



# MEASURING CLIMATE CHANGE THE ECONOMIC AND FINANCIAL DIMENSIONS



# Trade, Investment, and Financial Aspects of Climate Change

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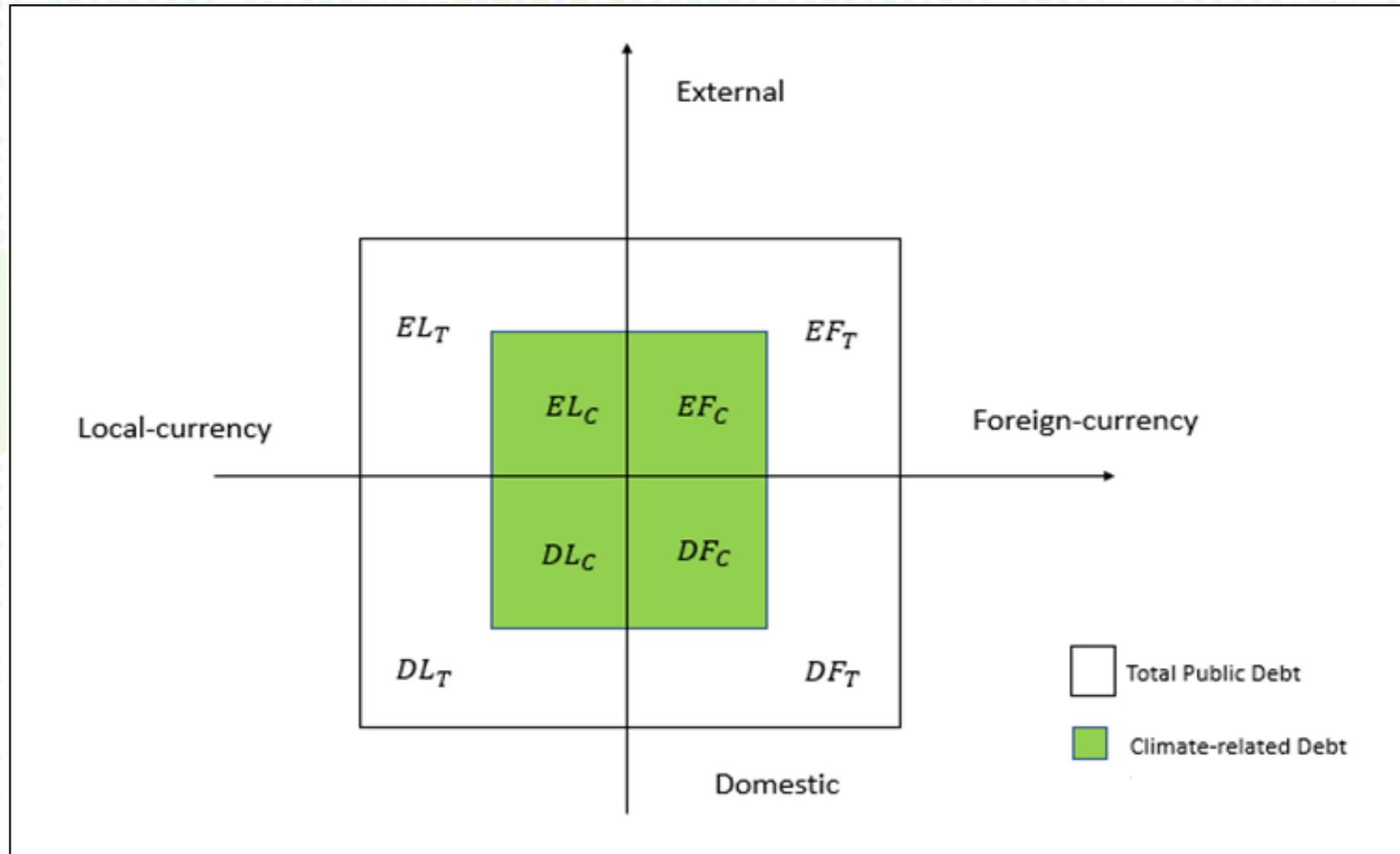
# Background

