

# Replicability package for PRWP: Global inequality and economic growth: the three decades before Covid-19 and three decades after

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## Overview

This package explains the steps necessary to replicate the data, figures, and tables used in Garcia Rojas et al. (2025).

[version PRWP DD/MM/YYYY, weblink: XXX (to be updated)]. Replication of the main results (and most of the Appendix) can be easily performed by running the master do-file (`00-Master.do`) in the main folder. However, to replicate the output on Table 2A it will be necessary to follow the instructions within the master do-file. Be aware that the runtime can increase from 1 day to 2.5 days if the latter is needed.

## Requirements

- **Operating System:** Microsoft Windows 11 Enterprise
- **Programming Language:** Stata MP v18.5
- **Runtime (approximate):** 24 hours (48–60 hours with Appendix)
- **Storage space (approximate):** 5.5 GB (7 GB with Appendix)

## Folder path

"\Replication for PWPR\"

## Folder structure

- `01-code` — do files; see detail below
- `02-rawdata` — input data files; see detail below
- `03-intermediatedata` — processed datasets needed for final output; see below
- `04-output` — final output files; see below
- `05-figntab` — final figures and tables; see below

## Data Availability

The paper utilizes GDP projections obtained from the IIASA SSP Scenario Explorer, growth projections from the Poverty, Prosperity, and Planet Report 2024, and global welfare data divided into 1,000 bins per country, available on the World Bank Data Catalog.

All the aforementioned sources are publicly available. For Figure 3, the paper specifically uses the binned global welfare data for 2020 (reflecting the Covid-19 effect) estimated by Mahler et al. (2022), which was requested from the authors.

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## Data Sources

### INPUT DATA FILES

#### Data Sources

##### 1. GDP projections under different Shared Socioeconomic Pathways (SSPs)

- **Source:** IIASA SSP Scenario Explorer 3.1.0
- **Access year:** 2024
- **Availability:** Data is publicly available after creating an account
- **File name:** \02-rawdata\Growth\ssp.dta

##### 2. Growth projections in the Global Economic Prospects (June 2024) complemented by the Macro and Poverty Outlooks (April 2024) and World Economic Outlook (April 2024)

- **Source:** World Bank Reproducibility Catalog
- **Access year:** 2024
- **Availability:** Available in the reproducibility package for the *Poverty, Prosperity and Planet Report 2024*
- **Origin filename:** projections\_global\_2050.dta
- **File name:** \02-rawdata\Growth\GDP\_GEP202406.dta

##### 3. Country-year information on income group, FCV status, and IDA status

- **Source:** GPID-WB Classification GitHub
- **Access year:** 2024
- **Availability:** Data is publicly available
- **File name:** \02-rawdata\Other\CLASS\_FY24.dta

#### 4. Population

- **Source:** Poverty and Inequality Platform (version September 2024)
- **Access year:** 2024
- **Availability:** Data is publicly available
- **File name:** \02-rawdata\Other\Population\_202409.dta
- **Code used:** pip tables, clear table(pop) version(20240627\_2017\_01\_02\_PROD)

#### 5. PIP countries

- **Source:** Poverty and Inequality Platform (version September 2024)
- **Access year:** 2024
- **Availability:** Data is publicly available
- **File name:** \02-rawdata\PIP\PIP\_countries\_202409.dta
- **Code used:** pip tables, table(country\_list) clear version(20240627\_2017\_01\_02\_PROD)

#### 6. Global welfare dataset with 1000 bins per country

- **Source:** World Bank Data Catalog
- **Access year:** 2024
- **Availability:** Data is publicly available
- **Filenames:**
  - \02-rawdata\PIP\GlobalDist1000bins\_1990\_2024\_3pr24.dta
  - \02-rawdata\PIP\GlobalDist1000bins\_2024\_3pr24.dta (only for 2024)
- **Detailed description:**
  - Welfare data for 218 World Bank economies, each with 1000 bins
  - **Years included:** 1990–2019
  - **ID variables:** code, year
  - **Variable list:**
    - \* code: Country code
    - \* year: Year
    - \* region\_pip: PIP region

- \* **welf**: Average daily welfare of bin (in 2017 PPP USD)
- \* **pop**: Population in millions
- **Note**: Welfare values are average incomes of each bin. The file also includes population in each bin. The distribution is at the national level for all countries.

## 7. Global welfare dataset with 1000 bins per country for 2020 (Mahler et al., 2022)

- **Source**: World Bank Open Knowledge Repository
- **Access year**: 2024
- **Availability**: Contact the authors for data
- **Filename**: \02-rawdata\Other\GlobalDist\_1000bins\_MYLjan25\_limitedvars.dta

## 8. Povsim.ado files

- **Source**: Poverty and Shared Prosperity 2016 - Simulations
- **Access year**: 2024
- **Availability**: Download is publicly available
- **Filenames**:
  - \01-code\povsim.ado
  - \01-code\povsim\_convex.ado
  - \01-code\povsim\_linear.ado
  - \01-code\povsim\_sfunction.ado

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## Do Files

**Do files folder path**: \Replication for PWPR\01-code\

**Note**: All do files can be run from the 00-Master.do in that specific order.

**Important**: Remember to update the global dir (line #8) to the local folder path in 00-Master.do.

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## Main Data

**01x-GDPGrowthRates\_App.do** (Only for Appendix)

Growth rates with distribution neutral assumptions from 1990 for specific country or by income group

