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Who are the Global Top 1%?

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Abstract

The rise of the ‘emerging economies’ is leading to historically-unprecedented shifts in the global economy. While its implications for global poverty and the rise of a global ‘middle class’ have been documented, we present the first in-depth analysis of the changing composition of the global rich and the rising representation of developing countries at the top of the global distribution. We do so by constructing global distributions of income between 1988 and 2012 based on both household surveys and the new top incomes data derived from tax records – in order to capture the rich who are typically excluded from household surveys. We find that the representation of developing countries in the global top 1% declined until about 2002, but since 2005 it has risen significantly. This coincides with a salient decline in global inequality since 2005, according to a range of measures. We compare our estimates of the country-composition and income levels of the global rich with a number of other sources – including Credit Suisse’s estimates of global wealth, the Forbes World Billionaires List, attendees of the World Economic Forum, and estimates of top executives’ salaries. To varying degrees, all show a rise in the representation of the developing world in the ranks of the global élite.

JEL Codes: D31, D63, O57

Keywords: top incomes, global top 1 percent, global inequality, extreme wealth

1. Introduction

The growth of many low- and middle-income countries over the last three decades – among them the so-called ‘emerging economies’ – have transformed both the shape of the global economy and the structures of global power. Growth in the incomes of the poor has implied substantial reductions in poverty, and income inequality among individuals worldwide may finally be declining, after rising for more than two centuries (Cruz et al. 2015; Bourguignon and Morrison 2002; Anand and Segal 2015). Studies have also found that the composition of the global ‘middle class’ (defined in various ways) has shifted towards developing countries (Kharas 2010; AfDB 2011; Dayton-Johnson 2015; Jayadev et al. 2015). Yet while we have information on global poverty and the broader global income distribution, the very top of the global distribution of income has so far remained unexamined. This paper aims to remedy that omission by analyzing the composition and progress of the richest 1% globally, and for comparison we consider also the global top 10% and top 0.1%.

The wealth, as opposed to the income, of the very rich is tracked by several organizations including Forbes and Credit Suisse. Freund and Oliver (2016) find that Forbes’s World Billionaire’s list contained no Chinese billionaires in 1996, 2 in 2005 and 64 in 2010. The latest list for 2016 contains 251 Chinese, or 14%, of the world’s 1,810 billionaires – with 35% from outside the advanced economies more generally.¹ Research by the bank Credit Suisse covering the period 2000–2015 finds that the wealthiest 1% in the world owned 49% of global wealth in 2000, dropping to a trough of 44% in 2009, and then rising for the first time to 50% in 2015 (Davies et al. 2015: 99; Oxfam 2015: 2). The international NGO Oxfam (2016a, b) refers to this as an “escalating inequality crisis”, also finding that “[i]n 2015, just

¹ <http://www.forbes.com/billionaires/list/>. ‘Advanced economies’ is the IMF classification that we use below. See Appendix.

62 individuals had the same wealth as 3.6 billion people – the bottom half of humanity”, noting that these super wealthy are “so few, you could fit them all on a single coach” (Oxfam 2016b).

Some of the global rich themselves have expressed concern about inequality. At the 2012 World Economic Forum meeting at Davos, “severe income disparity” was judged to be the single most likely global risk, and with one of the highest potential impacts.² Again at Davos in 2013, Christine Lagarde, Managing Director of the International Monetary Fund, stated that “[e]xcessive inequality is corrosive to growth; it is corrosive to society. I believe that the economics profession and the policy community have downplayed inequality for too long” (Lagarde 2013).

This neglect of inequality by most of the economics profession may be undergoing a correction with the rise in research on the incomes of the top 1% within countries (Atkinson and Piketty 2007, 2010; Piketty 2014). This literature focuses on estimating income shares of the top 1% within countries on the basis of tax records. Yet research on the *global* income-rich remains sparse. Milanovic (2011, 2016) gives brief sketches of the global top 1% based on household surveys from around the world. But the new research on the top 1% within countries indicates that household surveys are bad at capturing precisely the richest individuals, making such surveys a limited basis for analysis of the top of the income distribution.³

² World Economic Forum (2012), reported by Tett (2012).

³ Milanovic (2016: 121), who uses household surveys and national accounts data, acknowledges an “inability to estimate accurately the highest incomes.”

The World Top Incomes Database (WTID) contains data on top income shares for 29 countries estimated from income tax records.⁴ In our earlier paper (Anand and Segal 2015) we combined these newly-available income tax data with household survey data to provide estimates of global inequality up to 2005. As one would expect, global inequality so estimated is higher than when it is measured using household surveys alone. Here we follow a similar procedure as before to construct a global income distribution using *both* tax and survey data. Building on our earlier dataset, we add an additional benchmark year of 2012, use the 2011 PPPs, and for each country-year we smooth the top 10% using a Pareto distribution, where the Pareto coefficient is estimated using both tax and survey data. This allows a much finer-grained analysis of the top of the global distribution, at the same time as taking into account the WTID's data on the top 1% within countries.

We use this global income distribution to estimate the progress of the global top 10%, top 1% and top 0.1%. We focus in detail on the top 1% to determine their characteristics – including their location, and how their country composition has changed over time. One reason to study these global top income groups is simply to discover the extent to which citizens of developing countries have succeeded in entering the ranks of the global rich. But the global rich are also worth studying as a group, because the global top 1%, and even more so the global top 0.1%, share more than simply an income bracket. The global rich, unlike the global 'middle class' or the global poor, are likely to meet and share experiences through international travel and communication. While the rich in developed countries have long enjoyed international tourism and mobility, it is a more recent phenomenon that significant numbers of rich people from developing countries spend substantial time in developed countries. In addition to travel for pleasure, officials and business people also meet to make

⁴ During the writing of this paper the WTID was renamed 'The World Wealth and Income Database', <http://www.wid.world/>, with an expanded set of variables.

deals and to trade in an increasingly globalized world. The global rich buy property in foreign countries – Chinese buyers alone spent more than US\$52bn on foreign property in 2015⁵ – and also increasingly study in rich countries, acquiring qualifications, a shared language (most often English) and, it seems likely, some degree of shared culture and attitudes. The British Council (2012: 15-17) reports that 3.5 million students studied abroad in 2009, up from 800,000 in the mid-1970s, and that the countries with the highest net outflows of students were China, India, South Korea, Kazakhstan, Turkey, Morocco and Vietnam. China and India alone contributed 21 percent to the total number of outbound students. To the extent that this travel and a foreign education foster shared understanding and values, the global rich may more closely resemble a ‘class’ than do either a notional ‘global middle class’ or the global poor. The international business meeting *par excellence* is the above-mentioned World Economic Forum at Davos, and we show that the composition of nationalities of those attending the meeting also suggests a modest rise in the internationalization of the global élite.

Below we show that the threshold for an individual to enter the global top 1% in 2012 is about PPP\$50,000 per capita household income, or PPP\$200,000 for a family of four. We find that for many developed countries it includes the top 5% to 8% of their national income distribution. These income groups are much too large to constitute ‘power élites’ within their own countries; they are likely to include senior professionals and some middle managers as well as business owners and ‘supermanagers’ (Piketty 2014: 291-303). They may therefore be thought of as approximating the professional and technocratic élite – a global professional class – rather than just the super-rich. An individual in the global top 0.1%, on the other hand, has a minimum of PPP\$177,000 per capita household income, or about PPP\$700,000 for a

⁵ <http://www.bbc.co.uk/news/world-asia-china-35957232>

family of four. This comprises the top 1% in the US, and the top 0.3% – 0.5% in Japan, Germany, France and the UK, the developed countries with the largest memberships of the club comprising the global top 0.1%. Even if less wealthy than the billionaires in the Forbes list, they are still likely to wield significant power and influence.

Among developing countries, Brazil has the largest share of its own population in the global top 1%, where 1.7% of its national distribution is in that group. For most developing countries the share is much smaller than 1%. We show that in Brazil this group includes senior executives in large firms, as it does in several other emerging economies, including China.

