

Credit risk SREP methodology

Credit risk in SREP

The following sections provide a more detailed description of the methodology for assessing credit risk at significant institutions (SIs) as part of the Supervisory Review and Evaluation Process (SREP). The ECB uses a risk-based standardised methodology to assess credit risk.

1 Introduction

The SREP credit risk methodology:

- is consistent with the European Banking Authority (EBA) Guidelines on SREP and assesses whether banks are complying with the ECB's supervisory expectations;
- is applied proportionately to SIs, taking into account the nature, scale and complexity of their activities;
- supports JSTs in performing risk-based supervision while providing sufficient flexibility to cater for bank-specific elements – this means that the frequency, scope and depth of the assessments vary in line with European banking supervision and bank-specific priorities;
- is comprehensive and includes backward- and forward-looking perspectives that consider all relevant risk components and their possible mitigants;
- draws on leading best practices and is periodically updated to ensure alignment with the EBA Guidelines on SREP and any relevant changes in regulation.

The factors that the ECB considers relevant to assessing the credit risk of an institution, both on- and off-balance sheet, include:

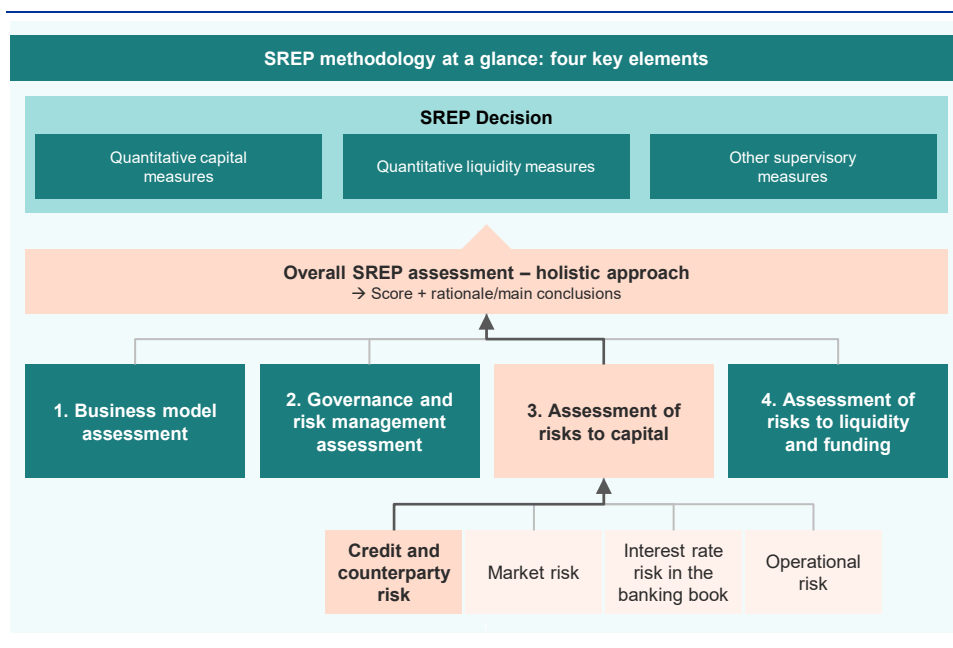
- the **size and materiality** of credit exposures/activities;
- the **nature and composition** of the credit portfolio, as well as the various sub-portfolios and the corresponding concentration;
- the **evolution of the credit portfolio**, also from a forward-looking perspective;
- the **quality of the credit portfolio**, particularly the specificities of performing and non-performing parts (for performing parts this also entails checking potential deterioration, e.g. analysing the forbore/stage 2/past due progressive share and coverage);
- the **granting and monitoring** of loans and credit facilities throughout their life cycle;

- the **risk-based pricing** of loans;
- the **credit risk parameters**, including IFRS 9 parameters (e.g. transition matrices, probability of default and loss given default), internal ratings-based (IRB) parameters (e.g. probability of default, loss given default and credit conversion factors) and other internally estimated parameters;
- **credit risk mitigants**, such as provisions, immovable and movable collateral and the level of coverage, especially for non-performing exposures;
- **other items** considered relevant to the specific institution (e.g. held for sale portfolio and foreclosed assets).

