

# Global Inequality: where do we stand?

François Bourguignon  
Paris School of Economics

LIS 40th Anniversary, Luxembourg

# Introduction

- Broad literature on global inequality – i.e. *inequality among world citizens* - already surveyed 15 years ago by Anand and Segal (2008) but which keeps expanding, most notably through the work of Milanovic.
- Various objectives:
  - Global social justice, e.g. UN's millenium declaration (MDGs, SDGs)
  - Analytic (growth convergence/divergence, effects of globalization, ..)
- Various concepts of global inequality: global vs. between/within, population weighted vs. 'one flag one observation', relative vs. absolute inequality, global poverty, ...
- Major methodological hurdles:
  - availability of income distribution data, comparability across countries (and over time), PPP-correction of exchange rates, representativeness of survey samples, under-sampling/reporting ...
- Conflicting views about the evolution of global inequality, although the dominant view in the opinion seems to be that *global inequality has ever been increasing and keeps increasing*

# This presentation

- Two recent papers attempt to describe the historical evolution of the global inequality of incomes with more emphasis on last 40 years:
  - L. Chancel and T. Piketty (2021), Global income inequality: 1820-2020: the persistence and mutation of extreme inequality
  - B. Milanovic (2022), The three eras of global inequality, 1820-2020, with the focus on the past thirty years
- As they are based on different data sets, particularly interesting to see whether they show the same evolution:
  - In the 'historical' period – 1820-1980, i.e. before distribution data became available in a majority of countries
  - In the last 30-40 years 1980/90 - 2020
- Over the recent period, the comparison is complemented by own estimates based on the Poverty and Inequality Platform (PIP) database of the World Bank (ex-Povcalnet)

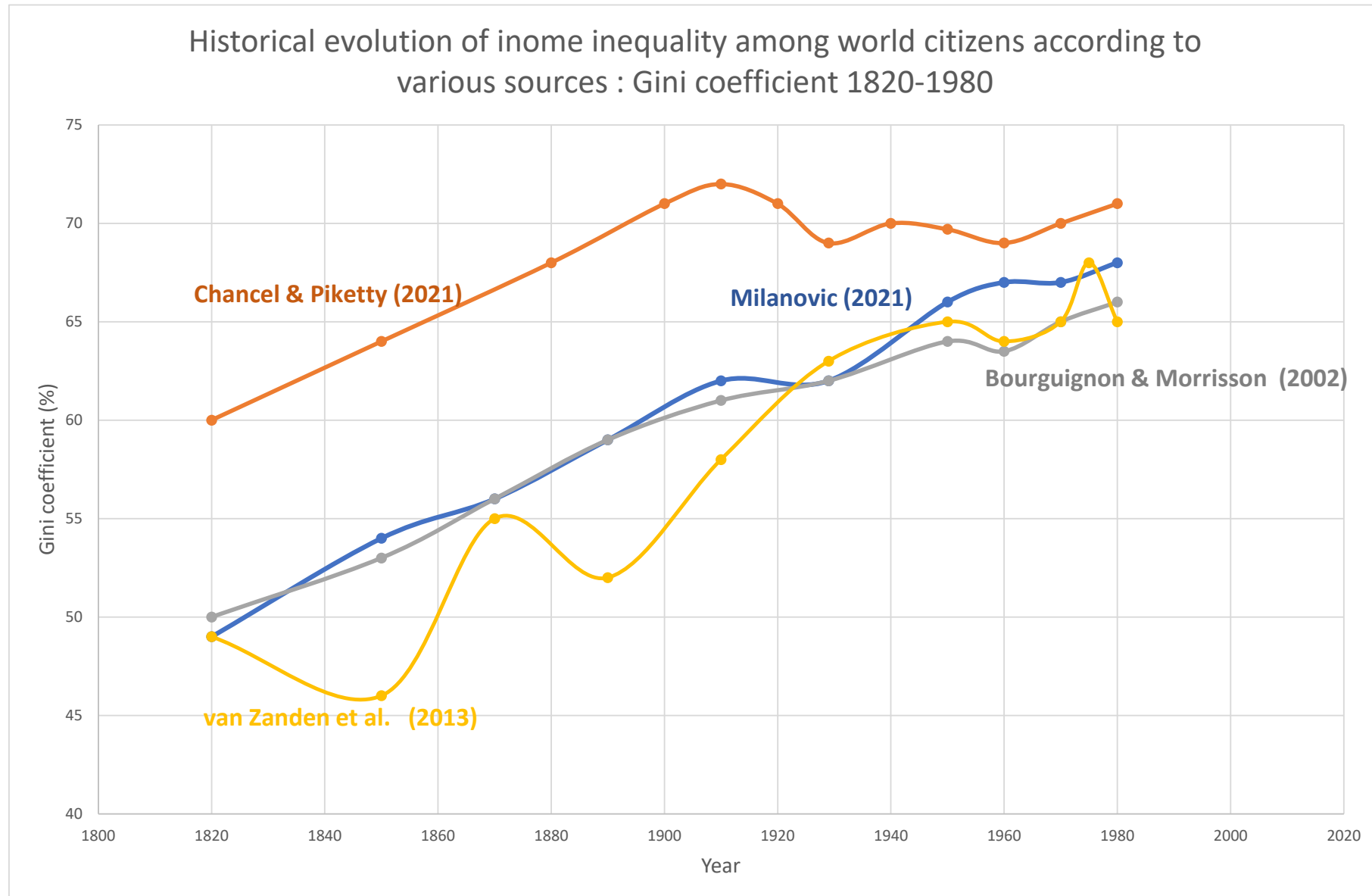
# Outline

1. Historical evolution of income inequality among world citizen: 1820-1980: an ascending trend
2. Recent evolution of global inequality (last three/four decades)
  - Inequality measures
  - Growth incidence curves
3. Some methodological issues in global inequality estimation
4. What's next ?

