COVID-19 AND GLOBAL INCOME INEQUALITY

EE 462 Development Macroeconomics

Reference: Deaton, A. (2021). *Covid-19 and global income inequality* (No. w28392). National Bureau of Economic Research.

Motivation

- **What is the motivation of this paper?**
  - Validate the widespread belief from the previous literatures that the pandemic has increase inequalities in income between countries

- **Previous literature about Covid-19 and global income inequality?**
  - Goldin and Muggah(2020)
    - “Inequality is increasing both within and between countries.”
  - UNDP(2020)
    - “The virus is ruthlessly exposing the gaps between the haves and the have nots, both within and between countries.
  - Stiglitz(2020)
    - “COVID-19 has exposed and exacerbated inequalities between countries just as it has within countries….”

Data Sources & Limitations

- **What is the objective of this paper?**
  - Demonstrate that global inequality has continued its pre-pandemic downward trend and has fallen faster as a result of the pandemic

- **What are the data sources used in this paper?**
  - IMF forecasts in October 2019 and October 2020
  - IMF Economic Outlook of October 2020 from World Bank Global's Economic Outlook of January 2021 and from its World Development Indicators database
  - Our World in Data
  - GHS Report

Data Sources & Limitations

- **What are the limitations acknowledged by the authors?**
  - Both concept 1 and 2 ignore the within countries inequality. It only consider the between countries inequality
  - Measurement error e.g., undercounting death tolls, countries' different counting rules
  - Results are not robust in the year after 2020 as the researchers use data up to the end of 2020
  - Exclusion of vaccination information
  - Concept 1 (Unweighted)
    - Data is sensitive to the exclusion of small countries
  - Concept 2 (Population weighted)
    - No limitation of concept1
    - Highly dependent on large countries: China and India
      - Question of global income inequality measurement

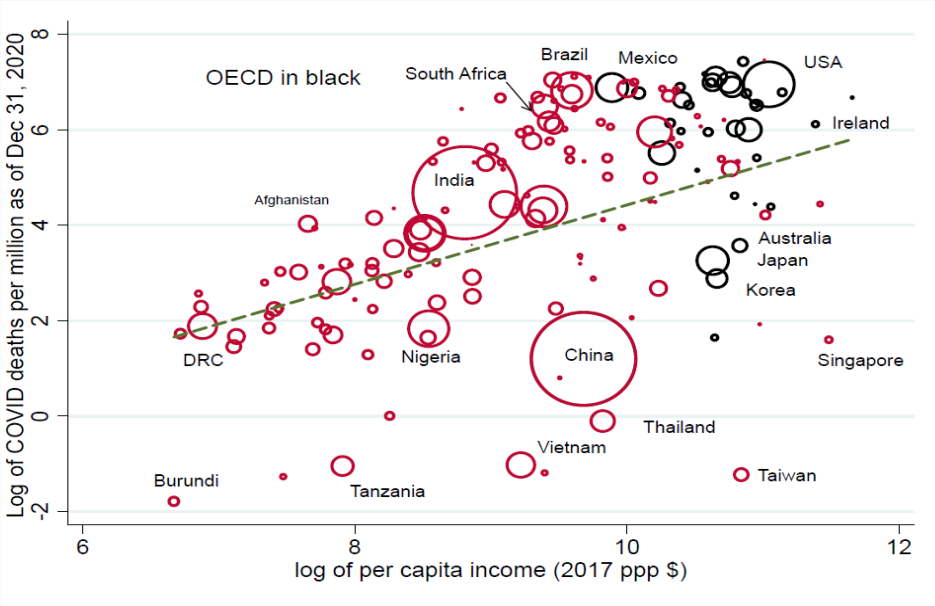

Figure 1: COVID-19 deaths per million and per capita income in 2019: broken line is the population-weighted regression line, areas of circles proportional to population

- **What is the relationship between per capita income and death rates? For OECD countries? For non-OECD countries? For all countries?**
  - It shows no relationship between deaths and per capita income within OECD countries, while positive relationship in non-OECD and for all countries (indicating by positive regression line)