The threshold for an individual to enter the global top 10% in 2012 was about PPP\$15,600 per capita household income, or PPP\$62,000 for a family of four. This income level would not count as ‘rich’ within a developed country: for most developed countries this group includes more than *half* their populations. For the US the top 59.9% of its population is in the global top 10%, and for Switzerland the corresponding figure is 79.5%. Of course, the global top 10% cannot include more than 10% of the population of every country, and for developing countries the number will be much smaller than 10%.

We find that the advanced economies’ share of the global rich has declined in the last decade, with a corresponding rise in that of the emerging economies. We also find a concurrent decline in global inequality. However, it is important to realize that these two outcomes need not go together. For instance, if an emerging economy that has some representation in the global top 1% were suddenly to become wholly egalitarian, that would unambiguously reduce global inequality and also reduce (at least at the margin) its share of the global rich.

Relatedly, a country's membership of the global rich may expand if incomes grow throughout the national distribution while inequality remains constant, or if inequality increases with a rich minority (e.g. the top 1%) gaining more than the non-rich majority (the bottom 99%). More generally, there is little reason to believe that previously under-represented groups will benefit from some of their number reaching the élite. Zweigenhaft (2001: 279) notes that despite observing a dramatic increase in the diversity of the US élite in terms of the participation of women and minorities since the 1950s, there is "no evidence of a kinder, gentler power élite in how it functions ... and in terms of wealth and income they are now further removed from the bulk of Americans 'below them'." The interests of a female executive, for instance, are more closely aligned with those of her firm's shareholders than with those of any female workers she may employ. Similarly, citizens of developing countries who reach the global élite may simply find themselves further removed from their own compatriots.

2. Data and methodology

As in Anand and Segal (2015), this paper combines two sets of data: national household surveys covering most of the global population and economy, and data on the income share of the top 1% in 29 countries from the World Top Incomes Database.⁶ Here we update in four ways the global income distribution estimated in Anand and Segal (2015). First, in Anand and Segal (2015) we estimated the global distribution only up to 2005, whereas here we extend it to 2012. Second, we use the PPP conversion rates from the 2011 International Comparison Program (ICP), which represents an update and improvement over the 2005 ICP

⁶ <http://topincomes.g-mond.parisschoolofeconomics.eu/>, downloaded 3 July 2015. We exclude the estimates for China because these are based on survey data rather than tax data and are therefore not comparable with the rest of the dataset.

that we used in Anand and Segal (2015).⁷ Third, while our previous estimates used only PPP exchange rates to compare incomes across countries, here we also use market exchange rates – as discussed below. Fourth, we smooth the top decile of each country’s income distribution by estimating a Pareto density function for this group.

Our household survey data up to 2005 are from Milanovic (2012), ‘benchmarked’ to the years 1988, 1993, 1998, 2002 and 2005. Milanovic’s data are provided in quantiles – in most cases 20 income groups each comprising 5% of the population, i.e. vigintiles. For our 2012 ‘benchmark year’ we use the most recent household survey data available post-2005 from the World Bank Povcalnet website and, for 10 countries where Povcalnet did not provide estimates, from the OECD.⁸ Of 130 surveyed countries, 111 of the surveys (or 85.4%) are from 2009 or later, i.e. within 3 years of the 2012 benchmark. The relative distributions within countries are assumed to remain constant between the survey year and 2012, while real incomes for non-2012 survey years are assumed to grow at the rate of real per capita HFCE in the country.

⁷ Deaton and Aten (2014) argue that the methodology of the 2011 ICP was an improvement over that of the 2005 ICP and that the differences between the two are primarily due to problems with the earlier round. They find that the 2005 consumption PPPs for countries in Asia (excluding Japan), Western Asia, and Africa were overstated relative to the US by between 18 and 26 percent.

⁸ Povcalnet data are available from <http://iresearch.worldbank.org/PovcalNet/> and were downloaded on 6 July 2015. Incomes are given in 2005 PPP\$ so we convert them to 2012 current international PPP\$, based on the 2011 ICP. OECD data use equivalized household income, where the square root of household size is used as the denominator (see <http://www.oecd.org/els/soc/IDD-Metadata.pdf>). This implies that mean equivalized income is larger than mean income, inflating incomes relative to the non-equivalized Povcalnet data. For this reason we scale mean incomes to HFCE per capita in the OECD data. Because of this, and the fact that Povcalnet data are finer-grained, we use Povcalnet data where possible. We thank Michael Forster for providing us with the OECD data.

As seen in Table 1, we have a total of 669 country-years in our dataset. Of these, 117 country-years also have income tax data on the share of the top 1% of the population from the World Top Incomes Database (WTID). These countries include the second and third most populous developing countries, both in Asia – India and Indonesia; three Latin American countries – Argentina, Colombia and Uruguay; one African country – South Africa; and all the G7 countries.

Table 1: Coverage of countries and populations, 1988-2012

Year	Number of countries	Population in billions (% of world population)
1988	92	4.44 (87%)
1993	104	5.07 (93%)
1998	109	5.31 (89%)
2002	115	5.76 (92%)
2005	119	5.94 (91%)
2012	130	6.42 (91%)
Total	669	

Source: Authors' calculations.

Our method for combining the top income data with household survey data follows our earlier procedure in Anand and Segal (2015), where it is discussed in detail. The rationale for using income tax data for top 1% shares is that household surveys typically fail to capture the richest members of society (Atkinson et al. 2011). On this basis, we assume that household surveys are representative of only the bottom 99% of the population in each country. Hence we multiply the population in each income group in the household surveys by 0.99, and

append the top 1% with its income share independently estimated from the tax data. Our assumption that the top 1% is excluded from the survey sample implies that mean incomes in the surveys are underestimated, and our procedure thus results in a corresponding increase in mean (and total) income for each country.⁹

For country-years that do not have top income data, we impute top 1% shares on the basis of regression. The income share of the top 10% in the household survey data is strongly correlated with the income share of the top 1% in the independently-estimated top incomes (WTID) dataset. In Anand and Segal (2015) we regressed the top 1% income share (WTID data) on this top 10% share (household survey data) and on mean survey income,¹⁰ estimating a simple pooled OLS regression as follows:

$$topone_{it} = a + b_1 topten_{it} + b_2 meaninc_{it} + \varepsilon_{it}$$

where i indexes countries, t indexes the year, $topone$ is the income share of the top 1% (from WTID, in percentage points), $topten$ is the income share of the top decile (from household surveys, in percentage points), and $meaninc$ is mean survey income (in PPP\$ thousand). In our extended data we find both regressors to be highly significant and the regression to have an adjusted R^2 of 0.52.¹¹ We use this regression to impute data for countries with no top income data. For countries that do have top income data, most have it for only a subset of

⁹ The augmented total income is calculated by assuming that the top 1%'s share of 'control' income as given in WTID is equal to its share of this augmented total income.

¹⁰ We found that year dummies and demographic variables including the working age share of the population were insignificant, while per capita GDP and household final consumption expenditure gave lower R^2 values than mean survey income (Anand and Segal 2015: 954).

¹¹ Our estimated regression equation is $topone = -3.3 + 0.41topten + 0.20meaninc$, with p -values below 0.001 for both regressors.

years; for the missing years for these countries we provide improved estimates by using a fixed-effects regression as follows:

$$topone_{it} = a_i + b_1 topten_{it} + b_2 meaninc_{it} + \varepsilon_{it}$$

where a_i is a country-specific fixed effect.¹²

The final step in constructing our country-year distributions is to refine the top end of each distribution. For some countries the smallest groups at the top of the distribution are large in absolute terms compared with the size of the global top 1% or the global top 0.1%, whose composition we wish to identify. China is the obvious case, where the top 1% in 2012 has over 13 million people, or about 0.2% of the world's population. For a more fine-grained analysis, we estimate a Pareto coefficient for the top 10% for each country-year using the income shares of the top 10% and the top 1% (from the data, or estimated as above). We then break down the top 10% into 1,000 groups each of size 0.01% from percentile 90.00 to percentile 99.99, using the estimated Pareto coefficients to calculate their respective income shares.¹³

¹² The fixed-effects regression has estimated coefficients of 0.07 on *topten* and 0.26 on *meaninc*. *Meaninc* remains highly significant, while the *p*-value for *topten* rises to 0.184 (t-stat of 1.34), suggesting that *topten* affects *topone* primarily through its effect on the country dummy. Put another way, its primary effect is on the average level of *topone* in a country rather than on changes over time.

