Global Inequality Dynamics: New Findings from WID.world*

Facundo Alvaredo (Paris School of Economics, Oxford Univ and Conicet); Lucas Chancel (Paris School of Economics and Iddri Sciences Po); Thomas Piketty (Paris School of Economics); Emmanuel Saez (UC Berkeley and NBER); Gabriel Zucman (UC Berkeley and NBER)

Rising inequality has attracted considerable interest in recent years, as shown by the attention received by an academic book published by one of us (Piketty, 2014). Yet we still face important limitations in our ability to measure the changing distribution of income and wealth, within and between countries, and at the world level. In this paper we present new findings about global inequality dynamics from the World Wealth and Income Database (WID.world). We start with a brief history of the WID.world project. We then present selected findings on income inequality, private vs. public wealth to income ratios, and wealth inequality, with emphasis on the contrast between the trends in the United States (US), China, France, and the United Kingdom (UK).

History of WID.world

The WID.world project started with the construction of historical top income share series for France, the US, and the UK, and then extended to a growing number of countries (Atkinson et al. 2011; Alvaredo et al. 2013). These projects generated a large volume of data, intended as a research resource for further analysis, as well as a source to inform the public debate on inequality. The World Top Incomes Database-WTID (Alvaredo et al. 2011-2015) was created in

*Alvaredo: Paris School of Economics, 48 Boulevard Jourdan, 75014 Paris, (e-mail: alvaredo@pse.ens.fr); Chancel: Paris School of Economics, 48 Boulevard Jourdan, 75014 Paris, (e-mail: lucas.chancel@psemail.eu); Piketty: Paris School of Economics, 48 Boulevard Jourdan, 75014 Paris, (e-mail: piketty@psemail.eu); Saez: University of California, Berkeley, CA 94720, (e-mail: saez@econ.berkeley.edu); Zucman: University of California, Berkeley, CA 94720, (e-mail: zucman@berkeley.edu). We acknowledge funding from the Berkeley Center for Equitable Growth, the European Research Council (Grant 340831), the Ford Foundation, the Sandler Foundation, and the Institute for New Economic Thinking.

January 2011 with the aim of providing convenient and free access to all the existing series. Thanks to the contribution of over a hundred researchers, the WTID expanded to include series on income concentration for more than thirty countries, spanning over most of the 20th, early 21st centuries, and, in some cases, going back to the 19th century. Following the pioneering work of Kuznets (1953), the WTID combined tax and national accounts data in a systematic manner to estimate longer and more reliable top income shares series than previous inequality databases (which generally rely on self-reported survey data, with under-reporting problems at the top, and limited time span). These series had a large impact on the discussion on global inequality. In particular, by making it possible to compare over long periods of time and across countries the shares captured by top income groups (e.g. the top 1%), they contributed to reveal new facts and refocus the discussion on rising inequality.

In December 2015, the WTID was subsumed into WID. In addition to the WTID top income shares series, this first version of WID included an updated historical database on the long-run evolution of aggregate wealth-income ratios first developed by Piketty and Zucman (2014). We changed the name from the WTID to the WID in order to reflect the increasing scope and ambition of the database. In January 2017 we launched a new database and website, WID.world (www.wid.world), with better data visualization tools and more extensive data coverage. The database is currently being extended into three main directions. First, we aim to cover more developing countries and not only developed countries. In recent years, fiscal information has been released in a number of emerging economies, including China, Brazil, India, and South Africa. Second, we plan to provide more and updated series on wealth-income ratios and the distribution of wealth, and not only on income. Third, we aim to cover the entire distribution of

income and wealth, and not only on top groups. The overall long-run objective is to produce Distributional National Accounts (DINA), that is, to provide annual estimates of the distribution of income and wealth using concepts that are consistent with the macroeconomic national accounts. In this way, the analysis of growth and inequality can be carried over in a coherent frame.[1]