External factors – such as the economic environment, climate-related and environmental aspects and geopolitical evolution – are also considered.

Credit risk is gauged in the assessment of risks to capital (Element 3) of SREP (Figure 1).

Figure 1
Overview of SREP methodology



The credit risk assessment is based on (i) a quantitative assessment that considers the inherent risk (risk level), and (ii) a qualitative assessment that considers the management and control framework (risk control) (Figure 2).

During the credit risk level assessment, JSTs assess risks or vulnerabilities that might have an impact on the prudential elements of the institution if they were to materialise. During the risk control assessment JSTs assess whether credit institutions have adequate processes and systems in place to appropriately identify, measure, evaluate, monitor, report and mitigate the level of credit risk, including

expected credit loss (ECL) measurements and policies and procedures to appropriately validate ECL models.

The **risk level assessment is performed by JSTs in the following three phases:**

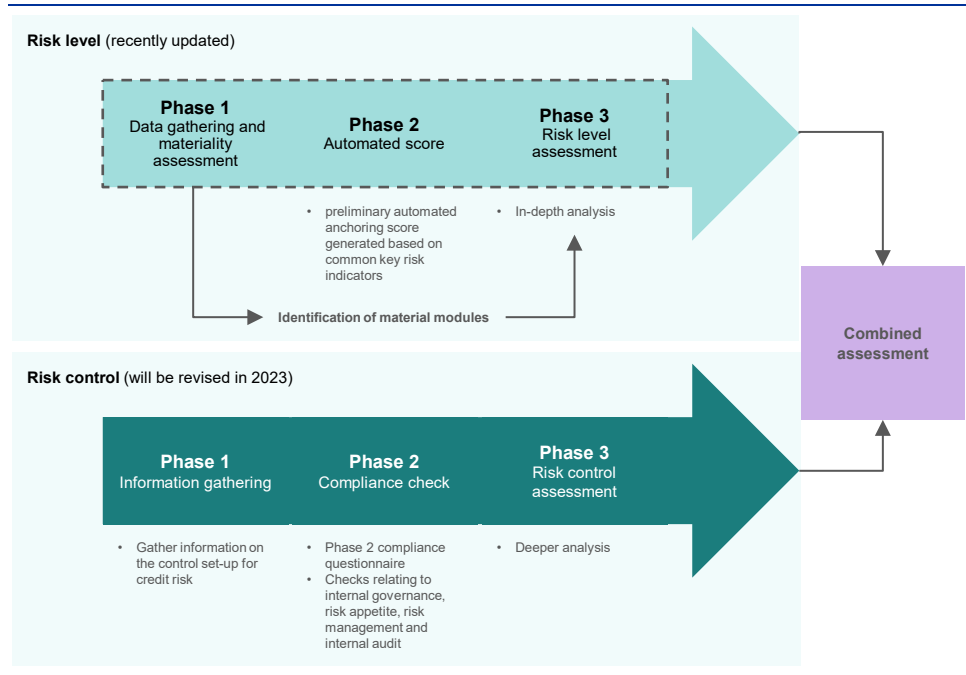
- Phase 1: supervisors gather data and assess the materiality of the risks;
- Phase 2: an automated anchoring score is generated based on common key risk indicators;
- Phase 3: supervisors carry out a more in-depth credit risk assessment, taking into account supervisory judgement regarding the bank specificities and applying constrained judgement.

The **risk control** assessment is also divided into three phases:

- Phase 1: supervisors gather data;
- Phase 2: supervisors produce a formal compliance check for credit risk control;
- Phase 3: supervisors carry out a more in-depth credit risk assessment, taking into account supervisory judgement regarding the bank specificities and applying constrained judgement.

The assessment of credit risk covers both risk level and control and is combined to form an overall credit risk assessment. It summarises the supervisory view in an overall credit risk score of between one and four (with qualifiers) and a main rationale for the score.

Figure 2
Overview of SREP credit risk assessment



The SREP methodology is rooted in the EBA Guidelines on SREP and documents in which the ECB communicates its supervisory expectations as an integral part of the SREP framework.

The SREP methodology is subject to continuous improvement and alignment with identified best practices and new developments in the applicable regulations. The risk level methodology has been revised and will be applicable for SREP 2023, while the risk control methodology is still subject to revision. The remaining part of this document focuses on the updated risk level methodology, while more communication on the risk control methodology will be provided in due course.