¹³ Atkinson (2007: 24) shows that $S_i/S_j = (H_i/H_j)^{\frac{a-1}{a}}$ where S_i and S_j are the income shares of the top groups with population shares H_i and H_j , and a is the Pareto coefficient. We estimate the Pareto coefficient for each country-year by inverting this formula and using the income shares of the top 10% and top 1%. We then use the formula to partition the top 10% into 0.01% groups by using the top 10% share and the Pareto coefficient to calculate the implied shares of the top 9.99%, the top 9.98%, and so on, subtracting sequentially to obtain 0.01% shares. Thus the share of percentile 90.01 is equal to the share of the top 10% minus the share of the top 9.99%, the share of percentile 90.02 is equal to the share of the top 9.99% minus the share of the top 9.98%, and so on.

Lakner and Milanovic (2013, 2015) take a different approach to imputing top income shares in estimating global inequality between 1988 and 2008.¹⁴ While their main results are based on household surveys alone, they present alternative estimates which adjust higher incomes as follows. Following Banerjee and Piketty's (2010) finding that in India a significant part of the discrepancy between estimates of consumption expenditure in the national accounts (denoted HFCE) and in household surveys can be accounted for by missing or under-reported top incomes, Lakner and Milanovic (2013, 2015) attribute the difference between HFCE and survey incomes (when the latter is smaller than the former) *entirely* to the top decile of the national distribution in each country-year, and add this residual to the income of the top decile reported in the survey.¹⁵ Their method assumes that HFCE per capita is the correct measure of mean consumption expenditure (or income) when, and only when, it is larger than the corresponding survey mean.

Anand and Segal (2008, 2015) provide reasons to prefer survey consumption expenditures (incomes) to HFCE from the national accounts. Recent revisions of national accounts estimates have also highlighted the unreliability of national accounts in developing countries, particularly in the poorer countries (Jerven 2013). Lakner and Milanovic (2013, 2015) themselves point out that their assumption is "excessive" in some cases. For example, in 2008 in India – the country that motivated their procedure – they find the survey mean to be only 53% of HFCE per capita, so they attribute the remaining 47% of total HFCE entirely to the top decile. This adjustment seems implausibly large to us. Conversely, for China in both 1988

¹⁴ The following two paragraphs draw on Anand and Segal (2015).

¹⁵ They then calculate a Pareto coefficient for each country-year distribution on the basis of the unadjusted survey incomes in the ninth and tenth deciles (following the procedure described in Atkinson 2007) and use it to estimate income shares for the income groups P90-P95 (i.e., percentile 90 to percentile 95), P95-P99 and P99-P100, yielding 12 income groups per country-year including deciles D1 to D9.

and 2008, HFCE is smaller than survey income, so no adjustment is made by the authors for under-reporting or under-sampling of top incomes.

3. Results

Global inequality: declining at last?

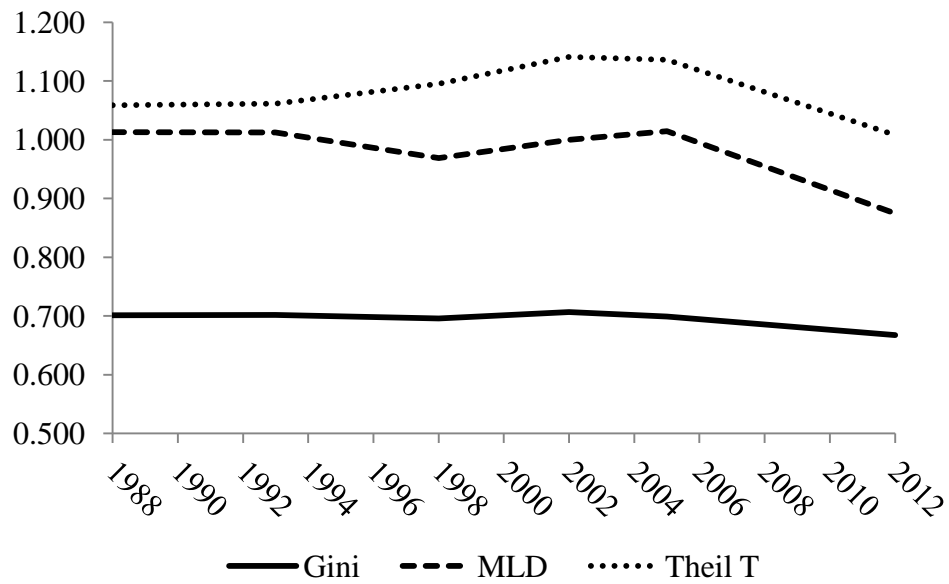
We provide all estimates based on global distributions in PPP\$, and in some cases we also provide estimates based on market exchange rates (FX\$). For the measurement of global interpersonal income inequality there is limited justification in using the FX\$ distribution (Anand and Segal 2008). However, we have already mentioned that the global top 1% and global top 0.1% are likely to have more international lifestyles than the rest of the population, suggesting that a possibly significant portion of their expenditures is priced at market exchange rates.¹⁶ Thus a rich Indian who can enjoy the real expenditures of the global top 1% in her own country will find her spending power severely curtailed when she travels to a developed country which may be three or four times more expensive, when measured at market exchange rates. Thus for comparison we present our estimates of the composition of the global top 10%, top 1% and top 0.1% in FX\$ as well as in PPP\$.

Figures 1 and 2 and table 2 show inequality trends between 1988 and 2012. Global inequality measured by the Gini, MLD (i.e. Theil L), and Theil T changed very little between 1988 and 2005, but declined in 2012. The decline in the Gini coefficient is just over 0.03, reaching the threshold for ‘salience’ in Atkinson’s (2015) terms. The two decomposable measures, MLD and Theil T, show that within-country inequality was rising up to 2005 – which was offset by declining between-country inequality – but that from 2005 to 2012 even this trend reversed

¹⁶ Such expenditures might typically include the purchase of homes, children’s education, holidays, and medical expenditures in foreign countries.