**Output**:

- 03-intermediatedata/GDP\_GEP202406\_app.dta

**01a-DistributionNeutralProjection\_2050.do**

Project global distribution from 2025 to 2050 with distribution neutral assumptions from 2010 for specific country

**Output:**

- 03-intermediatedata/DistributionNeutralProjection\_2025\_2050.dta

**01a-DistributionNeutralProjection\_2050\_w1990.do** (Only for Appendix)

Project global distribution from 2025 to 2050 with distribution neutral assumptions from 1990 for specific country

**Output:**

- 03-intermediatedata/DistributionNeutralProjection\_2025\_2050\_w1990.dta

**01a-DistributionNeutralProjection\_2050\_w1990FY24.do** (Only for Appendix)

Project global distribution from 2025 to 2050 with distribution neutral assumptions from 1990 by income group FY24

**Output:**

- 03-intermediatedata/DistributionNeutralProjection\_2025\_2050\_w1990FY24.dta

**01a-DistributionNeutralProjection\_2050\_w1990FY95.do** (Only for Appendix)

Project global distribution from 2025 to 2050 with distribution neutral assumptions from 1990 by income group FY95

**Output:**

- 03-intermediatedata/DistributionNeutralProjection\_2025\_2050\_w1990FY95.dta

The SSP\_Projection\_2050 file was divided in four different files and merged as follows:

**01b-SSP\_Projection\_2050\_1.do**

Project welfare vector in 2024 to 2100 using SSP 1 and 4 for half of the world

**Output:**

- 03-intermediatedata/GlobalProjectedDist1\_2050.dta

**01b-SSP\_Projection\_2050\_2.do**

Project welfare vector in 2024 to 2100 using SSP 1 and 4 for half of the world

**Output:**

- 03-intermediatedata/GlobalProjectedDist2\_2050.dta

**01b-SSP\_Projection\_2050\_3.do** (Only for Appendix)

Project welfare vector in 2024 to 2100 using SSP 2, 3 and 5 for half of the world

**Output:**

- 03-intermediatedata/GlobalProjectedDist3\_2050.dta

**01b-SSP\_Projection\_2050\_4.do** (Only for Appendix)

Project welfare vector in 2024 to 2100 using SSP 2, 3 and 5 for half of the world

**Output:**

- 03-intermediatedata/GlobalProjectedDist4\_2050.dta

**01b-SSP\_Projection\_2050\_merge.do**

Merge GlobalProjectedDist data sets

**Output:**

- 03-intermediatedata/GlobalProjectedDist\_2050\_SSP\_1\_4.dta

**01b-SSP\_Projection\_2050\_merge\_app.do** (Only for Appendix)

Merge GlobalProjectedDist data sets

**Output:**

- 03-intermediatedata/GlobalProjectedDist\_2050\_SSP\_2\_3\_5.dta

**01c-ProjectedGlobalInequality\_Hist.do**

Calculate inequality for the world across the years

**Output:**

- 04-output/GlobalInequalityData\_All.dta

### **01d-GlobalInequality\_MLD.do**

Calculate inequality for the world using MLD

#### **Output:**

- 04-output/GlobalInequalityData\_hist\_mld.dta
  - 04-output/GlobalInequalityData\_MYL\_mld.dta (using Mahler et al., 2022)
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## **Tables**

**Note:** The numbers in the filename of the tables correspond to the numbers in the paper.

### **Table\_1\_3A\_4A.do**

Compares the forecasted average growth rates and estimated average Gini changes

#### **Output:**

- 05-figntab/Table\_1\_3A\_4A.csv

### **Table\_1A.do** (Only for Appendix)

Estimates of global inequality per year (MLD and Gini)

#### **Output:**

- 05-figntab/Table\_1A.csv

### **Table\_2A.do** (Only for Appendix)

Estimates of global Gini for all scenarios

#### **Output:**

- 05-figntab/Table\_2A.csv
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## **Figures**

**Note:** The numbers in the filename of the figures correspond to the numbers in the paper.

### **Fig1.do**

Evolution of the global Gini index and Growth Incidence Curves, 1990-2019

#### **Output:**

- 05-figntab/Fig1A.png
- 05-figntab/Fig1B.png

### **Fig2.do**

Decomposition of global income inequality into within and between-country contributions

#### **Output:**

- 05-figntab/Fig2.png

### **Fig3.do**

Impact of the Asian financial crisis and the Covid-19 pandemic on global inequality

#### **Output:**

- 05-figntab/Fig3.png

### **Fig4.do**

Change in global inequality between 2019 and 2020, by income groups

#### **Output:**

- 05-figntab/Fig4.png

### **Fig5.do**

Potential pathways for global inequality 2025-2050

**Output:**

- 05-figntab/Fig5.png

**Fig6.do**

Annualized growth by country income level

**Output:**

- 05-figntab/Fig6A.png (Historical)
- 05-figntab/Fig6B.png (Business-as-usual)
- 05-figntab/Fig6C.png (Optimistic)
- 05-figntab/Fig6D.png (Pessimistic)