

# Regulatory stress tests: current status and possible evolutions

*Evolution of regulatory stress tests*

Group Strategic and Integrated Risks

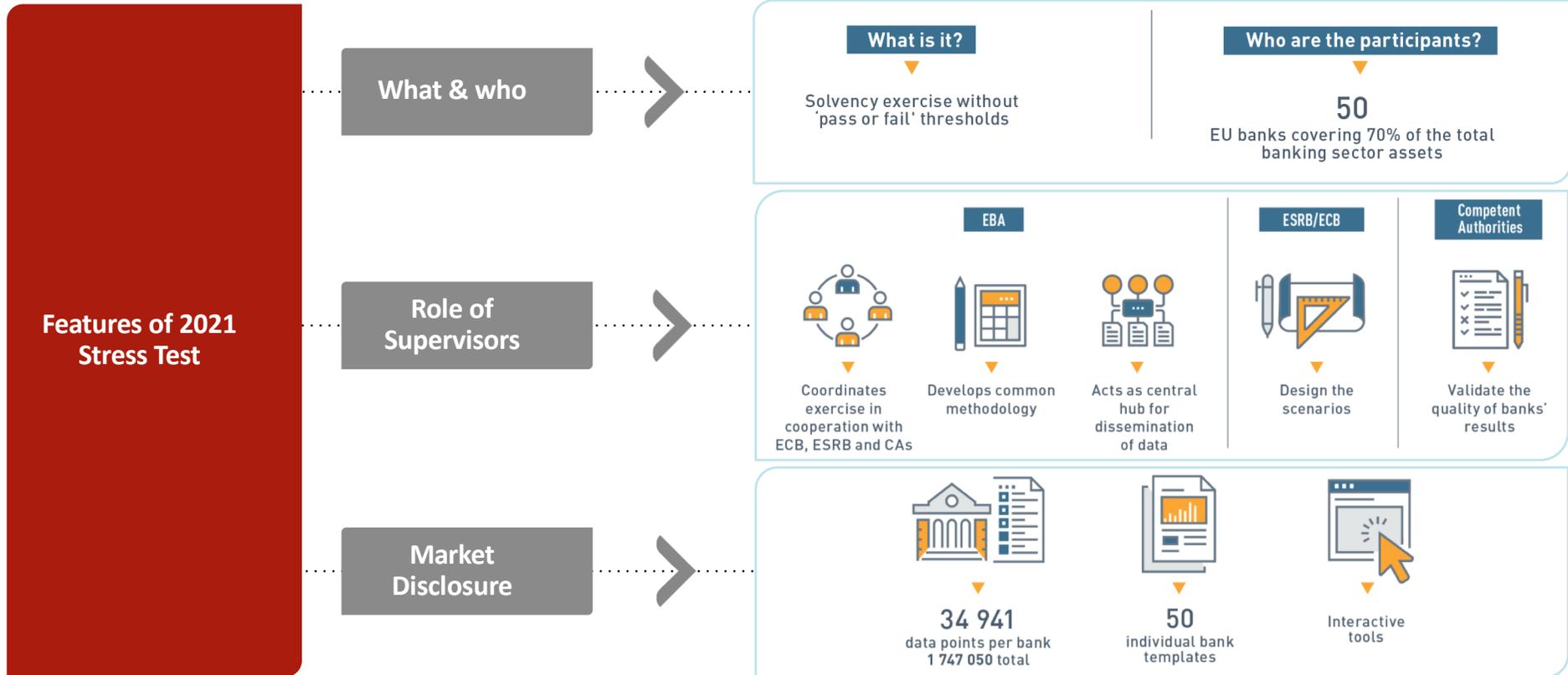
June 21st, 2022



# Agenda



# 2021 EU-wide stress test at a glance



# EU-wide stress test: a constrained bottom-up exercise assessing the impacts of adverse scenario on bank's regulatory capital