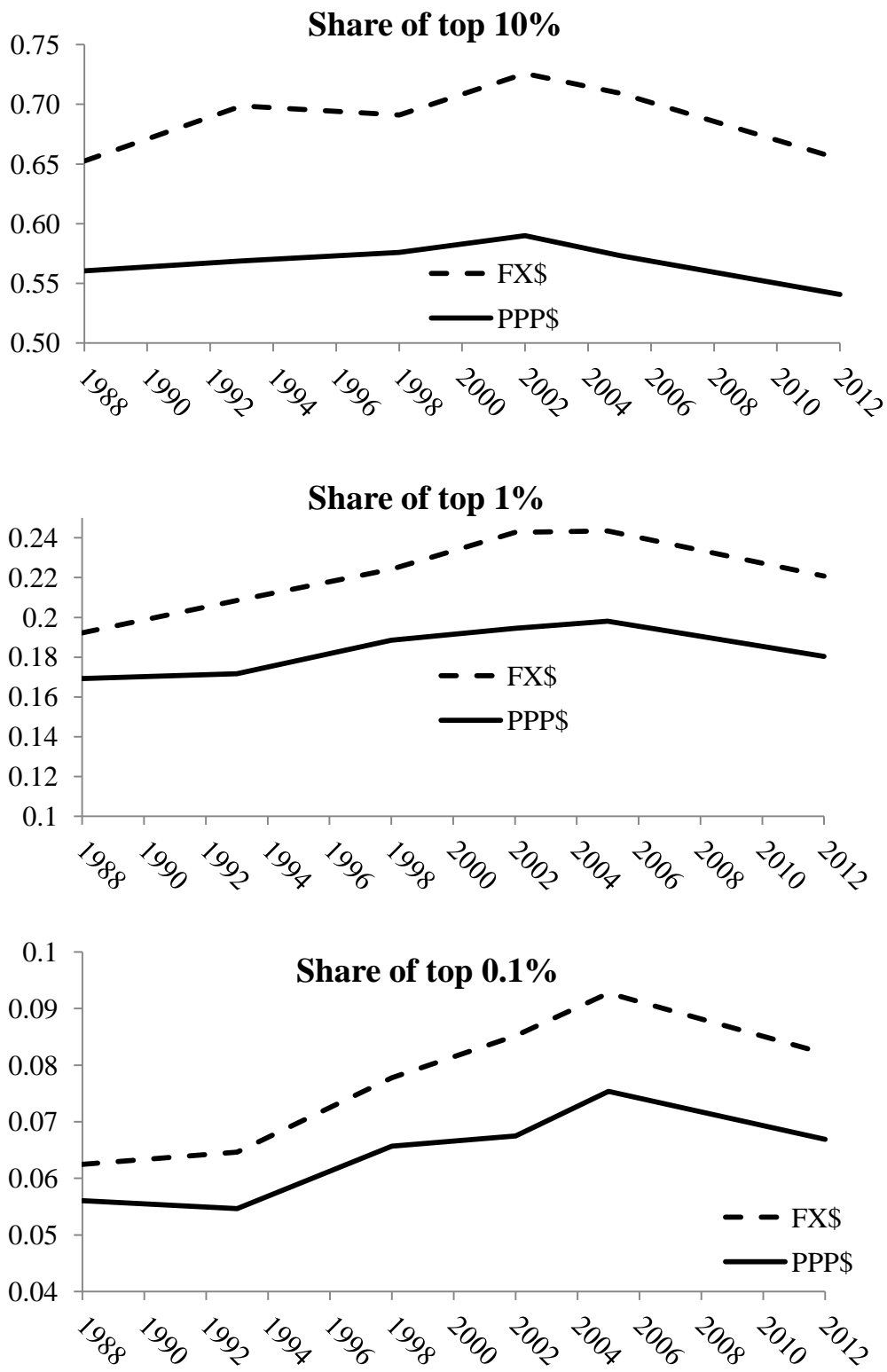
(albeit very modestly for Theil T). However, for both measures, within-country inequality remained higher in 2012 than in any year prior to the peak of 2005 (table 2).

Figure 1: Global inequality indices, 1988–2012



Source: Authors' calculations

Figure 2: Global top income shares, 1988–2012



Source: Authors' calculations.

Table 2: Global inequality 1988–2012, PPP\$ unless specified as FX\$

	Income								Between-	Within-		Between-	Within-
	Income	Income	Income	Income	Income	Income			country	country		country	country
	share of	share	share	share of	share of	share of			MLD	MLD		MLD	MLD
	top 10%,	of top	of top	top 1%,	top 0.1%,	top 0.1%	Gini	MLD	MLD	MLD	Theil T	Theil T	Theil T
	FX\$	1%	FX\$	FX\$	FX\$								
1988	56.1%	65.3%	16.9%	19.2%	5.6%	6.2%	0.701	1.013	0.745	0.268	1.059	0.681	0.378
1993	56.9%	69.9%	17.2%	20.9%	5.5%	6.5%	0.702	1.012	0.688	0.324	1.062	0.654	0.408
1998	57.6%	69.1%	18.9%	22.4%	6.6%	7.8%	0.696	0.969	0.640	0.329	1.095	0.650	0.445
2002	59.0%	72.6%	19.4%	24.3%	6.7%	8.5%	0.707	1.000	0.680	0.320	1.141	0.700	0.441
2005	57.3%	70.9%	19.8%	24.3%	7.5%	9.3%	0.699	1.015	0.650	0.365	1.136	0.647	0.489
2012	54.1%	65.4%	18.0%	22.1%	6.7%	8.2%	0.668	0.875	0.529	0.345	1.008	0.524	0.485

Note: FX\$ signifies market exchange rates.

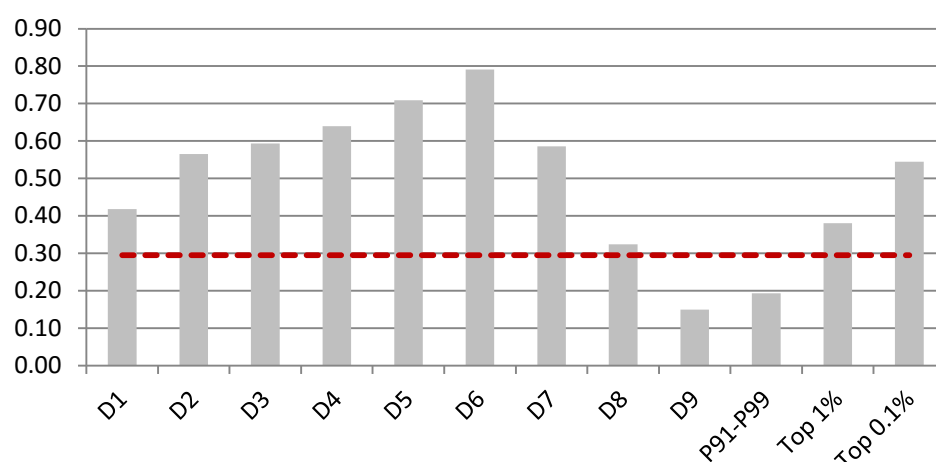
The income shares of all of the top 10%, top 1% and top 0.1% also rise and then decline, peaking in 2002 for the top 10% and in 2005 for the top 1% and top 0.1% (figure 2 and table 2). The global top 1% in 2012 comprised 64.2 million people in our sample of countries, and we find that an individual needed a per capita household income of approximately PPP\$50,000 (i.e. PPP\$200,000 for a family of four) in order to be included.¹⁷ The top 0.1% comprised 6.4 million people, with a threshold per capita household income for an individual of PPP\$177,000. In 2012 the income share of the top 1% was 18% for the PPP\$ distribution and 22.1% for the FX\$ distribution. This implies that the average incomes of the top 1% are 18 to 22 times higher than the world average, depending on the exchange rate used to define the distribution. Average incomes of the top 0.1% are 67 times higher than the world average for the PPP\$ distribution, and 82 times higher for the FX\$ distribution. Of all the inequality measures used here, the income share of the top 0.1% is the only one that remains higher in 2012 than in 2002. This suggests that this group has managed to hold on to their share of global income more effectively than the lower echelons of the top 1%.

A more detailed picture of changes in the global distribution over the whole period of 1988–2012 emerges in the growth incidence curve of figure 3, which shows income growth by decile, with the top decile partitioned into the percentile group 91-99 and the top 1%, and the top 0.1% shown separately. This reveals that the decline in inequality shown by the three inequality indices in figure 1 is driven by the fact that only deciles 9 and 10, but excluding the top 1% (and top 0.1%), saw their incomes grow by less than the global mean. Put another way, changes in the *relative* distribution were equivalent to transfers away from this group and towards others, both poorer (deciles 1 to 8) and richer (top 1%). Inequality among the bottom 6 deciles unambiguously increased with higher deciles showing faster growth. The

¹⁷ Milanovic (2011), using household surveys alone, found that the threshold for the global top 1% in 2005 was a per capita household income of PPP\$34,000, based on PPPs from the 2005 ICP.

dominant picture is one of ‘middle-class growth’, with deciles 4, 5 and 6 seeing the highest rates of growth at over 60% compared to a global average growth of 30%. While the global top 1% did better than average at 38% growth, and better than the rest of the 9th and 10th deciles, their incomes grew by less than that of any of the bottom 7 deciles.¹⁸ The global top 0.1% did substantially better than average at 55%, but were still surpassed by deciles 2 to 7.

