



Climate Adaptation

Building resilience through structural transformation

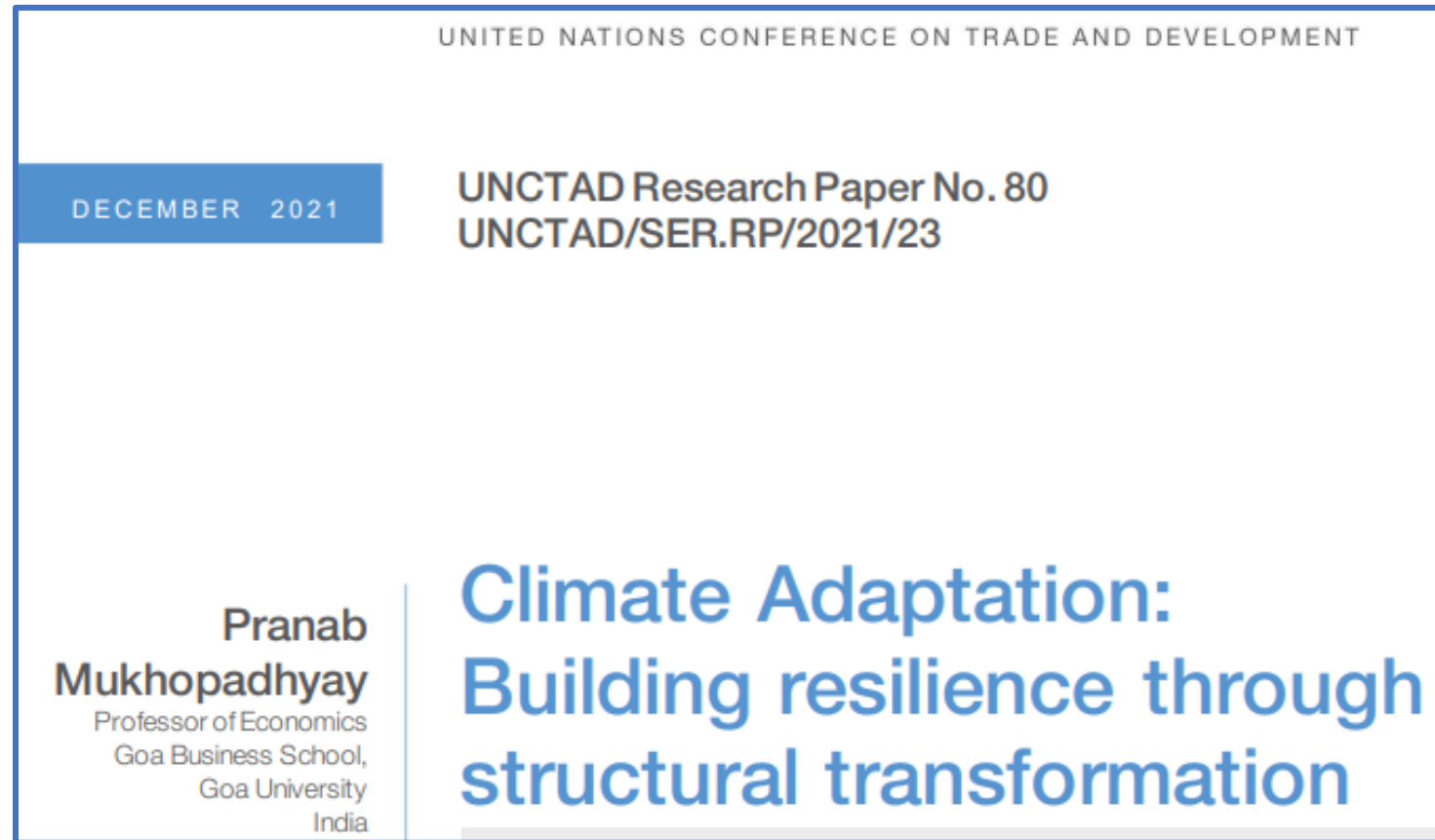
Webinar: The world economic situation after the Covid-19 shock and policy challenges ahead

Hosted by UNCTAD, Univ. of Addis Ababa and Goa University

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Background



Link: https://unctad.org/system/files/official-document/ser-rp-2021d23_en.pdf

Extreme Events, Climate Change and Adaptation: The challenges

Climate change adds to the existing developmental challenges of most countries

Expected to impact on: aggregate demand (through reduced profitability, investment) and employment

Consensus: Need for climate change action.

Challenge: International cooperation not keeping pace with demand for course correction

Mitigation efforts may not be adequate

The Paris Agreement and NDCs

Paris Accord of 2015: Adopted by 196 Parties

Main objective to achieve a

(1) ceiling of 2 degrees centigrade compared to pre-industrial levels and

(2) “climate neutral” status by 2050.

Nations to independently decide on own feasible targets and strategies through NDCs based on the principle of “common but differentiated responsibilities and respective capabilities.”

Challenge for developing countries: Finance gap to meet NDC and SDG targets

Extreme events

Economic costs of disasters have doubled in the last two decades (compared to earlier period)

Wide variance in climate-related events -- type, the number of deaths, people affected, among others.

Floods (44%, and associated with it, landslides, 5%) and storms (28%) are the two most frequently reported climate disasters globally, followed by heatwaves (6%), droughts (5%), and wildfires (3%).

Floods affected the largest number of people (41%), followed by droughts (35%) and storms accounted for the largest number of deaths due to climate-related events.

The top ten countries that reported disasters in the last two decades are (China, the USA, India, Philippines, Indonesia, Japan, Viet Nam, Mexico, Bangladesh and Afghanistan, in decreasing order). While China's major problem was floods, for India, it was drought.

Data and country coverage

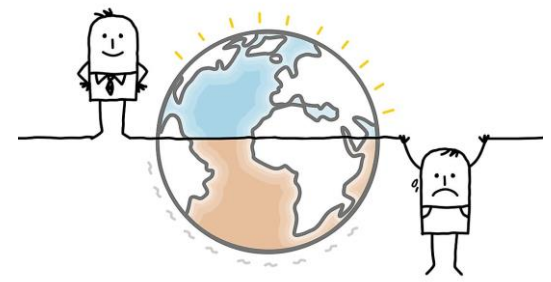
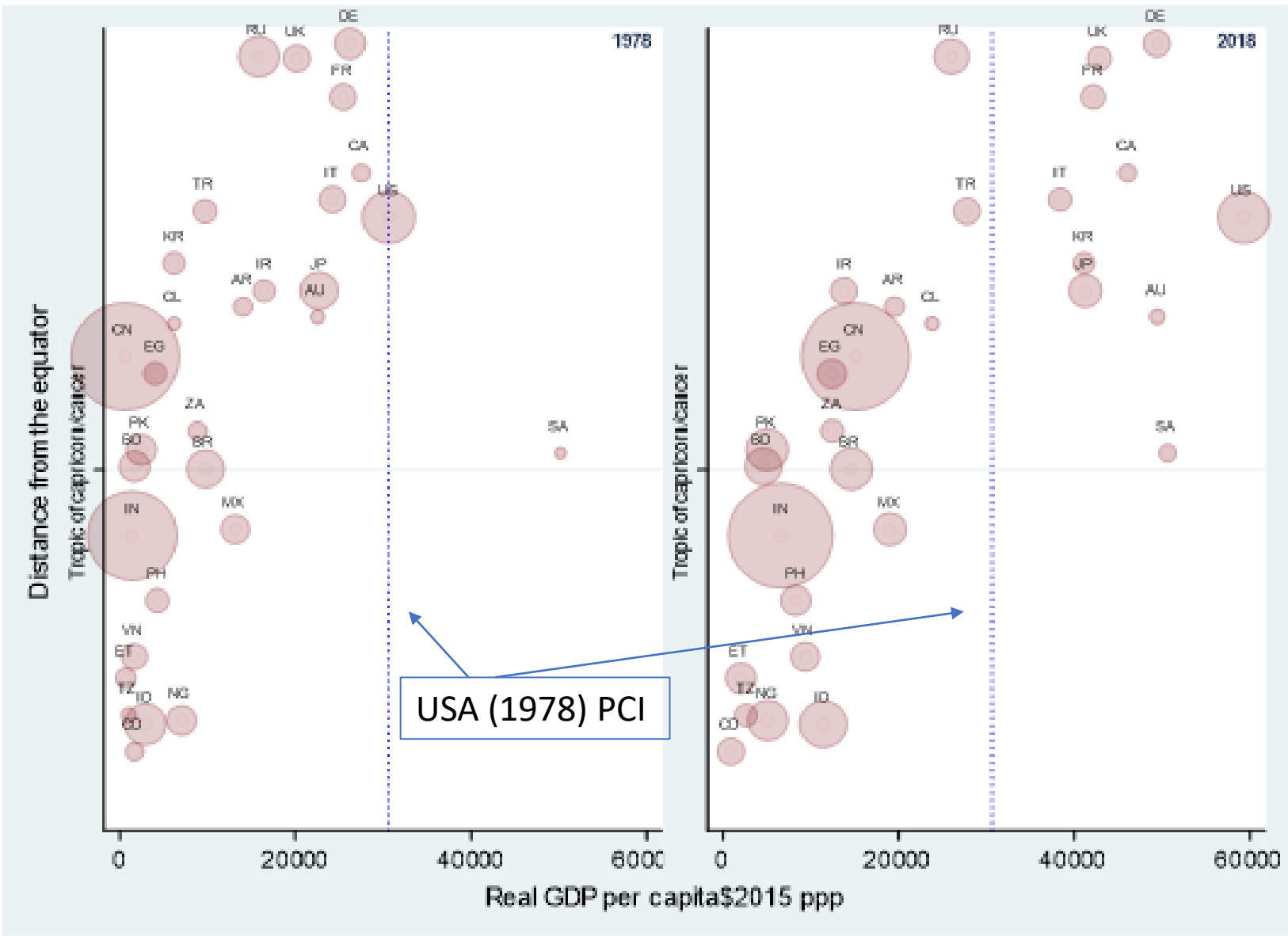
Data: A new version of the Global Policy Model (GPM) database of the United Nations (Cripps et al., 2010).

