

Discussant response on

# The Economics of Biodiversity Loss

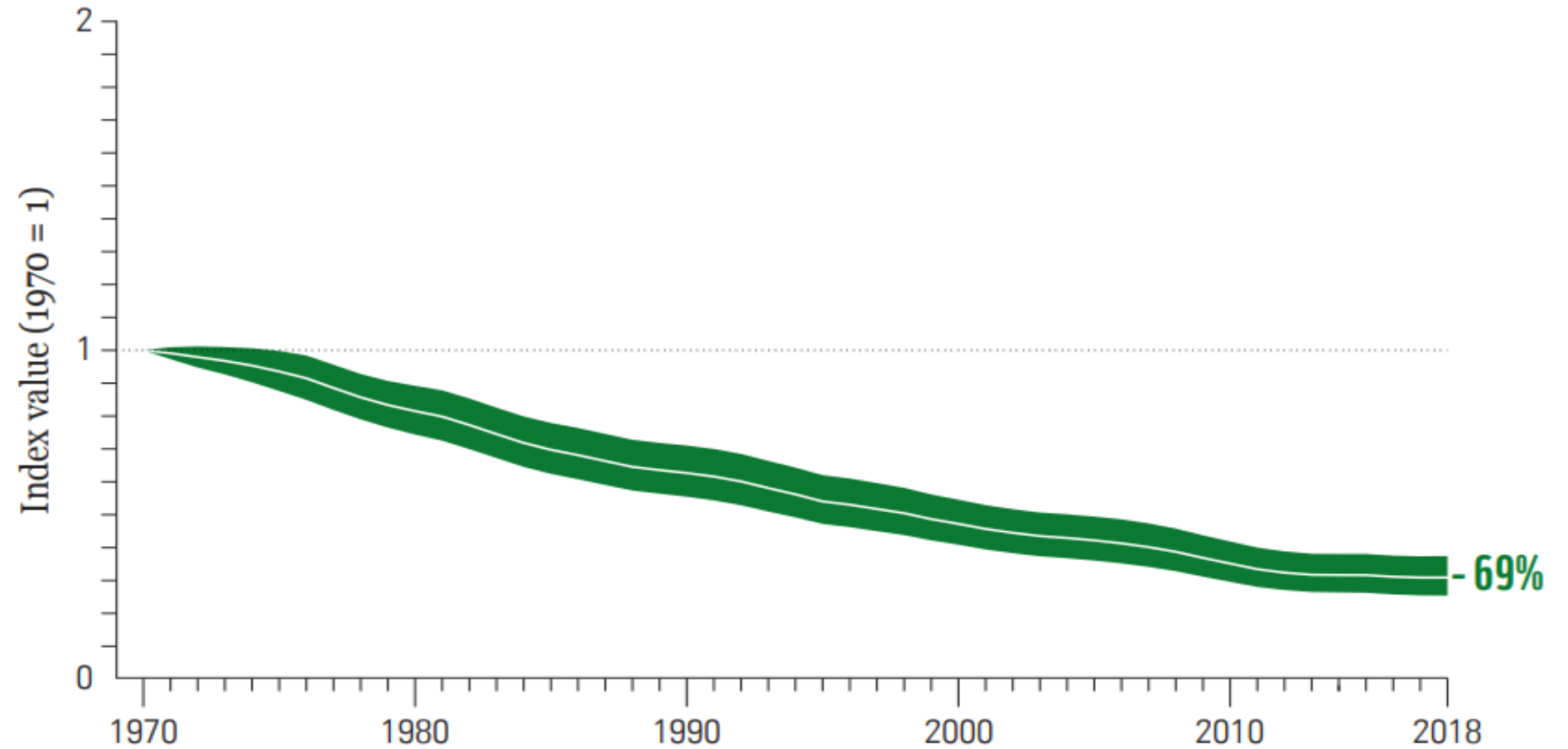
Paper by Stefano Giglio, Theresa Kuchler,  
Johannes Stroebel, Olivier Wang