- **What does the size of the bubble represent?**
  - the size of circle is proportional to population
    (If it's big, the population is large)

- **What is the difference between red and black color?**
  - Red is the non-OECD, Black is OECD counties

Measures of income inequality

- **What is the difference between "Concept 1" and "Concept 2" measures of income inequality? What do they capture?**
  - Concept 1 calculates the inequality between individual countries, showing that the global inequality is lower.
  - Meanwhile, concept 2 calculates inequality between individual persons across countries by weighting the per capita income with population. It indicates that between-country inequality is higher. This is the effects from China's rapid success. (Look next question)
- **What are the findings about unweighted and weighted inequality measures? What are the explanations?**
  - China is a pooling factor that widens the inequality because it has the largest population. 4.4 billion people live poorer than China and only 2 billion people live richer than China. During the pandemic, the Chinese economy grows while other economies diminish.

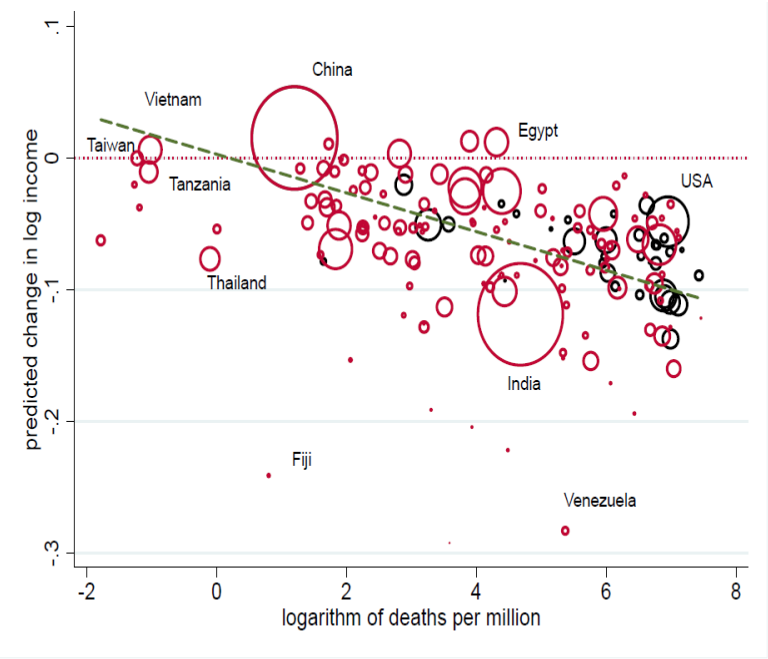

Figure 2: Predicted growth of per capita income 2019-20 and deaths per million: population weighted regression shown as broken line, areas of circles proportional to population

- What is the relationship between death rates and GDP/capita growth?
  - For OECD countries – no clear pattern
  - For non-OECD countries – negative relationship
- Is there any outliers?
  - Yes, e.g. Venezuela
- What can we say about China, India, and USA?
  - China has positive growth with small number of death while India and negative growth with large number death

