot decrease compared to the starting point over the time horizon for both scenarios	No	Paragraph 138
Total STA risk exposure amount (STA plus STA Other) cannot decrease compared to the starting point over the time horizon for both scenarios	No	Paragraph 138

Table 20: Market risk, counterparty credit risk losses and CVA – key constraints and quantitative requirements

Description	Implementation in templates	Reference
No impact under the baseline scenario	All market risk templates	Paragraphs 203, 224, 240, 245
Computation of NTI starting value	CSV_MR_SA	Paragraph 220
CA NTI in 2016 should not be higher than SA NTI (CA banks only)	CSV_MR_SUM	Paragraph 174
Projected NTI before the market risk shock is	CSV_MR_SUM	Paragraphs 225, 241

Description	Implementation in templates	Reference
less than 0.75 * starting value (CA banks only)		
NII shall be excluded from NTI	No	Paragraph 161
Use of haircuts for AFS, FVO sovereign positions	CSV_MR_SOV	Paragraph 215
Prescribed REA increase for VaR, APR	CSV REA_MR_CVA_CA	Paragraphs 266, 269
Floor for REA increase for CVA, IRC	No	Paragraphs 268, 271
REA stays constant for standardised banks and increases for CA banks	CSV REA_MR_CVA_SA, CSV REA_MR_CVA_CA	Paragraphs 264, 265, 270
Recognition of economic hedges and calculation of hedging scaling factors only if CA approach is applied and corresponding templates are completed	No	Paragraphs 183, 186
Application of the portfolio scaling factor	CSV_MR_CA	Paragraph 226
Identification of the two most vulnerable counterparties and setting of stressed LGD and the use of stressed exposure without additional collateral for the calculation of counterparty credit losses and the cross default to all exposures for these two counterparties	No	Paragraphs 254, 255, 257, 258, 260, 261

Table 21: NII – key constraints and quantitative requirements

Description	Implementation in templates	Reference
Nominal net interest income cannot increase over the stress-test time horizon under any scenarios with respect to the cut-off date	CSV_NII_SUM	Paragraph 308
Interest expenses cannot decline under the adverse scenario with respect to the cut-off date	CSV_NII_SUM	Paragraph 309
Under the adverse scenario, income on defaulted assets should not be recognized, with the exception of income stemming from discount unwinding	CSV_NII	Paragraph 310
Income from discount unwinding is capped by the 2015 value	CSV_NII_SUM	Box 17
Income from discount unwinding will be recognised only if this source of income was clearly reported in the bank's financial statements or, alternatively, if there is supporting evidence provided by their auditors.	No	Paragraph 311

Description	Implementation in templates	Reference
Interest from discount unwinding is subject to the following simplified constraint applies: II unwind (t) <= II unwind (t0) x Min (1, (Def Stock (t)/Def Stock (t0))*((1 - Provisions (t) / Def Stock (t))/ (1 - Provisions (t0) / Def Stock (t0)))	No	Box 17
Under the baseline scenario, the margin component of the EIR of re-priced liabilities will increase at a minimum by a proportion of the increase in the sovereign bond spread of the country of exposure	No	Paragraph 327
Under the adverse scenario, the margin component of the EIR of re-priced liabilities will increase at a minimum by a proportion of the higher between the increase in the sovereign spreads of the country of exposure and the impact of the idiosyncratic component shock	No	Paragraph 327
The margin component of the EIR on re-priced assets will be capped by the sum of the margin starting value and a proportion of the change in the sovereign bond spread in the country of exposure	No	Paragraph 330
Changes in reference rates projected by banks shall be consistent with the macro - financial scenarios for risk-free yield curves	No	Paragraph 320
Under the static balance sheet assumption, the sum of the existing, maturing and new positions' average volumes should remain constant over time. Within the portfolio, non-performing exposures will increase at the expense of performing exposures along the time horizon of the exercise	CSV_NII	Paragraphs 295, 297
Increase of non-performing exposures in NII will be aligned with the evolution of defaulted assets in the credit risk templates	No	Paragraph 312

Table 22: Conduct risk and other operational risk – key constraints and quantitative requirements

Description	Implementation in templates	Reference
Projections of losses from new non-material conduct risk events are subject to a minimum overall 3 year floor, computed in the baseline scenario as 3 times the average of the historical conduct risk losses reported by the bank during the 2011-2015 period for non-material events only.Under the adverse scenario the floor is 2 times the floor for the baseline.	CSV_OR_GEN	Paragraphs 372, 373
Projections of losses due to other operational	CSV_OR_GEN	Paragraph 378

Description	Implementation in templates	Reference
risks are subject to a yearly minimum floor, computed under the baseline and adverse scenario as the average of other historical operational risk losses reported by the bank during the 2011-2015 period; the average is multiplied by 0.8 under the baseline scenario and by 1.5 under the adverse.		
Total capital requirements for operational risk in each year of the projection horizon shall not fall below the actual minimum capital requirements for operational risk reported by the bank 31 December 2015.	CSV_OR_GEN	Paragraph 380
In case of lack of relevant historical losses and/or projections, overall operational risk loss projections, aggregate for the 3 years of the exercise, will be calculated as a function of the relevant indicator (6% of the RI and 15% respectively in the baseline and adverse scenario)	CSV_OR_GEN	Paragraph 379

Table 23: Non-interest income, expenses and capital – key constraints and quantitative requirements

Description	Implementation in templates	Reference
Prescribed formula for dividend income and net fee and commission income	CSV_P&L	Paragraph 395
Floor / cap for administrative expenses, other operating income and expenses and profit or loss from discontinued operations	No	Paragraphs 396, 408
Application of the common tax rate	No	Paragraph 413
No impact for realised gains or losses, negative goodwill, foreign exchange effects	CSV_P&L	Paragraphs 391, 405, 406, 407, 409, 411
Prescribed floor for dividend payments and link between the baseline and adverse scenario	No	Paragraph 402
Limitation of the number of one-off adjustments and permitted as well as excluded cases	No	Paragraphs 397, 398
Prescribed formula for transitional adjustments to CET1 capital from unrealised gains/losses from sovereign exposure in AFS portfolio	CSV_CAP	Paragraph 25
No creation of new DTAs that rely on future profitability and arise from temporary	No	Paragraph 413

Description	Implementation in templates	Reference
differences		
The creation of DTAs that rely on future profitability and do not arise from temporary differences is limited to the offsetting of negative pre-tax profits	No	Paragraph 413