Income Inequality Dynamics: US, China, France

We first present some selected results on income inequality dynamics for the US, China, and France (a country that is broadly representative of the West European pattern) in Figure 1. All series follow the same general DINA Guidelines (Alvaredo et al. 2016). We combine national accounts, survey, and fiscal data in a systematic manner in order to estimate the full distribution of pre-tax national income (including tax exempt capital income and undistributed profits).[2] The combination of tax and survey data leads to markedly revise upwards the official inequality estimates of China. We find a corrected top 1% income share of around 13% of total income in 2015, vs. 6.5% in survey data. We stress that our estimates should be viewed as lower bounds, due to tax evasion and other limitations of tax data and national accounts, but they are already more realistic and plausible than survey-based estimates, and illustrate the need for more systematic use of administrative records, even from countries where the tax administration is far from perfect. China had very low inequality levels in the late 1970s, but it is now approaching the US, where income concentration remains the highest among the countries shown. In

[1] WID.world already includes comprehensive series on national income and net foreign income series for nearly all countries in the world (see Blanchet and Chancel, 2016).

[2] Regarding DINA, we refer to the country-specific papers for a detailed discussion; see Piketty, Saez and Zucman, 2016; Piketty, Yang, and Zucman, 2016; and Garbinti, Goupille and Piketty 2016). In particular, the series for China make use of the data recently released by the tax administration on high-income taxpayers and include a conservative adjustment for the undistributed profit of privately owned corporations.

particular, we observe a complete collapse of the bottom 50% income share in the US between 1978 and 2015, from 20% to 12% of total income, while the top 1% income share rose from 11% to 20%. In contrast, and in spite of a similar qualitative trend, the bottom 50% share remains higher than the top 1% share in 2015 in China, and even more so in France.[3]

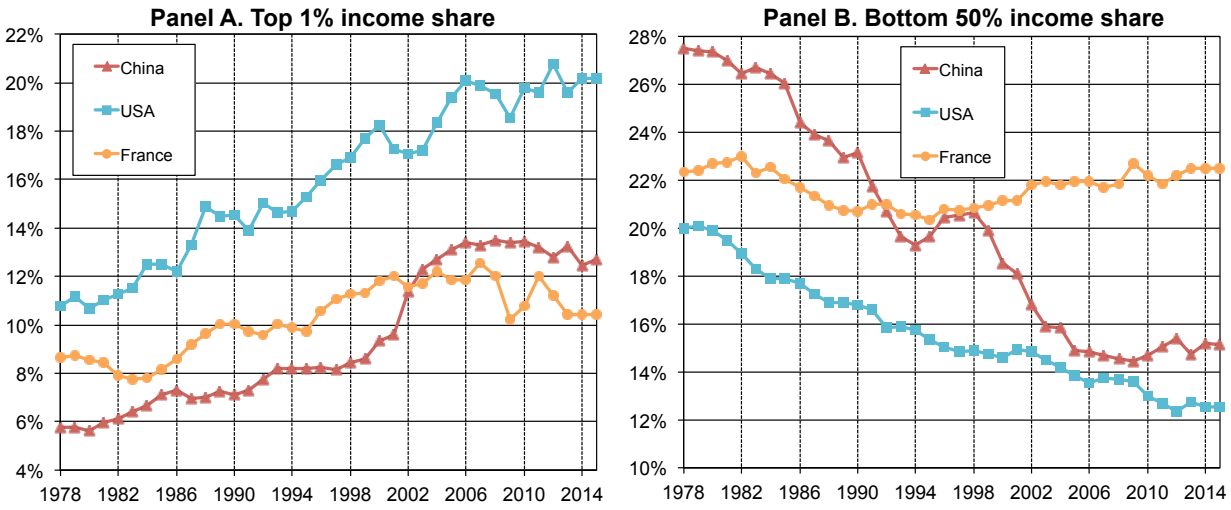

Figure 1. Distribution of income in China, US, and France 1978-2015

Notes: Distribution of pretax national income (before taxes and transfers, except pensions and unemployment insurance) among adults. Corrected estimates combining survey, fiscal, wealth and national accounts data. Equal-split-adult series (income of married couples divided by two). Sources: US: Piketty, Saez and Zucman (2016); France: Garbinti, Goupille and Piketty (2016); China: Piketty, Yang and Zucman (2016).