- Focus on a group of thirty (G-30) countries (McKinley 2021).
- Four categories as per WB classification: high-income countries, upper middle income, lower middle income and low-income countries
- High income – Australia (AU), Canada (CA), Chile (CL) France (FR), Germany (DE), Italy (IT), Japan (JP), South Arabia (SA), South Korea (KR), United Kingdom (UK), United States of America (US),
- Upper middle income -- Argentina (AR), Brazil (BR), China (CN), Ireland (IR), Mexico (MX), Russia (RU), Turkey (TR), South Africa (ZA);
- Lower middle income -- Bangladesh (BD), Democratic Republic of Congo (CD), Egypt (EG), Indonesia (ID), India (IN), Nigeria (NG), Philippines (PH), Pakistan (PK), Viet Nam (VN); and
- Low income -- namely Ethiopia (ET) and Tanzania (TZ).

Method: Transition analysis

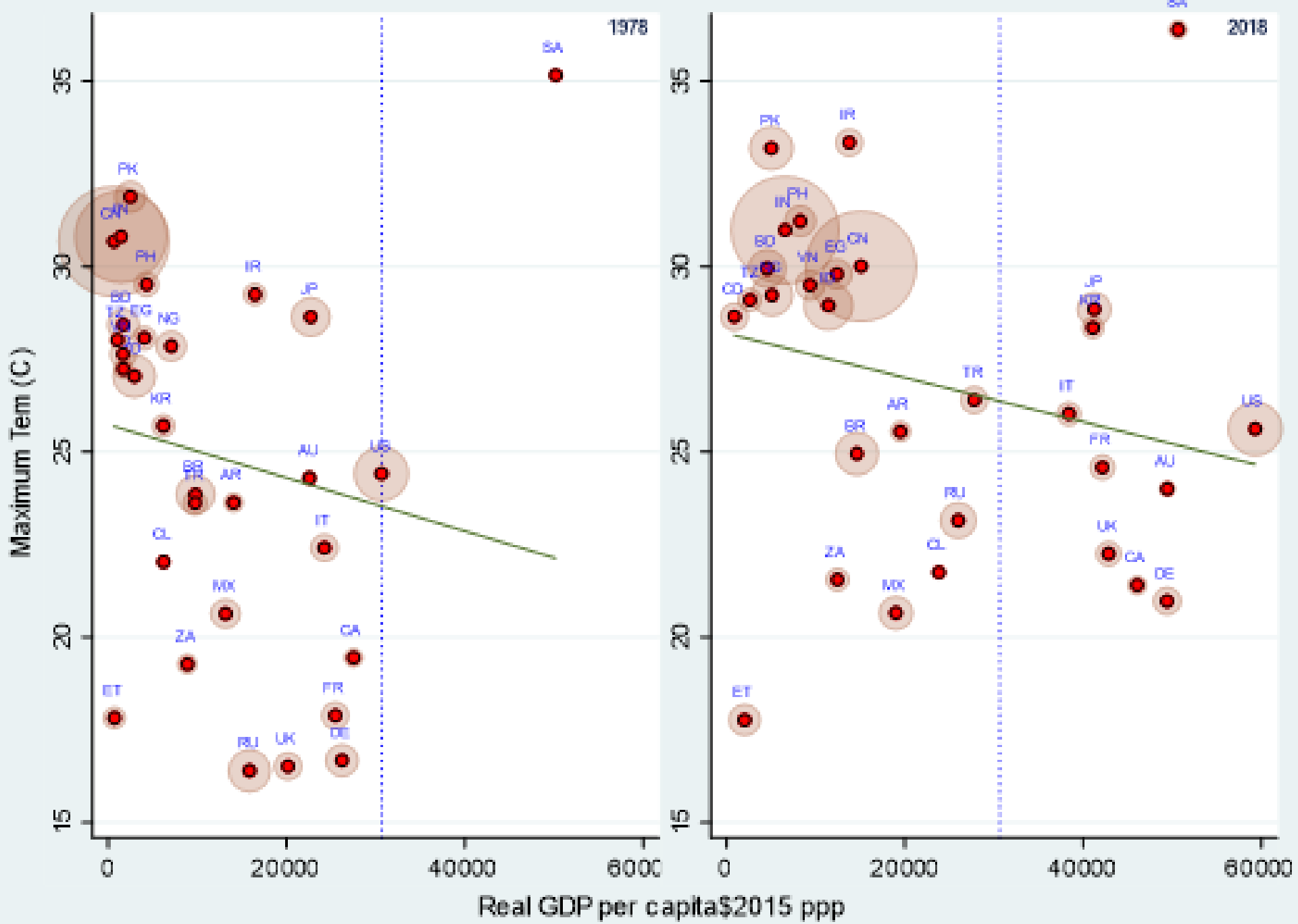
- We compare outcomes in two periods: 1978 and 2018 (four decades)
- Aspirational PCI: We use the US per capita income (PCI) of 1978 (US \$30646 at US \$2015 PPP) as the benchmark for transition (highest PCI during that period, apart from Saudi Arabia).
- All monetary values are normalised for 2015 prices in US \$ purchasing power (PPP) terms to allow for comparability (UN DESA, 2010, updated version).

