Distributional National Accounts

An overview

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Continuation of pioneering work of Kuznets in the 1950s and Atkinson in the 1970s combining fiscal and national accounts data

Kuznets, 1953 and Atkinson and Harrison, 1978

WID.world started with the publication of historical inequality series based on top income shares series using tax data


In 2011, we released the World Top Incomes Database, gradually extended to over thirty countries and to wealth

Alvaredo et al., 2013, Saez-Zucman , 2016, Alvaredo-Atkinson-Morelli, 2016, etc.
Over the past years, we have been going beyond top fiscal incomes

- What about the bottom of the distribution?
- What about wealth?
- What about taxes and transfers?
- What about differences in statistical units?
- What about tax-exempt income?

→ Need to measure economic inequality within a consistent framework, with standard guidelines and a comprehensive measure of both income and wealth
There is already a set of internationally accepted guidelines on how to quantify income and wealth: the **System of National Accounts**.

- The SNA has a huge impact on how we think about and act upon the economy.

**Distributional National Accounts (DINA) agenda:** present the best possible estimates of the distribution of national income and wealth between all adult individuals living in a given country during a given year.
Key objective: distribute 100% of national income and wealth

There's no such thing as “the correct data source”
• All sources have their merits and demerits and we should combine them in consistent + transparent ways to use their respective strengths → Trying to achieve consistency between sources is a driving force for better data quality

There's no such thing as “the right indicator”
• We provide as much detail as possible on the distribution and let users decide what suits their purpose

Collaborative and cumulative project
• Collaboration between research groups and with public statisticians is paramount
Several data sources to distribute income and wealth

- **National accounts**
  - Broadest and most standard definition of income and wealth
  - Reference for measuring inequality between countries

- **Survey data**
  - Covers the entire distribution (the bottom in particular)
  - Usually available as microdata $\Rightarrow$ richness + flexibility in the use of concepts
  - Small sample + richest households underrepresented

- **Tax data**
  - Covers the top well
  - Only covers the top well
  - Not always available as microdata
  - Influenced by various legislative quirks (tax units, income definition)
  - Tax evasion

- **Useful complements:** *Rich lists* (but few observations, not transparent) + *Leaks* (but rare cases)
Surveys tell an important part of the story, tax data tell another: evidence from Brazil

Figure 5. Top 10% in Brazil: survey vs fiscal vs DINA series

Notes: Distribution of income (before taxes and transfers, except pensions and unemployment insurance) among adults in our three series, raw estimates from surveys, a fiscal income series (combining surveys and fiscal data) and a national income series (combining national accounts, surveys and fiscal data). Equal-split-adults series (income of married couples divided by two).

Morgan 2017 available on WID.world
Reconciling taxable capital income with total (=national) capital income: evidence from the USA

Decomposition of capital income in the USA, 1916-2014

- Didivends, interest, rents & profits reported on tax returns
- Imputed rents + property tax
- Income paid to pensions & insurance
- Corporate income tax
- Retained earnings
- Non-filers & other

Source: Appendix Table I-S.A8.

Piketty, Saez, Zucman 2018 available on WID.world
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2/3 missed by tax data

Source: Appendix Table I-S.A8. Piketty, Saez, Zucman 2018 available on WID.world
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Need to publish distributional information beyond Ginis: global income inequality example → Gini can mask important evolutions

Global income inequality dynamics, 1980-2016
Behind apparent Gini stability: rising Top, falling Middle

The ratio of the average income of the Top 10% to that of the Middle 40% increased by 20 percentage points (p.p.) between 1980 and 2016 (it increased from 4.5 to 5.6). The ratio of the average income of the Middle 40% to that of the Bottom 50% decreased by 27 p.p. between 1980 and 2016 (it decreased from 6.9 to 4.8). The global Gini in 2016 was at its 1980 level (65)

Data from WIR2018 available on WID.world
Need to publish distributional information beyond deciles or quintiles: USA

Distribution of wealth in the USA, 2014

Share of total net personal wealth

- Bottom 20%
- Next 20%
- Next 20%
- Next 20%
- Top 20%

Data from Saez, Zucman 2016 available on WID.world
Wealth shares of the Top 1-0.1% and Top 0.1% in the US, 1913–2012


In 2012, the share of household wealth owned by the Top 0.1% in the US was 22%.
DINA datasets: Shares, averages, thresholds for 127 g-percentiles to recover any kind of inequality indicator. Global inequality in one chart.