# 1 Historical evolution of global inequality

- Source of mean income by country: Maddison-Project series of PPP-2017 GDP per capita (GGDC)
- Source of data on decile/quintile shares:
  - Branko Milanovic (BM): Bourguignon & Morrisson (2002) estimates for selected years over 1820-1980, adjusted for more countries available in Maddison Project database
  - Chancel and Piketty (C&P): relies on more distribution estimates based on tax data (after 1910) and wealth distribution for a few countries + extrapolation over time and across countries. When needed, percentile shares parametrized by top income (10%) and bottom (50%) shares. (?)
  - Van Zanden et al. (2013), estimates based on a few direct estimates, wage/GDP per capita ratios, and height inequality + extrapolation over time and across countries + Log-normal assumption
- Results:
  - Convergence on ascending trend in 19th century although at higher level for C & P
  - Divergence after WWI : stability in C & P vs. continuing rise in BM
  - Both features easily explained by data sources, with some uncertainty over the post-WWI period

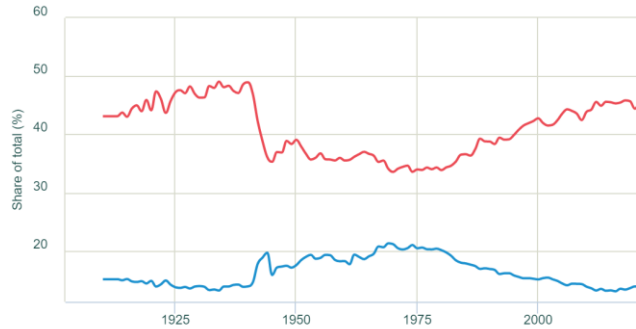
# Historical estimates of global inequality



# Historical evolution of national inequality: USA, UK France

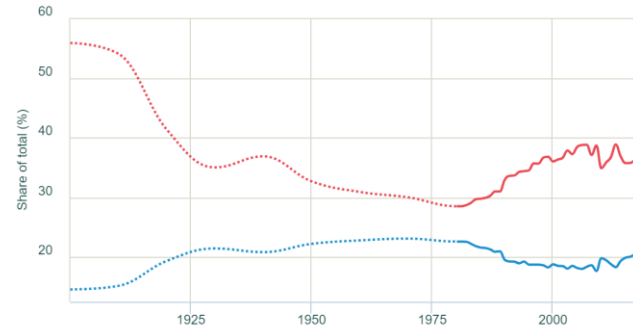
## a) WID data

Income inequality, USA, 1903-2021



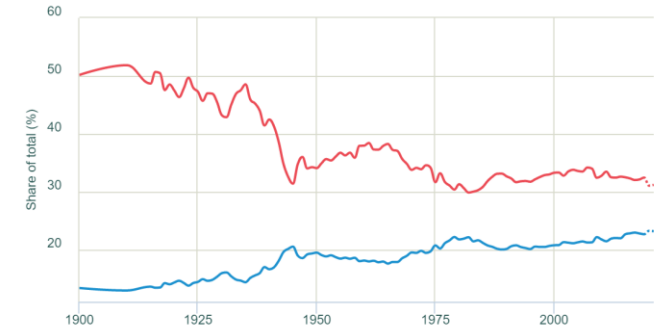
— Pre-tax national income | Top 10% | share | adults | equal split  
 — Pre-tax national income | Bottom 50% | share | adults | equal split  
Graph provided by www.wid.world

Income inequality, United Kingdom, 1901-2019



— Pre-tax national income | Top 10% | share | adults | equal split  
 — Pre-tax national income | Bottom 50% | share | adults | equal split  
Graph provided by www.wid.world

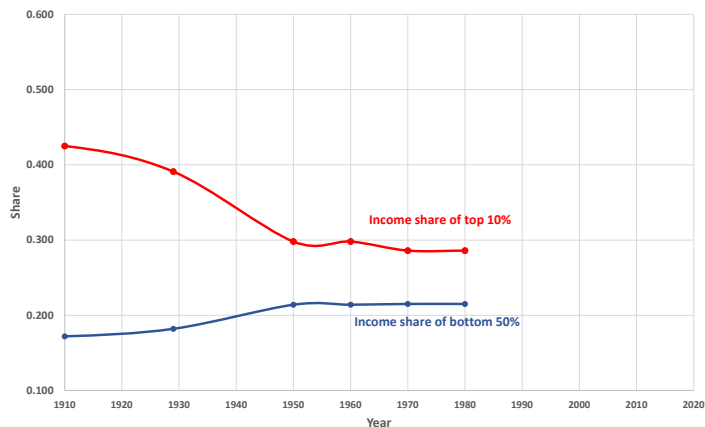
Income inequality, France, 1900-2021



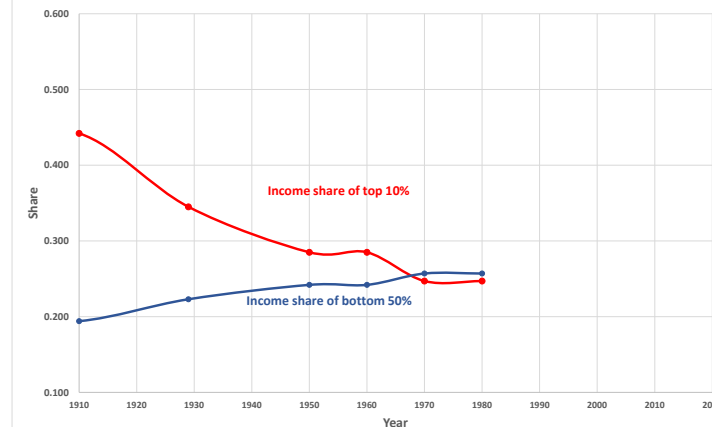
— Pre-tax national income | Top 10% | share | adults | equal split  
 — Pre-tax national income | Bottom 50% | share | adults | equal split  
Graph provided by www.wid.world