Figure 3: Cumulative growth rate 1988–2012, by income group

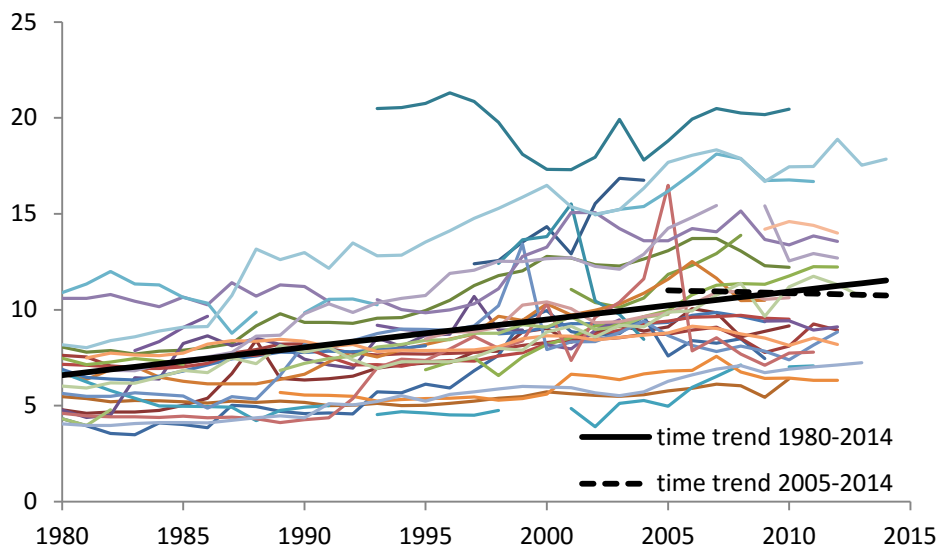


Source: Authors’ calculations

Note: D1 to D9 are deciles. P91-P99 represents 9% of the population from the 91st percentile to the 99th percentile. The red dashed line shows mean income growth over the period.

¹⁸ This figure can be contrasted with Lakner and Milanovic’s (2015: 14) growth incidence curve for 1988–2008, which is based on household surveys alone (i.e. it is not based on their alternative distribution where the income share of the top decile in each country is adjusted by the difference between HFCE and survey income). The shape is similar, except that in their estimates the top 1% enjoys much higher growth of about 65% over their period. However, the figures in their table 3 imply that the income share of the global top 1% is substantially smaller than in our estimates, rising from 11.8% in 1988 to 15.7% in 2008.

Figure 4: Income shares (%) of top 1% in 29 countries 1980–2014, with estimated time trends



Source: World Top Incomes Database and authors' calculations.

Note: Time trends estimated using fixed effects OLS regression. See text for details.

The income share of the global top 1% declined between 2005 and 2012, but what about the income shares of the top 1% *within* each country? These top income shares increased on average between 1980 and 2010, rising substantially in some countries, including the Anglo-Saxon countries, while remaining fairly flat in others (Roine and Waldenström 2015: 492-3). However, we find that the income shares of the top 1% within countries start to trend downwards after 2005 (figure 4) – at the same time as global inequality, within-country inequality, and the income share of the global top 1% start to decline (table 2). In particular, cross-country regressions of the income share of the top 1% on year yield positive coefficients for every sub-period 1980–2014, 1981–2014 up to 2004–2014, turning negative

for the sub-period 2005–2014 and later.¹⁹ Figure 4 plots these top income shares and the estimated time trends for 1980–2014 and 2005–2014.

Regional and country composition of global top income groups

Figure 5 plots the regional population shares of the global top 1% between 1988 and 2012. The large majority of the global top 1% live in the advanced economies, but while their share of the top 1% in the PPP\$ global distribution varied within a narrow range of 86% to 90% from 1988 to 2005, it dropped to 79% in 2012. Latin America and the Caribbean is the region with the next largest share, which declined from 11% in 1988 to 6% in 2005 and then rose to 9% in 2012. The region with the fastest growth in its share of the global top 1% was developing East Asia and the Pacific (EAP), which had less than 1% in 1988 but had 5% by 2012. For the FX\$ distribution, developing countries are virtually excluded from the top 1%, with the advanced economies accounting for between 92% to 98% – though even here their share declined during 2005–2012.

Unsurprisingly, the US has the largest number of people in the global top 1%, with US citizens comprising 37.8% of this group in 2012 (see table 3). However, this is a substantial decline from its peak of 49.4% in 1998. The US is also the country with the highest share of

¹⁹ For each period from year t to year 2014, where $t = 1980$ to 2007, we regressed country top 1% shares on the year and a set of country dummies. The coefficient on the year is positive and significant for every sub-period up to 2003–2014; it is positive and insignificant for 2004–2014; and negative starting in 2005 (for which sub-period there are 26 countries with data). The negative coefficient becomes significant at the 5% level for 2007–2014 (where there are 25 countries with data). Since the fixed-effects estimator is biased when slopes are heterogeneous across countries, as is the case here, we also ran regressions using the mean group estimator (Pesaran and Smith 1995). This estimator overcomes the problem by simply averaging the coefficients estimated for individual countries' time series. We find the coefficients so estimated to be of the same sign as those due to the fixed-effects regressions in every sub-period, though with different levels of significance. The detailed results are available upon request from the authors.

its own population in the global top 1%: in 2012, 7.8% of the US population was in the global top 1% (see table 4). Switzerland comes in a close second with 7.3% of its population in the global top 1%, but since it is a much smaller country, these rich Swiss comprise only 0.9% of the global top 1%.

For the FX\$ distribution in 2012, the US also dominates by accounting for 34.6% of the population of the global top 1% – with 7.2% of its own population in this group. The US share of the global FX\$ top 1% was down in 2012 from its peak of 50.1% in 2002. Both Australia and Switzerland had higher shares of their own populations in the global top 1%, at 20.8% of the Australian population (7.4% of the global top 1%) and 30.7% of the Swiss population (3.8% of the global top 1%) – see tables 3 and 4. These exceptionally high numbers were due to temporarily-high valuations of their currencies: in previous years their shares of the global top 1% were much smaller (table 3).

Most of the rise in developing East Asia and the Pacific is due to China. China enters the global top 1% in the PPP\$ distribution in 1993, but only with its top 0.01%, the finest division in our estimates (not shown). These 118 thousand people comprised 0.2% of the population of the global top 1% in 1993. Only in 2005 do additional Chinese groups enter the global top 1%, and by 2012 the top 0.16% of the Chinese national distribution reaches that level, comprising 3.4% of the population of the global top 1%.

India's top 0.01% is in the global top 1% in all years, but lower income groups never reach that level. This top 0.01%, about 126 thousand people in 2012, comprised about 0.2% of the global top 1% in all years – too small a share to feature in table 3.

