SSM-wide stress test 2021

Final results

30 July 2021

ECB/SSM performs two supervisory stress test exercises for significant institutions in 2021

EU-wide EBA stress test

- **38** SSM Significant Institutions (EBA banks)
- **Publication** of bank-specific, **granular results**
- EU-wide exercise under **EBA coordination**, in cooperation with ESRB, ECB and NCAs
- **2 macroeconomic scenarios:** baseline (provided by ECB) and adverse (provided by ESRB)
- Launch of the exercise: **January 2021**

SSM stress test

- **51** other SSM Significant Institutions (SSM banks)
- **Publication** of bank-specific, **high-level results**
- Under **ECB/SSM coordination**
- **Same macroeconomic scenarios**
- Launch and methodology **broadly aligned with EU-wide EBA stress test**

Objectives

- Assess the **resilience of financial institutions** to adverse market developments.
- **Contribute to the overall Supervisory Review and Evaluation Process (SREP)** to ensure institutions' capital and liquidity adequacy, as well as sound risk coverage and internal processes.
- **The exercises support also other supervisory initiatives,** e.g. sector-specific stress test data is leveraged in credit risk projects and sectoral deep-dives.

Overview of topics covered in this document

✔️

- Overview of **scenarios and methodology** used for the analysis

- **Aggregated results,** in particular on the impact on banks' capital position

- **Integration** of stress test results **into the SREP**

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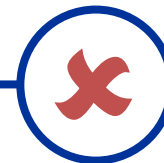
- **Individual bank** results and indication of their specific performance

Key takeaways

✓ The system-level CET1R depletion amounts to around -5.2 pp. (FL) under the adverse scenario   (2018 it was around -4.0 pp.).

✓ Overall, the euro area banking system is resilient with a CET1 ratio (FL) of 9.9% at system level under a severe adverse scenario.

✓ The 2021 EBA/SSM stress test results reflect banks' success in NPE reduction and cost cutting, which cushioned the impact of the significantly more severe adverse scenario compared to 2018. Credit risk is the first driver of capital depletion. The new challenges which have emerged from the coronavirus (COVID-19) pandemic require banks to ensure that they properly measure and manage credit risk.

✓ If the adverse scenario materialises, some banks would need to take action to maintain compliance with their minimum capital requirements, but the overall shortfall would remain contained.

Executive Summary

- The adverse scenario assumes a **prolonged COVID-19 impact in a lower-for-longer interest rate environment**.
  - The uncertainties surrounding the pandemic lead to a prolonged economic contraction, characterised by a **sustained drop in GDP**, a **strong increase in unemployment** and **no counter-cyclical elements.**
  - Corporate bankruptcies and business downsizing lead to **sizeable adjustments in asset valuations, credit spreads and borrowing costs**.
  - Both, residential - and especially commercial - **real estate prices decline significantly**.
- The **system-wide CET1R depletion stands at -5.2pp** on a fully loaded basis in the adverse scenario resulting in the **euro area banking system being resilient with a CET1 ratio (FL) of 9.9% at system level in 2023.**
- The **main drivers** for the depletion in the adverse scenario are loan losses, a significant stress on net interest income, trading income, and net fees and commission income and the impact from the equity and credit spread shocks on positions measured at fair value.

Executive Summary

- **Public guarantee schemes (PGS) and EBA-compliant COVID-19 moratoria are explicitly addressed in the stress test methodology.**

- **Loans under a PGS are assumed to be replaced** with the guarantee regardless of whether the particular scheme is expected to still be in place; guarantees are effective for 241 EUR billion of loan exposure.

  - The EBA methodology foresees that banks have to project loan losses assuming **no beneficial impact of EBA-compliant COVID-19 moratoria.**

- The ECB asked banks to **provide corporate loan-loss projections with a sectoral split** since vulnerabilities in certain industry-sectors have emerged in 2020 as a characteristic feature of the COVID-19 pandemic. This analysis has not only provided **useful insights for the stress test but also built a link to other supervisory work**, e.g. sector-specific stress test data is leveraged in credit risk projects and sectoral deep-dives.

Executive Summary

- Despite the **significant improvements** banks made compared to the last stress test in 2018, especially their efforts to cut costs and targeted NPE reduction strategies, the **substantially more severe macroeconomic adverse scenario overcompensates** these improvements and led to a higher system-wide CET1R depletion than in 2018 (5.2pp. vs. 4.0pp.).

- The stress test results **will be used as an important input into the SREP:**
  - **Quantitative impact** of the adverse stress test is an essential starting point for determining the level of P2G, according to a revised methodology;
  - **Qualitative outcome** of the stress test also feeds in the determination of the P2R, especially in the element of risk governance.

Adverse scenario: a prolonged COVID-19 scenario in a lower-for-longer interest rate environment

Main characteristics:

- Worldwide adverse confidence effects related to uncertainties surrounding the pandemic leading to a prolonged economic contraction, which is marked by a **sustained drop in GDP and a strong increase in unemployment with no counter-cyclical elements.**

- **Declining long-term risk-free rates globally** from an already historically low level with a yield curve inversion in Year 1.

- A wave of corporate bankruptcies and business downsizing leading to **sizeable adjustments in asset valuations, credit spreads and borrowing costs**.

- **Substantial declines of residential - and especially commercial - real estate prices.**

Real GDP level in the EU *(2019 level = 100)*
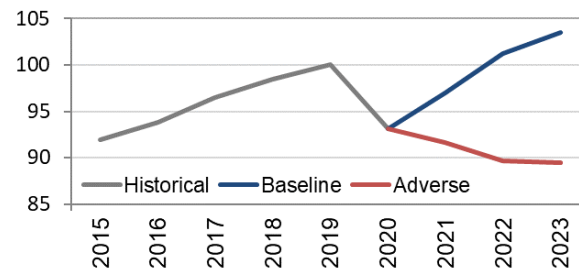

EUR swap rates *(%)*
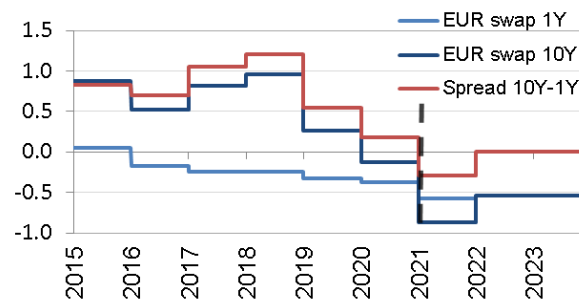
Severity of the scenario is overall comparable with respect to the 2020 VA

- In GDP terms, the 2021 scenario is a bit less severe than that of the Covid-19 Vulnerability Analysis (VA) of 2020, but more severe increase in unemployment rate.
- Despite the Lower for Longer narrative, also real estate market prices remain close to the 2020 VA severity. Commercial real estate prices experience a substantial decline.