## b) B&M/BM data

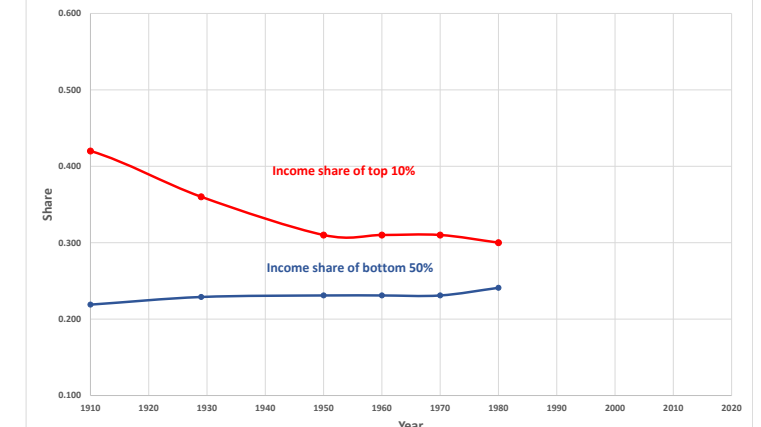
USA: Income inequality (B&M /BM) 1820-1980



UK: Income inequality (B&M /BM) 1910-1980



France: Income inequality (B&M /BM) 1910-1980



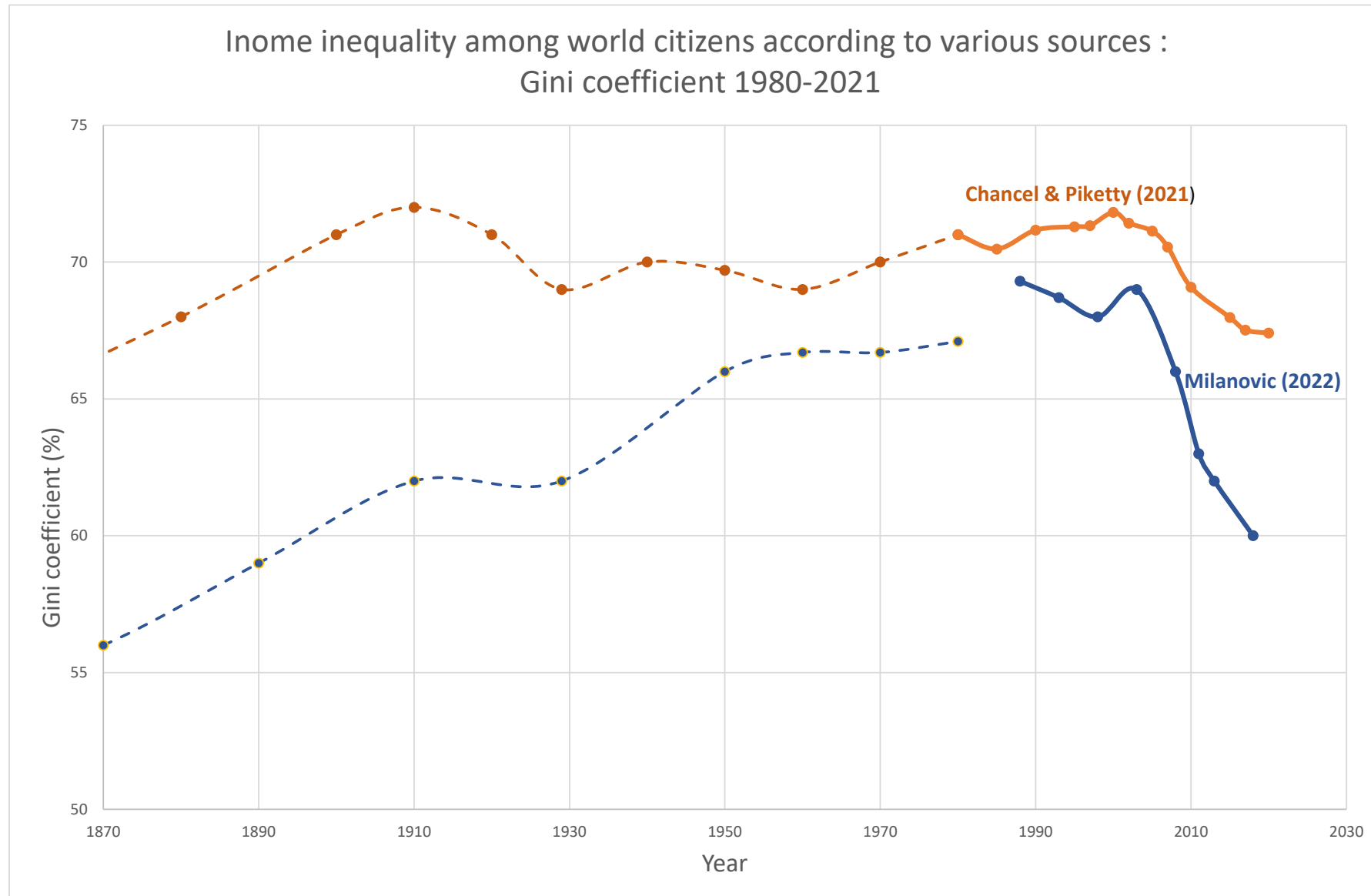
## 2. Recent evolution of global inequality:

Data sources on recent period:

