

Climate stress tests for banks

Addressing existing deficiencies

- Climate stress testing for the financial sector has arrived, with the most recent EU climate stress tests revealing that the impact of transition risks on banks was low – not surprising given banks' moderate direct exposure to climate risk.
- More generally, the methodology of EU climate stress testing is constrained by scope, timelines, and data, suggesting revisions are necessary to improve their usefulness.

Stress tests are essential for assessing whether a financial institution is at risk of becoming insolvent, which could have significant adverse consequences for the health of the broader financial market. In the past few years, these exercises have expanded to include climate related events and their impact on banks' financial resilience. Most recently, the European Central Bank (ECB) and the European System of National and Regional Accounts (ESA) analysed the impact of scenarios relating to the EU's Fit-for-55 climate transition plan, which included both macroeconomic factors and transition risks. With some observers questioning their methodology, it is worth considering some of the limitations of not only the Fit-for-55 stress tests, but EU climate stress testing more generally, as well as approaches taken in other jurisdictions.

Deconstructing the EU's Fit-for-55 testing

The Fit-for-55 stress test's baseline scenario envisioned a 55% reduction in carbon emissions across the EU by 2030.¹ The first adverse scenario included a bumpy transition whereby investors shed assets of carbon-intensive firms, impeding progress towards the green transition. The second adverse scenario amplified this shock with standard macro-financial stress factors. These stress tests were applied to 110 banks, 2,331 insurers, 629 institutions for occupational retirement provision (IORPs) and around 22,000 EU-domiciled funds.²

The results of the Fit-for-55 stress tests suggest the risks to financial stability are minimal.³ The ECB and ESA concluded that EU financial institutions are well-placed to weather any economic storms emanating from the EU's green transition and did not find any evidence that transition risks would upend financial market operations. The main result is that the direct impact of climate risks is small. This makes intuitive sense in a services economy in which banks lend relatively little to industry, agriculture, *etc.* It is the business cycle/macroeconomic events that have more impact on financial stability. Empirical results support this

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hypothesis: the results showed that total first-round losses (individual sectoral vulnerabilities) in the first adverse scenario would amount to between 5.2% and 6.7% of financial institutions' exposures. In the second adverse scenario, where macroeconomic shocks are included, financial institutions appear more vulnerable. Specifically, first-round losses for banks, insurers, occupational pension funds, and investment funds varied between 10.9% and 21.5%. These more painful losses are unsurprising given that some market disruptions would be expected if transition risks are combined with macroeconomic events.

Deficiencies in methodology of the Fit-for-55 tests may even be overstating negative results further. The use of a static balance sheet assumption underestimates the resilience of the financial system.⁴ Although a standard approach for climate-related stress testing, it fails to capture the possibility that financial institutions may react to contain losses. If this is taken into account, the impact of the second adverse scenario could be even less disruptive to EU financial markets.

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Additionally, climate modelling is constrained by the lack of relevant past data.⁵ Without previous experience of global warming, it is difficult to predict with a high degree of confidence how quickly the planet will warm and when and at what level temperatures will peak. Data regarding a fast-tracked energy transition and what that might look like are similarly unavailable. Lastly, many companies do not publish emissions data, forcing banks to rely on proxy data from third party vendors.⁶ Banks have complained that they require greater regulatory guidance in terms of the use of these data.

Banks have argued that the EU stress tests should also encompass a wider diversity of variables and timelines to improve their accuracy and usefulness.⁷ An AFME survey of banks found a preference for incorporating a 30-year time horizon with a high-level dynamic balance sheet modelling approach to determine the full transition impacts and net-zero achievements. As well, shorter time horizons of three to five years could provide a greater variety of scenarios that test a banks' ability to quickly draw up and implement plans and minimise risks. More granular factors that take into account country-level differences would improve the tests' robustness.

Relatedly, a realistic decarbonization approach must account for sectoral disparities, technological trajectories, and geopolitical constraints. Recent advances in clean energy and policy commitments underscore that transition risks are not uniform. Stress tests should reflect these nuances by adopting granular, sector-specific, and country-level analyses. This would allow institutions to better anticipate localized risks and opportunities, ensuring financial stability while supporting climate goals. The financial industry is also concerned that the climate stress tests overlook market risks and additional risks relating to commodities, sovereigns, and counterparties.