2 Credit risk level methodology

2.1 Phase 1

The primary **objective of Phase 1 is to identify potential areas of vulnerability in the form of credit risk** that may warrant further investigation in Phase 3.

The **Phase 1 methodology is structured along both a portfolio view and a risk view, and is divided further into modules and sub-modules**. This is to enable the JSTs to focus on the most pertinent risks (**Figure 3**). In addition, JSTs can assess any other aspect which is material for the credit risk profile of an institution. The modular structure introduced in Phase 1 therefore facilitates a more proportionate assessment, while supervisory efforts in Phase 3 focus on the material risk drivers for each institution. The modular structure is aligned with different types of counterparty (according to FINREP definitions, e.g. households and non-financial corporations) and/or with specific risk sub-categories for the nature of the credit activities performed by the institution (e.g. country risk and securitisation). Where relevant, a more granular perspective at the sub-modular level may be taken (e.g. credit for consumption within the households portfolio).

Figure 3
Modular structure of the credit risk level assessment

Modular structure of Credit risk	Modules
Portfolio view	Households
	Non-financial corporations
	Credit institutions & other financial institutions
	Central banks & central/regional governments
	Leverage finance
Risks view	Risks from securitisation
	Foreclosed assets and held for sale
	Country risk
	Concentration risk
	Counterparty credit risk

The credit risk assessment is performed based on a wide range of information, including supervisory reporting and other relevant sources.

In a first stage, the materiality of the different modules is **automatically calculated based on the available data sources, which include:**

- implementing technical standards (ITS) on supervisory reporting (e.g. FINREP/COREP);
- additional information received via the short-term exercise (e.g. on concentration).

A number¹ of key risk indicators are calculated to check the materiality of the various modules. **Volume-based indicators** (e.g. share of portfolio exposures) display materiality in terms of exposure amounts. **Risk-based indicators** (e.g. non-performing loan (NPL) ratio, stage 2 ratio, loan growth and forbearance ratio) signal riskiness and provide further details on areas to be considered in Phase 3.

In a second stage, JSTs make a final selection of the material modules, also taking into account additional information, including:

- internal management data available in bank's internal reports such as ICAAP reports and internal audit reports;

¹ About 100 indicators are used in this context to obtain a comprehensive, detailed and granular view of the risk inherent in the various modules considered in the materiality assessment.

- qualitative information such as credit risk budget and strategies, risk appetite framework on credit risk, credit risk policies and procedures, internal policies and procedures for collateral valuation;
- supervisory information, such as routine credit risk monitoring reports, credit file reviews, findings from on-site inspections, deep dives, previous risk assessment system reports and other routine templates;
- non-harmonised reporting from national competent authorities.

JSTs will flag the related modules as material or immaterial. The JST always makes the final decision on the materiality assessment, considering the results of the automatic assessment and taking into account the specificity and complexity of the institution.

2.2 Phase 2

As part of the SREP assessment, **the purpose of Phase 2 is to produce an automatic anchoring score for the credit risk level** of an institution. The Phase 2 score is risk-based and the methodology is applied equally across all SIs. It serves as a starting point for JSTs to consider more detailed bank-specific circumstances and thus apply expert judgement. The Phase 2 methodology captures different dimensions so that the preliminary assessment of an institution's credit risk profile is sufficient and comprehensive.

First, the **“Asset quality”** dimension is assessed for both the performing and the non-performing parts of the credit portfolio. **The level of NPLs and NPL inflows are taken into consideration to establish a view on the riskiness of the non-performing part of the portfolio.** In line with the ECB's previous communications on the management of NPLs and coverage expectations,² banks are expected to deliberately and sustainably reduce material levels of NPLs and adequately cover the remaining risk³ in their balance sheets. The forward-looking assessment of asset quality deterioration linked to the performing part of the credit portfolio has gained significance over the last years. To address this aspect, **the Phase 2 score also takes into account the amount of performing exposures that show early signs of distress and significant increases in credit risk.**

Second, the **“Risk mitigation”** dimension is assessed for both the performing and the non-performing parts of the credit portfolio. **Timely provisioning and write-off practices related to non-performing loans are essential for avoiding the excessive build-up of NPLs** on banks' balance sheets and allowing institutions to (re)focus on their core business, most notably lending to the real economy. This is consistent with the ECB's previous communications on prudent provisioning

² See the ECB [“Guidance to banks on non-performing loans”](#), March 2017; [“Addendum to the ECB Guidance to banks on non-performing loans: supervisory expectations for prudential provisioning of non-performing exposures”](#), March 2018; and [“Communication on supervisory coverage expectations for NPEs”](#), August 2019.

