Global economic inequality: New evidence from the World Inequality Report

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Three « sticky ideas » on globalization and inequality

- Reduction of global inequalities since the 1980s thanks to strong growth in the emerging world

- Trickle down works (the higher the growth at the top, the higher at the bottom)

- No serious alternative to rising inequality within countries (it’s due to technology and trade)

→ World Inequality Report revisits these claims thanks to novel data spanning over 40 years.
World Inequality Report 2018: highlights

- Report based on WID.world, the most extensive database on the historical evolution of income and wealth distribution. Project regrouping more than 100 researchers over 5 continents. 100% transparent, open source, reproducible.

- The first systematic assessment of globalization in terms of economic inequality. Despite high growth in emerging countries, global inequality increased since 1980. The top 1% captured twice as much global income growth as bottom 50%.

- Diverging country inequality trajectories highlight the importance of institutional changes and political choices rather than deterministic forces. This suggests much can be done in the coming decades to promote more equitable growth.
1. Introduction: the WID.world project
2. Global income inequality dynamics
3. Public vs. private capital dynamics
4. Global wealth inequality dynamics
5. Conclusion: tackling inequality
PART I
THE WID.WORLD PROJECT AND THE MEASUREMENT OF ECONOMIC INEQUALITY

- The World Inequality Report 2018 seeks to fill a democratic gap and to equip various actors of society with the necessary facts to engage in informed public debates on inequality.

- The World Inequality Report 2018 relies on the most extensive database on the historical evolution of income and wealth inequality. Our methodology is fully transparent, open access and reproducible.
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.
New website **WID.world** launched January 2017: collaborative effort

Key novelty: we combine National accounts, tax data and surveys in a **systematic manner** → Distributional National Accounts (DINA, cf. Alvaredo et al. 2016)

Three major extensions underway

1. Emerging countries
2. Entire distribution, from bottom to top
3. Wealth distribution and not only income distribution
WID.world today

- Constantly extending database on the historical evolution of income and wealth
  - Income shares, averages, thresholds: 80 countries
  - Wealth income ratios, wealth distribution: 30 countries
  - Net National Income, CFC, GDP: 190 countries

- All computer codes, technical papers available online: 100% reproducible data

- Open access, multi-lingual website and visualization tools
  - Chinese, English, French, Spanish: reach more than 3 billion people

- State of the art tools for inequality research
  - GPINTER package: manipulate distributions online
  - Stata and R packages: access our data from Stata directly
PART II
GLOBAL INCOME INEQUALITY DYNAMICS

- The top 1% captured twice as much global income growth as the bottom 50% since 1980
- We observe rising inequality between world individuals, despite growth in the emerging world
- Different national trajectories show rising global inequality is not inevitable
Official statistics do not provide an adequate picture of global inequality
- Official data mostly based on self-reported survey & underestimate inequality
- No global distribution based on systematic combination of top and bottom income or wealth data (National accounts, tax, surveys and wealth rankings)

WID.world follows a step-by-step approach towards a consistent global distribution of income and wealth
- We only aggregate countries for which we have consistent series, in line with Distributional National Accounts
- We confirm and amplify the « Elephant curve » pattern (Lakner-Milanovic) with more systematic use of tax and national accounts data.
II. What are our new findings on global income inequality?

We show that income inequality has increased in nearly all world regions in recent decades, but at different speeds. The fact that inequality levels are so different among countries, even when countries share similar levels of development, highlights the important roles that national policies and institutions play in shaping inequality.

Income inequality varies greatly across world regions. It is lowest in Europe and highest in the Middle East.

▶ Inequality within world regions varies greatly. In 2016, the share of total national income accounted for by just that nation’s top 10% earners (top 10% income share) was 37% in Europe, 41% in China, 46% in Russia, 47% in US-Canada, and around 55% in sub-Saharan Africa, Brazil, and India. In the Middle East, the world’s most unequal region according to our estimates, the top 10% capture 61% of national income (Figure E1).

In recent decades, income inequality has increased in nearly all countries, but at different speeds, suggesting that institutions and policies matter in shaping inequality.

▶ Since 1980, income inequality has increased rapidly in North America, China, India, and Russia. Inequality has grown moderately in Europe (Figure E2a). From a broad historical perspective, this increase in inequality marks the end of a postwar egalitarian regime which took different forms in these regions.