Table 3: Country population shares of global top 1%, 1988–2012

Country population share of PPP\$ global top 1% (%)							Country population share of FX\$ global top 1% (%)					
	1988	1993	1998	2002	2005	2012	1988	1993	1998	2002	2005	2012
United States	41.8	42.0	49.4	47.2	46.4	37.8	36.3	36.3	47.6	50.1	43.8	34.6
Japan	8.2	8.3	7.2	8.2	6.9	8.5	22.6	24.7	15.7	16.6	10.5	12.0
Germany	8.6	6.5	5.6	5.3	7.3	5.8	9.0	7.6	6.2	4.8	8.4	6.0
France	4.2	5.7	3.6	7.4	4.5	5.4	5.2	7.4	4.3	6.3	5.9	6.3
Brazil	4.4	3.0	3.7	3.2	2.7	5.3	1.4	1.0	2.7	0.6	0.8	3.6
United Kingdom	3.7	4.8	4.5	5.4	7.3	4.7	3.4	4.0	5.2	5.9	9.2	5.6
Russian Federation	0.0	3.5	0.3	0.3	0.9	3.4	0.0	0.1	0.0	0.0	0.1	0.7
China	0.0	0.2	0.2	0.2	1.3	3.4	0.0	0.0	0.0	0.0	0.2	0.8
Canada	3.8	3.0	2.5	2.4	3.0	3.0	3.6	2.6	1.8	1.9	3.0	4.3
Australia	1.6	1.0	1.2	1.2	1.1	2.2	1.5	0.7	0.8	0.8	1.3	7.4
Italy	2.5	2.4	4.2	2.2	3.0	2.0	2.4	1.9	3.8	1.8	3.7	2.0
Korea, Rep.	2.7	2.7	1.5	1.9	2.4	1.9	0.9	1.2	0.4	1.0	1.6	1.1
Spain	1.2	1.5	1.1	2.0	1.6	1.2	0.8	1.0	0.7	1.0	1.4	1.1
South Africa	0.0	0.1	0.8	0.2	0.0	1.1	0.0	0.0	0.2	0.0	0.0	0.4
Switzerland	1.6	1.4	1.2	1.0	0.7	0.9	3.1	2.9	2.1	2.0	2.0	3.8
Mexico	1.9	1.9	1.0	0.6	0.8	0.9	0.7	0.8	0.3	0.4	0.4	0.4
Netherlands	0.4	1.2	0.8	0.8	1.0	0.8	0.4	1.2	0.7	0.7	1.2	1.0
Colombia	1.1	0.8	0.5	0.5	0.5	0.7	0.2	0.2	0.1	0.1	0.1	0.3
Austria	0.6	0.4	0.4	0.5	0.7	0.7	0.6	0.4	0.4	0.4	0.8	0.7
Malaysia	0.0	0.2	0.3	0.1	0.1	0.7	0.0	0.0	0.0	0.0	0.0	0.1
Total of above 20	88.5	90.7	89.9	90.5	92.2	90.3	92.0	94.2	93.2	94.6	94.4	92.1

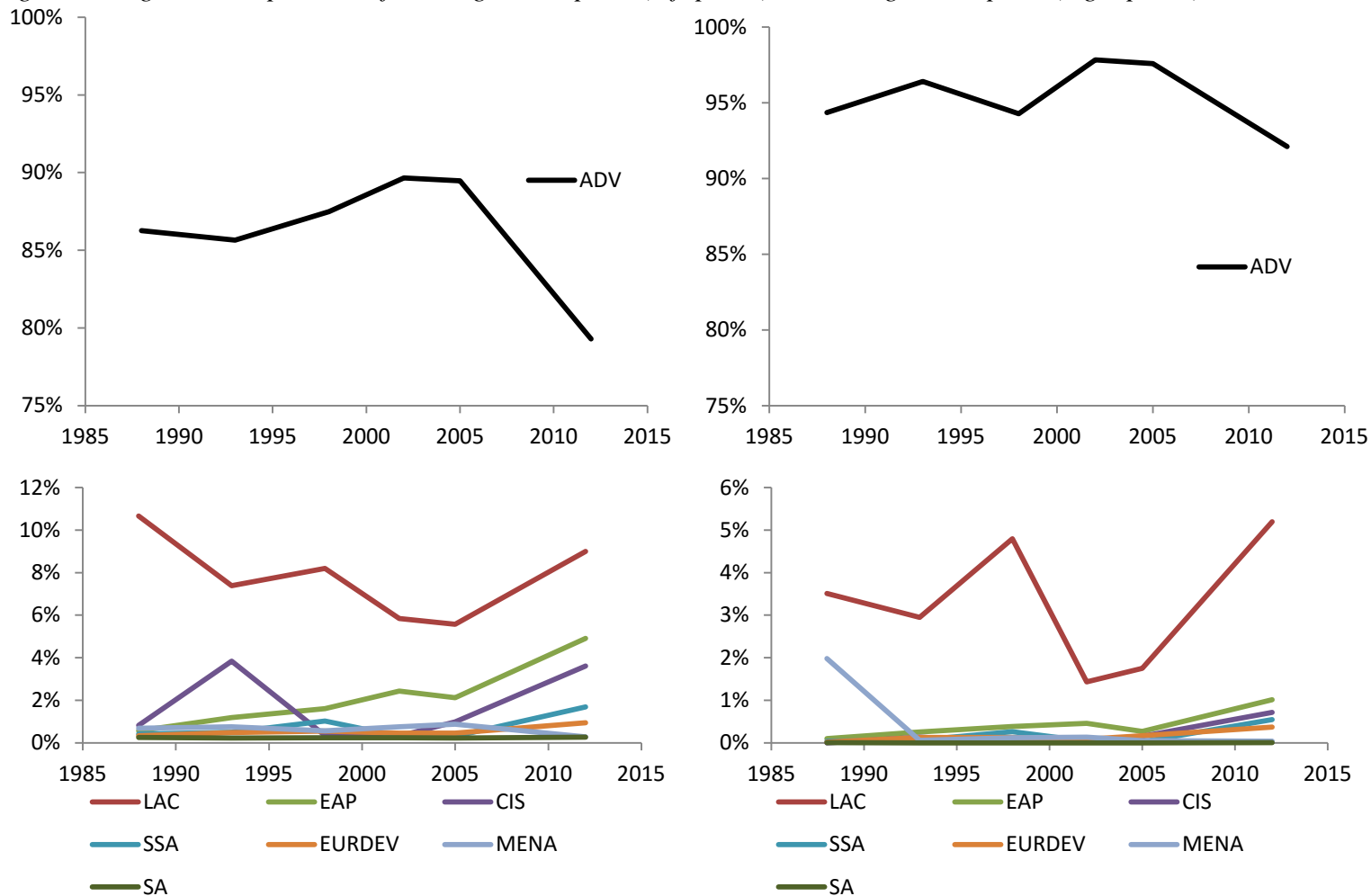
Note: In both panels countries are ranked according to their population share in the PPP\$ global top 1% in the year 2012.

Table 4: Country characteristics of top 20 countries in 2012

	PPP\$ global distribution							FX\$ global distribution						
	Country share of global sample population	Population share of global top 1%	Population share of global top 10%	% of country's population in global top 10%	% of country's population in global top 1%	Top 1% threshold in LCU, per capita household income	Population share of global top 0.1%	Top 0.1% threshold in LCU, per capita household income	Population share of global top 1%	% of country's population in global top 1%	Top 1% threshold in LCU, per capita household income	Population share of global top 0.1%	Top 0.1% threshold in LCU, per capita household income	
United States	4.8%	37.8%	28.9%	59.9%	7.8%	49,941	50.6%	176,823	34.6%	7.2%	52,813	47.7%	183,302	
Japan	2.0%	8.5%	11.0%	55.0%	4.3%	5.628m	6.6%	19.927m	12.0%	6.0%	4.214m	9.6%	14.626m	
Germany	1.3%	5.8%	7.0%	55.0%	4.5%	40,804	6.5%	144,470	6.0%	4.7%	41,089	7.0%	142,609	
France	1.0%	5.4%	6.1%	59.9%	5.3%	44,240	3.6%	156,636	6.3%	6.2%	41,089	4.4%	142,609	
Brazil	3.1%	5.3%	3.1%	9.9%	1.7%	85,547	3.7%	302,888	3.6%	1.2%	103,148	2.8%	358,001	
United Kingdom	1.0%	4.7%	3.9%	40.3%	4.8%	38,280	4.4%	135,533	5.6%	5.7%	33,433	5.4%	116,039	
Russian Fed.	2.2%	3.4%	3.1%	13.8%	1.5%	835,831	2.2%	2.959m	0.7%	0.3%	1,628,749	0.4%	5.653m	
China	20.9%	3.4%	4.8%	2.3%	0.2%	185,594	2.1%	657,115	0.8%	0.0%	333,374	0.0%	1.157m	
Canada	0.5%	3.0%	3.7%	69.7%	5.7%	64,405	3.7%	228,031	4.3%	8.0%	52,770	5.5%	183,153	
Australia	0.4%	2.2%	2.5%	69.7%	6.1%	76,315	2.2%	270,202	7.4%	20.8%	51,007	4.7%	177,033	
Italy	0.9%	2.0%	2.4%	25.5%	2.2%	41,946	1.4%	148,515	2.0%	2.2%	41,089	1.5%	142,609	
Korea, Rep.	0.8%	1.9%	3.1%	40.3%	2.4%	45.545m	1.4%	161.255m	1.1%	1.4%	59.492m	0.9%	206.484m	
Spain	0.7%	1.2%	1.9%	25.5%	1.6%	38,527	0.6%	136,408	1.1%	1.5%	41,089	0.6%	142,609	
South Africa	0.8%	1.1%	0.8%	9.9%	1.3%	261,967	0.6%	927,523	0.4%	0.5%	433,594	0.2%	1.505m	
Switzerland	0.1%	0.9%	1.0%	79.5%	7.3%	77,575	1.0%	274,662	3.8%	30.7%	49,522	2.6%	171,879	
Mexico	1.9%	0.9%	1.1%	5.8%	0.5%	458,372	0.6%	1.623m	0.4%	0.2%	695,521	0.2%	2.414m	
Netherlands	0.3%	0.8%	1.3%	50.1%	3.2%	44,000	0.3%	155,786	1.0%	3.8%	41,089	0.4%	142,609	
Colombia	0.7%	0.7%	0.6%	7.6%	1.0%	60.426m	0.8%	213.946m	0.3%	0.5%	94.900m	0.4%	329.374m	
Austria	0.1%	0.7%	0.9%	69.7%	5.4%	42,879	0.7%	151,817	0.7%	5.6%	41,089	0.7%	142,609	
Malaysia	0.4%	0.7%	0.7%	15.7%	1.6%	78,890	0.2%	279,319	0.1%	0.2%	163,129	0.0%	566,183	
Total of above 20	44.1%	90.3%	87.7%				93.1%		92.1%			94.8%		