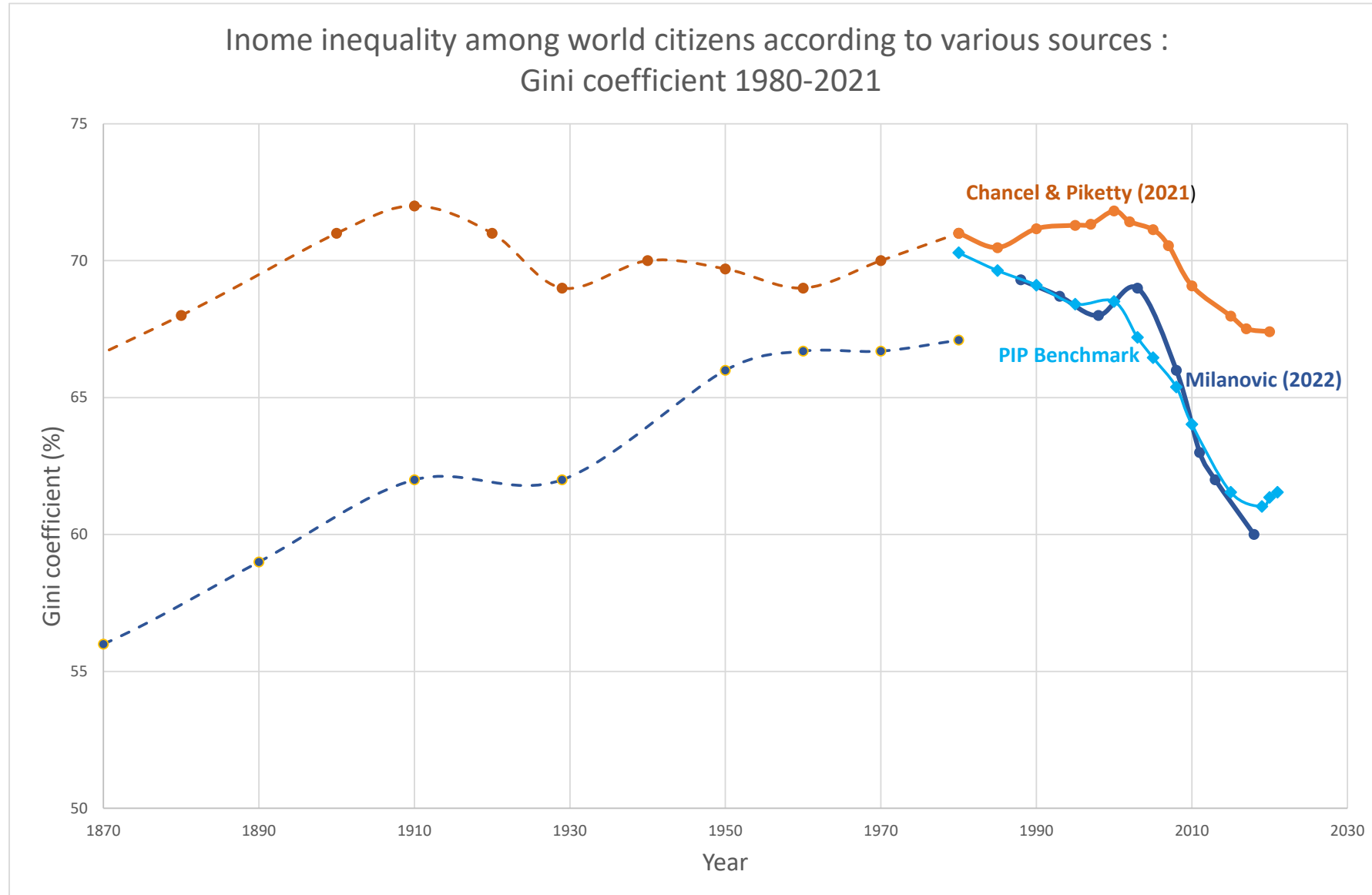
- Chancel and Piketty: World Inequality Database (WID), national g-percentile (adult), DINA distribution of gross income (combining Household Surveys – national sources for advanced and big emerging countries, Povcalnet for other developing- , Tax data and National Accounts); around 160 countries – with the same regional grouping as for the historical period; PPP exchange rate; 1980-2020
- Milanovic : Povcalnet (for developing countries), LIS for advanced countries (+ SILC + SEDLAC); percentile distribution of household income/consumption per capita from (unadjusted) Household Surveys; variable sample of between 130 and 140 countries, PPP exchange rate, 1990-2018
- PIP Benchmark (2023): Poverty and Inequality Platform (updated version of Povcalnet with global coverage, around 160 countries), 1980-2021



# Global inequality in the 2000s: a trend reversal ?



# A trend reversal ?



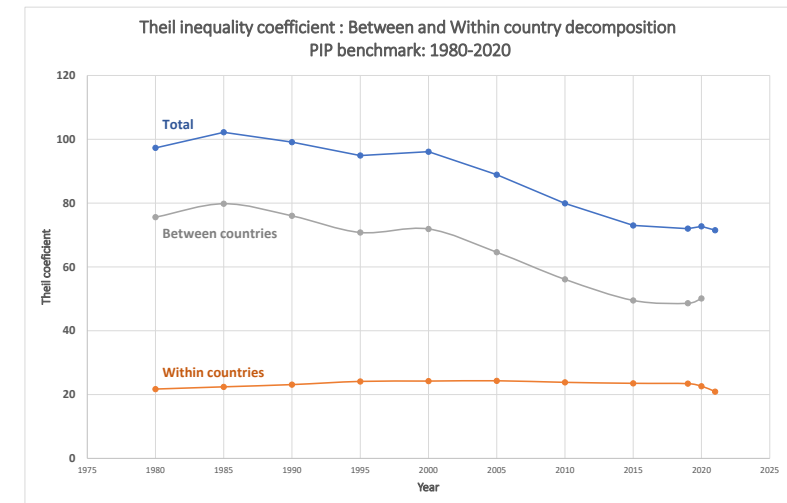
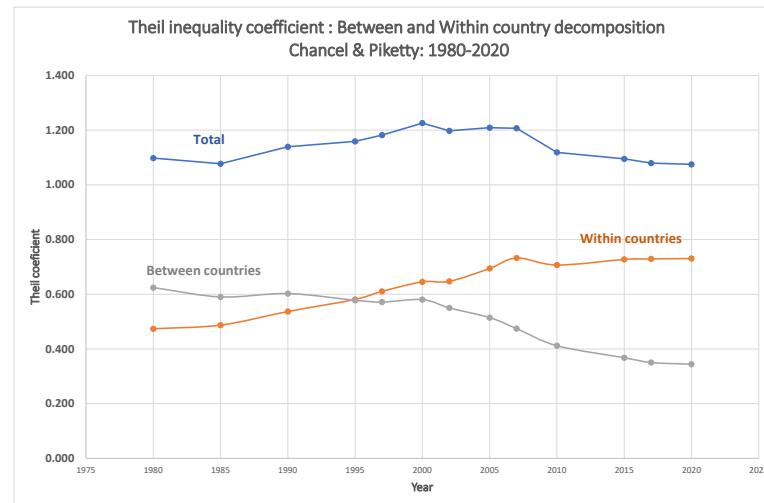
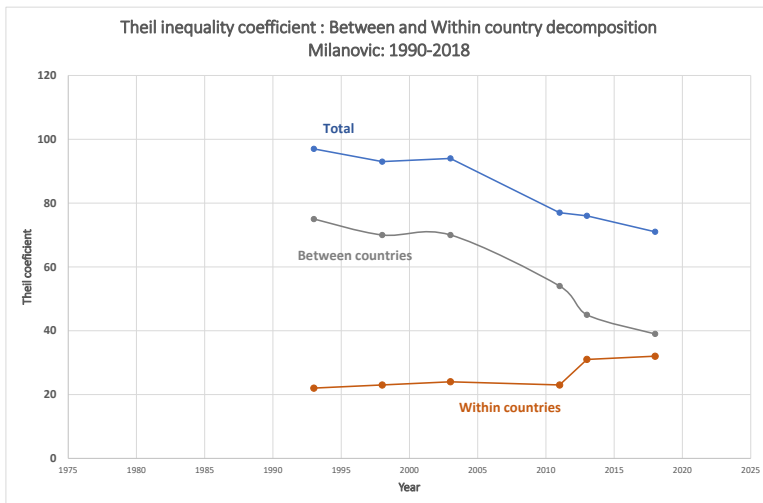
# Recent evolution of global inequality: agreement on trend reversal but divergence on date and intensity