Distance from the Equator and PCI

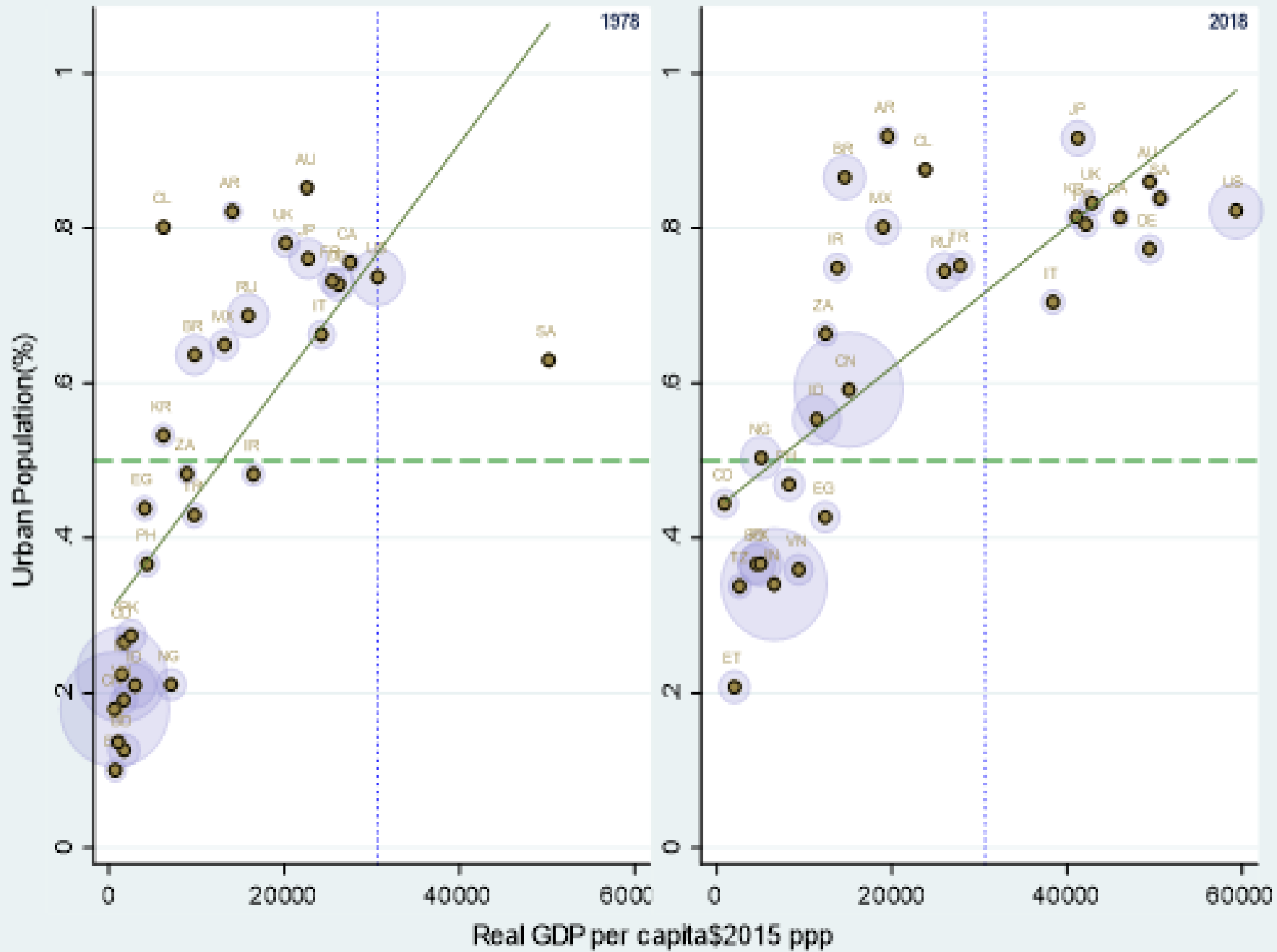


By 2018:

- Only countries in the temperate zone have achieved aspirational PCI (but not all temperate countries).
- None of the aspirational PCI countries belong to the tropics.