Source: World Inequality Report 2018, Figure 2.1.1. See wir2018.wid.world for data sources and notes.
There are exceptions to the general pattern. In the Middle East, Sub-Saharan Africa, and Brazil, income inequality has remained relatively stable, at extremely high levels (Figure E2b). Having never gone through the postwar egalitarian regime, these regions set the world “inequality frontier.”

The diversity of trends observed across countries since 1980 shows that income inequality dynamics are shaped by a variety of national, institutional, and political contexts. This is illustrated by the different trajectories followed by the former communist or highly regulated countries, China, India, and Russia (Figure E2a and b). The rise in inequality was particularly abrupt in Russia, moderate in China, and relatively gradual in India, reflecting different types of deregulation and opening-up policies pursued over the past decades in these countries.

The divergence in inequality levels has been particularly extreme between Western Europe and the United States, which had similar levels of inequality in 1980 but today are in radically different situations. While the top 1% income share was close to 10% in both regions in 1980, it rose only slightly to 12% in 2016 in Western Europe while it shot up to 20% in the United States. Meanwhile, in the United States, the bottom 50% income share decreased from more than 20% in 1980 to 13% in 2016 (Figure E3).

The income-inequality trajectory observed in the United States is largely due to massive educational inequalities, combined with a tax system that grew less progressive despite a surge in top labor compensation since the 1980s, and in top capital incomes in the 2000s. Continental Europe meanwhile saw a lesser decline in its tax progressivity, while wage inequality was also moderated by educational and wage-setting policies that were relatively more favorable to low- and middle-income groups. In both regions, income inequality between men and women has declined but remains particularly strong at the top of the distribution.
How has inequality evolved in recent decades among global citizens? We provide the first estimates of how the growth in global income since 1980 has been distributed across the totality of the world population. The global top 1% earners has captured twice as much of that growth as the 50% poorest individuals. The bottom 50% has nevertheless enjoyed important growth rates. The global middle class (which contains all of the poorest 90% income groups in the EU and the United States) has been squeezed.

At the global level, inequality has risen sharply since 1980, despite strong growth in China. The poorest half of the global population has seen its income grow significantly thanks to high growth in Asia (particularly in China and India). However, because of high and rising inequality within countries, the top 1% richest individuals in the world captured twice as much growth as the bottom 50% individuals since 1980 (Figure E4). Income growth has been sluggish or even zero for individuals with incomes between the global bottom 50% and top 1% groups. This includes all American and European lower- and middle-income groups.

The rise of global inequality has not been steady. While the global top 1% income share increased from 16% in 1980 to 22% in 2000, it declined slightly thereafter to 20%. The income share of the global bottom 50% has oscillated around 9% since 1980 (Figure E5). The trend break after 2000 is due to a reduction in between-country average income inequality, as within-country inequality has continued to increase.

In 2016, 55% of national income was received by the Top 10% earners in India, against 31% in 1980. Source: WID.world (2017). See wir2018.wid.world for data series and notes.
This graph is scaled by population size, meaning that the distance between different points on the x-axis is proportional to the size of the population of the corresponding income group. The income group \( p_{0.01} \) (lowest percentile), for instance, occupies 1% of the size of the x-axis. On the horizontal axis, the world population is divided into a hundred groups of equal population size and sorted in ascending order from left to right, according to each group’s income level. The Top 1% group is divided into ten groups, the richest of these groups is also divided into ten groups, and the very top group is again divided into ten groups of equal population size. The vertical axis shows the total income growth of an average individual in each group between 1980 and 2016. For percentile group \( p_{99.9} \) (the poorest 1% among the richest 1% of global earners), growth was 74% between 1980 and 2016. The Top 1% of income earners captured 27% of total growth over this period.

Income estimates account for differences in the cost of living between countries. Values are net of inflation.

This graph is scaled by the share of growth captured by income group, meaning that the distance between different points on the x-axis is proportional to the share of growth captured by the corresponding income group. The top 0.001% (p99.999-p100), for instance, captured 3.6% of total growth. Therefore, the distance between p99.999 and p100 (the last two points of this graph) corresponds to 3.6% of the total size of the x-axis. On the horizontal axis, the world population is divided into a hundred groups of equal population size and sorted in ascending order from left to right, according to each group's income level. The Top 1% group is divided into ten groups, the richest of these groups is also divided into ten groups, and the very top group is again divided into ten groups of equal population size. The vertical axis shows the total income growth of an average individual in each group between 1980 and 2016. For percentile group p99-p99.1 (the poorest 10% among the richest 1% of global earners), growth was 74% between 1980 and 2016. The Top 1% of income earners captured 27% of total growth over this period. Income estimates account for differences in the cost of living between countries. Values are net of inflation.