Distribution of the cumulative growth of real GDP, unemployment rate, real estate prices, EBA 2021 vs ECB 2020 VA and EBA 2018[1]
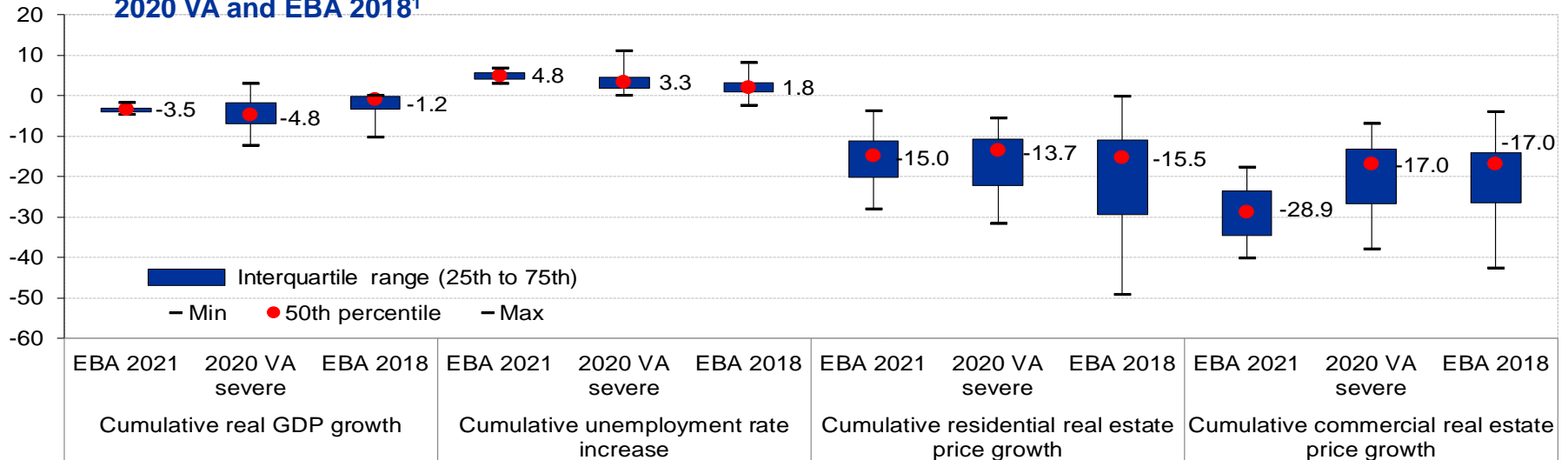
1. The red dot represents the median and not the weighted mean. The ECB 2020 VA severe refers to the severe Covid-19 scenario of the ECB 2020 vulnerability analysis.

Stress test quality assurance – Challenging bank submissions from different perspectives

Quality assurance starts with the **compliance assessment** of the **data quality** and **methodological constraints** of banks' submissions.

| Quality Assurance views	
Top-down	• Comparison of banks' projections with those from supervisory "Top-Down" models: assess impact when replacing bank projections with Top-Down benchmarks (conditional on a given scenario, using bank-specific reference data as a starting point)
Peer-benchmark	• Comparison of banks' projections against peers: assess impact when replacing banks' projections with peer benchmarks • Horizontal assessment of banks' projections, e.g. on portfolio level, both across the Euro Area and across the same country
JST	• Detailed assessment of individual banks' projections • Takes into account supervisory insights and bank-specific characteristics

Higher credit and market risk losses and lower NII and NFCI generation explain capital depletion in adverse scenario

- **The system-level depletion stands at around -5.2 pp. under the adverse scenario while under the baseline scenario, the aggregate CET1R (FL) increases by 0.6 pp.**

- The **main drivers** for the depletion in the adverse scenario compared to the baseline scenario are

  - Higher **loan losses** (-252 bps)

  - **Market risk losses** and **lower trading income** (-220 bps).

  - Lower **Net Interest Income** (-119 bps)

  - Lower **Net Fees and Commission Income** (-75 bps)

CET1R (FL) 2023-2020 depletion

(percentage points)
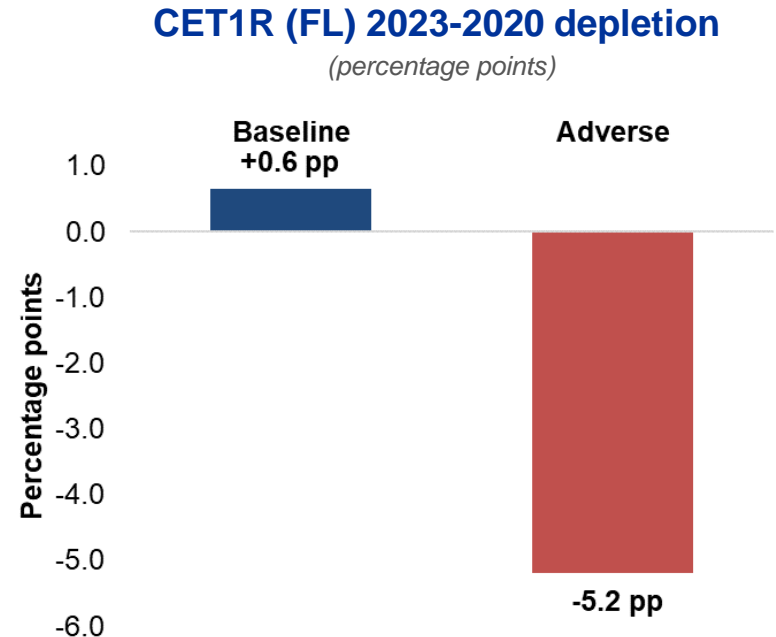
Loan losses and market risk are the largest contributors to depletion in the adverse compared to baseline scenario

Adverse scenario depletion CET1R (FL)
(percentage points)

Baseline scenario depletion CET1R (FL)
(percentage points)

Δ
Adverse-baseline
(percentage points)

	Adverse	Baseline	Δ Adverse-baseline
Starting CET1R FL	15.1	15.1	-2.4
Δ Credit risk impact	-4.4	-2.0	-2.2
Δ Market risk impact	-1.2	+1.0	-1.2
Δ NII impact	+8.0	+9.2	-0.3
Δ Op. risk impact	-0.7	-0.3	0.2
Δ Administrative expenses	-9.2	-9.4	-0.8
Δ NFCI and dividend income	+4.5	+5.3	1.7
Δ Other P&L and capital impact	-1.1	-2.8	-0.7
Δ REA impact	-1.2	-0.4	-5.8
End ratio	9.9	15.8	

REA (FL) 2020 Actual	REA (FL) 2023 projection	
	Baseline	**Adverse**
€7,578 billion	€7,770 billion *(+2.5%)*	€8,442 billion *(+11.4%)*

# SSM banks with higher CET1R depletion than EBA banks; however also with higher starting and end CET1R

- The **CET1R (FL) depletion** under the adverse scenario is **1.8 pp. higher for SSM banks** compared to EBA banks.

- **SSM banks exhibited both higher starting and ending CET1R (FL)** than EBA banks; SSM banks start with 18.1% and end at 11.3% compared to 14.7% and 9.7% for EBA banks, respectively.