³ This will be the object of further discussion in the paragraph on the “Risk mitigation” dimension.

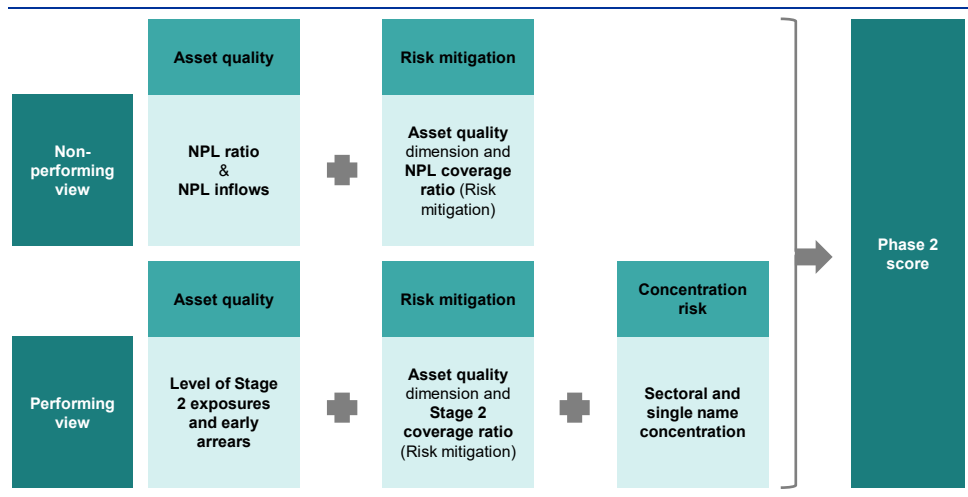
practices in the context of the NPL Guidance (including its Addendum) and of the coronavirus (COVID-19) pandemic.⁴ In addition, **it is essential for banks to allocate exposures to the appropriate IFRS 9 stages.**⁵ In order to ensure adequate credit risk coverage, banks must draw on all relevant information to **determine the corresponding expected credit losses, using realistic parameters and assumptions** that suit the current environment.

Finally, the **“Concentration risk” dimension is assessed for the performing part of the credit portfolio, looking at both sectoral and single name concentration. The ECB closely scrutinises the risk of incurring significant losses owing to credit concentration;** a high concentration will have a negative effect on the Phase 2 score.

Figure 4 summarises the Phase 2 approach. The scores for all quantitative risk indicators used in Phase 2 are defined by drawing a comparison between the individual value of a supervised institution and predefined thresholds aligned with the SSM’s risk appetite.

Figure 4

Approach for determining the Phase 2 score



The Phase 2 framework has a purely quantitative nature, which ensures that it is based on harmonised and consistent indicators and thresholds. **The objective of the Phase 2 score is neither to capture all idiosyncratic elements linked to a bank’s credit risk profile nor to assess banks’ specificities, such as** their business model (e.g. diversified lender, G-SIB or universal bank). Indeed, **such aspects are duly considered during the in-depth assessment performed by the JST in Phase 3.**

⁴ See the “Dear CEO letter” issued in December 2020.

⁵ For nGAAP banks the methodology takes other proxies, including forbearance, into consideration.

2.3 Phase 3

In Phase 3 JSTs conduct a comprehensive bank-specific assessment, which results in the final risk level score reflecting the institution-specific credit and counterparty risk level. While the Phase 2 credit risk score serves as an anchoring score, Phase 3 provides JSTs with the necessary flexibility to consider institution-specific aspects of the portfolios and risk dimensions. Phase 3 involves following a consistent and risk-based framework, resulting in a possible adjustment of the Phase 2 score.

