

ESGnomics





Foreword

Climate change, reduced inequality and better governance are all challenges to making our world more just and sustainable in the future, and Rothschild & Co is committed to this goal.

The Group's economic research is part of this approach, providing analysis on the main risks and opportunities to which economic players are exposed. ESGnomics aims to convey in an educational manner the contributions of economics to the discussion of Environmental, Social and Governance issues.

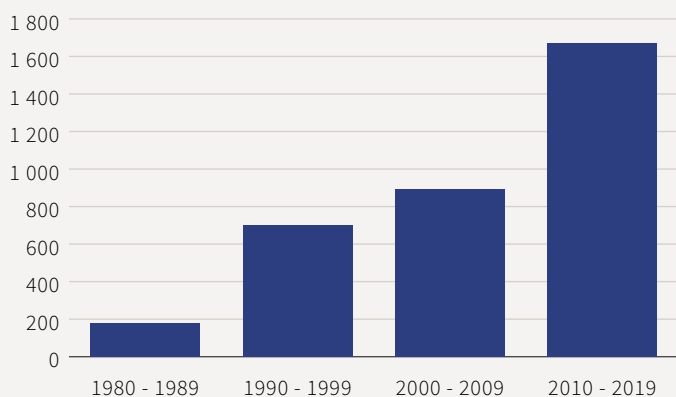
The impact of climate change on monetary policies



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While it is challenging to precisely measure the impact of climate change on the planet and on human activities, increased numbers of extreme events will very certainly cause heavy economic damage. What impact will this have on monetary policies?

**World – Economic costs of climate disasters
in billion USD**



Source: Financial Stability Board, Rothschild & Co Asset Management, 2024.

Why do central banks care about climate change?

A central bank's main mandate is generally price stability. A second objective, acquired over the course of successive financial crises, is banking system supervision and, implicitly, financial system stability.

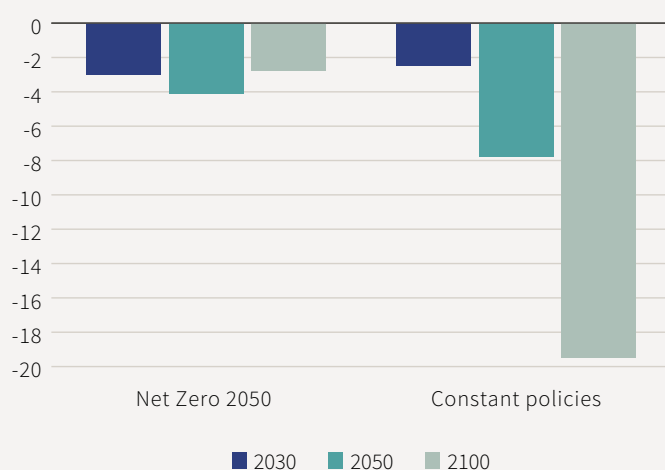
In that regard, climate change is a notable concern of central banks through its direct consequences on four key variables in the conduct of monetary policy: the functioning of the financial system, economic growth, inflation and potential GDP.

“climate change
is a notable concern
of central banks...”

Physical risks are those caused directly by increased numbers of climate-related disasters, such as droughts, flooding, and forests fires.

Transition risks are those covered by new regulations on the environmental transition towards a decarbonated economy, such as carbon taxes.

World – GDP deviation in % of central scenario



Source: IIASA, NGFS, Climates Scenarios, Database, Rothschild & Co Asset Management, 2024.

Risks to the functioning of the financial system

Climate change comes with both physical risks and transition risks that could disrupt the financial system, and therefore require special attention from central banks.

Disasters arising from physical risks cause capital destruction, as such events have become more intense over the decades. They could weaken the financial system in general, and banks in particular by causing a devaluation of exposed assets used as collateral. They could also worsen companies' credit risk in the most heavily exposed geographical regions and sectors, such as farming and tourism.