- 2008: official statistics and climate conferences in Oslo and Seoul by UNSD
- 2009: a programme review on climate change and official statistics by the Australian Bureau of Statistics for the UN Statistical Commission
- 2011: UNECE Task Force on Climate Change-related Statistics
- 2014: Recommendations on Climate Change-related Statistics by UNECE
- 2021: latest set of 44 indicators covering climate change drivers, emissions, impacts, mitigation and adaptation by UNECE
- 2021: Global Set of climate 134 indicators and statistics
- 2021: IMF Climate Change Indicators Dashboard

# The paper...

- Contributes to the efforts of the global statistical community to develop statistics to inform climate policies by
  - ▶ Highlighting the need to improve availability of debt statistics and proposing a conceptual framework with an emphasis on developing countries
  - ▶ Reviewing progress on climate and sustainability investment and potential indicators thereof
  - ▶ Digging deeper into one high-carbon sector – on plastics lifecycle trade, UNCTAD new Database on Trade in Plastics
  - ▶ Discussing the potential of a new UNCTAD Global Transport Costs Database for International Trade to estimate emissions from transport related to trade

# Conceptual framework for climate-relevant debt indicators



# Proposed climate-relevant debt indicators

- Five debt indicators broken down by ownership and currency composition would reveal much about vulnerability and sustainability:

Indicator	Available data/source	IPCC category	IMF category
Share of climate-related debt in external and foreign-currency denominated debt	Not available	Vulnerability	Financial
Share of climate-related debt in domestic and foreign-currency denominated debt	Not available	Vulnerability	Financial
Share of climate-related debt in external and local-currency denominated debt	Not available	Vulnerability	Financial
Share of climate-related debt in domestic and local-currency denominated debt	Not available	Vulnerability	Financial
Share of climate-related debt in total debt	Not available	Vulnerability	Financial

# Opportunities

- Indications on the intensity of the global fight against climate change
- New insights on the sustainability debt of developing countries and to what extent climate change weighs on their public finances
- Official creditors who are interested in fostering climate adaptation and mitigation would be able to assess progress in this area better in light of vulnerabilities
- Better guidance for private creditors in making relevant investments and incentives to participate in debt restructuring programmes

# Challenges

- Currently official debt statistics do not permit the computation of such indicators:
  - climate-related debt data is not reported
  - data assume a perfect concordance between ownership and currency composition of public debt

# Proposed climate-related investment indicators

- The most popular investment areas to be considered: climate change mitigation, carbon-efficient assets, renewables, green real estate and infrastructure, and green, social or mixed-sustainability bonds.
- Adaptation measures including grants and other non-loan instruments need to be included

Indicator	Available data/source	IPCC category	IMF category
The value of certified green lending and grants for climate action (by country/sector/issuer)	Not available	Mitigation/ Adaptation	Financial
The value of certified climate-related investment (by type/country/sector/donor)	Not available	Mitigation/ Adaptation	Cross-border

# Opportunities

- UNCTAD estimates that in total, “sustainability-dedicated” investments amounted to US\$3.2 trillion in 2020
- Rapid expansion of sustainable investment market
  - Potential to help fill gaps in financing for the 2030 Agenda?
- More data becomes available as these instruments become more popular

# Challenges

- Information about different climate investment and financial instruments remains scattered and makes it difficult to see the big picture
- More transparency is needed to judge the true depth of “green” in these instruments
- Difficulty to separate climate-specific instruments from more generic environmental or SDG-targeted investment
- “Blue” climate and finance data still a relatively unexplored area

# UNCTADstat Plastics Trade Database and indicators

- Example of a high-carbon, highly traded, useful but problematic product – plastic
- The new database provides indicators to calculate plastics trade over the entire lifecycle, by function in the productive cycle; by countries’ role in global plastics trade; and by importance for national economies and development paths
- Derived from the UN Comtrade and a selected list of plastics-related inputs and products, e.g., not only HS Chapter 39 ‘Plastics and articles thereof’ but beyond it