Finally, ECB stress tests could take a more strategic approach to the inclusion of specific industries. Banks' exposures were assessed using the NACE list of

22 sectors.⁸ Many of these sectors are not exposed to climate risks and their inclusion, banks argued, potentially distracts from real industry related risks. Instead, financial institutions have proposed focusing on those industries that are high-emitters or most exposed to transition risks. In any event, rather than debating whether outcomes are optimistic or conservative, stress testing frameworks should pivot towards asking forward-looking questions.

Stress testing: Geographic diversity across methodology

Australia, Canada, the UK, Singapore and the U.S. have all conducted some form of climate stress testing.⁹ While the UK was a first-mover, the EU is generally viewed as having gone the furthest with climate stress testing. The methodologies differ in several ways including time horizons, the extent to which credit and market risks are assessed, whether it is a top-down or bottom-up exercise, and the choice of balance sheet approach.

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As the EU's primary competitor, the U.S. warrants further consideration. Although the U.S. Federal Reserve has conceded that climate change does pose a systemic risk, its actions have been far narrower than the ECB's.¹⁰ It has tightly limited the scope of any risk assessment to its role as a macroprudential supervisor of financial stability. In line with this, the Fed has recently announced that it has withdrawn from the Network of Central Banks and Supervisors for Greening the Financial System (NGFS). The Fed states that while the Board has appreciated the engagement with the NGFS and its members, the work of the NGFS has increasingly broadened in scope, covering a wider range of issues that are outside of the Fed's statutory mandate. The Fed in general is more inclined to leave climate risk management to Congress. It did launch a climate scenario analysis exercise in 2022 but emphasised the exploratory nature of these tests, which were separate from standard stress testing.

Looking ahead, it is extremely unlikely the Fed will further develop its climate stress testing exercises under a Trump administration. This creates a potential competitive disadvantage for European banks. While ECB stress tests do not influence capital requirements, they do entail administrative costs (indeed this is the predominant view in America) and could reduce EU banks' equity values relative to their American peers.

Conclusions

Climate stress testing is still in the early stages, with supervisors viewing them as learning exercises rather than a practical indicator for regulatory oversight. However, the risks associated with climate change and the green transition are real and do need to be provisioned against, as evidenced by disasters such as the catastrophic floods in Valencia in October 2024. As such, it is imperative that these tests be subject to thorough revision to address some of their vulnerabilities and weaknesses.

EXHIBIT – FIT-FOR-55 STRESS TEST RESULTS

Sub-Sector	First-round losses			First and second round losses		
	Baseline Scenario	First Adverse Scenario	Second Adverse Scenario	Baseline	First Adverse Scenario	Second Adverse Scenario
Banking	-5.8	-6.7	-10.9	-5.8	-6.8	-11
Insurance	-2.2	-5.2	-18.8	-2.9	-6.9	-23.3
Pensions	-3	-6.4	-21.5	-	-	-
Investment funds	-4	-6.1	-15.8	-6.6	-11.2	-25
Total financial system	-3.9	-6	-15.8	-5.3	-8.7	-20.7

Note: First round losses model individual sector vulnerabilities, while second round losses take stock of modelling of contagion and amplification effects across firms and sub-sectors of the financial system

Source: <https://www.ecb.europa.eu/press/pr/date/2024/html/ecb.pr241119~10b6083ce0.en.html>

Notes

- ¹ <https://www.ecb.europa.eu/press/pr/date/2024/html/ecb.pr241119~10b6083ce0.en.html>
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- ³ <https://www.ecb.europa.eu/press/pr/date/2024/html/ecb.pr241119~10b6083ce0.en.html>
- ⁴ https://www.ecb.europa.eu/press/publications/html/ecb.faq_fit_for_55_stress_test.en.html#_Methodology
- ⁵ <https://www.consultancy.eu/news/10083/the-challenges-of-climate-risk-stress-testing-for-banks>
- ⁶ https://www.afme.eu/Portals/0/DispatchFeaturedImages/AFME_ClimateRisk2023_09.pdf
- ⁷ https://www.afme.eu/Portals/0/DispatchFeaturedImages/AFME_ClimateRisk2023_09.pdf
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