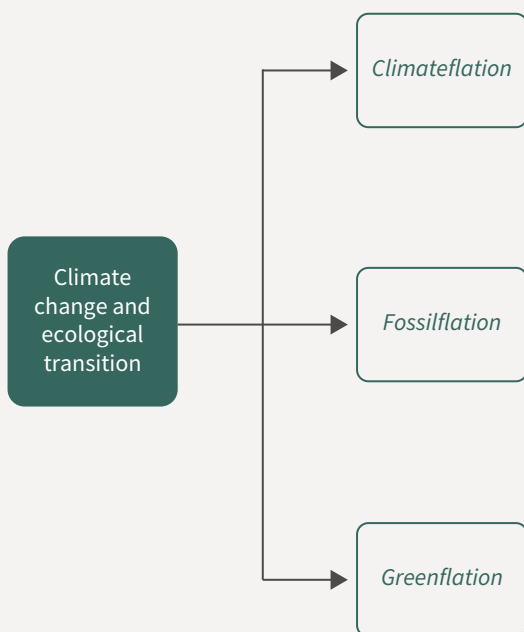
The financial system also faces transition risks, mainly in the disruption of economic activity, particularly if new regulations are adopted suddenly. For example, shifts in economic activity could punish sectors targeted by such policies, including fossil fuels, thus triggering a loss of asset value and increased credit risk for companies in the sectors concerned.

Negative impact on economic growth

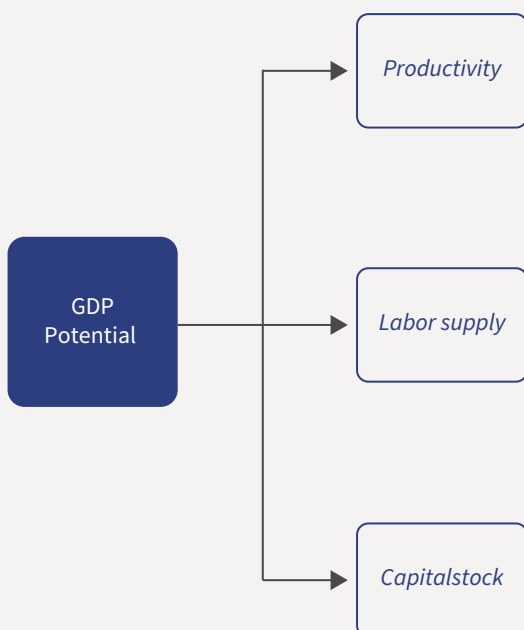
Climate change's impact on economic growth is a cause for concern, due to the high costs of the materialising of physical and transition risks for all economic agents. In concrete terms, physical destruction of capital and the shocks of reallocation of economic activity would lower GDP in all transition scenarios, albeit with a greater impact if climate policies are not ambitious enough⁽¹⁾. Central banks' challenge will lie mainly in anticipating these downside shocks and, hence, in developing credible short- and long-term growth forecasts. In short, climate change will make the conduct of monetary policy more challenging.

“Climate change's impact on economic growth is a cause for concern...”

(1) Network for Greening the Financial System, “NGFS Climate Scenarios for central banks and supervisors”, 2020



Potential GDP is the volume of production that an economy can sustainably achieve without stoking inflationary tensions. It is also an indicator of long-term growth momentum and is therefore crucial for drawing up economic forecasts and, accordingly, monetary policy.



More volatile inflation

Central banks will also have to deal with the inflationary disruptions that come with climate change. Inflation could indeed become more volatile due to three separate dynamics⁽²⁾:

- The first of these is climateflation, i.e., inflation that arises directly from the occurrence of climate-related disasters and the related economic costs of adaptation. One telling example is the rise in food prices following harvests that are very poor or that are destroyed by intense droughts.
- The second is fossilflation, which can be described as the increase in fossil fuel prices due to a mismatch between supply held back by environmental transition policies, and still robust demand that has not switched in time to decarbonated energy sources.
- The third dynamic is greenflation, which results directly from transition policies that incentivise green investments. Such investments require a significant and rapid need for metals and minerals, prices of which are likely to rise if supply is unable to meet changing demand.

All three of these dynamics show how much climate change and transition policies will be sources of greater inflationary shocks and, hence, highly volatile inflation, which will pose major challenges in inflation expectations and in conducting monetary policies.

Weaker potential growth

Central banks also care about climate change for its impact on potential GDP, which is based on three main factors: capital stock, labour supply and productivity. All three of these components will be affected directly by the increased numbers of extreme climate events and by the implementation of transition policies⁽³⁾.