- The **main drivers** for the difference in depletion under the adverse scenario is that SSM banks are more affected from lower **net interest income**, lower **net fees and commission income** and **lower trading income over the projection horizon**. On the contrary, SSM banks also face lower **administrative expenses** which partially offset the lower income generation.

Adverse scenario depletion CET1R (FL)
(percentage points)
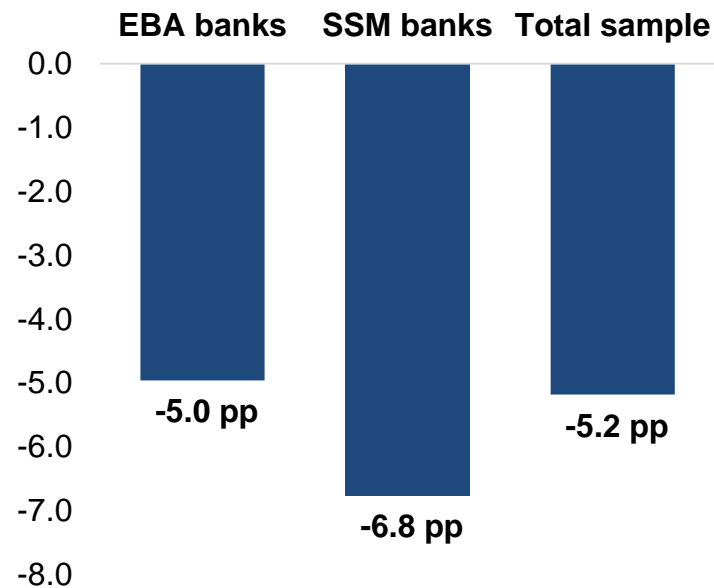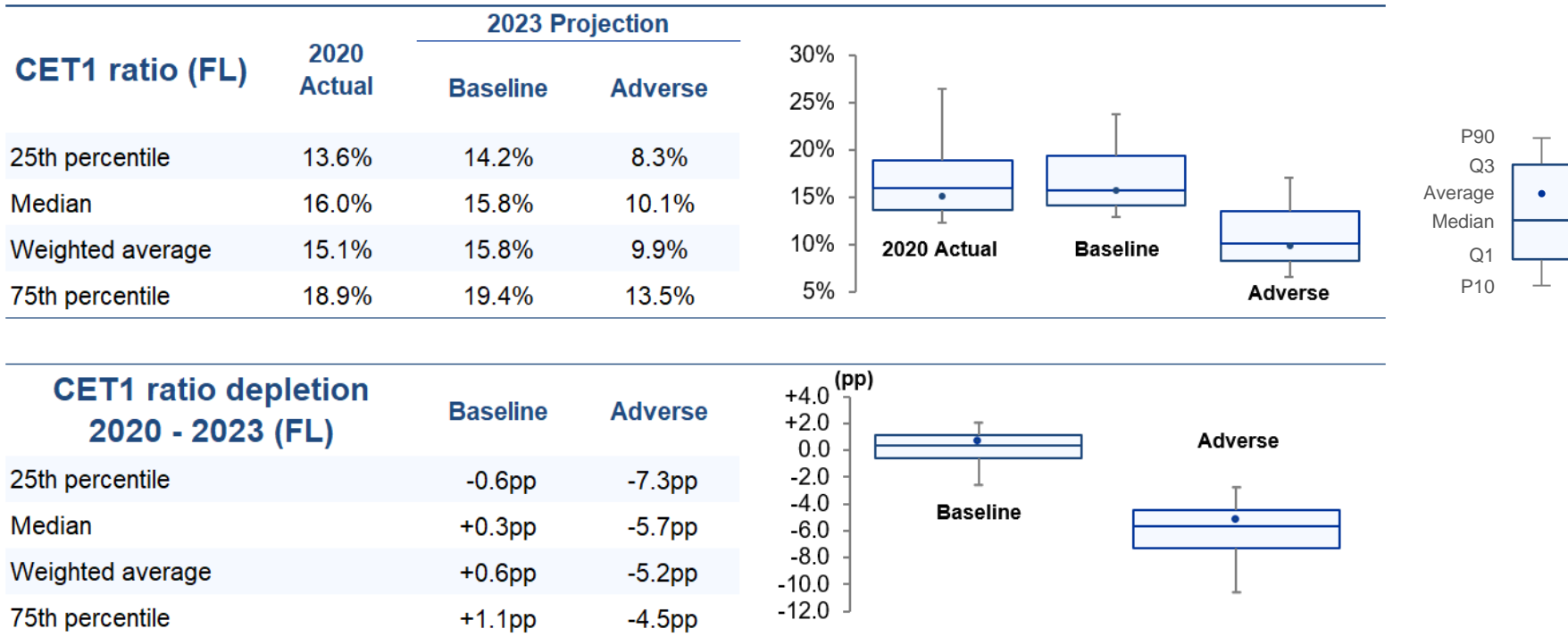
Vast majority of banks reach their minimum CET1R in the end of the projection horizon

Projected evolution of CET1R (FL)[1]

(percentages)

■ Baseline scenario

■ Adverse scenario

☐ Number of banks reaching their lowest CET1R in the respective year (Adverse scenario)
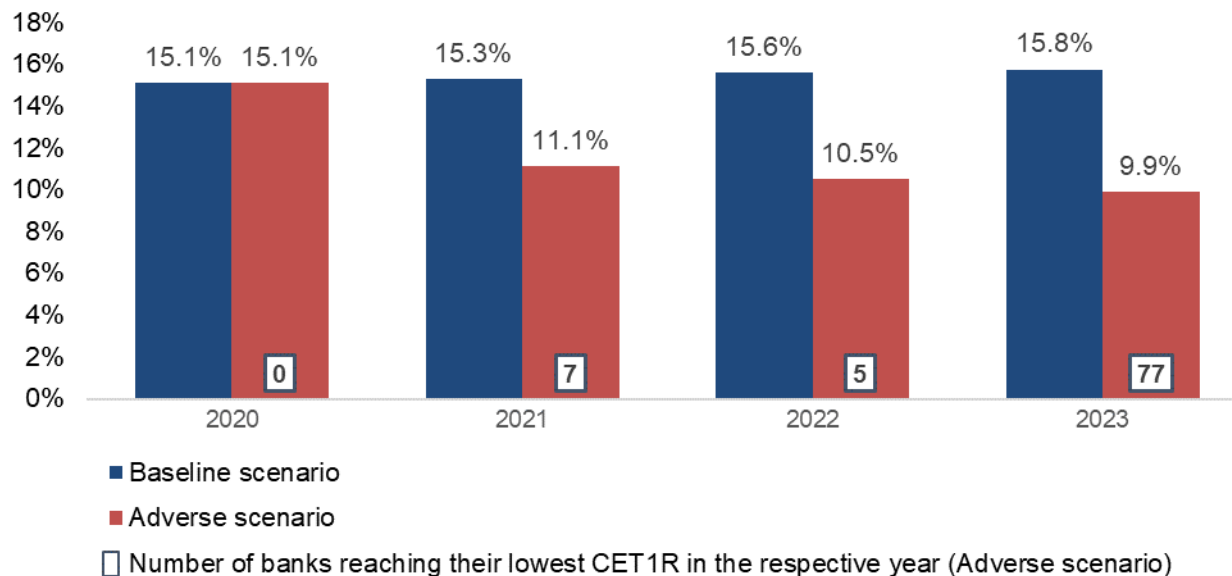
1. Average CET1R (FL) is calculated by weighting bank level data by total risk exposure amount as of 2020 actual.