In light of the massive fall of the bottom 50% pre-tax incomes in the US, our findings also suggest that policy discussions about rising global inequality should focus on how to equalize the distribution of primary assets, including human capital, financial capital, and bargaining power, rather than merely discussing the ex-post redistribution through taxes and transfers. Policies that could raise the bottom 50% pre-tax incomes include improved education and access to skills, which may require major changes in the system of education finance and admission; reforms of labor market institutions, including minimum wage, corporate governance, and workers' bargaining power through unions and representation in the board of directors; and steeply

[3] It should be noted that these series refer to pre-tax, pre-transfer inequality. Post-tax, post-transfer series (in progress) are likely to reinforce these conclusions, at least regarding the US-France comparison.

progressive taxation, which can affect pay determination and pre-tax distribution, particularly at the top end (Piketty, Saez and Stantcheva 2014, and Piketty 2014).

Table 1: Income growth and inequality 1978-2015

	Total cumulated real growth 1978-2015		
Income group (distribution of per-adult pre-tax national income)	**China**	**US**	**France**
	percent	percent	percent
Full Population	**811**	**59**	**39**
Bottom 50%	**401**	**-1**	**39**
Middle 40%	**779**	**42**	**35**
Top 10%	**1294**	**115**	**44**
incl. Top 1%	*1898*	*198*	*67*
incl. Top 0.1%	*2261*	*321*	*84*
incl. Top 0.01%	*2685*	*453*	*93*
incl. Top 0.001%	*3111*	*685*	*158*

Notes: Distribution of pre-tax national income (before taxes and transfers, except pensions and unemployment insurance) among adults. Corrected estimates combining survey, fiscal, wealth and national accounts data. Equal-split-adult series (income of married couples divided by two). Sources: US: Piketty, Saez and Zucman (2016). France: Garbinti, Goupille

The comparison between the US, China and France illustrates how DINA can be used to analyze the distribution of growth across income groups. As shown in Table 1, national income per adult has increased in the three countries between 1978 and 2015: +811% in China, +59% in the US, and +39% in France. Nevertheless, the performance has been very different across the distribution. There has been a clear pattern of rising inequality: top income groups enjoyed relatively more growth. In China, the top experienced very high growth rates, but average growth was so large that the bottom 50% average income also grew markedly by +401%. This is likely to make rising inequality more acceptable. In contrast, there was no growth left at all for the bottom 50% in the US (-1%). France illustrates another type of situation: very top incomes have grown more than average, but this pattern of rising inequality happened only for very high and numerically relatively negligible groups, so that it had limited consequences for the majority of the population. In effect, the bottom 50% income group enjoyed the same growth as average growth (+39%).

Private vs. Public Wealth-Income Ratios: US, China, France, UK, Japan, Germany

Next, we present findings on the evolution of aggregate wealth. We observe a general rise of the ratio between net private wealth and national income in nearly all countries in recent decades. It is striking to see that this phenomenon was largely unaffected by the 2008 financial crisis. The unusually large rise of the ratio for China is notable: net private wealth was a little above 100% of national income in 1978, while it is above 450% in 2015. The private wealth-income ratio in China is now approaching the levels observed in the US (500%), UK, and France (550-600%).

The structural rise of private wealth-income ratios in recent decades is due to a combination of factors, which can decomposed into volume factors (high saving rates, which can themselves be due to ageing and/or rising inequality, with differing relative importance across countries, combined with growth slowdown), and relative asset prices and institutional factors, including the increase of real estate prices (which can be due to housing portfolio bias, the gradual lift of rent controls, and the lower technical progress in construction and transportation technologies as compared to other sectors) and stock prices (which can reflect higher power of shareholders leading to the observed rising Tobin's Q ratios between market and book value of corporations).