Note: In both panels countries are ranked according to their population share in the PPP\$ global top 1% in the year 2012.

Figure 5: Regional composition of PPP\$ global top 1% (left panel) and FX\$ global top 1% (right panel)



Note: ADV is Advanced Economies; LAC is Latin America and the Caribbean; EAP is East Asia and the Pacific (developing only); CIS is Commonwealth of Independent States; SSA is Sub-Saharan Africa; EURDEV is Emerging and Developing Europe; MENA is Middle East and North Africa; SA is South Asia.

The developing country with the largest share of the global top 1% is Brazil, with 5.3% in 2012. This is because it is not only large and relatively prosperous, but its very high level of inequality also implies that rich Brazilians are particularly rich (while the non-rich are correspondingly poor), allowing more of them to pass the threshold.

The global top 0.1% is, unsurprisingly, still more skewed towards developed countries than the global top 1%, with developed countries' shares systematically higher and other countries' shares lower. In 2012 the US comprised more than half of this group, with 50.6%, while China accounted for only 2.1% – less than half its share of the global top 1%.

4. Alternative identifications of the global élite: wealth, WEF, and executive compensation

We can also compare our global top incomes estimates at market exchange rates with the global wealth estimates produced for the bank *Credit Suisse* by Davies et al. (2012) at market exchange rates. However, while our data are provided in terms of household income per capita, giving children the same weight as adults, Davies et al. (2012: 6) use income per *adult*, with adults defined as individuals aged at least 20. First consider the thresholds for entering the global top 1% by income and the global top 1% by wealth. At market exchange rates we find the threshold for the global top 1% in income is nearly US\$53,000 per capita household income, or US\$211,000 for a family of two adults and two children. Davies et al. (2012: 92) find the threshold for the global top 1% in wealth to be US\$710,000 per adult, or US\$1.42 million for such a household. A plausible real return of 5% on this wealth would be US\$71,000, not nearly enough to reach the top 1% in the global income distribution at FX\$.

This reflects the fact that most of the income of rich, if not super-rich, households is salary or labour income.²⁰

We can also compare the country composition of the global top 1% by income and that of the global top 1% by wealth. Davies et al. (2012: 101) find that in 2012 US residents comprised 35.7% of the global top 1% by wealth, China accounted for 3.3%, and India 0.5%. For the US and China these shares are very close to their shares of the global top 1% by income, but for India this share by wealth is more than twice as large as its share by income.

The pattern is somewhat different again at the very top of the global wealth distribution, according to Forbes's global estimates of the numbers of (wealth) billionaires. China's share of the world's billionaires in 2012 was more than double its share of the global top 1% of income or of wealth – at 95 out of a total of 1,226, or 7.7% (Kroll 2012). As mentioned earlier, in 2016 China's share of billionaires has risen to 14%. India has 4.6% of the world's billionaires. The fact that both China's and India's share of the world's billionaires are much higher than their share of people with income or wealth in the global top 1% suggests that they are particularly unequal at the very top of their distributions compared with other countries.

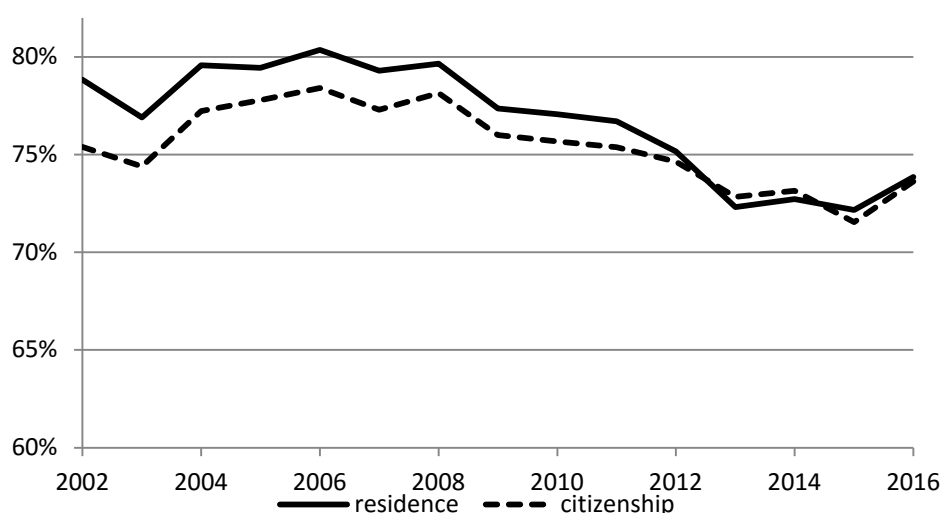
Beyond billionaires, the World Economic Forum (WEF) meeting at Davos represents a different set of the global super-élite and includes policy makers as well as business people.

²⁰ Piketty (2014: 277) finds that in France in 2005 capital income exceeds labour income only for those in the richest 0.1% of the income distribution. In 1932 this applied to the top 0.5%, and in the Belle Époque to the entire top percentile. The figure of 5% as a typical real return on wealth is also proposed by Piketty. However, we would note that standard income surveys that include capital income do not account for the erosion of wealth by inflation and report nominal, not real, income from wealth, which is correspondingly higher (e.g. a return of 7% if the real return is 5% and inflation is 2%).

However, membership of this group has changed less than membership of global top income groups. Figure 6 shows the share of attendees at the WEF with citizenship of advanced economies, and who are resident in advanced economies, for the period 2002–2016. The advanced economies’ share of attendees has declined since its peak in 2006, but rather modestly, from 78% by residents or 80% by citizens, to 74% for both in 2016.