## Results will be input for the SREP

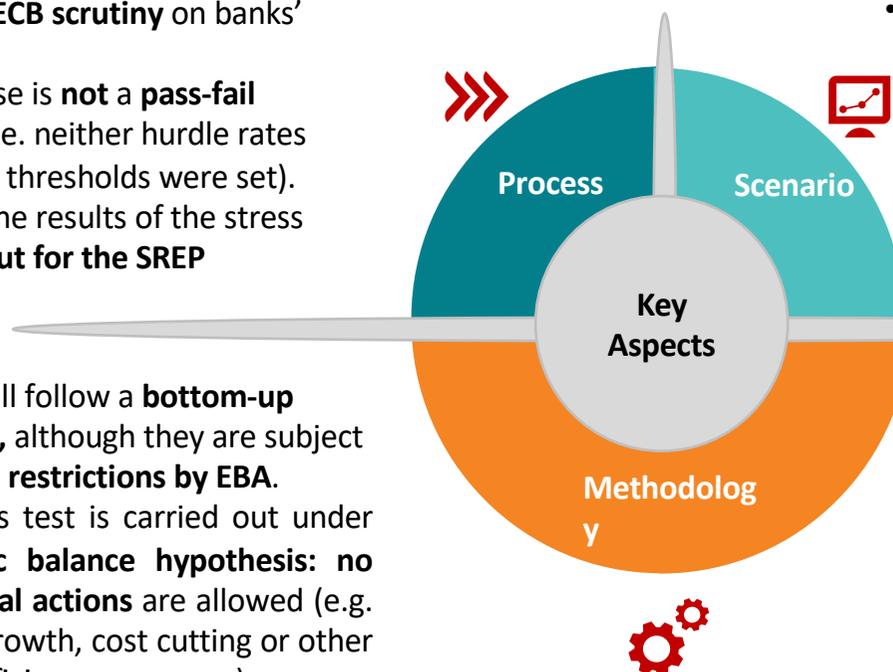
- Extensive **ECB scrutiny** on banks' projection
- The exercise is **not a pass-fail exercise** (i.e. neither hurdle rates nor capital thresholds were set).
- ECB uses the results of the stress test as **input for the SREP**
- Banks shall follow a **bottom-up approach**, although they are subject to several **restrictions by EBA**.
- The stress test is carried out under the **static balance hypothesis: no managerial actions** are allowed (e.g. volume growth, cost cutting or other capital efficiency measures)