- Chancel & Piketty:
  - Slight increase between 1980 and 2000
  - Steep fall since 2000 (5 Gini pp drop)
  - Clear stagnation effect of the pandemic
  - Gini in 2020 at the same level as in 1880 !
- Milanovic (BM)
  - Fall started before 2000
  - Very steep decrease after an upward blip in 2003 (6/7 Gini pp drop)
  - Gini in 2018 at the same level as in 1870 or before
- PIP benchmark
  - Similar to BM except for the 2003 blip
  - Slowdown of the decline in 2015-2019 and minor reversal in 2020

# ... but fundamentally different structural components

Decomposition of the Theil coefficient of total inequality into:

- Between inequality: global inequality if all income were identical within countries
- Within inequality: global inequality if mean incomes were identical across countries



# Sources of convergence and divergence

Convergence: the fall in between country inequality as the dominant global economy feature of the period – possibly a historical trend reversal

Divergence: the size and rising pace of national inequality in advanced and big emerging countries in the 1980s and 1990s differ between the two sets of estimates (see next slide)

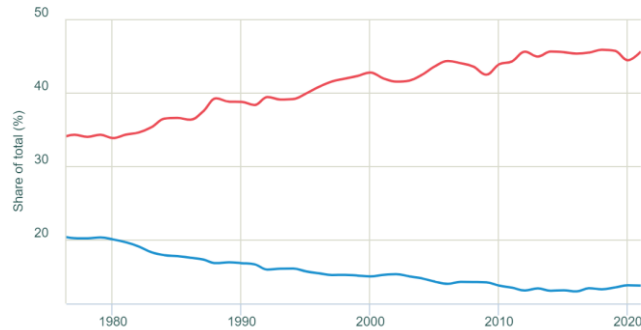
- Higher inequality and steeper rise in C&P + magnifying effect of the extension of distribution data to National Accounts
- Together these factors over-compensate the drop in global inequality due to the between country component in C&P... unlike in the BM or PIP benchmark estimates
- These factors lessen after 2000, and the fall in the between-country inequality becoming the dominant force in the evolution of global inequality

Note: discrepancy between BM and PIP in within-country inequality after 2010 to be clarified

# Recent evolution of national inequality: USA, UK, China

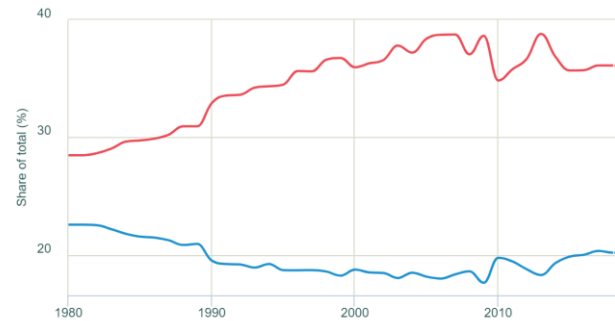
## a) WID data

Income inequality, USA, 1977-2021



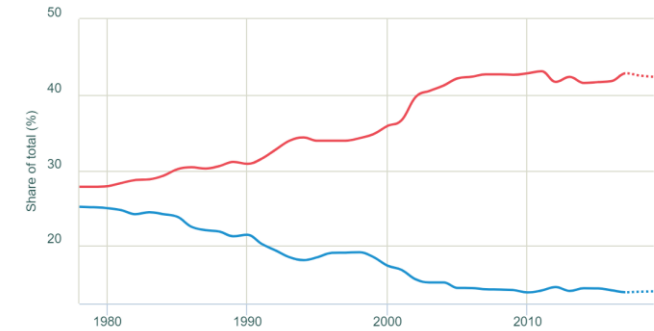
— Pre-tax national income | Top 10% | share | adults | equal split  
— Pre-tax national income | Bottom 50% | share | adults | equal split  
Graph provided by www.wid.world

Income inequality, United Kingdom, 1980-2019



— Pre-tax national income | Top 10% | share | adults | equal split  
— Pre-tax national income | Bottom 50% | share | adults | equal split  
Graph provided by www.wid.world