The bottom 50% grew... but the top 1% captured twice more total growth.

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.
Reconciling different narratives on global income inequality dynamics: limits of the Gini

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 x4.5 to x5.6). 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 x6.9 to x4.8). The global Gini in 2016 was at its 1980 level (65)
The bottom 50% grew... but the top 1% captured twice more total growth.

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.
Key question: are we sure that the enormous rise of the global 1% was necessary for the growth of the bottom 50%?

Answer: No.

A careful analysis of country-level growth and inequality trajectories suggest that it is possible to combine higher growth and lower inequality.

- US vs Europe: huge rise of inequality in US, but stagnation of bottom 50% average income
- India vs China: higher rise in inequality in India, but less growth
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.


In 2016, 22% of national income was received by the Bottom 50% in Western Europe.


US vs Europe: huge rise of inequality in the US but stagnation of bottom 50% average income
India vs China: higher rise in inequality in India, but less growth

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

Source: World Inequality Report 2018, Appendix Figure A4. See wir2018.wid.world for data sources and notes.
US vs. EU: similar levels of development, size, exposure to globalization and to new technologies since 1980. Radically diverging inequality trajectories due to different institutional and policy choices (less progressive taxation, unequal education, falling minimum wage, etc.).

- US-Canada: average income grew by 63% btw 1980 and 2016, and bottom 50% by 5%; Europe: average income grew by 40%, and bottom 50% by 26%.
China vs. India: rise in inequality in both countries but was extreme in India, moderate in China. More investments in education, health, infrastructure for the bottom 50% in China.

- China: average income grew by 831%, and bottom 50% by 417%;
- India: average income grew by 223%, and bottom 50% by 107%.

NB: none of the above countries meets new SDG targets (bottom 40% is supposed to grow faster than the average)
Part III
PUBLIC VERSUS PRIVATE CAPITAL DYNAMICS

- Economic inequality is largely driven by the unequal ownership of capital, which can be either privately or public owned.
- We show that since 1980, very large transfers of public to private wealth occurred in nearly all countries, whether rich or emerging.
- While national wealth has substantially increased, public wealth is now negative or close to zero in rich countries. Arguably this limits the ability of governments to tackle inequality; certainly, it has important implications for wealth inequality among individuals.
Countries have become richer, but governments have become poor.

The rise of private capital and the fall of public capital in rich countries, 1970–2016

Economic inequality is largely driven by the unequal ownership of capital, which can be either privately or public owned. We show that since 1980, very large transfers of public to private wealth occurred in nearly all countries, whether rich or emerging. While national wealth has substantially increased, public wealth is now negative or close to zero in rich countries. Arguably this limits the ability of governments to tackle inequality; certainly, it has important implications for wealth inequality among individuals.

In 2015, the value of net public wealth (or public capital) in the US was negative (-17% of net national income) while the value of net private wealth (or private capital) was 500% of national income. In 1970, net public wealth amounted to 36% of national income while the figure was 326% for net private wealth. Net private wealth is equal to new private assets minus net private debt. Net public wealth is equal to public assets minus public debt.


... in China the share of public capital in national capital is now comparable to rich countries during the mixed-economy period (1950-1980).

The decline of public capital, 1970-2016

Source: World Inequality Report 2018, Figure E7. See wir2018.wid.world for data sources and notes.
Wealth data remains particularly opaque around the globe.

The combination of rising income inequality and large transfers of public to private wealth led to a steep rise in wealth inequality in Russia, US, CN since 1980.

Wealth inequality rose at a more moderate speed in FR, UK, partly due to dampening effect of housing prices.
Combination of rising income inequality and transfers of public to private wealth contributed to rise in wealth inequality after historical decline (1920-1970).

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

![Graph showing the share of personal wealth for different countries from 1913 to 2015.](image-url)

Source: World Inequality Report 2018, Figure 4.2.1. See wir2018.wid.world for data sources and notes.
Part IV
TACKLING GLOBAL INEQUALITY

• The future of global inequality depends on convergence forces (rapid growth in emerging countries) and divergence forces (rising inequality within countries). No one knows which of these forces will dominate and whether current trends are sustainable.