## Bottom-up approach and static balance...

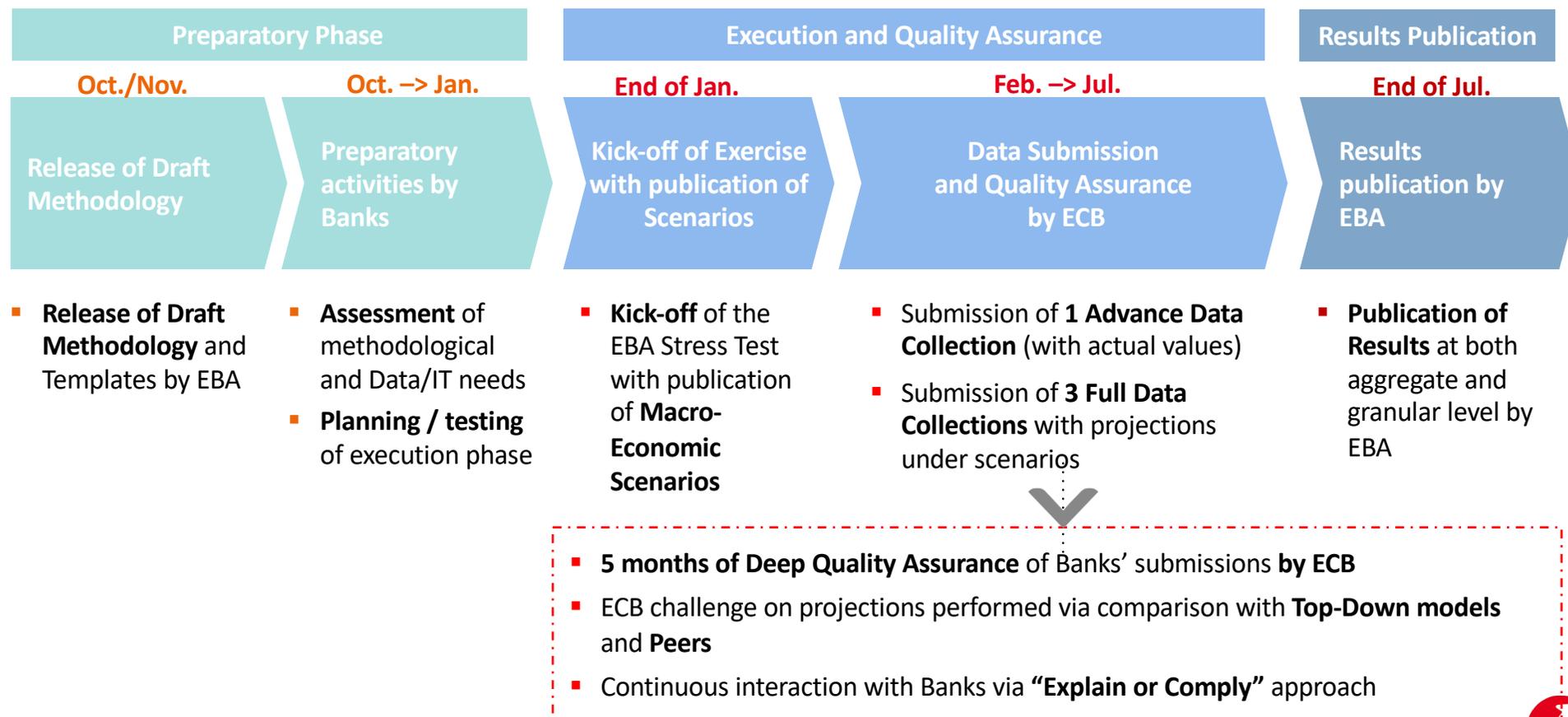
## Baseline and Adverse scenarios

- The exercise includes two common scenarios: a **baseline** and an **adverse scenario**
  - The exercise is carried out using the latest **year-end data**, over a 3-year time horizon.
  - The impact is reported in terms of **CET1 capital. Tier 1 capital ratio, total capital ratio and L1** are reported
- Banks are required to stress:
  - **Credit risk**, including securitisations
  - **Market risk, CCR and CVA**
  - **Operational and conduct risk**
- Banks are required to stress **NII, P&L** and **equity** elements.

## ...and covered risks



## Current process highly resource-intensive both for regulators and banks, with extensive ECB scrutiny on banks' submissions



# Methodology prescriptive on main risk projections, with a set of constraints also on revenues, and no managerial actions allowed

	Capital Impact <sup>1</sup> Baseline vs Adverse
<b>Credit risk</b> <ul style="list-style-type: none"> <li>Use of <b>internal parameters</b> (e.g. PD, LGD) and <b>stress models</b> allowed</li> <li>Several <b>methodological constraints</b> (e.g. Stage 2 migrations, RWA, etc)</li> <li>Banks' <b>projections challenged</b> through <b>ECB top-down stress models</b> and <b>peers analysis</b></li> </ul>	~40%
<b>Net interest income</b> <ul style="list-style-type: none"> <li>Several <b>methodological restrictions</b> and <b>floors</b>, all <b>limiting banks' repricing ability</b></li> </ul>	~20%
<b>Market Risk</b> <ul style="list-style-type: none"> <li><b>Fair value</b> measurement assessed via a <b>full revaluation</b> after applying a common set of stressed shocks, with several floors (e.g. on trading income)</li> </ul>	~20%
<b>Conduct and operational risk</b> <ul style="list-style-type: none"> <li><b>Conduct risk</b> losses, subject to <b>floors</b>: <ul style="list-style-type: none"> <li>✓ <b>Material events</b>: evaluated on a qualitative basis</li> <li>✓ <b>Non-material events</b>: evaluated using banks' quantitative methods</li> </ul> </li> <li>Losses from <b>operational risk</b> stressed using internal methods, subject to <b>floors</b></li> </ul>	~20%
<b>Non-interest income, expenses and capital</b> <ul style="list-style-type: none"> <li>Banks must use <b>internal methods</b> subject to <b>methodological constraints or floors</b>, e.g.: <ul style="list-style-type: none"> <li>✓ <b>Fees</b> cannot be higher of 90% of latest reported value</li> <li>✓ <b>Costs</b> cannot fall below the latest reported value, unless an adjustment for one-offs is permitted. <b>No future cost savings allowed</b> even if fully priced-in (e.g. lay-off plans)</li> </ul> </li> </ul>	

(1) Industry average



## Points of attention from overall exercise

Very high level of granularity of templates/ overall exercise

Managerial actions excluded at all (e.g. cost savings initiatives)