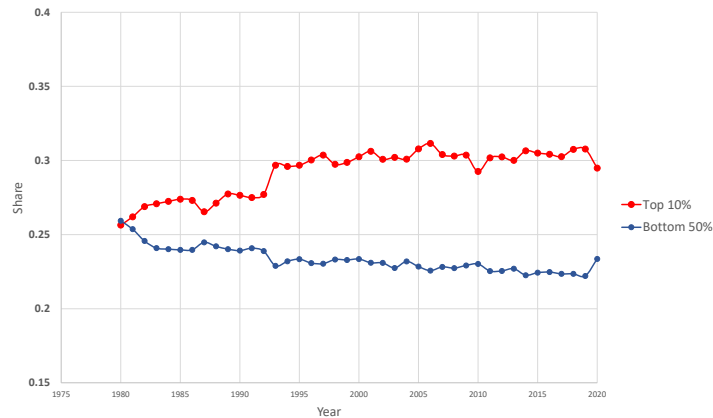
Income inequality, China, 1978-2019



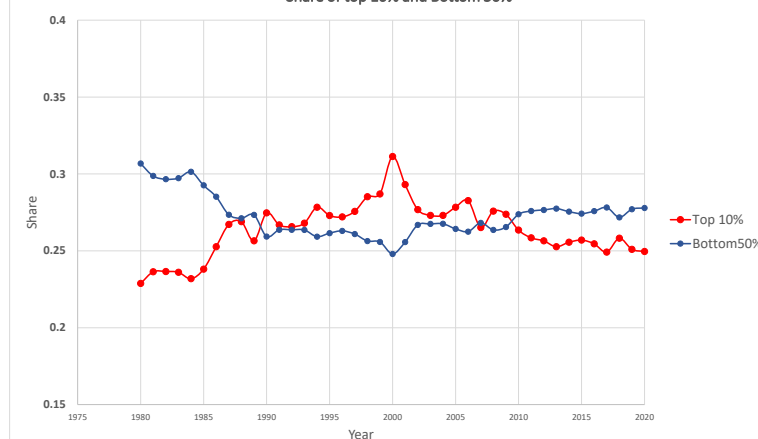
— Pre-tax national income | Top 10% | share | adults | equal split  
— Pre-tax national income | Bottom 50% | share | adults | equal split  
Graph provided by www.wid.world

## b) PIP data

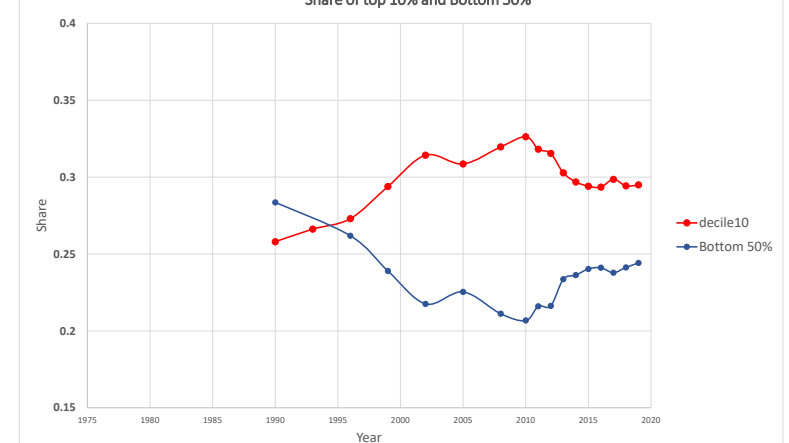
US: Income inequality PIP : 1980-2021  
Share of top 10% and Bottom 50%