PCI and Maximum Temperatures

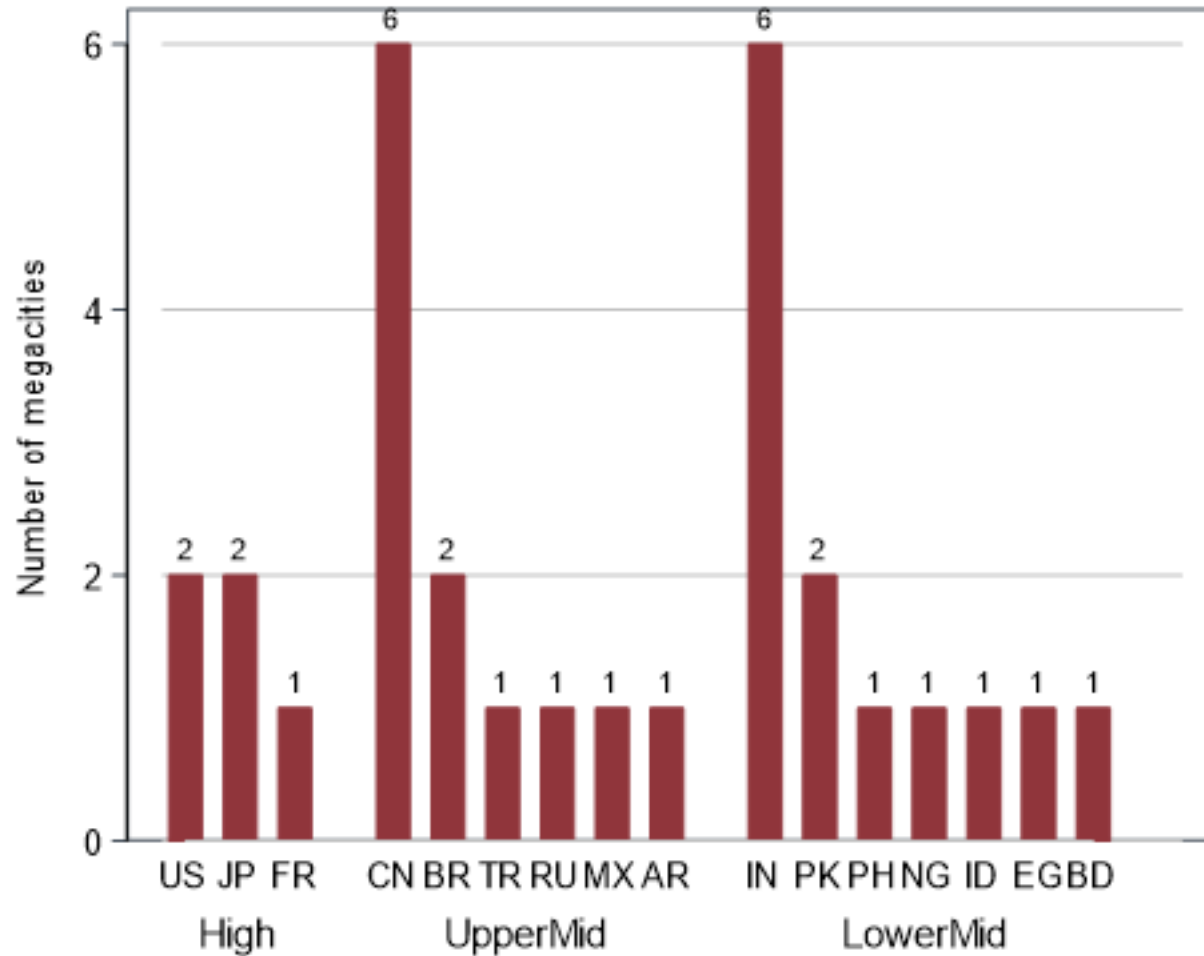


Urbanisation

Share of Urban Population and PCI

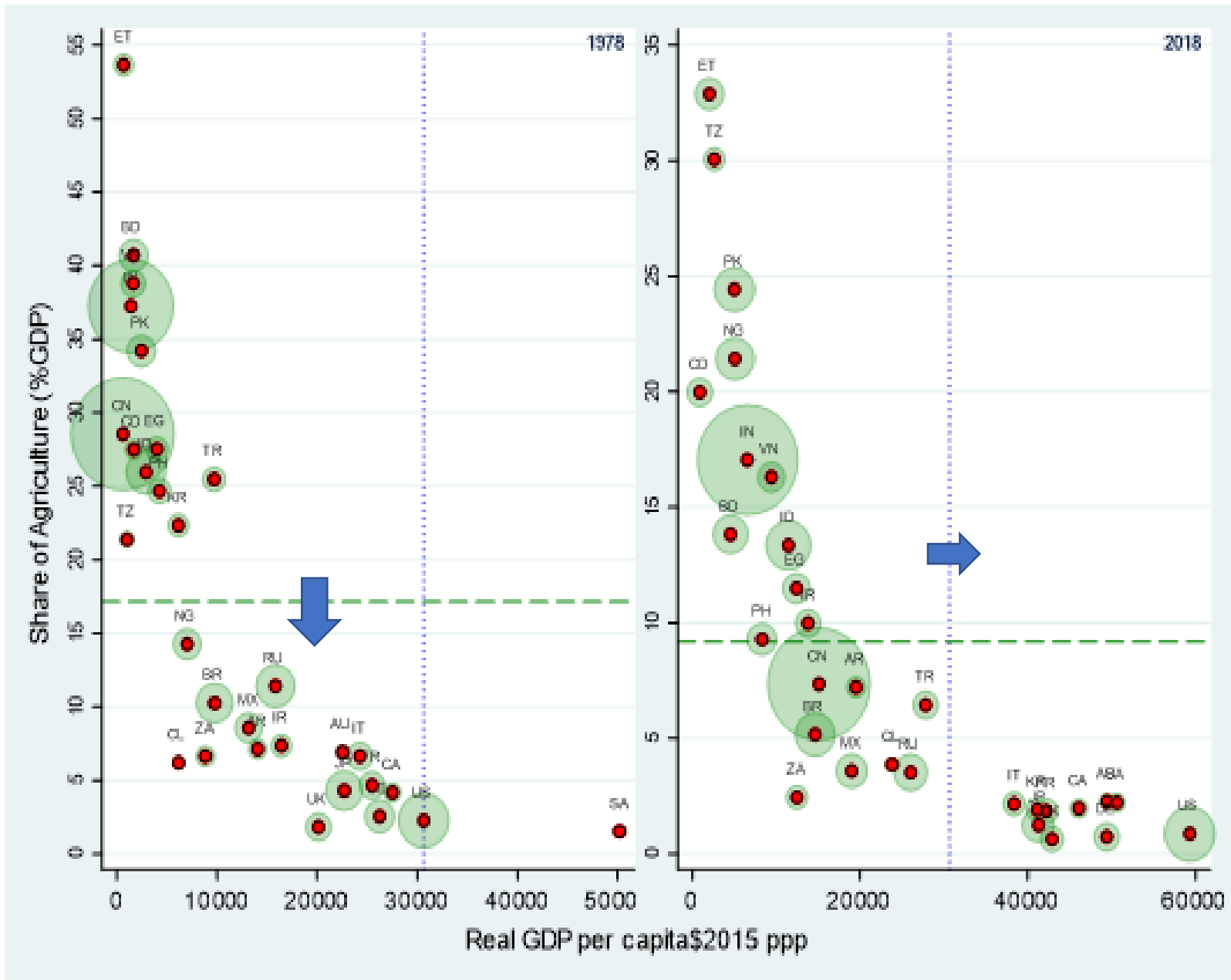
Distribution of megacities → +10m (2020)

Urbanisation



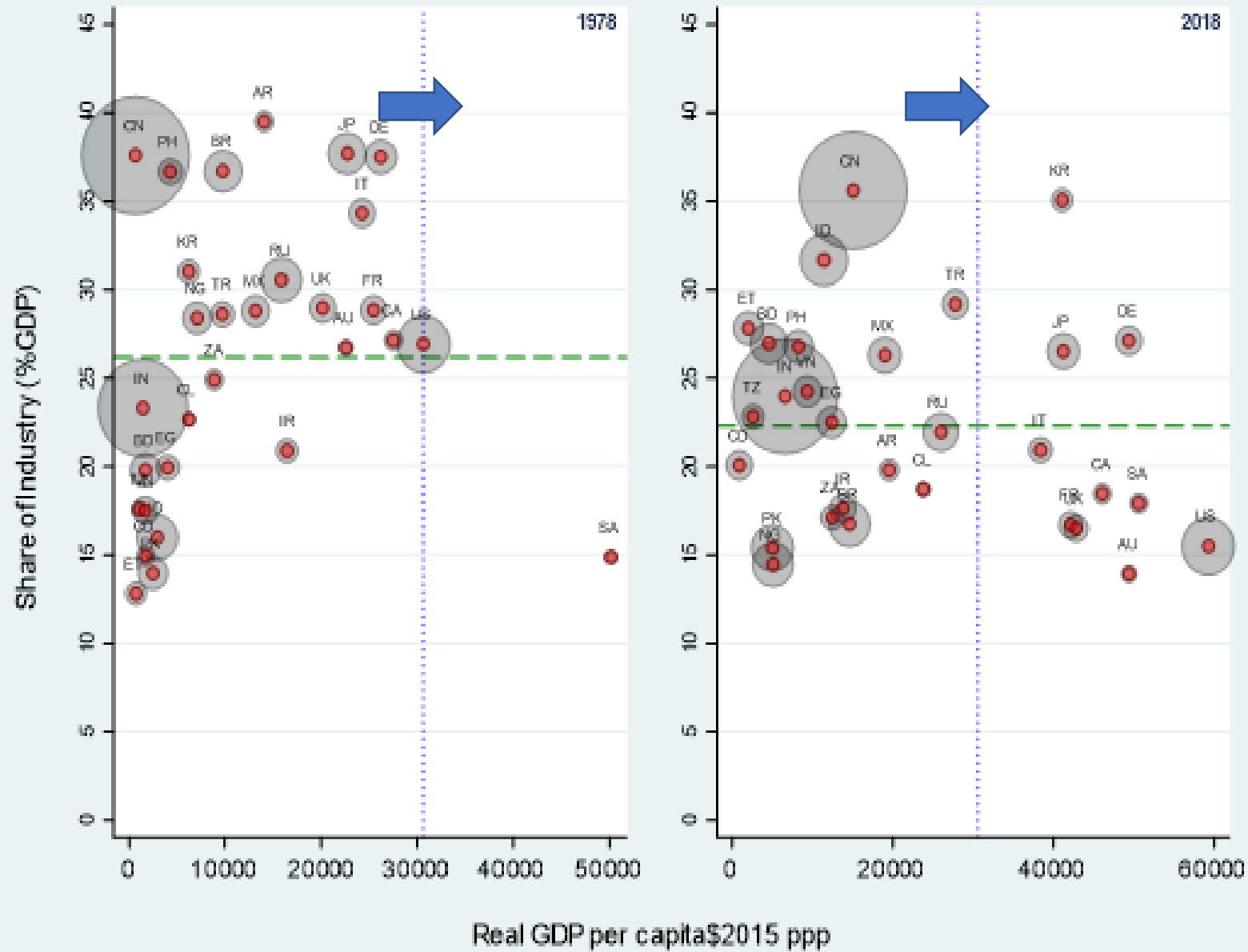
Urban infrastructure sustainability
and vulnerability of the urban
poor