Dispersion of capital depletion increases with the severity of the scenarios, but also high across countries

CET1 ratio (FL)	2020 Actual	2023 Projection	
		Baseline	Adverse
25th percentile	13.6%	14.2%	8.3%
Median	16.0%	15.8%	10.1%
Weighted average	15.1%	15.8%	9.9%
75th percentile	18.9%	19.4%	13.5%

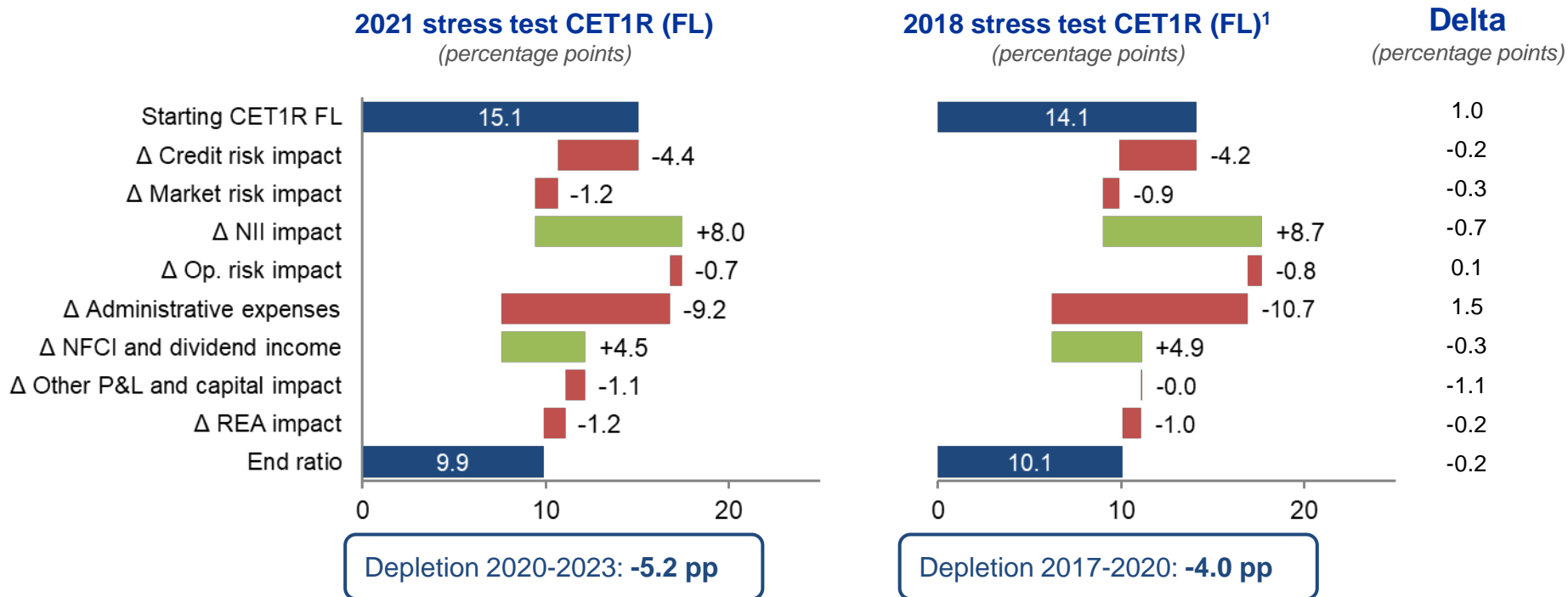| CET1 ratio depletion 2020 - 2023 (FL)	Baseline	Adverse
25th percentile	-0.6pp	-7.3pp
Median	+0.3pp	-5.7pp
Weighted average	+0.6pp	-5.2pp
75th percentile	+1.1pp	-4.5pp

Compared to 2018 stress test, starting points improve but more severe adverse scenario ultimately leads to a higher depletion

- **Significant improvements in starting points compared to 2018** (~60 bps lower impact).
  - Decrease in the administrative expenses (~8%), partially explained by the regulatory reporting reclassification of cash contributions to the Single Resolution Board (SRB) and resolution funds under FINREP[1] (overall net decrease of ~3% and ~90bps overall lower impact on CET1).
  - Improvement in the quality of loan portfolios (NPE ratio decrease of 1.6%) driven by NPE reduction strategies, alleviating partially the impact in additional loan loss provisions (~30bps lower impact).
  - The positive impact of Administrative expenses and decrease of NPE is partially offset by higher depreciation impact and lower starting NII contribution (both with ~30bps higher impact each).
- **Starting point effect overcompensated by the macroeconomic adverse scenario that is significantly more severe than in the 2018 stress test exercise** (~160 bps higher expected impact).
  - Higher GDP decline, higher unemployment rate and greater shock to commercial real estate prices lead to increased loan loss provisions and rising risk weighted assets;
  - Higher decrease of equity prices lead to a higher market risk impact;
  - Low for long interest rate scenario compresses significantly the net interest income.
- Changes in EU Regulation included in this exercise (i.e. NPE calendar) lead to an additional 20 bps negative impact.

1 without the regulatory reporting reclassification in the course of 2020, the positive impact would be around 140bps from administrative expenses. Note that the analysis presented here is based on the common sample of banks from both exercises, 2018 and 2021, and on their submitted data for stress test purposes.

Difference to 2018 adverse depletion by risk driver

2021 stress test CET1R (FL)
(percentage points)

2018 stress test CET1R (FL)[1]
(percentage points)

Delta
(percentage points)

	2021	2018	Delta
Starting CET1R FL	15.1	14.1	1.0
Δ Credit risk impact	-4.4	-4.2	-0.2
Δ Market risk impact	-1.2	-0.9	-0.3
Δ NII impact	+8.0	+8.7	-0.7
Δ Op. risk impact	-0.7	-0.8	0.1
Δ Administrative expenses	-9.2	-10.7	1.5
Δ NFCI and dividend income	+4.5	+4.9	-0.3
Δ Other P&L and capital impact	-1.1	-0.0	-1.1
Δ REA impact	-1.2	-1.0	-0.2
End ratio	9.9	10.1	-0.2