• Under «Business as usual» scenario, even with high growth in the emerging world, within-country divergence will prevail. Other pathways are possible however: if all countries adopt a European inequality pathway, global inequality would decrease by 2050. This would have enormous impacts on global poverty eradication.
Business as usual: global income inequality will continue to rise, despite high growth in emerging world. Between country convergence not enough to counter within-country trend.

Global income share projections of the Bottom 50% and Top 1%, 1980–2050

Different inequality trajectories at the national level matter enormously for global poverty eradication.

Within country inequality trends are critical for global poverty eradication. What do these different scenarios mean in terms of actual income levels, and particularly for bottom groups? It is informative to focus on the dynamics of income shares held by different groups, and how they converge or diverge over time. But ultimately, it can be argued that what matters for individuals—and in particular those at the bottom of the social ladder—is their absolute income level. We stress again here that our projections do not pretend to predict how the future will be, but rather aim to inform on how it could be, under a set of simple assumptions.

Figure 5.1.2 depicts the evolution of average global income levels and the average income of the bottom half of the global population in the three scenarios described above. The evolution of global average income does not depend on the three scenarios. This is straightforward to understand: in each of the scenarios, countries (and hence the world as a whole) experience the same total income and demographic growth. It is only the matter of how this growth is distributed within countries that changes across scenarios. Let us reiterate that our assumptions are quite optimistic for low-income countries, so it is indeed possible that global average income would actually be slightly lower in the future than in the figures presented. In particular, the global bottom 50% average income would be even lower.

In 2016, the average per-adult annual income of the poorest half of the world population was €3 100, in contrast to the €16 000 global average—a ratio of 5.2 between the overall average and the bottom-half average. In 2050, global average income will be €35 500 according to our projections. In the business-as-usual scenario, the gap between average income and the bottom would widen (from a ratio of 5.2 to a ratio of 5.6) as the bottom half would have an income of €6 300. In the US Annual income per adult (€)

If all countries follow the inequality trajectory of Europe between 1980 and 2016, the average income of the Bottom 50% of the world population will be €9 100 by 2050.

Income estimates are calculated using Purchasing Power Parity (PPP) euros. For comparison, €1 = $1.3 = ¥4.4 at PPP. PPP accounts for differences in the cost of living between countries. Values are net of inflation.

Tackling global inequality: more in the report. Aim is to open the discussion, not to close it!

- Progressive taxation
- Global financial registry
- Equal access to education and well-paying jobs
- Investing in the future
Strong decline in tax progressivity since the 1970s in most countries.

Figure 5.2.2
Top income tax rates in rich countries, 1900–2017

Sources: Piketty (2014) and updates. See wir2018.wid.world for data series and notes.

Between 1963 and 2017, the top marginal tax rate of income tax (applying to the highest incomes) in the US fell from 91% to 40%.
intergenerational mobility is lower in areas with larger African-American populations. Moreover, in areas with large African-American populations, both blacks and whites have lower rates of upward income mobility, indicating that social and environmental causes other than race, such as differences in history and institutions, may play a role.

Spatial and social segregation is also negatively associated with upward mobility. In particular, longer commuting time decreases opportunities to climb the social ladder, and spatial segregation of the poorest individuals has a stronger negative impact on mobility. This suggests that the isolation of lower-income families and the difficulties they experience in reaching mobile sites are important drivers of social immobility.

Income inequality at the local level, school quality, social capital, and family structure are also important factors. Higher income inequality among the poorest individuals is associated with lower mobility. Meanwhile, a larger middle class stimulates upward mobility. Higher public school expenditures per student along with lower class sizes significantly increase social mobility. Higher social capital also favors mobility, for example, areas with high involvement in community organizations.

Finally, family structure is also a key determinant. Upward mobility is substantially lower in areas where the fraction of children living in single-parent households, or the share of divorced parents, or the share of non-married adults is higher. What is remarkable is that combining these factors explains very effectively social mobility patterns. When together, these factors—commuting time, income inequality among the poorest individuals, high-school dropout rates, social capital, and the fraction of children with single parents—explain inequalities in upward mobility.

30% of children whose parents are in the Bottom 10% of the income distribution attend college between age 18 and 21. Almost 90% of children whose parents are in the Top 10% of the income distribution attend college between age 18 and 21.

Equal access to education essential but not sufficient: labour market regulations are also key. US minimum wage today is 30% below 1970 level.