ECB challenger model – limited visibility making difficult to reply

Resulting cumbersome exercise



# Regulatory Stress Testing: different approaches across jurisdictions

Topic	EU-Wide	CCAR	BofE
<b>SREP implication</b>	<ul style="list-style-type: none"> <li>No hurdle rates or capital thresholds</li> <li>P2G not binding calculated on ST results and not MDA relevant</li> </ul>	<ul style="list-style-type: none"> <li>4.5% CET1 hurdle rate</li> <li>Relevant for Capital Distribution</li> </ul>	<ul style="list-style-type: none"> <li>P2 buffer set based on individual bank</li> </ul>
<b>Frequency</b>	<ul style="list-style-type: none"> <li>Two-years (~ 50 banks)</li> </ul>	<ul style="list-style-type: none"> <li>Annual (~ 30 banks)</li> </ul>	<ul style="list-style-type: none"> <li>Annual (7 banks)</li> </ul>
<b>Methodology</b>	<ul style="list-style-type: none"> <li>Static Balance Sheet</li> <li>3 Year time horizon</li> <li>1 Adverse 1 Baseline scenario</li> <li>Credit, NII, Market &amp; Operational Risks</li> </ul>	<ul style="list-style-type: none"> <li>Dynamic balance sheet</li> <li>2 years</li> <li>2 Adverse + 1 Baseline</li> <li>Credit, NII, Market &amp; Operational Risks</li> </ul>	<ul style="list-style-type: none"> <li>Dynamic balance sheet with and without managerial actions</li> <li>5 years time horizon</li> <li>1 Adverse 1 Baseline scenario</li> <li>Credit, NII, Market &amp; Operational Risks</li> </ul>
<b>Approach</b>	<ul style="list-style-type: none"> <li>Constrained Bottom-up (banks model allowed with methodological constraints)</li> <li>ECB challenge Banks projections with Top-Down /peers benchmarking (explain or complain)</li> </ul>	<ul style="list-style-type: none"> <li>Top-Down (Fed Models with banks data used)</li> <li>Banks publish results of their models</li> </ul>	<ul style="list-style-type: none"> <li><b>Banks model results challenged</b> by BofE top-down models</li> </ul>
<b>Disclosure</b>	<ul style="list-style-type: none"> <li><b>High-level (bank by bank)</b></li> </ul>	<ul style="list-style-type: none"> <li><b>High-level (bank by bank)</b></li> </ul>	<ul style="list-style-type: none"> <li><b>High-level (bank by bank)</b></li> </ul>



# Banking industry calling for a more realistic exercise in the discussions with supervisors on the future evolution of EU stress testing

Area of Concerns	Description
Clarity in EU-Wide ST Objectives	<ul style="list-style-type: none"> <li>▪ The current exercise entails <b>double objectives</b> that are in conflicting :               <ul style="list-style-type: none"> <li>✓ a <b>micro prudential purpose</b> as stress test results feed the SREP of each bank</li> <li>✓ stress test results used by Regulator as <b>macroprudential analysis</b> for assessing systemic risks</li> </ul> </li> <li>▪ Also EBA recognizes that it should be decided which purpose shall prevail</li> </ul>
Realism of Results	<ul style="list-style-type: none"> <li>▪ <b>The methodological constraints</b> (e.g. static balance sheet) while allowing for a better comparability of results and easier quality assurance by ECB, <b>lower the realism of the outcomes</b> making the exercise not really meaningful to measure capital evolution</li> </ul>
Ownership of Results	<ul style="list-style-type: none"> <li>▪ As banks projections <b>can be overridden by the supervisory</b> benchmarks and challenger models the banks are not always fully recognized in the final results</li> </ul>
Resources Absorption	<ul style="list-style-type: none"> <li>▪ It is widely recognized that the exercise is <b>highly resource-intensive and time-consuming</b> (6/7 months 20/30 FTE) both for Regulators and Banks. There is general agreement that the exercise <b>should become more cost-efficient</b></li> </ul>

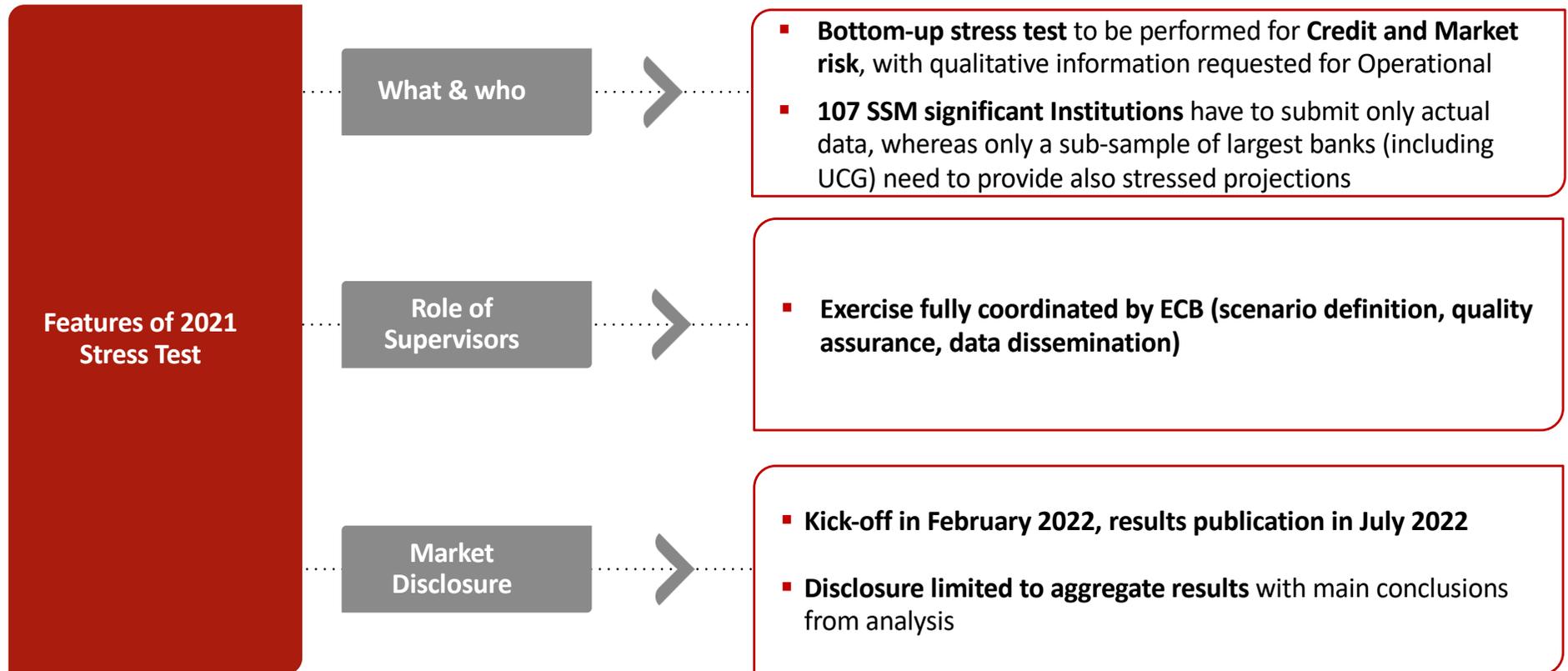
Is it currently **under assessment** by EBA:  
 the inclusion of **dynamic elements** (managerial actions)  
**a two-leg approach** (as in the US CCAR), with one top-down simulation done by ECB and one bottom-up by the banks