Indicator	Available data/source	IPCC category	IMF category
Trade in plastics by value/volume and product type	UNCTADstat	Drivers	Cross-border
Plastics trade lifecycle (primary, intermediate, final, waste)	UNCTADstat	Drivers	Cross-border
Trade in plastics by trading partner and product type and share of total exports/imports	UNCTADstat	Drivers	Cross-border



# Opportunities

- These data were not available before. It is important to help countries meet low-carbon and pollution goals and respond to carbon-related trade regulations.
- UNCTAD will be publishing the database online as an open resource and welcome input on categorizations
- We now have a more robust framework for understanding plastic trade flows
- Possibility to calculate derived indicators, such as comparative advantage in plastics trade or dependence on it or produce country rankings

# Challenges

- A great deal of trade in plastics remains 'hidden' and unidentifiable in the HS classification, like some highly traded products (packaging, cars, electronics).
- This hinders efforts to properly assess the carbon intensity of the sector; as well as country exposure to climate change regulations and costs
- The multi-faceted and complex nature of plastics trade indicate that countries will have differing challenges in the search for sustainable solutions

# Limitations from a plastic pollution perspective

- Shortcomings in existing HS classifications include:
  - ▶ limited detail on the types of plastic polymers in products traded across the life cycle of plastics (e.g., primary plastics, empty plastic packaging, waste)
  - ▶ not aligned with updated terminology in Basel Agreement plastic waste amendments
  - ▶ limited detail on the feedstocks for different products (e.g., bio-based, recyclates or virgin fossil fuels)
  - ▶ absence of information on environmentally problematic chemical components in plastics across the life cycle (e.g., in pellets, packaging and waste)
  - ▶ gaps in the scope of products that are classified described or defined plastics
  - ▶ varying detail on the share of plastics embedded in products
  - ▶ missing information on flows in plastic packaging associated with products

# UNCTADstat Global Transport Costs Dataset on International Trade and indicators

- Database developed by UNCTAD and the World Bank in collaboration with the International Maritime Organization
- Derived from the UN Comtrade with data on volume and value of bilateral goods trade, mode of transport and distance, detailed by 5000 commodity groups
- Emission factors to be collected from other sources (transport literature, registers, AIS, ...)

Indicator	Available data/source	IPCC category	IMF category
CO <sub>2</sub> emissions from transport for international trade in goods	UNCTADstat	Emissions	Cross-border
Carbon intensity of importation and exportation of goods	UNCTADstat	Emissions	Cross-border

# Opportunities

- Assess the contribution of transport related to international trade in goods to CO<sub>2</sub> emissions and global warming
- Identify the most and the least emission-intensive trade segments
- Simulate the effects of mitigation measures (e.g., carbon tax, CO<sub>2</sub> offsetting schemes), technical innovations and bio-fuels on the trade bill and on domestic prices
- Inform analysis of trade asymmetries with better data on transport costs by mode
- Analyse in detail the actual routes on which goods travel & costs and emissions related to different routes

# Challenges

- UNCTAD is currently building time series to be released on UNCTADstat
- As source data coverage grows, the models used for data editing and filling of data gaps will be further enhanced

# Conclusion

- Better data on climate-related debt, financial flows and investment needed!
- IMF's 'Climate Change Indicators Dashboard' is a welcome initiative for better evidence covering financial and macroeconomic aspects of climate change
- The UNECE and UNSD climate indicator sets could benefit from the IMF initiative and the outcomes of this Forum to identify new data and indicators
- New databases in the UNCTADstat Data Center will enable the calculation of new climate change indicators from the cross-border perspective
  - UNCTADstat Trade in Plastics Database
  - UNCTADstat Global Transport Costs Dataset on International Trade
  - UNCTADstat BioTrade Database (upcoming)
  - UNCTADstat Oceans Economy Database (upcoming)
- All of the above databases are based on official trade data reported by countries and maximize their analytical potential and value for policy