Access to health, sanitation,
housing, clean air/water, drainage

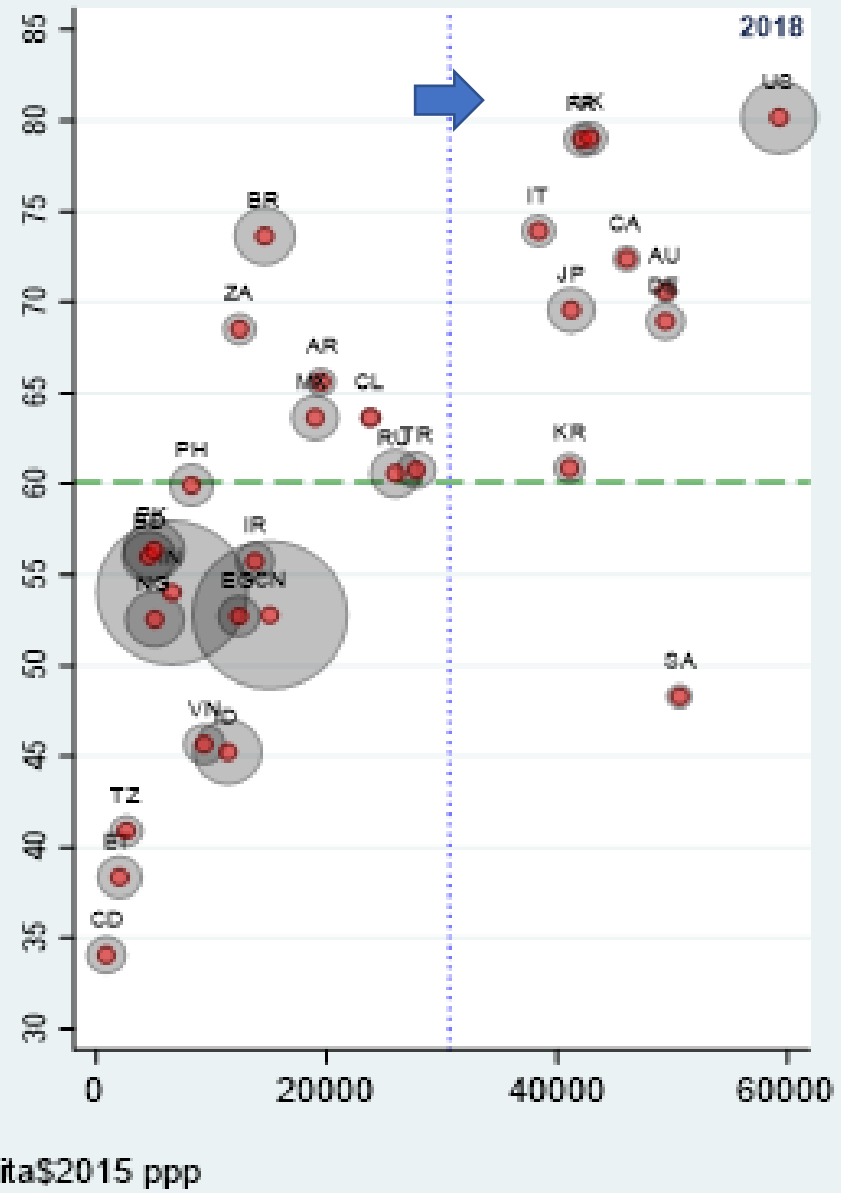
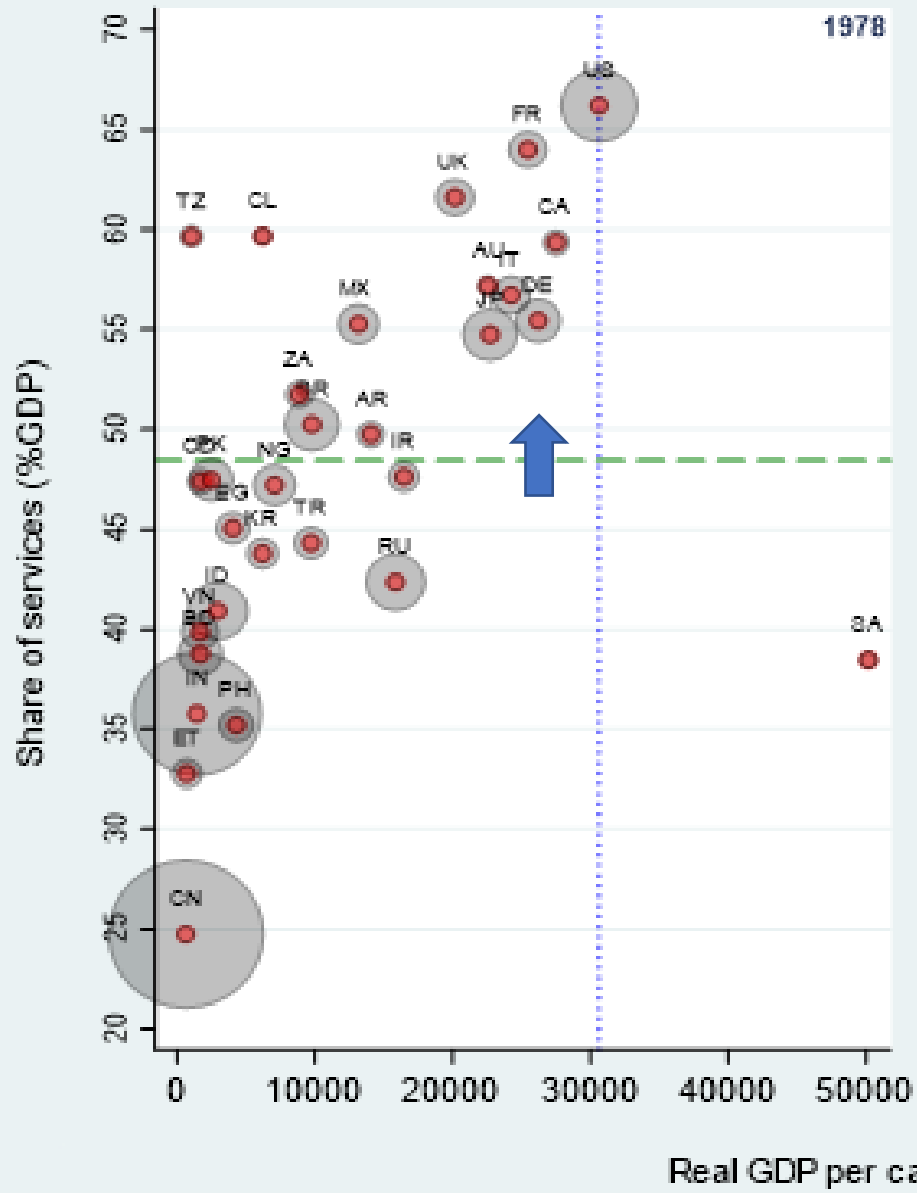