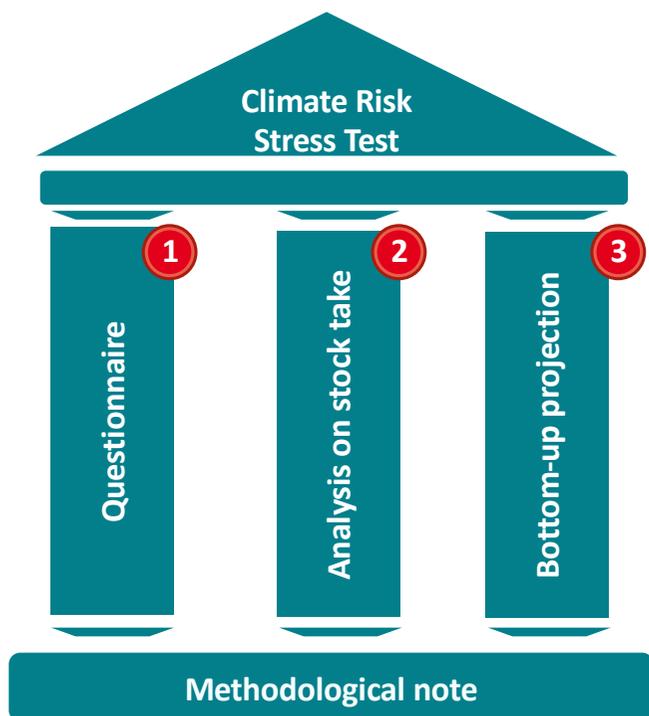
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## 2022 Climate Risk Stress Test at a glance