Another key institutional factor to understand the rise of private wealth-income ratios is the gradual transfer from public wealth to private wealth. This is particularly spectacular in the case of China, where the share of public wealth in national wealth dropped from about 70% in 1978 to 35% by 2015, as shown in Figure 2. The corresponding rise of private property has important consequences for the levels and dynamics of inequality. Net public wealth has become negative in the US, Japan and the UK, and is only slightly positive in Germany and France. This arguably

limits government ability to redistribute income. The only exceptions to the general decline in public property are oil-rich countries with large public sovereign funds, such as Norway.

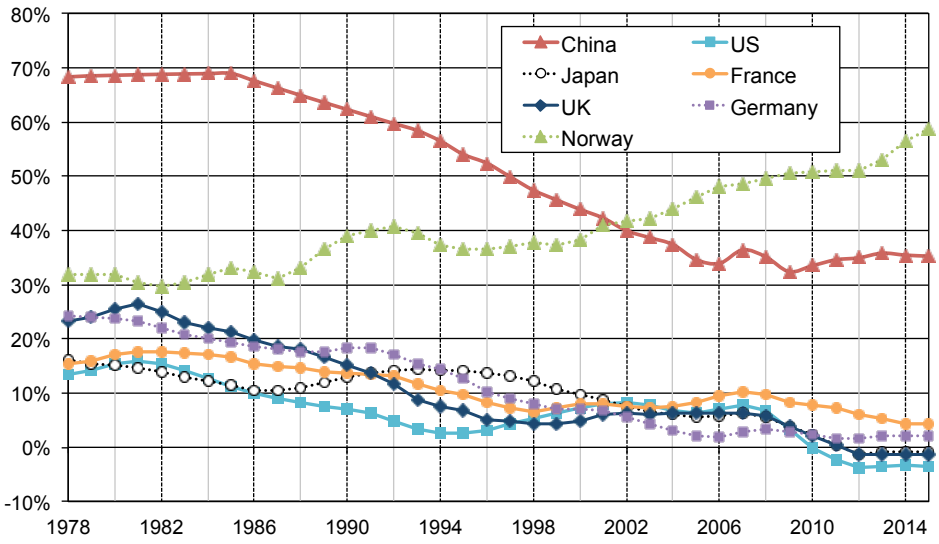

Figure 2. The decline of public property vs. the rise of sovereign funds
(share of public wealth in national wealth)
Notes: Share of net public wealth (public assets minus public debt) in net national wealth (private + public). Sources: China: Piketty, Yang and Zucman (2016); other countries: Piketty and Zucman (2014) and WID.world updates.

Wealth Inequality Dynamics: US, China, France, UK

Finally, we present findings on wealth inequality in Figure 3. We stress that currently available statistics on the distribution of wealth are highly imperfect. More transparency and better access to administrative and banking data sources are sorely needed if we want to gain knowledge of the underlying evolutions. In WID.world, we combine different sources and methods in a transparent way in order to reach robust conclusions: the income capitalization method (using income tax returns), the estate multiplier method (using inheritance and estate tax returns), wealth surveys, national accounts, rich lists. Nevertheless, our series should still be viewed as imperfect, provisional, and subject to revision. We provide full access to our data files and computer codes so that everybody can use them and contribute to improve the data collection.[4]

[4] We refer to the country-specific papers for detailed discussions; see Saez and Zucman, 2016; Alvaredo, Atkinson and Morelli, 2017; Garbinti, Goupille and Piketty 2016; Piketty, Yang and Zucman, 2016.