Depletion 2020-2023: **-5.2 pp**
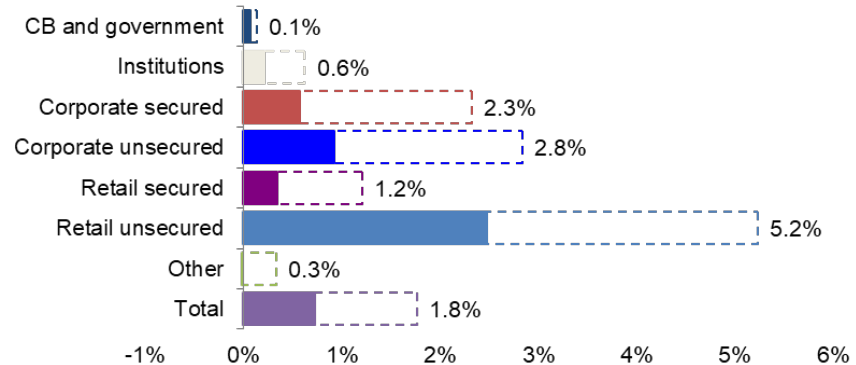
Depletion 2017-2020: **-4.0 pp**

1. Credit risk impact includes the IFRS 9 day one impact of -0.3pp.

Unsecured corporate and retail contribute most to cumulative impairments under adverse scenario
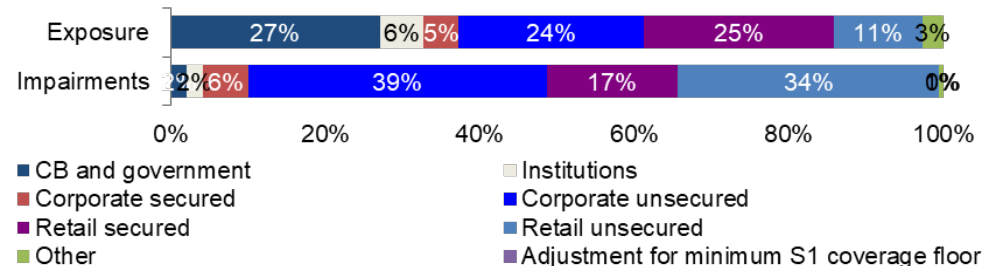
- **The main contribution to the cumulative impairments under the adverse scenario is coming from unsecured exposures, both retail and corporate.** These contribute with almost 75% to all impairments while only representing 35% of the overall exposure. Retail unsecured exposures are the most vulnerable under both scenarios, with a significantly higher cumulative impairment rate compared to other exposure classes.

- **On the contrary, secured exposure represent 30% of the exposure but only contribute with 23% to the overall impairments.**

1. Cumulative impairments are computed as the sum of the three year horizon impairments over the starting point exposures. Adjustment for minimum S1 coverage ratio floor refers to EBA's methodological note paragraph 144 permitting a decrease in the coverage ratio for S1 exposure. The minimum S1 coverage ratio floor is considered on total portfolio level only.
2. A mapping was made to combine exposures reported under IRB and STA portfolios. Here, corporate secured includes all corporates IRB exposures that are secured by real estate. IRB corporate exposures not secured by real estate property and STA corporate exposure are combined in corporate unsecured. Retail secured comprises retail IRB exposures secured by real estate property and STA retail exposure secured by mortgages on immovable property. Retail unsecured includes all remaining retail exposures.

Cumulative impairment rates[1,2] *(% of exposure)*

Exposure class	Rate
CB and government	0.1%
Institutions	0.6%
Corporate secured	2.3%
Corporate unsecured	2.8%
Retail secured	1.2%
Retail unsecured	5.2%
Other	0.3%
Total	1.8%

(axis: -1%, 0%, 1%, 2%, 3%, 4%, 5%, 6%)

Exposure and cumulative adverse impairments[1,2] *(% of exposure)*

	CB and government	Institutions	Corporate secured	Corporate unsecured	Retail secured	Retail unsecured	Other / Adjustment
Exposure	27%	6%	5%	24%	25%	11%	3%
Impairments	2%	2%	6%	39%	17%	34%	0%

(axis: 0%, 20%, 40%, 60%, 80%, 100%)

- CB and government
- Institutions
- Corporate secured
- Corporate unsecured
- Retail secured
- Retail unsecured
- Other
- Adjustment for minimum S1 coverage floor

PGS and EBA-compliant COVID-19 moratoria are explicitly addressed in the stress test methodology

- **The EBA methodology foresees that maturing loans falling under a public guarantee schemes (PGS)** as a response to the COVID-19 pandemic are assumed to always be replaced with the guarantee, regardless of whether the particular PGS is expected to still be in place at the time of replacement.

- The EBA methodology also requires that **EBA-compliant COVID-19 moratoria** are assumed to be no longer in place from 1 January 2021 onwards and requires a restatement of starting point exposure distribution by IFRS 9 stages (the latter has a very limited impact).

- On average, only 1.8% of loans in stages 2 and 3 are covered by PGS but coverage differs across countries: Spanish, Italian, and French counterparties have the most exposures covered by PGS end-2020 and the highest shares of guaranteed exposures to total corporate exposures.

- **Loans guaranteed by PGS amount to € 241 billion,** while approximately € 235 billion of non-expired loans under moratoria as of end-2020 are assumed to be no longer in place.

Guaranteed exposures by geographical area of the counterparty[1,2]

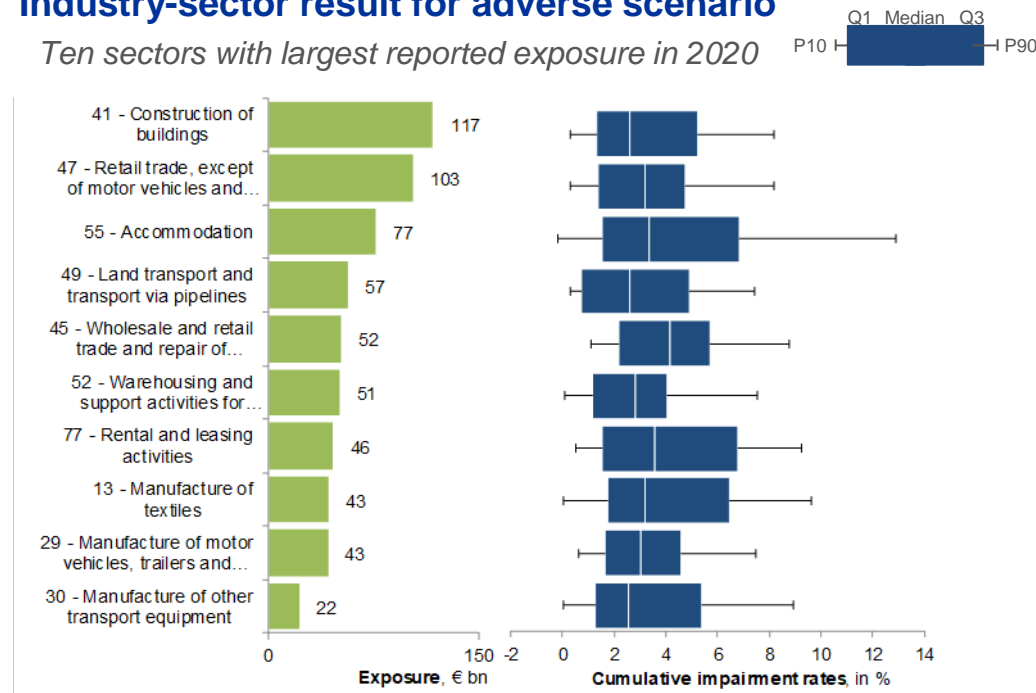*% guaranteed of total corporate exposure - Actual*
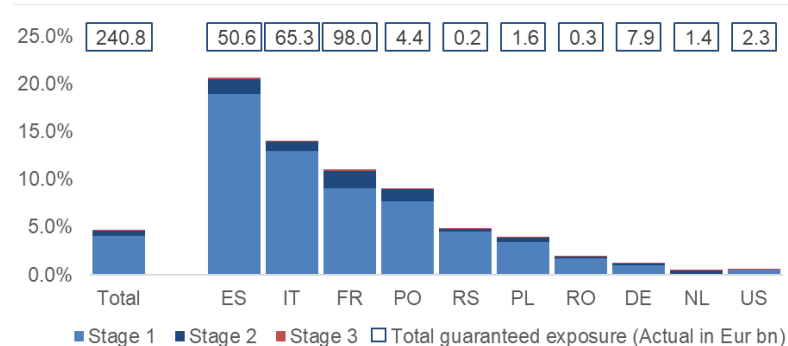
1. The graph only includes 10 countries with the highest amount of guaranteed exposures. The percentage is determined as the total guaranteed exposure divided by the total corporate exposure for each geographical area for all three stages.
2. The analysis shown is based on the stress test sample and therefore does neither include LSIs nor public development banks.