**Figure 5.4.3**
Minimum wage in France and the US, 1950–2016

Between 2000 and 2016, the hourly minimum wage rose from €7.9 to €9.7 in France, while it rose from $7.13 to $7.25 in the US. Income estimates are calculated using Purchasing Power Parity (PPP) euros for France and dollars for the US. For comparison, €1 = $1.3 = ¥4.4 at PPP. PPP accounts for differences in the cost of living between countries. Values are net of inflation.

Source: Piketty (2014) and updates. See wir2018.wid.world for data series and notes.
CONCLUSION

• The WID.world project: more than 100 researchers over the five continents. All the data is entirely open source + transparent to feed public debates.

• This report: first systematic assessment of globalization in terms of inequality. Global top 1% captured twice as much growth as bottom 50% since 1980. Under Business as usual, even with optimistic growth assumptions in the emerging world, global inequality will continue to rise.

• Rising inequality is not inevitable: different types of policies can be implemented to promote equitable growth pathways in the coming decades.
Additional slides
Extension: from income inequality to pollution inequality

**FIGURE E.1. BREAKDOWN OF TOP 10, MIDDLE 40 AND BOTTOM 50% CO₂e EMITTERS**

- **Top 10% emitters:**
  - 45% of world emissions
  - North America: 40%
  - Other Asia: 5%
  - Other Rich: 6%
  - Russia/C. Asia: 7%
  - S. Africa: 2%
  - China: 10%

- **Middle 40% emitters:**
  - 42% of world emissions
  - China: 35%
  - South Africa: 3%
  - Russia/C. Asia: 7%
  - Other Rich: 4%
  - Asia: 8%
  - North America: 7%
  - MENA: 7%
  - Latin America: 6%

- **Bottom 50% emitters:**
  - 13% of world emissions
  - China: 10%
  - Latin America: 16%
  - MENA: 4%
  - Other Asia: 23%
  - Russia/C. Asia: 1%

Source: authors. Key: Among the top 10% global emitters, 40% of CO₂e emissions are due to US citizens, 20% to the EU and 10% from China.

Chancel & Piketty, 2015
Who emits more within countries? French babyboomers: a carbon intensive generation due to relatively higher income, inefficient dwellings and habits

CO2 emissions gap between cohorts in France (Individuals born from 1910 to 1970)

1940 cohort emitted 18% more CO2 than average

Chancel, 2014
In the US, all generations emit a lot (despite younger generations’ stronger concern for the environment)

CO2 emissions gap between cohorts in the USA
(Individuals born from 1910 to 1970)

Chancel, 2014
VISIT WIR2018.WID.WORLD FOR THE ONLINE VERSION OF THE REPORT.
Concentration of non-housing wealth (financial and business assets) increased substantially since 1995. Role of housing as moderator.

**Figure 4.6.4**
Top 1% wealth share in the UK, 1971–2012


In 2013, the wealth share of the Top 1% was 20% of total wealth. However, when excluding housing wealth, the Top 1% share was 33%.
1. Introduction: the WID.world project
WID.world combines inequality data sources in a consistent way to fill a democratic gap.

2. Global income inequality dynamics
Global top 1% captured twice as much growth as bottom 50% since 1980. Different national trajectories suggest that the trend was not inevitable.

3. Public vs. private capital dynamics
Gradual rise in wealth income ratios since 1980s in the context of large transfers of public to private wealth in emerging and rich countries.

4. Global wealth inequality dynamics
Combination of rising income inequality and fall of public wealth contributed to sharp rise in wealth inequality among individuals.
- Focus: wealth inequality in the UK

5. Conclusion: tackling inequality
Rethinking the policy cocktail of globalization
France vs UK: higher rise of inequality in the UK, bottom 50% didn’t grow faster than in France

Top 1% vs. bottom 50% in France and in the UK, 1980-2016

Source: World Inequality Report 2018, Figure 2.1.3. See wir2018.wid.world for data sources and notes.
Private capital also rose sharply in emerging countries...

Net private wealth to net national income ratios in China, Russia and rich countries, 1980–2015: The rise of private wealth

- China
- France
- Russia
- UK
- US

Source: World Inequality Report 2018, Figure 3.1.1. See wir2018.wid.world for data sources and notes.
In 2017, the top marginal tax rate of inheritance tax (applying to the highest inheritances) was 55% in Japan, compared to 4% in Brazil. Europe is represented by France, Germany and the UK.