Total income growth by percentile across all world regions, 1980–2016

Source: World Inequality Report 2018, Figure 2.1.4. See wir2018.wid.world for data sources and notes.
The geographical breakdown of global income groups changed significantly (1990)

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### Geographic breakdown of global income groups in 1990

- **Top 1%**: The top 1% income earners captured 26% of total growth over the 1980–2016 period—that is, as much as the bottom 65% of the population.
- **Bottom 50%**: The bottom 50% captured 15% of total growth, more than the top 0.1%, which captured 12% of growth.
- **Remaining Global Regions**: The final step consists of including all remaining global regions—namely, Africa (close to 1 billion individuals), the rest of Asia (another billion individuals), and the rest of Latin America (close to half a billion).

In order to reconstruct income inequality dynamics in these regions, we take into account between-country inequality, for which information is available, and assume that within countries, growth is distributed in the same way as neighboring countries for which we have specific information (see box 2.1.1). This allows us to distribute the totality of global income growth over the period considered to the global population.

When all countries are taken into account, the shape of the curve is again transformed (Figure 2.1.4). Now, average global income growth rates are further reduced because Africa and Latin America had relatively low growth over the period considered. This contributes to increasing global inequality as compared to the two cases presented above. The findings are the same as those presented in the right-hand column of table 2.1.2: the top 1% income earners captured 27% of total growth over the 1980–2016 period, as much as the bottom 70% of the population.

The top 0.1% captured 13% of total growth, about as much as the bottom 50%.

The geography of global income inequality was transformed over the past decades.
The geographical breakdown of global income groups changed significantly (2016)

Geographic breakdown of global income groups in 2016

Source: World Inequality Report 2018, Figure 2.1.6. See wir2018.wid.world for data sources and notes.
**Benchmark DINA**: best case scenario, large data availability and in-depth decomposition of income concepts + tax structure
- USA, Europe, Brazil

**« Simplified » DINA**: decomposition into key concepts only
- Other large emerging countries: Russia, India, China + Thailand + Malaysia
  - Preliminary estimates for Africa + Asia + Latin America more refined in the coming 18 months

**Evolutive process**: simplified DINA to be progressively upgraded
In 2016, 12% of national income was received by the top 1% in Western Europe, compared to 20% in the United States. In 1980, 10% of national income was received by the top 1% in Western Europe, compared to 11% in the United States.

Top 1% vs. bottom 50% income shares in China vs. India, 1980-2016

Source: World Inequality Report 2018, Appendix Figure A4. See wir2018.wid.world for data sources and notes.
Top 1% income shares in China, India, Russia, Brazil, 1905-2015
Figure 2.7.2
Average annual national income growth by income group in China, France and the US, 1980–2015


Between 1980 and 2015, the average pre-tax income of the Bottom 50% in China grew at an average of 4.6% per year, against 0.3% in the US. Values are net of inflation.
Figure 30: Redistribution in Europe and the United States:
Ratio top 10% to bottom 50% average incomes

(a) Pre-tax income inequality

(b) Post-tax income inequality

Source: authors’ computations combining surveys, tax data and national accounts for Europe; Piketty, Saez, and Zucman (2018) for the United States.
Income inequality cannot be adequately measured without wealth inequality series.

Top 1% personal wealth share in emerging and rich countries, 1913–2015

Source: World Inequality Report 2018, Figure 4.2.1. See wir2018.wid.world for data sources and notes.
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- **Collaborative and cumulative** project
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A collaborative, cumulative, long-term project

- WID.world today relies on the work of **100+ researchers** over the world from academia and statistical offices; 20 based in Paris + Berkeley
  - DINA for **50+ countries**
  - Top shares for **90+ countries**
  - Wealth income ratios and/or distribution for 30+ countries

- Developing DINAs
  - Different types of expertize required (surveys / tax / combination / national accounts) → reinforces the need for synergies between ‘survey’, ‘tax’, ‘national accounts’ experts, on a **country-by-country approach**

- “Shift to policy” requires **setting conventions**
  - Clarify agreements and agree that we can disagree
  - Importance of ongoing conversations with public statisticians (UN/OECD + national level)
## Comparison between DINA and EG-DNA (OECD)

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For more information, see DINA guidelines and OECD EG-DNA.
- **DINA agenda**: construct new series on the distribution pre- and post-tax income consistent with macro totals.

- **Many challenges ahead**: data challenge + methodological challenge + human resource challenge + standardization challenge.

- There may be technical and conceptual debates among inequality experts: to some extent there will always be. This shouldn’t prevent the development of common standards.

- **Social and political demand** for data on macro growth and inequality (US Senate bill, G7, UN general assembly, etc.).

Conclusion: towards a global public service of inequality data
More technical details:

- Evidence from Distributional National Accounts (2018), Piketty, Saez, Zucman
- **Capital Accumulation, Private Property and Rising Inequality in China (1978-2015)**, 2019, Piketty, Yang, Zucman, American Economic Review