# Climate risk stress test: three modules with tailored data quality and quality assurance processes

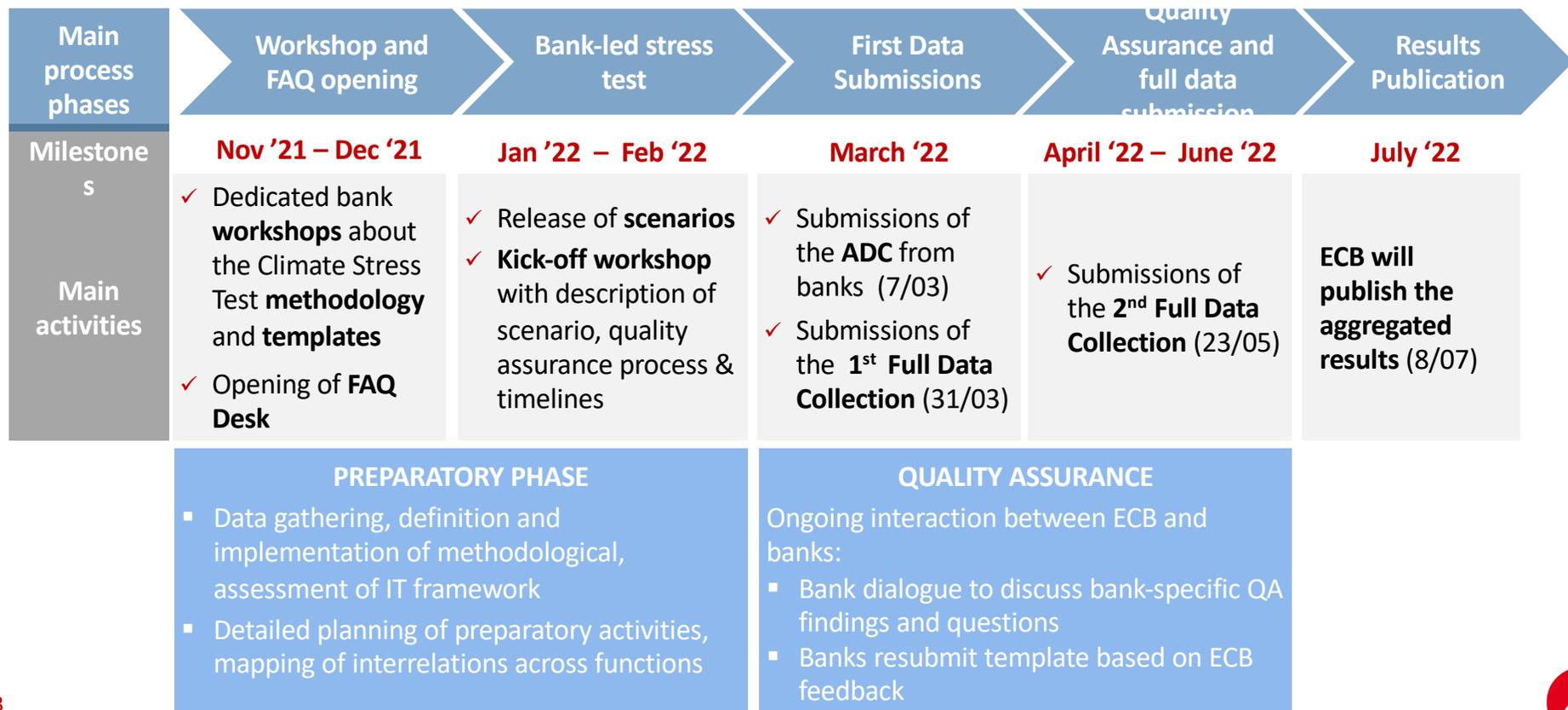


## 3 Pillars of 2022 ECB Climate Risk Stress Test

- 1 Questionnaire on bank's practices**  
78 closed end questions for systematic assessment of internal end-to-end climate risk stress test framework (incl. climate strategy and governance)
- 2 Analysis on stock take**  
Two climate metrics that provide insights into:
  - Banks' income related to transition risk industries
  - Exposure to carbon-intensive industries based on emission data for largest corporates**Stress Test projections (EBA-like)**
- 3 Bottom-up stressed projections, based on 7 scenarios covering:**
  - Short-term (3y) and long term (30y) horizon
  - Transitional and Physical Risk for corporates and mortgages
  - Additional specific Op Risk qualitative questions



# Climate risk stress test: a long exercise with a timeline similar to EBA stress test



# Climate risk stress test: highlights, challenges and possible evolutions

## Highlights

- **A learning exercise** to enhance both banks and supervisors' capacity in assessing climate risk
- **Create awareness** of climate risk and identify **banks' vulnerabilities**
- The results will **inform the 2022 SREP** only via qualitative approach, with **no direct capital impact via P2G** decision. Only in **specific cases** (material weaknesses), potential impact on P2R

## Key challenges

- **Data awareness** (e.g. emission levels): still scarcity of relevant, comparable, reliable **data across industry**
- **Development / internalization of methodologies** to translate climate scenarios into **financial impacts** for the bank
- **Limited visibility on ECB benchmarking on module 2 and 3 metrics** – to be commented in explanatory note
- **ECB challenge on methodology?** Robustness of methodology?

