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ECB Releases Results of 2022 Eurosystem Balance Sheet Climate Risk Stress Test

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As part of the European Central Bank's (ECB) 2021 [action plan](#) to incorporate climate change considerations into its monetary policy, the ECB conducted a climate risk stress test of the Eurosystem balance sheet in 2022. Those results are [now available](#).

The purpose of the stress test was two-fold: first, to analyze the Eurosystem's financial risk profile with respect to climate change, and second, to enhance climate risk assessment capacity itself. The test addressed various Eurosystem portfolios including covered bonds, corporate bonds, asset-backed securities and collateralized credit operations. The results of the stress test indicate that both transitional and physical risk have a material impact on the Eurosystem balance sheet's risk profile.

Stress Test Results

The ECB's exercise tested five scenarios — three long-term scenarios developed by the Central Banks and Supervisors for Greening the Financial System (NGFS) and two short-term scenarios developed by the ECB. The long-term scenarios projected macro-financial and climate variables over a 30-year period. Essentially, the scenarios adjust the extent to which climate change mitigation policies have been implemented and then assess the associated climate risk results. The 'hot house world' scenario assumes climate policies are not enforced. The test indicates that this scenario presents severe physical risk but not transition risk. At the other end of the spectrum, the orderly transition scenario works off the assumption that the implementation of climate change policies is timely. In the middle is the disorderly transition

scenario, which assumes climate change policies are delayed in implementation. The test indicates that this scenario presents severe transition risk but only limited physical risk.

In addition to the three long-term scenarios, the two short-term situations considered were a flood risk scenario over a one-year period (posing material physical risk) and a short-term disorderly transition scenario, which tested the potential impact of steep increases in carbon prices over a three-year period (posing material transition risk).

Overall, results from the climate risk stress test show that both transitional and physical risk have a material impact on the Eurosystem balance sheet's risk profile. In terms of long-term scenarios, the disorderly transition and hot house scenarios generate risk estimates 20-30% higher than the risk estimates under the orderly transition scenario. Analysis of the long-term scenarios suggests that corporate bonds are the main risk driver, while covered bonds, asset-backed securities and credit operations pose less total risk. Corporate bonds are the main risk driver under the short-term scenarios as well, although covered bonds also were a significant risk contributor in the flood risk scenario.

Across all five different scenarios, the transition risk for corporate bonds is concentrated in specific sectors, and the physical risk for corporate bonds is concentrated in certain areas geographically.

Taking the Temperature: As we have [observed](#), financial institutions, including in the EU, are committing to considering climate shocks when stress-testing their own financial institutions. Similar stress-testing initiatives are underway with other major prudential regulators, including the [Bank of England](#) and the [Federal Reserve](#). As part of the EU's attempts at implementing an orderly transition, the European Banking Authority's [sustainable finance roadmap](#), released at the end of 2022, sets out a three-year plan that provides guidance on sustainable finance in the EU. The roadmap sets out the EBA's plan for the next three years to "integrate ESG risks considerations" into the banking framework and to "support the EU's efforts to achieve the transition to a more sustainable economy." Relatedly, the ECB [recently published](#) its first climate-related financial disclosures. The disclosures provide information on ECB portfolios, including detailing their carbon footprints and exposure to climate risks, and also discuss climate-linked governance and risk management. The disclosures are part of a [Eurosystem-wide effort](#) to increase transparency around the sustainability characteristics of European central bank portfolios.