Sectoral vulnerabilities – Overview on the ten largest sectors reported

- Vulnerabilities in certain industry-sectors have emerged in 2020 as a characteristic feature of the COVID-19 pandemic and a key dimension of credit risk in corporate lending.

- Banks were asked to report a sectoral breakdown for 20 pre-defined sectors for their top 3 EU country counterparties (incl. UK).

- In general, **link to supervisory work outside of the stress test established,** e.g. sector-specific stress test data is leveraged in credit risk projects and sectoral deep-dives.
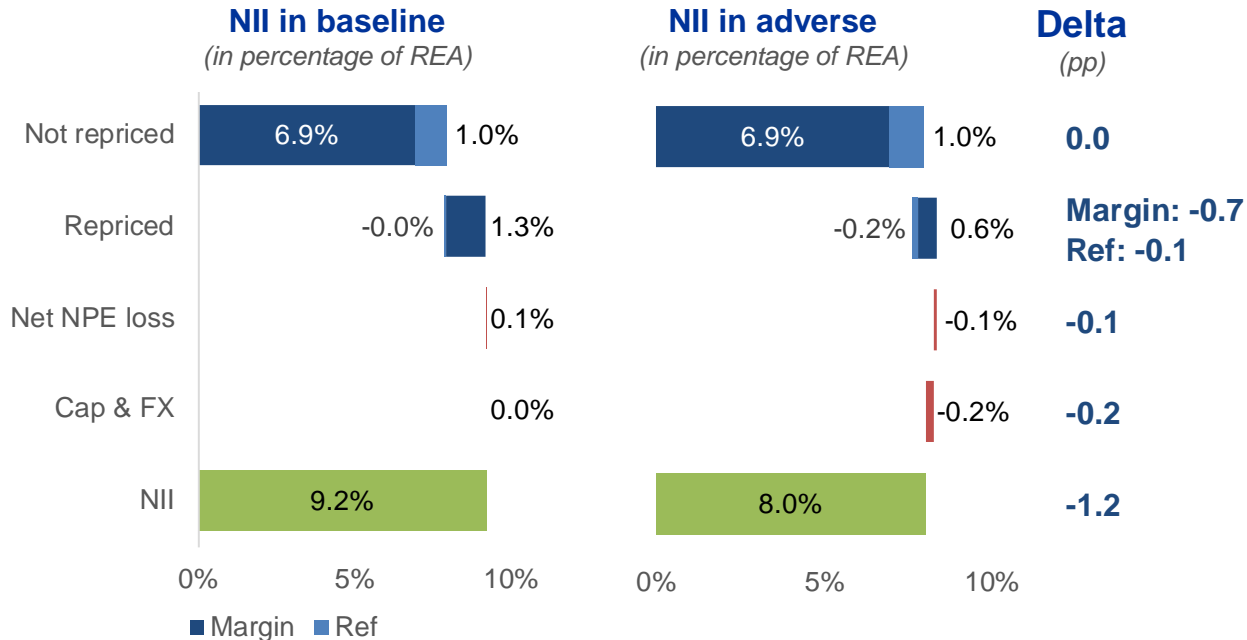
Industry-sector result for adverse scenario

Ten sectors with largest reported exposure in 2020

Q1 Median Q3
P10 ⊢ ☐ ☐ ⊣ P90

	Exposure, € bn
41 - Construction of buildings	117
47 - Retail trade, except of motor vehicles and…	103
55 - Accommodation	77
49 - Land transport and transport via pipelines	57
45 - Wholesale and retail trade and repair of…	52
52 - Warehousing and support activities for…	51
77 - Rental and leasing activities	46
13 - Manufacture of textiles	43
29 - Manufacture of motor vehicles, trailers and…	43
30 - Manufacture of other transport equipment	22

Cumulative impairment rates, in %

Note that the number before each sector refers to the corresponding NACE code for the sector.

Funding shock most important driver for NII reduction in the adverse scenario

NII in baseline
(in percentage of REA)

NII in adverse
(in percentage of REA)

Delta
(pp)

	Baseline	Adverse	Delta
Not repriced	6.9% / 1.0%	6.9% / 1.0%	**0.0**
Repriced	-0.0% / 1.3%	-0.2% / 0.6%	**Margin: -0.7** **Ref: -0.1**
Net NPE loss	0.1%	-0.1%	**-0.1**
Cap & FX	0.0%	-0.2%	**-0.2**
NII	9.2%	8.0%	**-1.2**

0% 5% 10%   0% 5% 10%

■ Margin ■ Ref

1. Net NPEs loss is a measure of the difference between the counterfactual of the income that would have been earned had the instrument still been performing and the actual income earned on the NPE.

Stress test - Comprehensive Integration into the SREP
1) Qualitative outcome – Element 2 (Internal Governance and Risk Management)

- Qualitative outcomes from the stress test exercise are included in the SREP assessment where JSTs take into account:

  - For the purpose of judging an institution's performance in the stress test 2021, a number of categories used, covering **timeliness and accuracy of data**, **cooperation and requests** between the CA and the institution, as well as **quality of information**.

  - Quantitative metrics generated directly from IT-based data aim to inform the JSTs with **measurable criteria** with a view to **assess the banks' performance** by applying a scoring based on four levels.

  - Both the institution's ability to cope with the **data requirements**, as well as it's **responsiveness** throughout the stress test are measured.

  - In addition, JST **judgement** is taken into account. JSTs carried out a **qualitative assessment of the institution's performance** during the stress test quality assurance cycles.