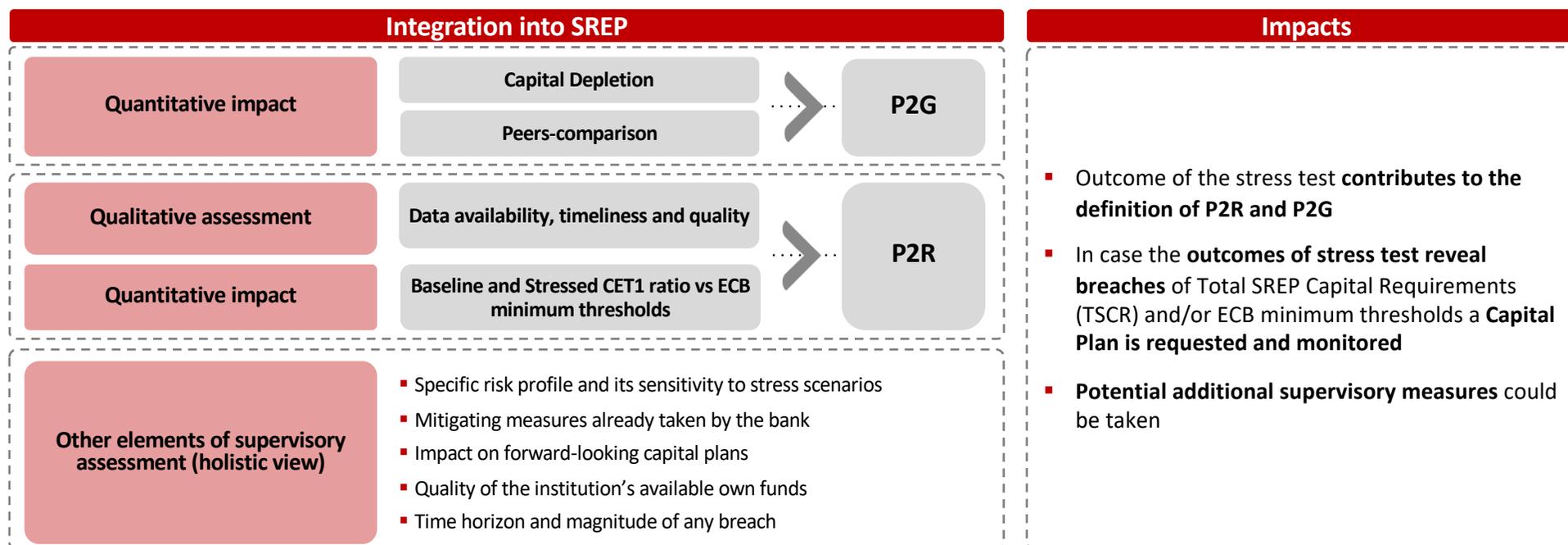
## Beyond 2022 exercise

- Increasingly stringent **regulatory expectations** for an **integrated Climate risk management framework** (e.g. scenarios evolution, coverage of non financial risks)
- Development and roll out of **internal Climate Risk Stress Testing** as part of ICAAP
- **Feeding into SREP** still to be clarified



# Results are integrated into SREP with impacts on Pillar 2 Requirement (P2R) and Pillar 2 Guidance (P2G)

No hurdle rates or capital thresholds are defined for the purpose of the 2021 EBA Stress Test exercise. However results will be integrated into the SREP. In particular the outcome of the stress test will be included in the determination of both the P2G (not MDA-relevant) and P2R (MDA-relevant)



# 2021 EBA Stress Test has a similar architecture to previous exercises, though with a series of changes due to the new economic background

## Highlights of 2021 EBA Stress Test

Credit Risk

- All **moratoria** assumed to end by **Dec'20**
- Distribution of exposures and provisions **across IFRS 9 stages** at the beginning of 2021 is required to be **restated** (keeping overall provisions unchanged) to reflect removal of moratoria
- Parameters to be modelled **disregarding the mitigating effect of moratoria** and all **additional support measures** which are assumed to be embedded in macro-economic indicators
- **Public guarantee scheme** included when projecting impairments and RWA including replacement of guarantees if expired
- **New definition of default** to be used in Credit Risk projections only if implemented by 31<sup>st</sup> December 2020

NII

- Pre-moratoria conditions shall be applied for maturity, schedule and EIR

### Key changes with respect to previous exercises

- **Disregarding effects of moratoria on Credit and NII**
- **FX effects to be incorporated in NFCI**
- **2 additional templates (Credit Risk Covid-19 and NPL)**



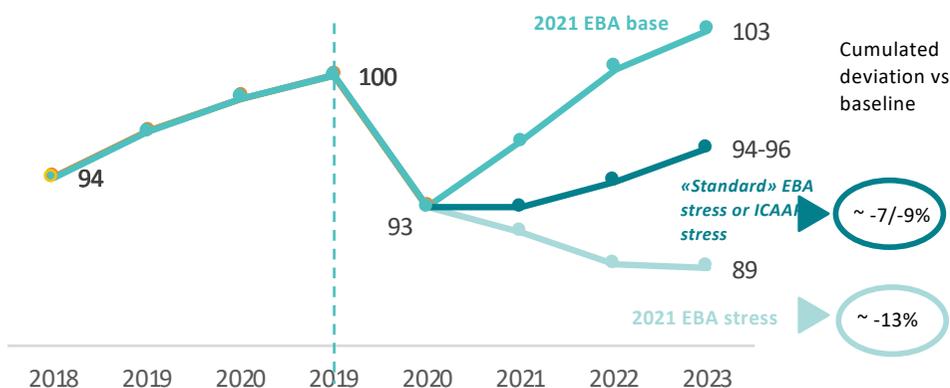
# 2021 Adverse Scenario is the most severe to date: three more years of recession in Eurozone after 2020 GDP drop, in a context of ultralow interest rates

GDP shocks add stress on already stressed pandemic-hit economy...