ECB Sintra Forum, 1-3 July, Sintra Portugal

Katia Karousakis, OECD Environment Directorate

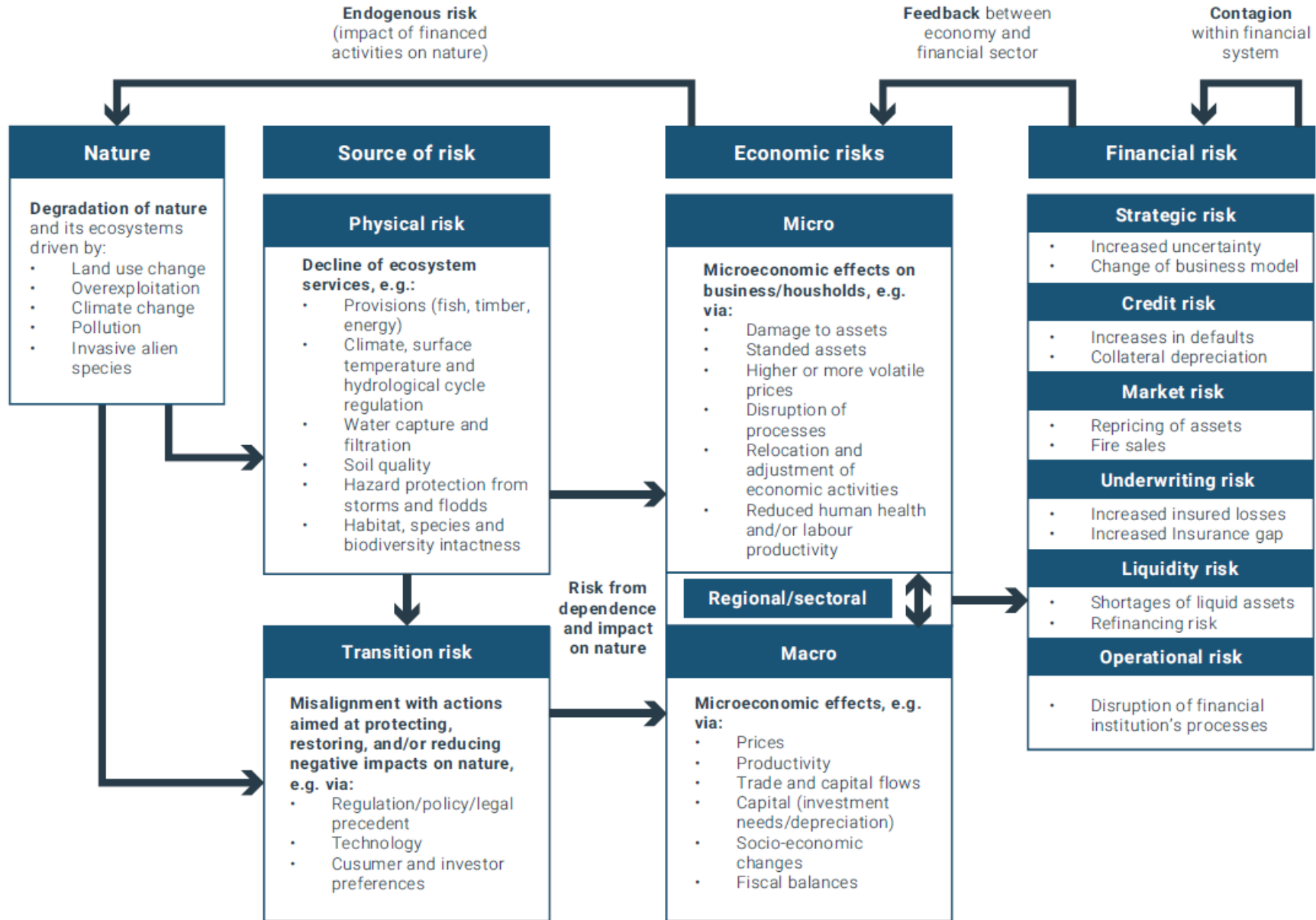
# Biodiversity being lost at unprecedented rates

Living planet index



Source: WWF 2022

# Transmission channels for nature-related financial risks



# UN CBD Kunming-Montreal Global Biodiversity Framework

- **Target 14:** Ensure the full integration of biodiversity and its multiple values into policies, regulations...within and across all levels of government and across all sectors, in particular those with significant impacts on biodiversity, progressively aligning all relevant public and private activities, and fiscal and financial flows with the goals and targets of this framework
- **Target 15:** Take legal, administrative or policy measures to encourage and enable business, and in particular to ensure that large and transnational companies and financial institutions:
  - (a) Regularly monitor, assess, and transparently disclose their risks, dependencies and impacts on biodiversity, including with requirements for all large as well as transnational companies and financial institutions along their operations, supply and value chains, and portfolios; ...  
To progressively reduce negative impacts on biodiversity, increase positive impacts, reduce biodiversity-related risks to business and financial institutions, and promote actions to ensure sustainable patterns of production
- **Target 18:** reform incentives harmful for biodiversity, and scale up positive incentives for biodiversity
- **Target 19:** increase the level of financial resources from all sources (domestic, international, public and private), mobilising at least USD 200 billion per year by 2030.

# Recent initiatives abound

- TNFD launched in 2021, with disclosure recommendations released in 2023
- NGFS framework to help central banks and supervisors identify and assess sources of nature-related transition and physical risks released in 2023
- SBTN – guidance for companies to assess (value chain-wide impact on nature), prioritise, set targets, act and track
- Regulatory policies emerging

# How this paper contributes

- Interdisciplinary approach, integrating ecological insights with economic modelling
  - Hierarchical CES aggregator model captures complex interactions within species and their economic implications.
- Empirically tests the model via CDS spreads and Biodiversity News Index
- Provides new insights in a very nascent biodiversity-related financial literature (compared to e.g., climate)

# Comments on the paper

- Paper covers a lot of ground – could guide readers more
- Empirically tests with CDS spread - *The empirical findings that news about biodiversity loss increases CDS spreads suggest that investors recognise biodiversity loss as a financial risk*
  - Use Environmental Performance Index for exposure of different countries to biodiversity loss – did you consider other proxies as well such as Mean Species Abundance?
  - Possible to test results across different regions/countries?
- Also refers to applicability of the model to inform optimal land use, biodiversity offsets and Pigouvian taxes
  - Offers important and very relevant policy implications - could provide more intuition on how model would be applied in practice to examine these issues

# Nascent but rapidly expanding literature – and scope for much more

- OECD (2021), Biodiversity, Natural Capital and the Economy
- OECD (2023), A Supervisory Framework for Assessing Nature-related Financial Risks
- Cardenas et al (2023), Environmentally adjusted multifactor productivity: Accounting for renewable natural resources and ecosystem services
- GFI et al (2024), Assessing the Materiality of Nature-related Financial Risks in the UK
  
- Giglio et al (2023), Biodiversity Risk
- Hoepner et al (2023), Beyond Climate: The impact of biodiversity, water and pollution on the CDS term structure
- Garel et al (2024), Do investors care about biodiversity?
- Coqueret et al (2024), The biodiversity premium

Overall expectation that biodiversity will receive much more attention in the coming years, with more data options becoming available which are relevant to the needs of different stakeholders.