JSTs consider information from various sources, including peer comparisons. During the Phase 3 assessment JSTs take into account insights gained from on-site inspections, deep dives or horizontal analyses, such as targeted or thematic reviews, whenever available. Peer comparison is also embedded in this assessment and supported by internally available tools.

The adequacy of processes and procedures is essentially a risk control topic and feeds into the risk control assessment. However, there may be consequences for the reliability of quantitative information analysed in the risk level assessment. The quality and reliability of quantitative metrics reported by the supervised entity is considered to prevent metrics from being biased. Such biases resulting from a lack of prudence or risk control deficiencies could lead to a more positive assessment of the supervised entity's risk position.

The Phase 3 assessment is aligned with the material modular structure identified in Phase 1 and follows the portfolio view and the risk view.

Modules under the portfolio view

The structure of the modules to be assessed in Phase 3 is largely aligned with the regulatory FINREP counterparty definitions and therefore follows a portfolio view.⁶ The modules are predominantly:

1. **Households** sorted into main sub-portfolios such as “Households secured by residential real estate (RRE)”, “Credit for consumption” and “Others”. Specific elements for possible consideration in this portfolio include the analysis of the level, distribution and evolution of, for example: debt-service-to-income (DSTI), loan-service-to-income (LSTI), debt-to-income (DTI) or loan-to-income (LTI) ratios; loan-to-value ratios (LTV); maturity composition; analysis of underwriting standards; and level of collateralisation.
2. **Non-financial corporations** sorted into main sub-portfolios such as “Corporates & large corporates”, “Small and medium-sized enterprises (SMEs)”, “Commercial real estate (CRE)” and “Specialised lending (other than CRE)”. Specific elements under consideration in this portfolio include, for example: the rating composition and financial situation of clients and how these align with

⁶ Besides loans and advances, the Phase 3 assessment also encompasses debt securities where material.

probabilities of default (PDs); the segmentation by sector and the amount of exposures in each sector; the subordination, maturity, guarantees, amortisation and the nature of exposures; the level of overrides and overlays; the expected cashflows from the financed projects; and underwriting standards.

3. **Credit and other financial institutions:** specific elements under consideration in this portfolio include, for example: rating composition and alignment with PDs; ownership structure and potential support mechanisms; exposure composition, guarantees and product types; outlook and expected trends; and analysis of the corresponding financial leverage.
4. **Central and general governments:** specific elements under consideration in this portfolio include, for example, specificities of exposures to regional and local authorities or public sector entities, and exposures to groups of connected clients involving central and regional governments.
5. **Leverage finance:** assessing whether the leverage finance aligns with the [ECB's 2022 letter on leveraged transactions and supervisory expectations](#).

Some aspects that drive portfolio quality are specific to the type of portfolio (e.g. collateral in the case of RRE or CRE), while other assessment dimensions have been found to be potentially relevant for all portfolios, such as:

- **Growth:** analyses performed over at least the past three years to identify trends and deviations regarding the size, strategy, organisation, capital availability, risk appetite and management framework of the institution. The assessment also covers growth driven by new products or sectors to verify that the bank has adequate risk control frameworks, know-how and resources.
- **Non-performing exposures (NPE):** the NPE ratio and its coverage are considered key indicators of a portfolio's credit quality. This analysis also covers the NPE drivers, including the type of exposures, sectors, geographies, level of unlikely to pay (UTP) exposures and the NPE vintage composition. Furthermore, the analysis covers the evolution of NPE inflows and examines how the credit quality of the portfolio evolves. The NPE coverage ratio and its evolution in terms of provisioning and collateralisation are also assessed, including by vintage buckets. Deficiencies in an institution's classification practices – such as a lack of prudent UTP triggers or forbearance flagging, a backlog of UTP assessments or shortcomings in early warning systems – might also indicate NPL ratios that are not fully reliable.
- **Stage 2:** the analysis of exposures classified as stage 2 focuses on their development and evolution as well as their main drivers. JSTs assess banks' actions against the expectations outlined in documents such as the [Dear CEO letter](#)⁷. JSTs also consider the level of performing forbore exposures and the stage transfers (e.g. a high level of direct transfers from stage 1 to stage 3 may warrant further investigation). The assessment of the evolution of the corresponding provisions complements the analysis. Additionally, JSTs assess

⁷ See the "[Dear CEO letter](#)" from December 2020.

whether the stage 2 ratio and its coverage adequately reflect the quality of the performing portfolio. For example, they take into account the degree of prudence in a bank's policies for identifying, classifying and measuring risk.