Structural Transformation

Share of agriculture in GDP

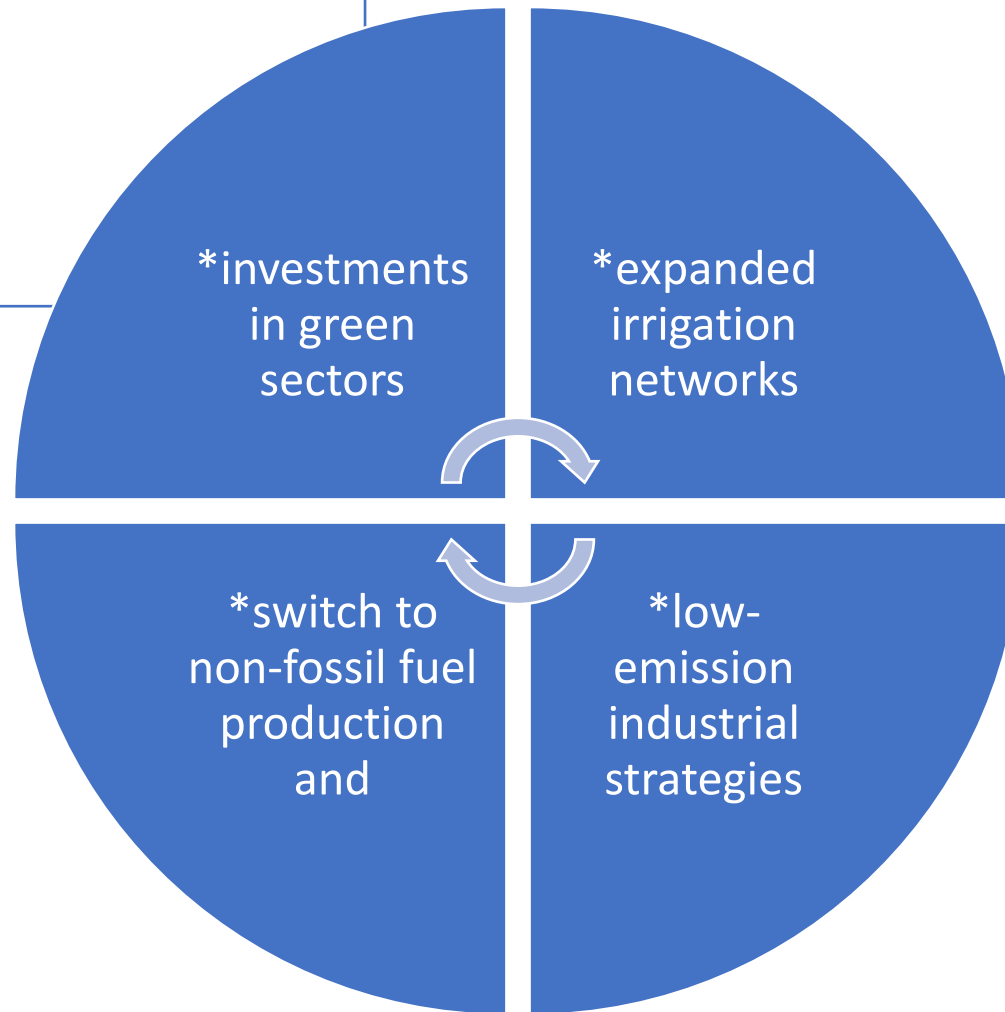


Share of industry in GDP

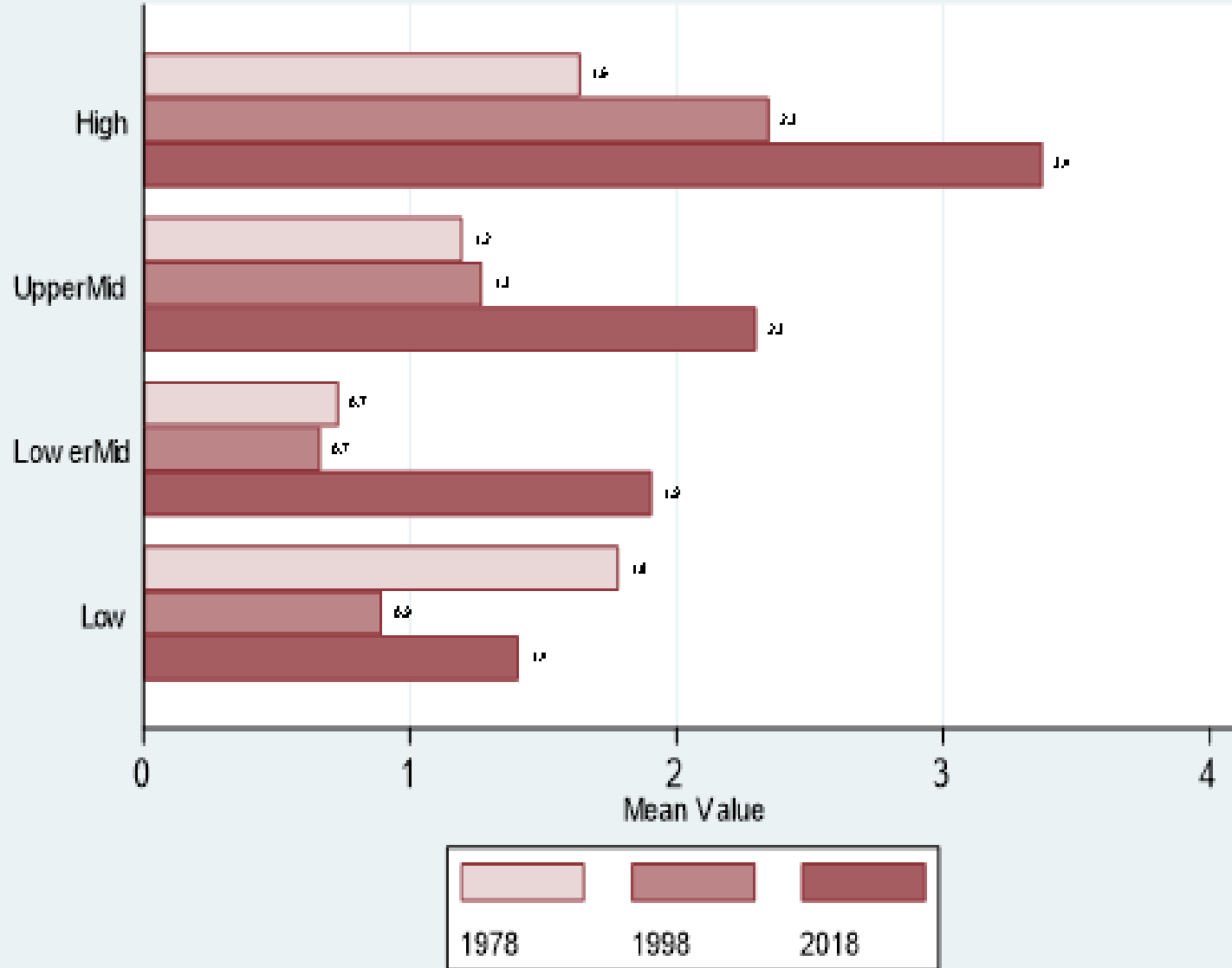


Share of services in GDP

- Climate proofing options

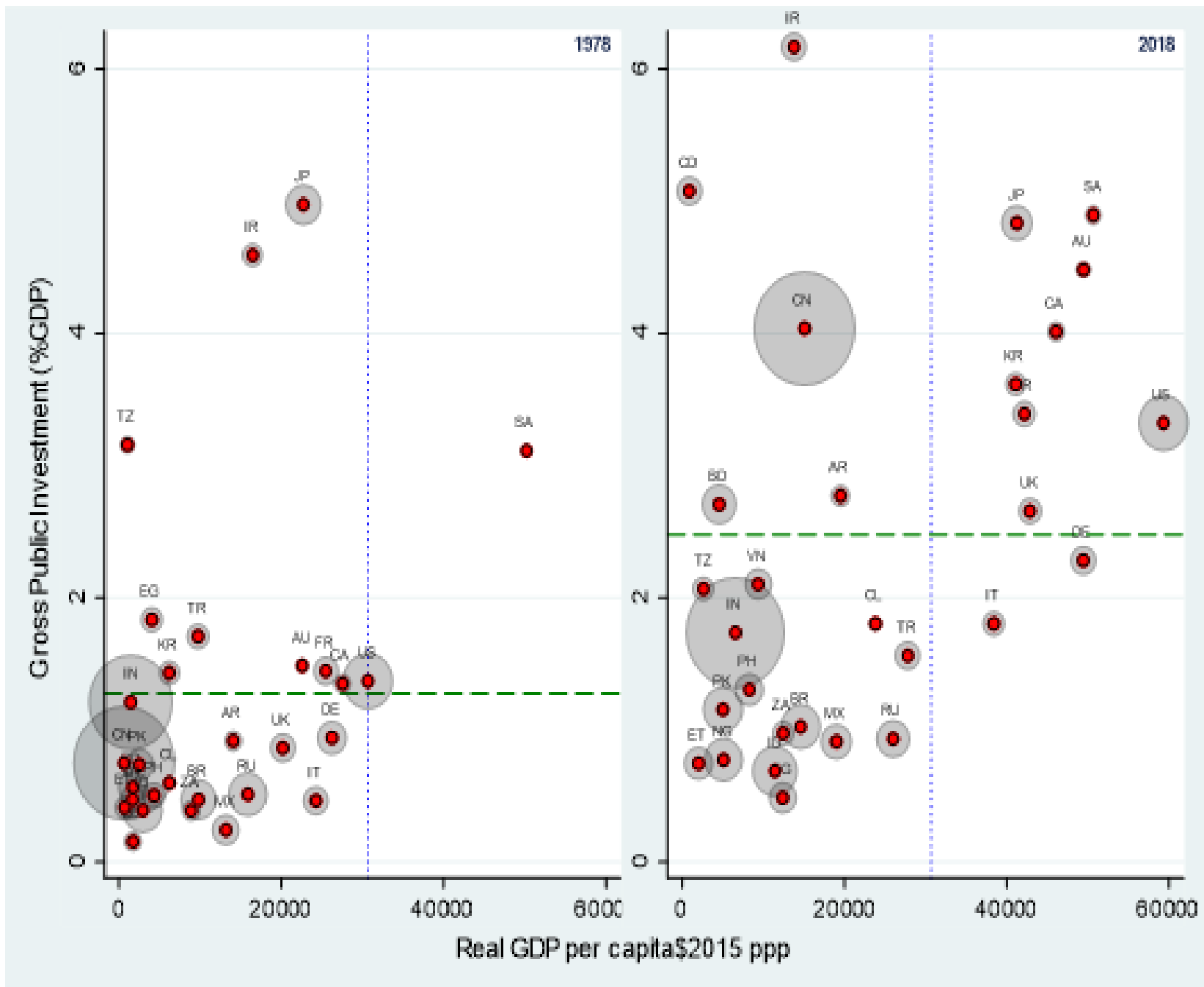


Gross Public Investment (%GDP)