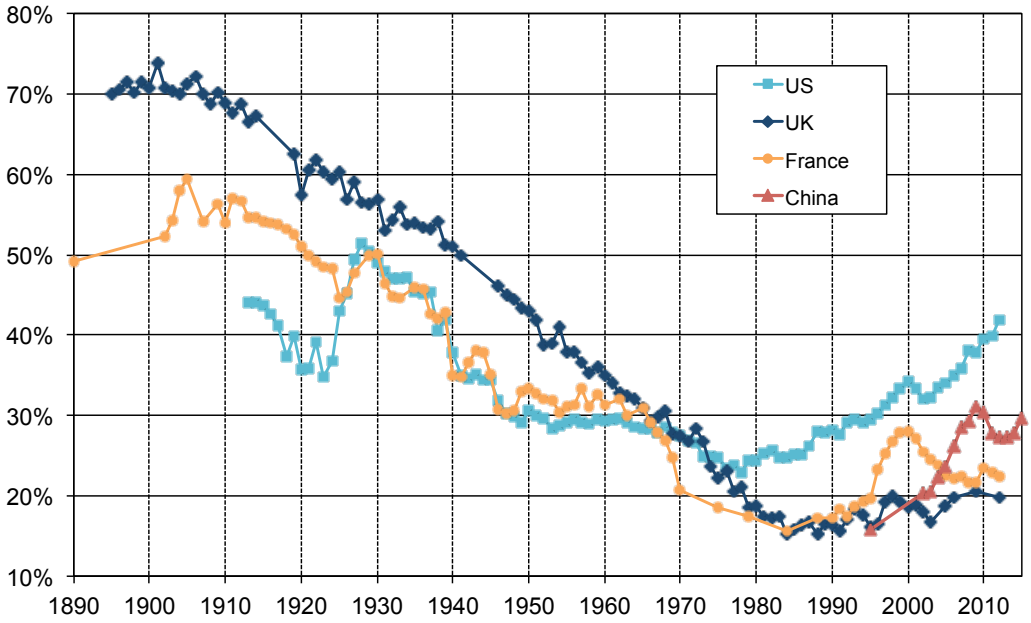

Figure 3. Top 1% wealth share in China, US, France and UK 1890-2015

Notes: Distribution of net personal wealth among adults. Corrected estimates (combining survey, fiscal, wealth and national accounts data). For China, US and France, equal-split-adult series (wealth of married couples divided by two); for UK, adult series. Sources: US: Saez and Zucman (2016); UK: Alvaredo, Atkinson and Morelli (2017); France: Garbinti, Goupille and Piketty (2016); China: Piketty, Yang and Zucman (2016).

We observe a large rise of top wealth shares in the US and China in recent decades, and a more moderate rise in France and the UK. A combination of factors explains these dynamics. First, higher income inequality and severe bottom income stagnation can explain higher wealth inequality in the US. Next, the very unequal process of privatization and access by Chinese households to quoted and unquoted equity probably played an important role in the very fast rise of wealth concentration in China. The potentially large mitigating impact of high real estate prices should also be taken into account. This middle class effect is likely to have been particularly strong in France and the UK, where housing prices have increased significantly relative to stock prices.

Given all these factors, it is not an easy task to predict whether the observed trend of rising concentration of wealth will continue. In the long run, steady-state wealth inequality depends on

the inequality of saving rates across income and wealth groups, the inequality of labor incomes and rates of returns to wealth, and the progressivity of income and wealth taxes. Numerical simulations show that the response of steady-state wealth inequality to relatively small changes in these structural parameters can be rather large (see Saez and Zucman, 2016, and Garbinti, Goupille and Piketty, 2016). In our view, this instability reinforces the need for increased democratic transparency about the dynamics of income and wealth.

Final Remarks

We stress that global inequality dynamics involve strong and contradictory forces. We observe rising top income and wealth shares in nearly all countries in recent decades, but the magnitude varies substantially across countries, thereby suggesting that different country-specific policies and institutions matter considerably. High growth rates in emerging countries reduce between-country inequality, but this does not guarantee acceptable within-country inequality levels to ensure the social sustainability of globalization. Access to more and better data (administrative records, surveys, more detailed and explicit national accounts, etc.) is critical to monitor global inequality dynamics, as this is a key building brick both to properly understand the present as well as the forces which will dominate in the future, and to design potential policy responses.

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