- Element 2 assessment with influence in the P2R determination process

Stress test - Comprehensive Integration into the SREP
2) Quantitative outcome – P2G determination

The entry into force of CRD5 and the organisation of a new EU-wide stress test exercise have called for a revision of the SSM P2G methodology to be applied from this SREP cycle onwards. Unlike last year where P2R and P2G were left broadly unchanged as part of the pragmatic approach under COVID exceptional circumstances, this year we will perform a new determination of Pillar 2 measures. While the previous P2G methodology was based on a formula, the new methodology follows a bucketing framework with a **2-step approach**, it should **reinforce consistency, enhance institution-specific** considerations and does **not include the use of floors or caps**:

Step 1:
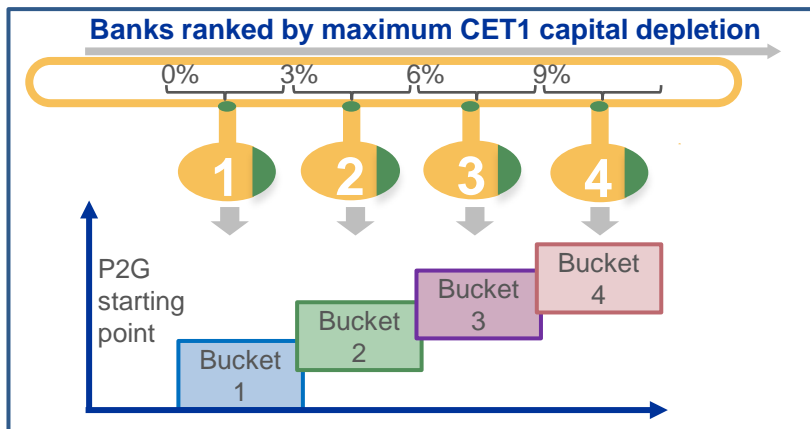
New methodology in line with recent orientations from EBA*.

- **Step 1** is the identification of the institution in a bucket according to the maximum CET1 depletion in the supervisory ST exercise. The buckets are designed according to **recent supervisory experience, SSM risk tolerance and severity of the stress test exercise.**

This bucketing approach **ensures a level-playing field and reinforces consistency** of the P2G methodology. Overlapping P2G ranges for neighbouring buckets allow to avoid potential cliff effects between buckets.

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* Consultation Paper: Draft Guidelines on common procedures and methodologies for the supervisory review and evaluation process (SREP) and supervisory stress testing under Directive 2013/36/EU

Stress test - Comprehensive Integration into the SREP
2) Quantitative outcome – P2G determination

Step 2:
JST adjustment

No cap
(max. P2G this year 4.5%)

P2G

2.75%

2.00%

1.00%

1.75%

1.00%

0.50%

0%
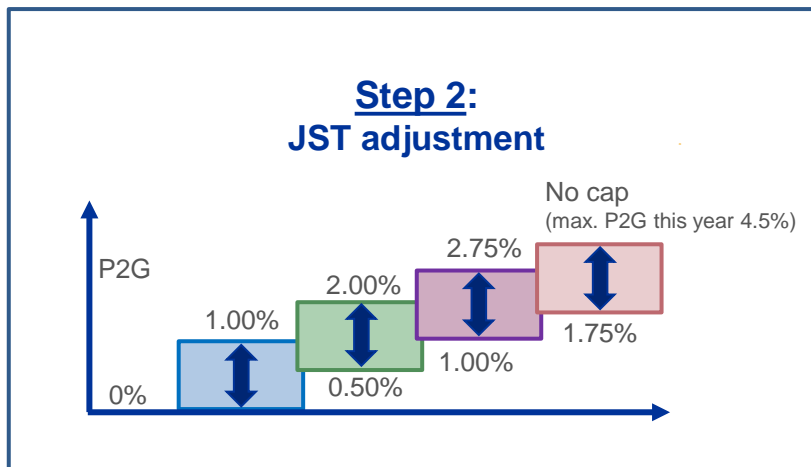
- **In Step 2** JSTs exercise their expert judgement to adjust the P2G to the idiosyncratic profile of the institution. The JSTs are allowed to adjust within the ranges of the corresponding bucket and exceptionally beyond the range of the relevant bucket.

This also **allows to address institution specific situations**, including for example:
- Interim changes in the risk profile of the institution since the reference date of the stress test exercise and relevant mitigating actions,
- the year when the maximum stress impact occurs,
- situations of reduced level of certainty regarding the actual sensitivity of the institution to adverse scenarios and
- impacts of risks already addressed by capital requirements

Despite the application of this new methodology, the capital relief measures announced by the ECB in 2020 continue to apply. Those measures allow institutions to operate below P2G levels until at least end-2022. In this context the new P2G identified in the current SREP should work primarily as updated information available to the institutions, for them to consider when planning their path to compliance after 2022.

Annex

Impact of risk drivers on overall CET1R (FL) depletion of –5.2 pp in the adverse scenario

|	
Credit Risk **(-4.4pp)**	• Macro shocks on GDP, unemployment, commercial and residential real estate are highly associated with credit losses. • The asset classes corporate unsecured and retail unsecured drive the majority of the impairments (39% and 34%, respectively) while the latter only accounts for 11% of the exposures. • Banks with a relatively higher NPE ratio[1] face a higher maximum increase in NPE ratio (median 5.3%) as well as a higher cumulative impairment ratio (median 2.6%) compared to other banks (median 3.5% and 1.2%, respectively), i.e. a lower overall loan portfolio quality translates into higher default risks and higher losses for these banks over the stress test horizon.
Market Risk **(-1.2pp)**	• The full revaluation[2] is naturally the biggest driver and its impact is mainly driven by the equity and credit spread shocks. • The market risk impact is predominantly driven by the EBA banks in the sample which contribute roughly 80% to the market risk impact, with G-SIBs contributing more than one third of the overall market risk impact. Within the group of G-SIBs, banks with higher trading activity are more resilient to the market risk shocks due to higher projected net trading income.
NII **(+8.0pp)**	• Banks face on aggregate a significant compression of their net interest margin driven by the decrease of the EIR for loans to households and non-financial corporates. • Funding sources which are relatively expensive also experience a greater cost increase between the adverse and the baseline scenario, e.g. wholesale/interbank funding faces a higher increase in the adverse scenario than corporate/retail funding.
Op. Risk **(-0.7pp)**	• The operational risk impact is predominantly driven by the EBA banks and it stems approximately equally from conduct risk (-0.35pp) and from other operational risk projections (-0.31pp).
Other P&L, Capital, REA **(-6.9pp)**	• The negative effect from administrative expenses (-9.2 pp) is partially offset by the positive contribution of NFCI and dividend income (+4.5pp). Comparing these effects of the adverse to the baseline scenario, it can be observed that the administrative expenses impact is almost similar while the NFCI and dividend income is higher under the baseline scenario (+5.3 pp).