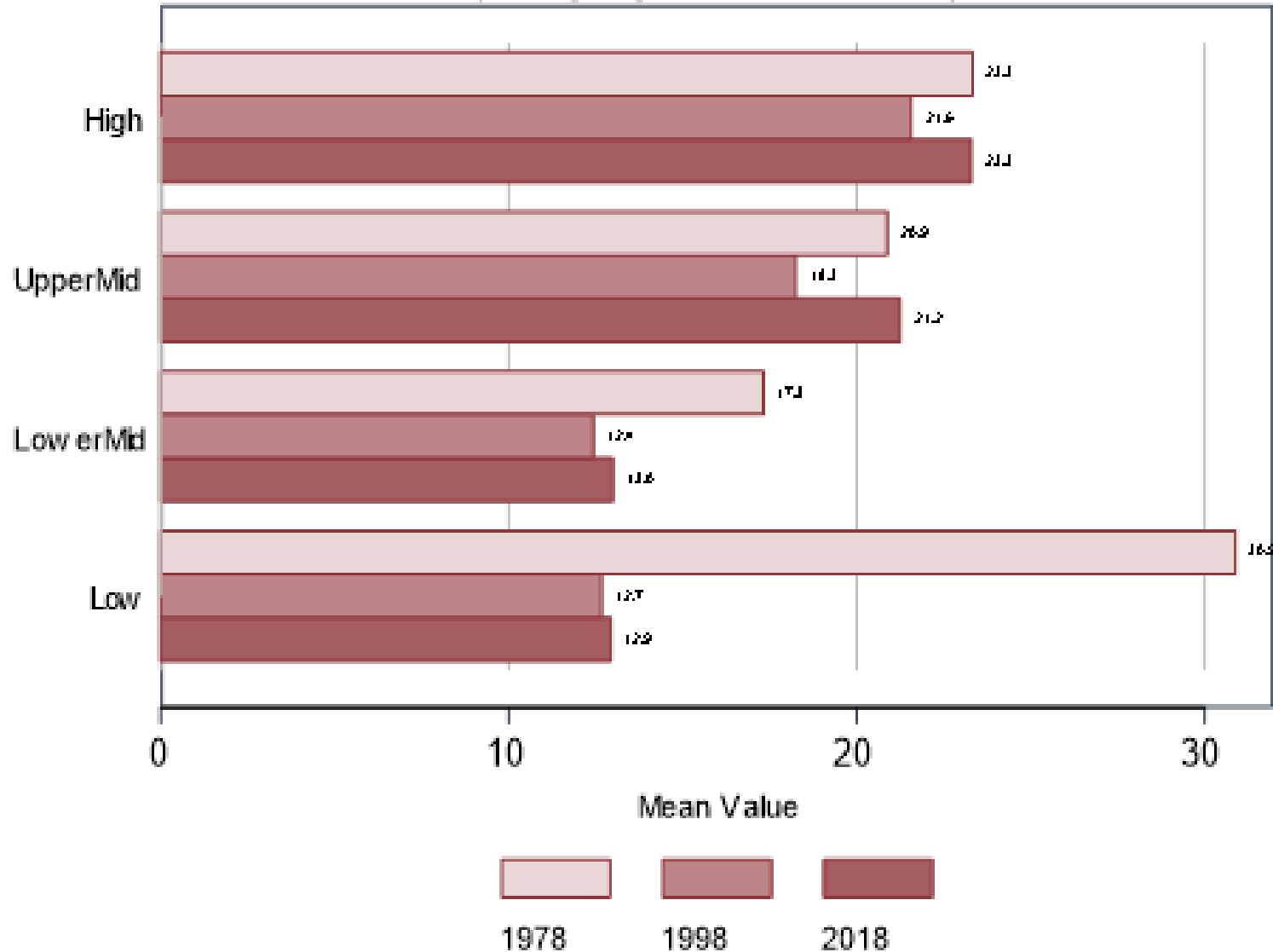
Role of fiscal policy

Government Gross Fixed Capital Formation (% of GDP): Group means

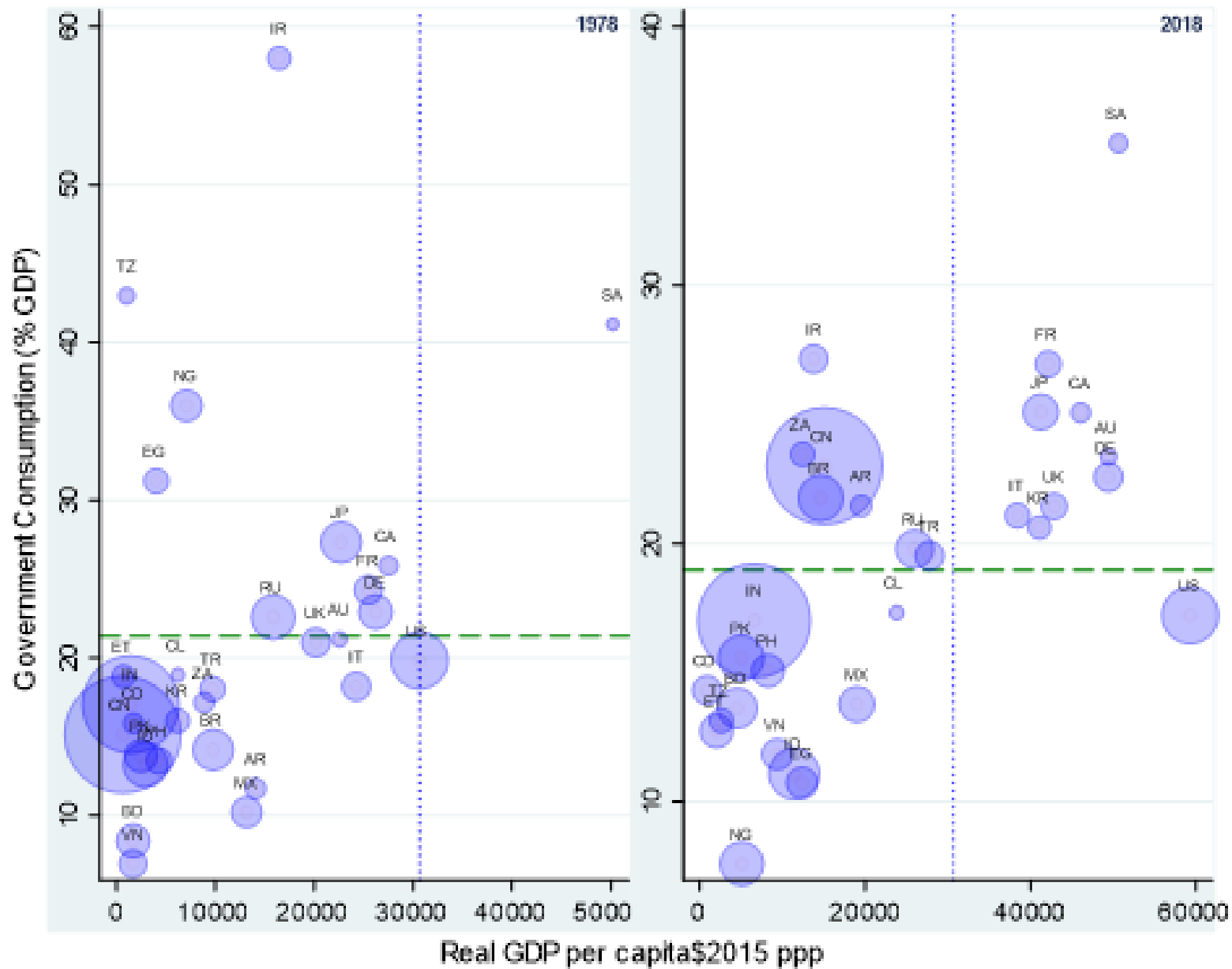


Government Gross capital formation (% of GDP) and PCI

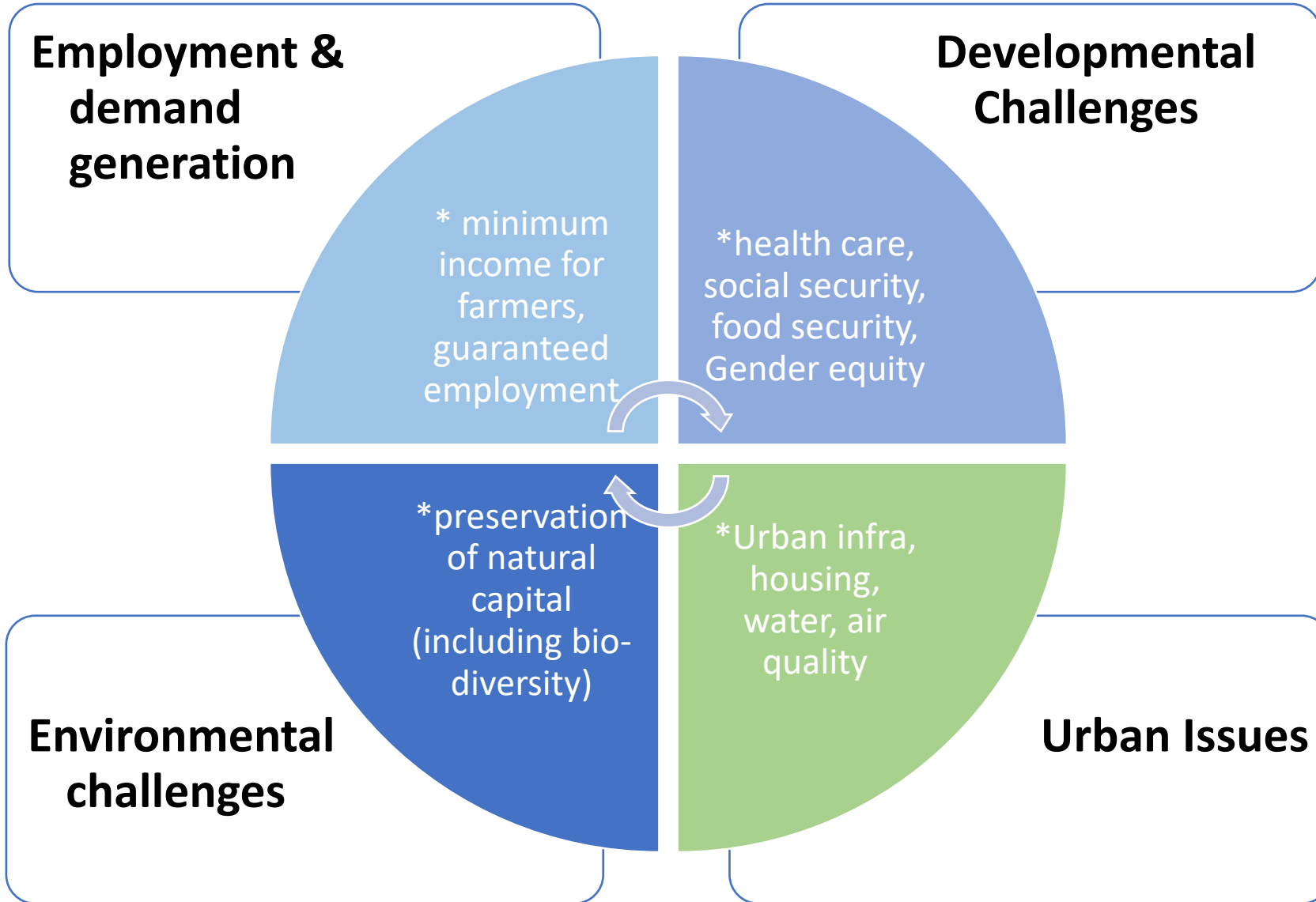
