

Frontiers of climate and nature in macroeconomics and finance

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The macroeconomic challenges from climate and nature change are constantly becoming more prevalent. At a conference hosted by the Banque de France last week, early career researchers were asked to present cutting-edge analysis and policy solutions to tackle these challenges. In addition to the research presentations, there were keynote speeches by Sir Partha Dasgupta and professor Ben Groom as well as a high-level policy panel. In this digest we highlight some of the most important moments of this conference.

*In a remarkable opening speech, **Banque de France Deputy Governor Sylvie Goulard** urged “central bankers [to] do everything in their power, early enough, to ensure that our economies remain within planetary boundaries” and added “[i]f you think that this is too political for central bankers, let me strongly oppose this view: what would be too political is to deny all the evidence gathered by natural and social scientists for the past decades.”*

Ecological economists have long advocated that planetary boundaries, defined as nine Earth subsystems or processes that determine the “safe operating space for humanity,” should constraint or limit an economy’s growth potential. Yet, political focus on GDP growth has prevented policymakers from acknowledging that the destruction of our ecosystem can eventually lead to an existential crisis. It is therefore noteworthy that Goulard with her speech put center-stage “the impacts of lower growth rates or potential no growth” on the macroeconomy as well as the equal distribution of the “remaining growth potential between rich and developing countries.”

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Opening remarks by Deputy Governor Sylvie Goulard

Banque de France Deputy Governor **Sylvie Goulard** shared thoughts on "How to re-embed our economic and financial systems within planetary boundaries." This goal implies avoiding critical tipping points and comprehensively assessing interconnected phenomena like climate change and biodiversity loss.

Goulard argued that the inclusion of nature in our economic calculus needs "transformative changes [that] can be implemented as soon as possible," while being mindful of the **limitations of monetary assessments of ecosystem services** i.e.: (1) uncharted complexity; (2) diversity in values across cultures; and (3) the very limited substitutability of nature.

Possible next steps at central banks could be **nature-related stress testing** exercises and the integration of these concerns in **monetary operations** and non-monetary portfolios of central banks.

Some highlights from the conference

(click on the links below to access the slides or find the program and all slides here)

Methodologies to deal with nature-related risks

Loris André (Paris School of Economics) and Julio Ramos-Tallada, in "Measuring the impact of the Amazon Fund on deforestation reduction in Brazil," use data from the Norway-led Amazon fund's disbursements and local deforestation rates to estimate an annual abatement cost for one hectare of Amazon forest at €53.

Mathilde Salin and Etienne De l'Estoile (Banque de France), in "Who takes the land?," use detailed spatial company data to show the degree to which French sectors and companies rely on built-up land. Such information could be used in estimating transition risks from the EU's "no net land-take by 2050" policy.

A conversation with Sir Partha Dasgupta

Sir Partha Dasgupta (Cambridge), the author of the UK's "Economics of Biodiversity report" highlighted a historical error in standard economics: "We should care more about the stocks of our economy, including Nature, than about its GDP flows." In this spirit, paying to preserve irreplaceable stocks, such as the Amazon, should be destigmatized.

Amid a tension between ideal and practical solutions, the conversation between Goulard and Dasgupta, which was moderated by NGFS-representative Saskia de Vries from the De Nederlandsche Bank, settled on the practical. Dasgupta argued that **natural capital accounting should be incorporated in standard national accounting**, even though "such accounts will never be as seemingly accurate as GDP."

Policy analysis

Maximilian Konradt (Graduate Institute Geneva), in a paper with Beatrice Weder di Mauro on "[Carbon Taxation and Greenflation: Evidence from Europe and Canada](#)," provides first empirical evidence (using 30 years of data) that carbon pricing is not inflationary.

Margherita Giuzio (ECB) et al., in "[The macroeconomic effects of the insurance climate protection gap](#)," show that, in the absence of insurance, a disaster damage of 1% of GDP leads to a reduction in the quarterly growth rate of GDP. In a high insurance scenario, growth rates increase, since coverage provides liquidity for reconstruction.

Keynote by professor Ben Groom

Professor Ben Groom (Exeter University and LSE Grantham Institute), discussed "[Some theory and some evidence on nature based solutions to climate change](#)." There is evidence that current permanent carbon offsetting schemes, an important element of climate mitigation pathways, are not as effective as previously thought. Instead, Groom proposed to work with **temporary offsets** that have a meaningful impact on carbon dynamics, but also adjust for the risk of failure.

Our intuitive understanding of biodiversity - the significance of diversity, balance, and saving each species from total extinction - is still difficult to express in economic analysis. Thinking in **thresholds, tipping points, and systemic risks can help**.

Pioneering work such as the World Bank model "[The Economic Case for Nature](#)", which incorporates ecosystem services, lays out a better economic framework for climate change mitigation policies. However, as rents for ecosystem services tend to be near zero, estimates of nature loss expressed in terms of **GDP will likely underestimate the true economic costs**.

Political Economy of Central Bank Action

Jens van 't Klooster (University of Amsterdam), in "[Planetary boundaries and the case for interest rate differentiation](#)," takes the example of the 2022 Dutch nitrogen crisis, which led to a government bailout of agricultural banks, to argue for a nature-positive capital allocation strategy within the Eurosystem.

Monica DiLeo (University of Queensland), in "[Macprudential ideas, climate change, and 'thermostatic' shifts at the Bank of England](#)," shows how recent climate initiatives at the Bank of England incrementally expanded the central bank's scope of action through structural policies, while remaining within the post-GFC prudential paradigm. She refers to these policies as "thermostatic shifts."



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