- **Collateral and financial guarantees:** the JST analysis considers the enforceability of the collateral, recovery rates, costs and time to recovery. This analysis is also complemented by the results from on-site investigations and other supervisory activities. In their analysis, the JSTs also consider the vintage composition of NPLs that are secured by collateral. The analysis covers key aspects such as the accuracy and reliability of valuations, the frequency of monitoring and revaluation as well as collateral price risk.
- **FX lending:** the analysis covers significant currency concentration in the same or highly correlated foreign currencies in the lending portfolio. This analysis is performed in different portfolios as well as the total portfolio to identify trends and potential vulnerabilities owing to foreign exchange rate fluctuations.
- **Forbearance:** the assessment encompasses both performing and non-performing forbearance and pays specific attention to performing forbore exposures and their evolution. The assessment focuses in particular on the sustainability of forbearance measures, including repetitive extensions or overly long durations of forbearance measures. The assessment also considers the level of effectiveness of forbearance measures, as well as the corresponding level of coverage.
- **Off-balance sheet exposures:** JSTs use different scenarios to evaluate how off-balance sheet exposures might develop as part of the credit risk strategy. The analysis involves different scenarios that test the volatility of these exposures and potential effects in terms of credit losses or concentration.
- **Climate risk and others:** this assessment covers any credit risk-related aspect potentially impacted by climate-related and environmental risk. This includes considering concentrations in economic sectors or geographies more vulnerable to this risk. It also covers other aspects such as residual risk, settlement and delivery risk and other elements that are material to credit risk.

Even though the Phase 3 assessment focuses on the most material portfolios, the assessment of the credit risk dimensions is also carried out at the total portfolio level. This is particularly relevant when some critical aspects are not evident at the sub-portfolio level but become relevant when assessed for the total portfolio.

Modules under the risk view

1. **Concentration risk:** JSTs consider the risk of concentration to same counterparties (single name concentration) and the evolution of this risk. They also consider concentration to same sectors, same regions and countries,

specific products, specific types of collateral and guarantees or any other risk driver that could lead to significant losses.

2. **Risk from securitisation:** this assessment covers any risk profile of the securitiser and securitisation strategy as well as its alignment with the overall risk profile of the institution, with a focus on the size of the securitisation portfolio. It also covers the interconnectedness between significant risk transfer transactions and capital planning as well as the appropriate governance framework of securitisation and the internal control framework.
3. **Risk from foreclosed assets (FAs) and NPLs held for sale (HFS):** JSTs take into consideration, for example, the stock of FAs and its evolution, paying special attention to assets with a vintage of longer than one year, coverage, type and location of assets, type of execution, valuation policies and corresponding management, performance against budgets and reduction strategies. The JST assessment covers the level and evolution of HFS assets, the timeline and implementation of plans, and the duration of the HFS classification. JSTs also examine any attempt made by the institution to exploit regulatory arbitrage by classifying NPLs as HFS.
4. **Country risk:** JSTs take into consideration sovereign risk, transfer risk and other risks arising from international activities. The assessment includes the degree of concentration within all types of country risk and potential contagion effects.
5. **Counterparty credit risk:** this involves distinguishing between the risk arising from the derivatives and secured financing sub-portfolios. As part of this assessment, JSTs examine settlement and wrong-way risk. The JSTs also consider exposure under business-as-usual and stressed conditions, the types of counterparties and their creditworthiness, collateral, netting and margin agreements as well as concentration to specific counterparties, types of positions, risk classes and any other material aspect.

© European Central Bank, 2023

Postal address 60640 Frankfurt am Main, Germany
Telephone +49 69 1344 0
Website www.bankingsupervision.europa.eu

All rights reserved. Reproduction for educational and non-commercial purposes is permitted provided that the source is acknowledged.

For specific terminology please refer to the [SSM glossary](#) (available in English only).

PDF ISBN 978-92-899-6099-1, doi:10.2866/446527 QB-04-23-547-EN-N