Government Spending on goods and Services as percent of GDP



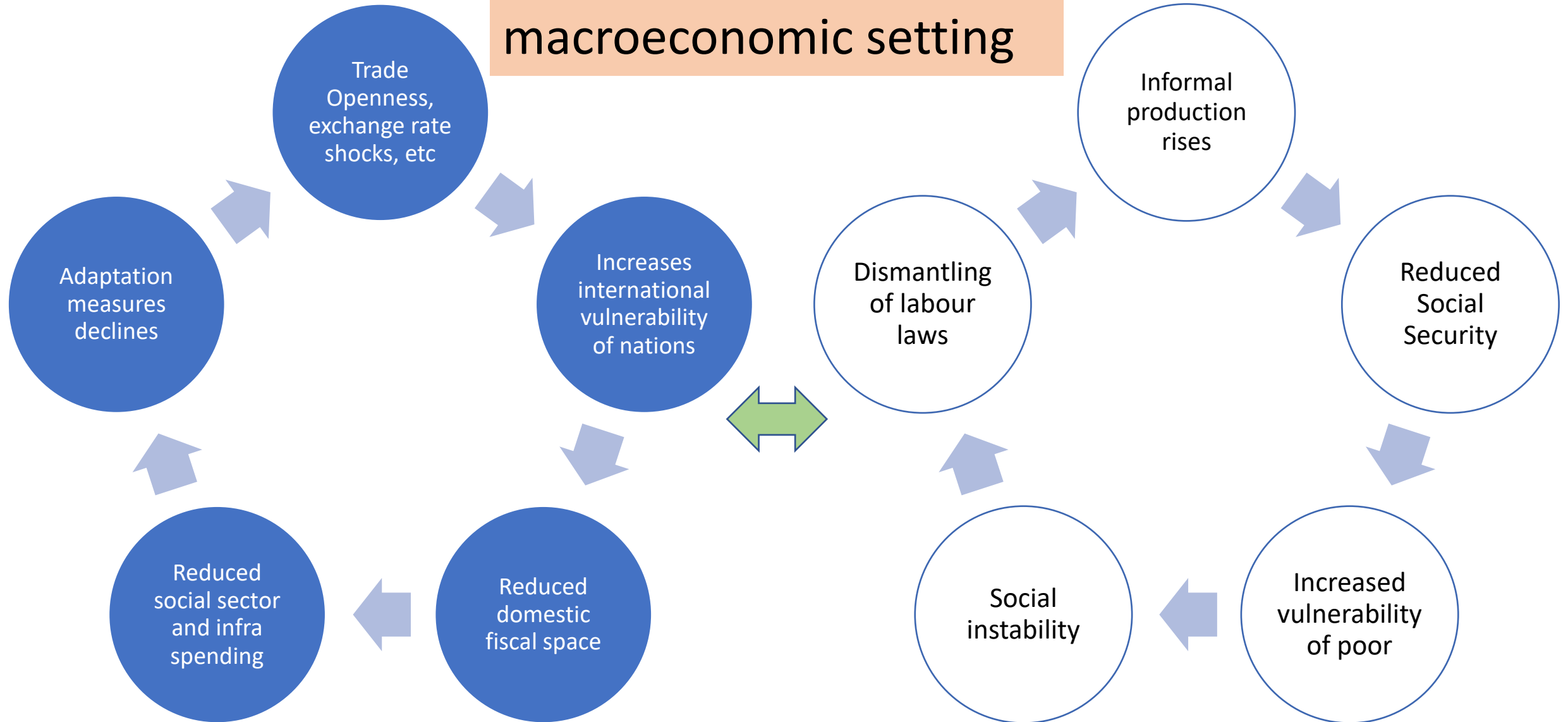
Government Consumption expenditure (% of GDP): Group means



Government consumption (% of GDP)



Developing country macroeconomic setting



Thank you