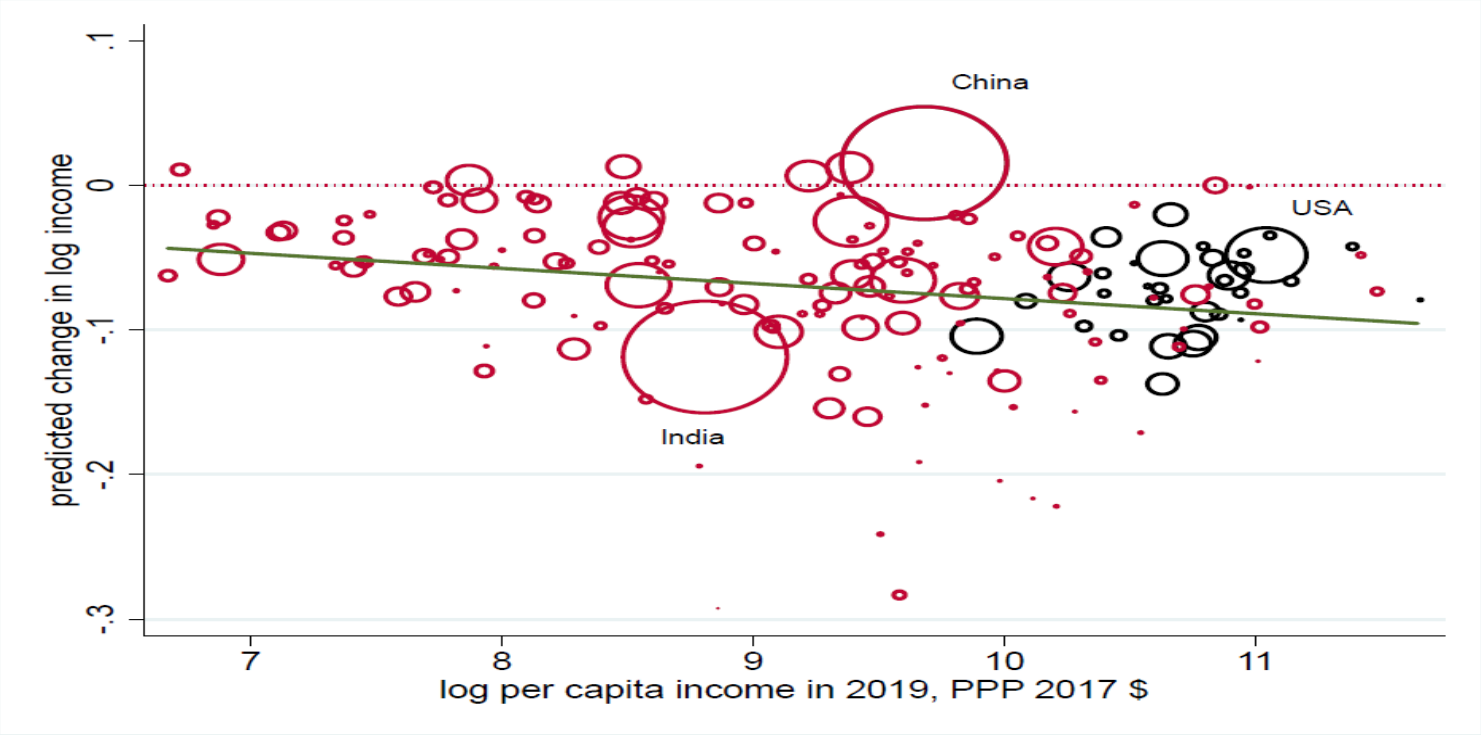

Figure 3: Growth of per capita income, 2019-20, and per capita income in 2019: line is unweighted regression line, areas of circles proportional to population

- What can we say about the relationship between predicted income growth and per capita income?
  - Negative in general, but small and insignificant for OCED countries

- Discuss the effect of Covid-19 on predicted income growth.