UK: Income inequality PIP : 1980-2021  
Share of top 10% and Bottom 50%

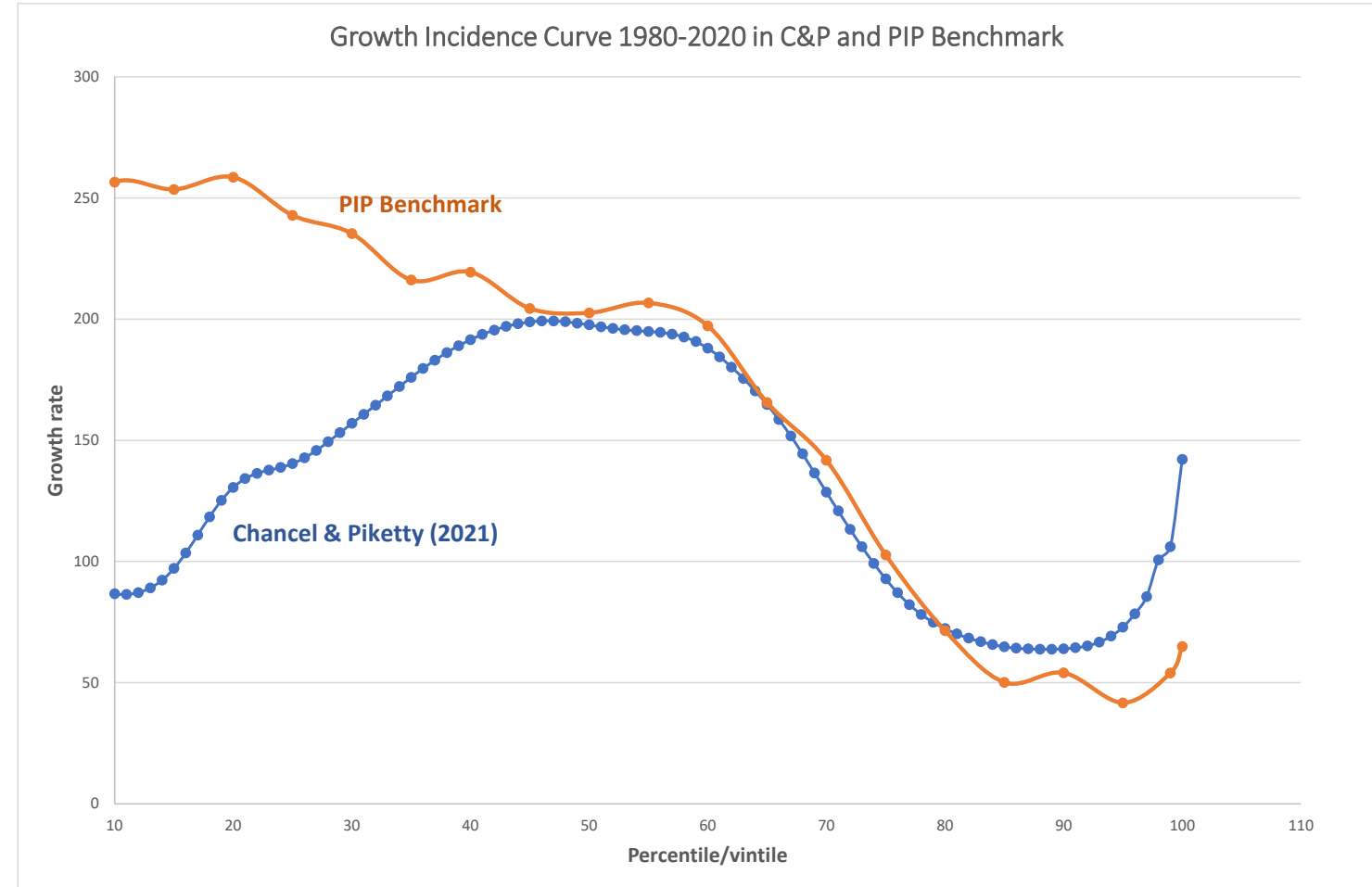


China: Income inequality PIP : 1980-2021  
Share of top 10% and Bottom 50%



# Delving deeper into the dynamics of global inequality: growth incidence curves

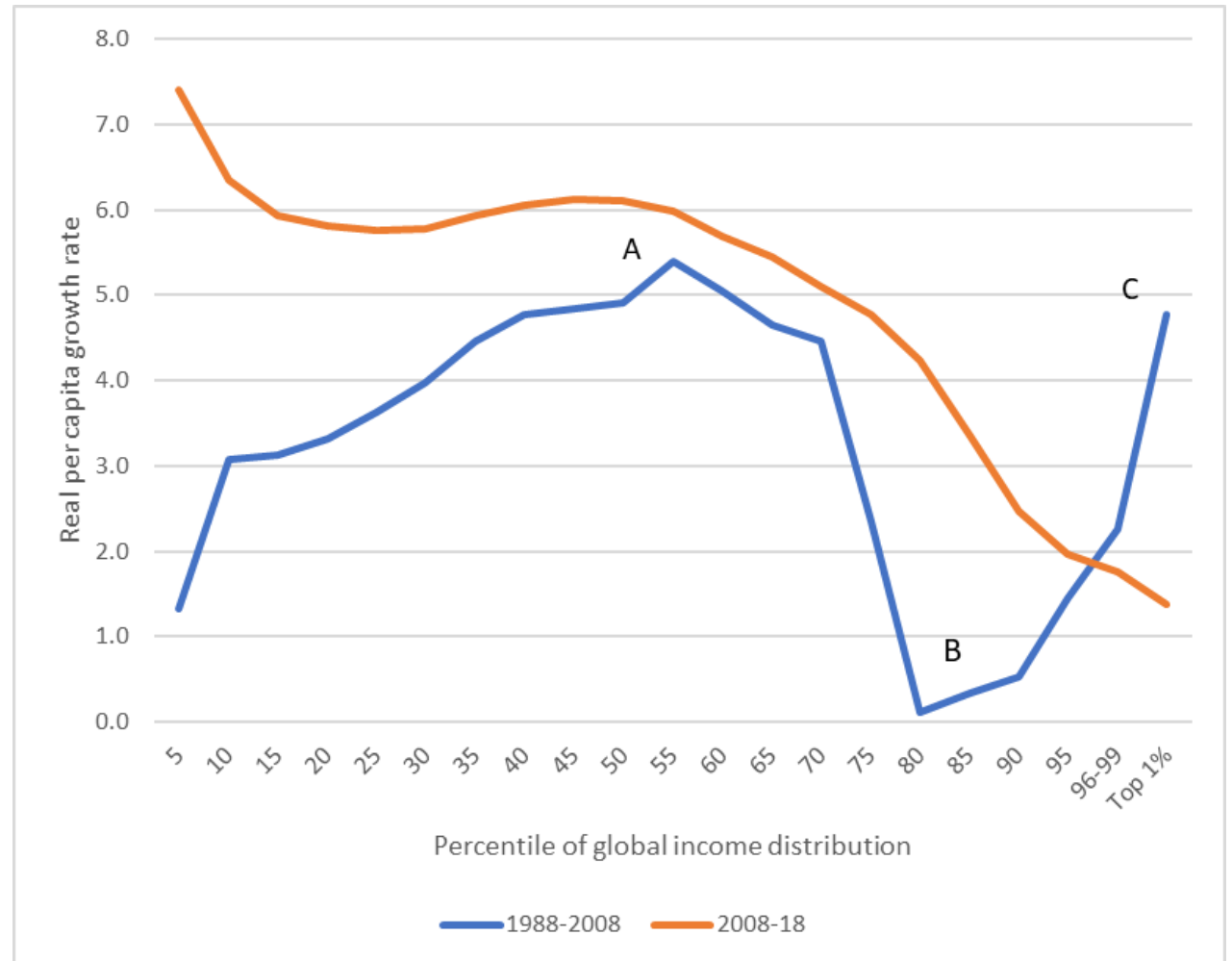
- 'Elephant curve' in C&P
- Almost fully downward sloping GIC in PIP suggesting unambiguous increase in social welfare
- Difference on top incomes is expected
- Surprising difference in bottom
  - Growth of mean income in household surveys in PIP below GNI per capita growth in C&P
  - Effect of the major reranking due to Chinese growth seems absent in C&P (2020 Brazil's decile 1 /1980 China's Decile 4)