1 These banks are defined here as the ones that cross the threshold of the 75% percentile of the distribution of NPE ratio in the banks' sample.
2 The impact of market risk on all positions at fair value measurement is to be assessed via a full revaluation after applying a common set of stressed market risk factor shocks provided in the scenario.

By 2023, real GDP declines by 3.6% in EU and unemployment rates increase by 4.7 pp. in EU

- **By 2023, real GDP declines by 3.6% in EU,** by 3.7% in US, by 5.0% in Latin America and increases by 3.9% in Emerging Asia[1]

- **By 2023, unemployment rates increase by 4.7 p.p. in EU**, by 0.9 p.p. in US, by 1.9 p.p. in Latin America and by 4.3 p.p. in Emerging Asia

EU Real GDP 3-year cumulative growth *(percentages)*
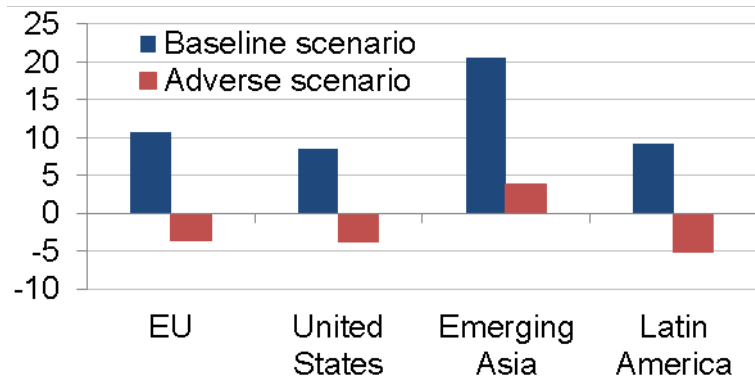

EU Unemployment rate 3-year cumulative increase *(percentage points)*
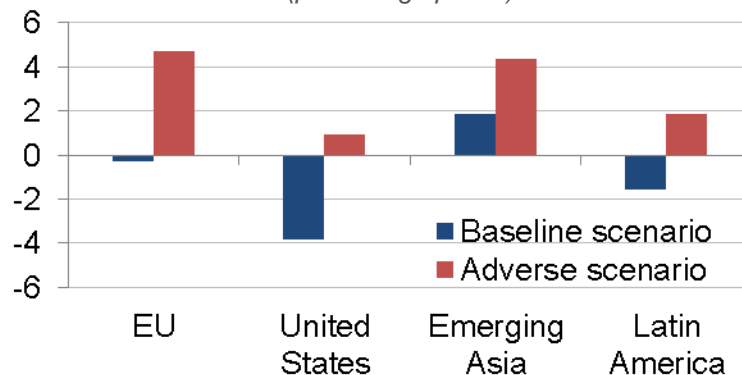
Notes: Annex describes the ST21 scenario in more detail.
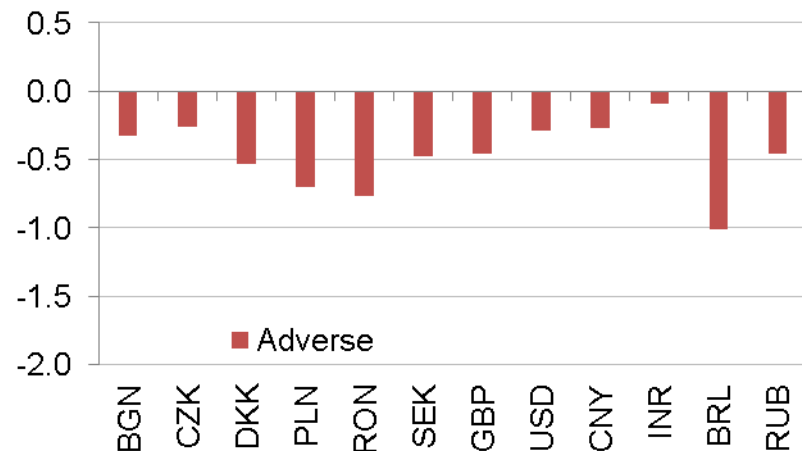1 Against a cumulative baseline growth of 20.7 %. Charts report the weighted means.

EUR swap rates: Inversion of the yield curve in the first year [-32bps] and flattening in the following two years, with rates at -0.5%

Rest of the world experiences an inversion or flattening of the swap yield curve
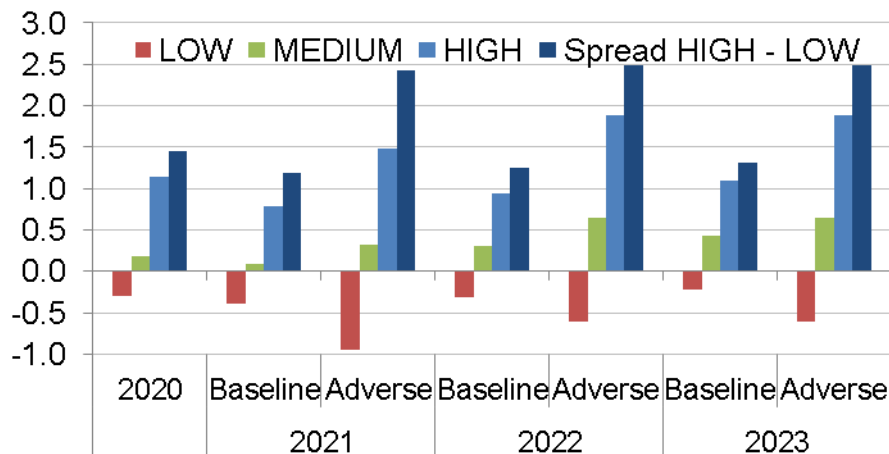
EUR swap rates(%)
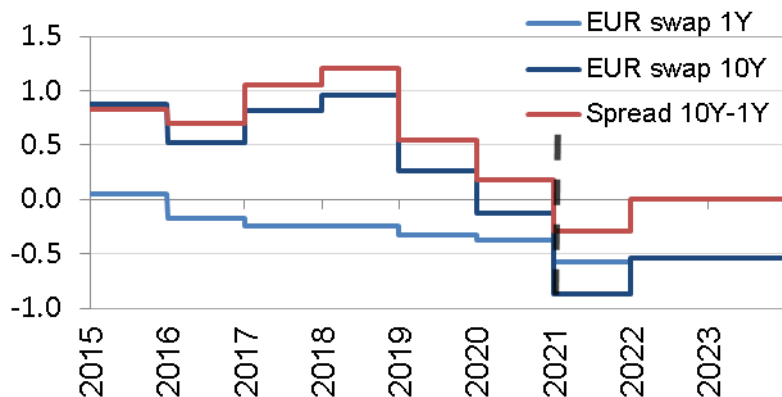
Swap rates spreads in 2021 [10Y-1Y] (%)

Material widening of sovereign [106bps] and corporate [166 to 404bps] credit spreads

Despite the low interest rate environment, the prolonged recession and increase in unemployment rates lead to an **increase of private/public debt sustainability concerns**

EU Long term rates by risk buckets *(%)*

Itraxx *(basis points)*