REAL GDP Growth % - Eurozone

	2020	2021	2022	2023
EBA Baseline	-7.3	3.9	4.2	2.1
EBA stress	-7.3	-1.5	-1.9	-0.2

GDP deviation from baseline (2019 = 100) – Eurozone



... jointly with extraordinary low interest rates and very severe shocks on all asset classes

Interest Rates

Euribor 3M projected flat at ~ -50/-55 bps

IR curve Inverted the first year (IRS 10Y at -80bps, below Euribor), then flat in year 2 and 3

Market Risk

Extreme Equity Markets shocks (e.g. ITA -51% vs -32% in previous stress test)

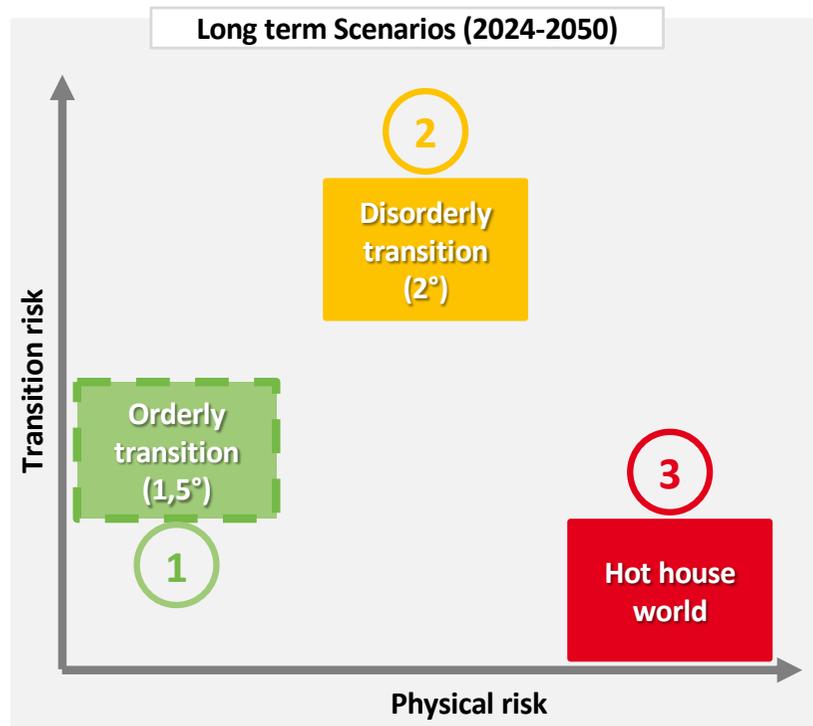
ITA Sovereign Credit Spread increasing by +156 bps (+66 bps in previous exercise)

Real Estate

Commercial RE shocks at around -30% in ITA and GER, almost doubled vs previous exercise



# Climate scenarios combine transition and physical risk with a short and long term view



Risk Type	Time Horizon	Transition risk (2024-2050)		
		1	2	3
Transition risk	Short term	<b>Disorderly short term stress scenario (2022-2024)</b> <ul style="list-style-type: none"> <li>• Delayed policy measures to reduce carbon emissions</li> <li>• Carbon price increase</li> <li>• No economic recovery promoted by the green transition</li> </ul>		
	Long term (2024-2050)	<b>1. Orderly transition (limited physical risk)</b> <ul style="list-style-type: none"> <li>• Early and effectively implemented policies</li> <li>• Limited costs from transition and physical risk</li> </ul>	<b>2. Disorderly transition (average physical risk)</b> <ul style="list-style-type: none"> <li>• Delayed policies implemented</li> <li>• High costs from transition and average costs from physical risk</li> </ul>	<b>3. Hot house world (extreme physical risk)</b> <ul style="list-style-type: none"> <li>• No new policies implemented (only current policies)</li> <li>• Very limited costs from transition but extremely high costs from physical risk</li> </ul>
Physical risk	1 year	<b>Drought &amp; heat risk</b> <ul style="list-style-type: none"> <li>• The key transmission channel of heatwave risk to the economy is through labour productivity</li> </ul> <b>Flood risk</b> <ul style="list-style-type: none"> <li>• Severe impacts on both human lives and real estate</li> </ul>		