# Change in the shape of Growth Incidence Curves

- Original 'elephant curve' in Lakner-Milanovic (2013) (NA corrected ?)
- The shape is radically modified in later period (almost fully downward sloping)
- Elephant's trunk in the 1988-2008 GIC is due to the steep increase in inequality during the 1980s and 1990s
- It disappears in the 2000s because inequality rose more slowly or stagnated, the between-country component becoming dominant

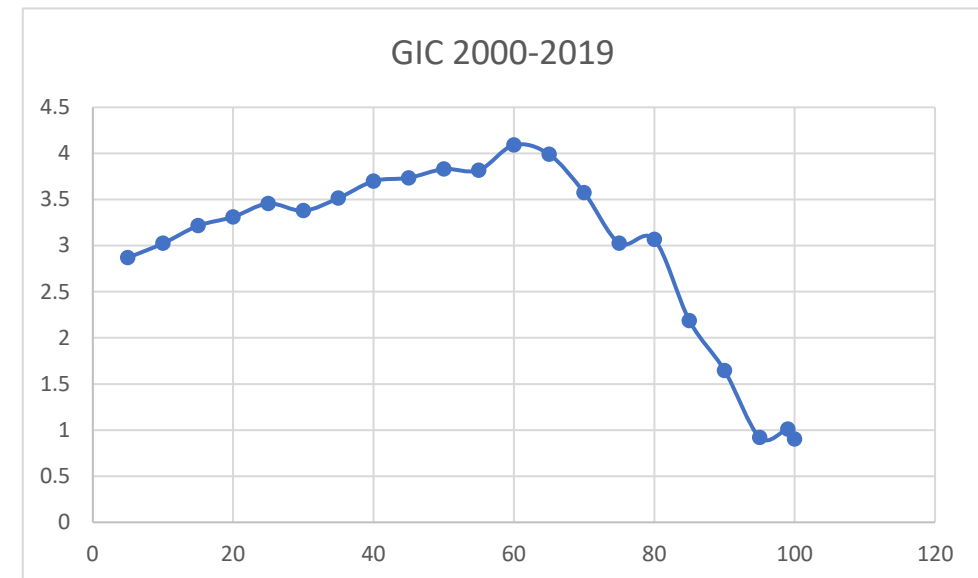
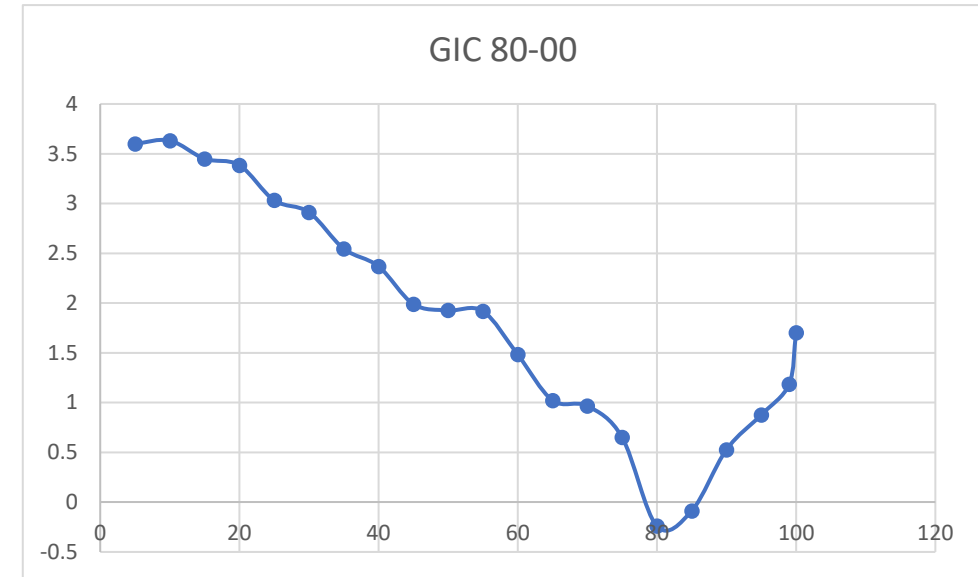
BM 2022: Global incidence curves for 1988-2008 and 2008-2018





# The changing shape of the GIC in PIP/benchmark data

- Differences with BM suggests that time period matters for the shape of the GIC
- Effect of the inequality rise of the 1980s/90S quite clear and strong – even without top income correction.
- At first sight, GIC 80-00/00-19 suggest there was no unambiguous change in inequality in those periods as GIC are non-monotonic – but this is not necessarily the case and require further checking.



# 3. About some methodological issues in the measurement of global inequality

Three methodological dimensions:

1. National mean economic welfare concept: from pre-tax household income to GNI per capita. With population data and appropriate exchange rate this determines the between-country inequality
  - Main source = National Accounts (NA)
  - Some approximation needed to use 'per adult equivalent' or 'equivalized' income concept
2. National sources of distribution data consistent with mean welfare concept: from household survey to linkages between surveys, administrative data and NA extension.
  - Distribution feature depends on the welfare concept and data source
  - Household income survey as the most practical observation tool of 'equivalized disposable income', but there are biases
  - Other concepts can be observed through surveys (wealth, consumption) but exhibit biases
  - Correcting biases or moving to other welfare concepts ('full income') requires using ancillary data (typically tax data, National Accounts) in a not-so-obvious way
  - *Issue of transparency and replicability* (WID vs LIS)

# .. methodological issues in the measurement of global inequality

## 3. Representation of the distribution and measure of inequality

- Relative vs. Absolute
- Population weight in global distribution
- Decomposition (income, earnings, capital incomes)
- Horizontal inequality (gender, age, education, family composition) ...)

# 4. What's next

Will the equalizing of global distribution continue?

1. The changing role of China
2. Will India replace China?
3. The key role of Sub-Saharan Africa
4. The climate change factor