Natural disasters will cause losses of physical infrastructures and natural resources, and that will restrict available capital stock. Moreover, some capital stock will be shifted by a depreciation in sectors hindered by transition policies. One example of such a dynamic is factories that make soon-to-be-banned internal-combustion engines, with those factories becoming useless.

Major disruptions are also expected in labour supply, driven mainly by waves of climate migrants from stricken areas, as well as a potential increase in mortality⁽⁴⁾. Transition policies will also cause structural unemployment through a supply-demand mismatch, as labour in the sectors concerned, such as fossil fuels, will not necessarily be able to adapt rapidly to new sectors.

And, lastly, the impact of extreme climate on productivity is potentially on the downside. This includes extreme weather conditions, such as heatwaves, which will bother workers in sectors where they are more exposed than average, such as construction. Meanwhile, spending on innovation could be cannibalised by spending on climate-change adaptation, which would ultimately undermine productivity growth.

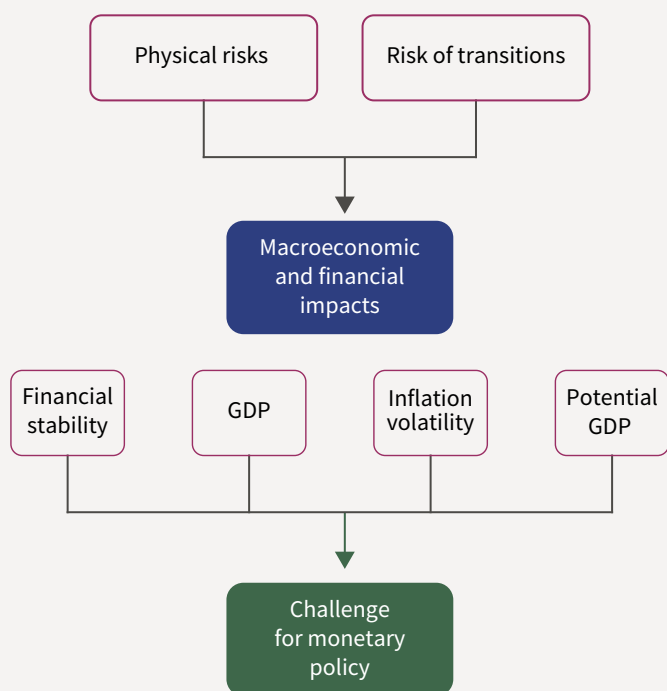
(2) Isabel Schnabel, "A new age of energy inflation", ECB, 2022

(3) Miles Parker, "How climate change affects potential output", ECB Economic Bulletin, 2023

(4) World Economic Forum, Quantifying the Impact of Climate Change on Human Health, 2024

A big challenge for central banks

To sum up, climate disruptions and transition policies could come with financial instability, weaker growth, more volatile inflation, and various and mostly downside shocks to potential GDP. That's why, based on their mandate, central banks must take an interest in climate change, due to its risks to economic variables having a heavy impact on the conduct of monetary policy.



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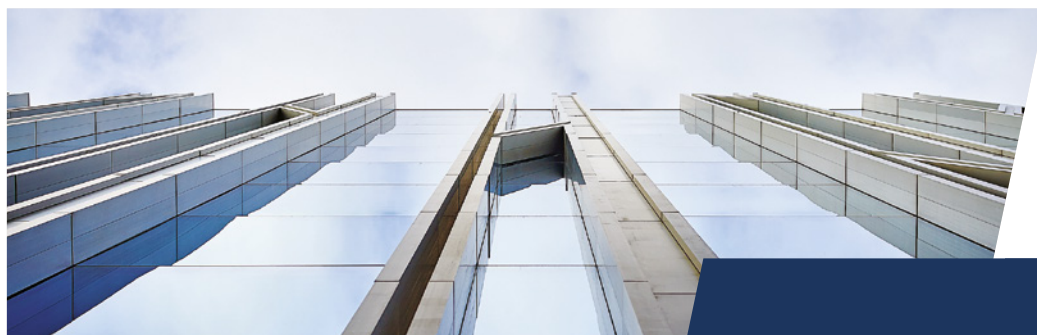
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