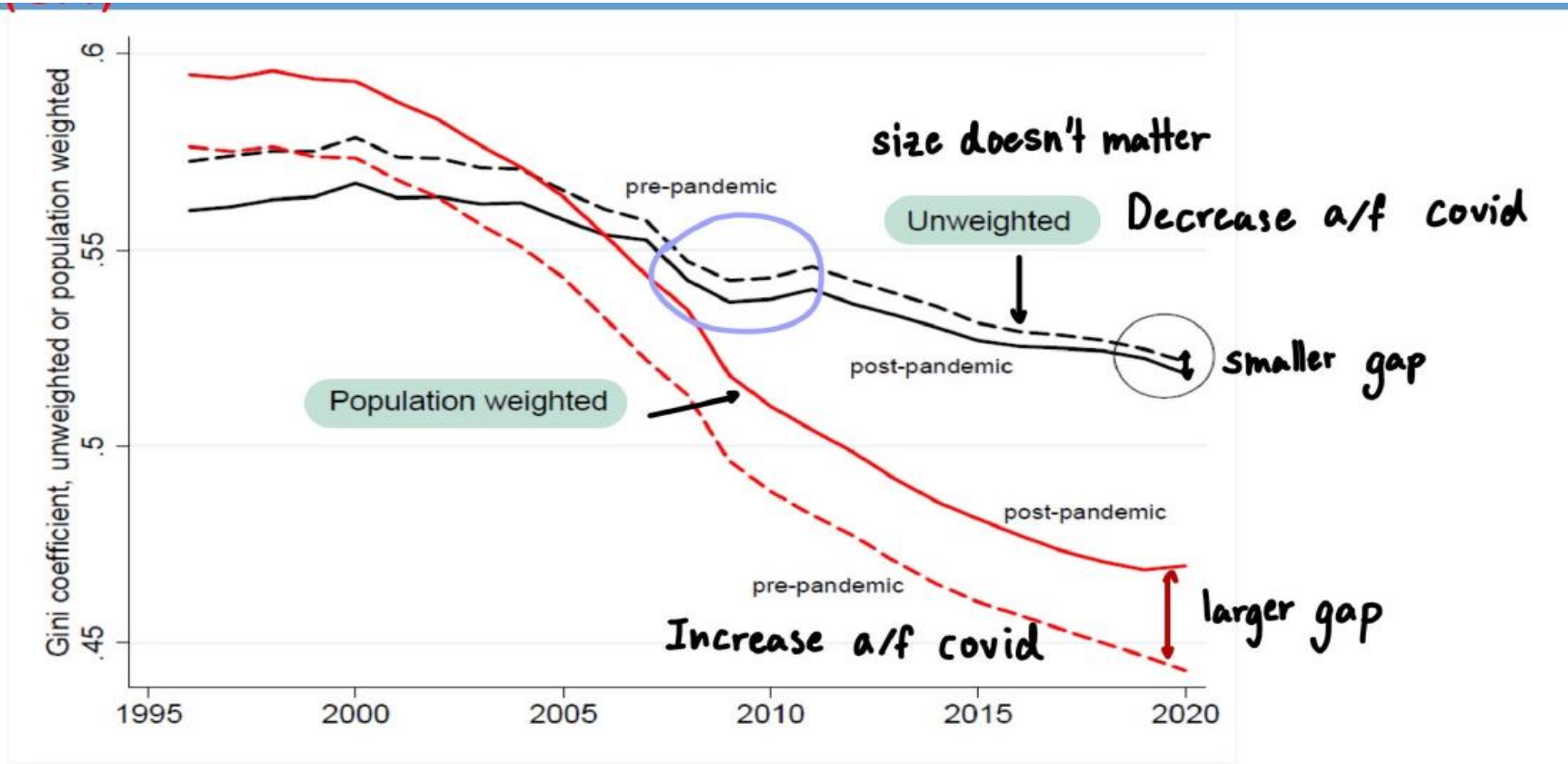

Figure 4 Gini coefficients of income per capita, unweighted, weighted by population. Broken lines use pre-pandemic data

- What can we say about the difference between weighted and unweighted Gini coefficients? What about pre-pandemic vs. post-pandemic ones? What are the explanations of these differences?
  - Sensitive to small country

- What is the discussion about small and rich countries, e.g. Macao?

- Small and rich countries
  - The two richest countries in 2019, measured by income per capita
    - Macao
    - Luxembourg
  - Macao lose half of GDP per capita
    - Gambling, Entertainment and tourist sector were hit by the pandemic
    - Large effect on Unweighted global inequality
      - Income per capita in Macao decreases => Gini coefficient rises
      - If Macao is excluded the Gini coefficient would fall => more equality

Conclusion and Reservations

- What is the main conclusion?

- What is the discussion about small and rich countries, e.g. Macao?

  Macao large unweight gini

- Any reservations/limitations in interpreting these results?

  China is the outlier w/ better economic amoung rich country lead to bias of the result. Exclude country like Macao as income b/c of gamble & tourist but can't exclude due to principle way.