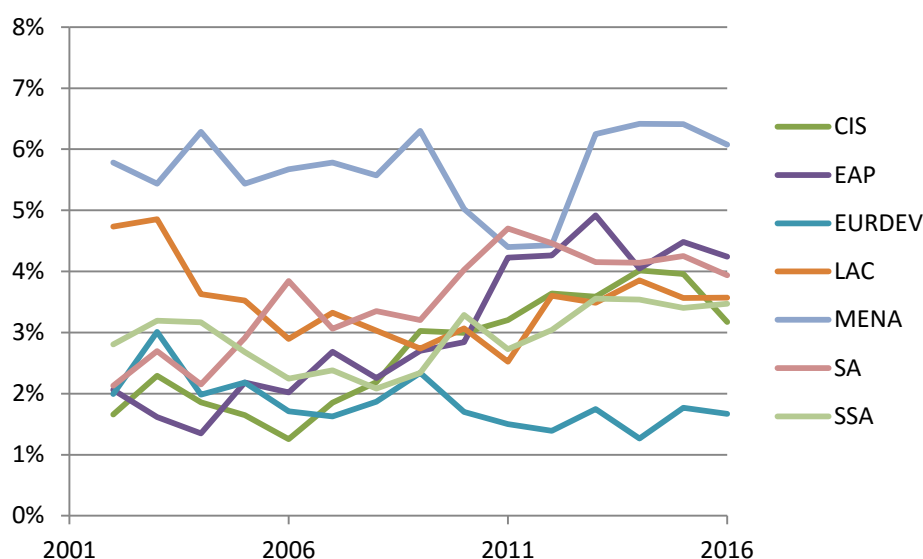
Figure 7 shows the shares of WEF attendees of other regions over the same period. Most regions saw a rise in their share, with the Commonwealth of Independent States, South Asia, and East Asia and the Pacific all more than doubling their shares during 2002–2016. Only Emerging and Developing Europe and Latin America and the Caribbean saw their shares decline. The trends by citizenship, rather than residence, are similar but show slightly smaller rises (as implied by figure 6). It is also notable that of 132 of the 2016 attendees with Indian nationality, only 98 were resident in India, indicating that Indians have taken up elite positions in other countries. China, on the other hand, is an importer of such elites, with 76 attendees resident in China but only 66 Chinese nationals.

Figure 6: Share of World Economic Forum attendees with residence in or citizenship of advanced economies, 2002–2016



Source: Authors’ calculations and Event registration, World Economic Forum, Switzerland.

Figure 7: Share of World Economic Forum attendees by region of residence, 2002-2016



Source: Authors’ calculations and Event registration, World Economic Forum, Switzerland.

Note: ADV is Advanced Economies; LAC is Latin America and the Caribbean; EAP is East Asia and the Pacific (developing only); CIS is Commonwealth of Independent States; SSA is Sub-Saharan Africa; EURDEV is Emerging and Developing Europe; MENA is Middle East and North Africa; SA is South Asia.

We can also use data on executive salaries to get a picture of which kinds of occupations will put a household into the PPP\$ global top 1% by income. The international recruitment agency Robert Walters runs surveys of salaries paid by large multinational and domestic firms, including in five of the developing countries in tables 3 and 4 – namely Brazil, China, Malaysia, South Africa and South Korea.²¹ Salary ranges for the highest paid executives in each country are reported in table 5. We saw that in China, 0.16% of the population had a per capita household income above the threshold of ¥185,594 (table 4), or about ¥740 thousand for a four-person household. A single earner would need approximately ¥1m to achieve this

²¹ Note, however, that South Korea has been classified as a ‘high income’ country by the World Bank continuously since 2001.

income after tax, which is significantly less than the salary (excluding bonus) of a chief financial officer (CFO) with 18 years' experience in accounting and finance, who could earn up to ¥2.5m, or a country manager in sales and marketing (for the category of 'consumer – retail and luxury') who could earn up to ¥2.2m (table 5).²²

In Brazil, where 1.7% of the country's population are in the global top 1%, many senior executives are also likely to be included. There, to place a family of four in the global top 1% in 2012 required about R\$340,000 of disposable income (table 4), or about R\$470,000 before tax.²³ This would be towards the lower range of salaries for a CFO with over 12 years of experience in an accounting and finance firm, or a chief operating officer (COO) in banking and financial services. It would be mid-range for the Chief Information Officer in an information technology firm or near the top end for the Director of a human resources firm.²⁴

²² Personal income tax rates from Piketty and Qian (2010: 48).

²³ This assumes a personal income tax rate of 27.5%, which was the higher rate in Brazil in 2015 and would apply to almost all this income. PWC Worldwide Tax Summaries, Brazil, <http://taxsummaries.pwc.com/uk/taxsummaries/wwts.nsf/ID/Brazil-Individual-Taxes-on-personal-income>

²⁴ Robert Walters (2013: 145-151). Data for Sao Paolo, and exclude bonuses.

Table 5: Executive compensation, 2012, with threshold for global top 1% (PPP\$ distribution)

	Position	Salary range, LCU	Global top 1% threshold for 4-person household, LCU
Brazil (Rio de Janeiro)	Accounting and Finance – CFO (12+ years experience)	R\$420k-R\$600k	Gross: R\$470k
	Banking and Financial Services – COO (12+ years experience)	R\$420k-580k	Net: R\$340k
	Human Resources – Director (12+ years experience)	R\$315-500k	
	Information Technology – Chief Information Officer	R\$400k-550k	
China (Shanghai)	Accounting and Finance – CFO (18+ years experience)	¥1.5m-2.5m	Gross: ¥1.0m
	Sales and Marketing – General Manager	¥1.2m-2.2m	Net: ¥740k
Malaysia (Kuala Lumpur)	Accounting and Finance – CFO	RM273k-500k	Gross: MYR480k
	Sales and Marketing – Director (10+ years experience)	RM300k-480k	Net: MYR316k
	Human Resources – Director	RM265k-420k	
	Information Technology – Chief Technology Officer	RM350k-420k	
South Africa	Corporate Finance – CA	ZAR830k-1.8m	Gross: ZAR1.6m
	Accounting, Finance, Banking and Financial Services – Senior Director	ZAR900k-1.6m	Net: ZAR1m
	Engineering or Natural Resources – General Manager	ZAR800k-1.4m	
South Korea (Seoul)	Accounting and Finance – CFO	₩130m-200m	Gross: ₩200m
	Sales and Marketing Firm – Small/Medium Organisation Country Head	₩150m-200m	Net: ₩180m

Source: Robert Walters (2013).

Note: CFO is Chief Financial Officer; COO is Chief Operating Officer. Figures usually exclude bonuses.

In Malaysia, where 1.6% of the population is in the global top 1%, the threshold is about MYR316,000 for a family of four, which could be achieved by a single earner with a gross salary of MYR480,000 before tax.²⁵ This is near the top of the range for a CFO in accounting and finance; the top of the range for an experienced director in sales or marketing; and slightly more than a top-range salary for a Director in a human resources firm or a Chief Technology Officer in an IT firm.²⁶ In South Africa the threshold would be about ZAR1m disposable income or ZAR1.6m gross,²⁷ which is near the top end for a Corporate Finance CA, at the top end for an Audit/Tax/Accounting/Treasury/Senior Level Director in accounting, finance, banking or financial services, and about 15% above the top end for the General Manager of an engineering or natural resources firm.²⁸ In South Korea, a family of four needs ₩182m disposable income, or about ₩200m gross.²⁹ This is a top-range salary for a CFO in accounting and finance or a Country Head in a small/medium sales and marketing firm.³⁰

5. Conclusion

The rise of the emerging economies has driven fundamental changes in the distribution of global income in terms of both poverty reduction and the changing composition of the global ‘middle class’. We find that this rise is also apparent in the ranks of the global rich, but only

²⁵ Tax rates for 2012 due to <http://www1.malaysiasalary.com/salary/salary-calculation-for-2012-in-malaysia.html>

²⁶ Robert Walters (2013: 334-345). Data for Kuala Lumpur, and exclude bonuses.

²⁷ Tax Pocket Guide 2012,

<http://www.treasury.gov.za/documents/national%20budget/2012/sars/Budget%202012%20Pocket%20Guide.pdf>

²⁸ Robert Walters (2013: 430-432). Data are cost to company, and exclude bonuses.

²⁹ National Tax Service, Korea, 2012 Automatic Calculation,

http://www.nts.go.kr/eng/help/help_53_2012.asp?top_code=H001&sub_code=HS05&ssub_code=HSE3

³⁰ Robert Walters (2013: 398-400). Data for Seoul, and are “basic exclusive of benefits/bonuses”.

to a moderate extent. While citizens of the advanced economies still comprised 79% of the PPP\$ global top 1% in 2012, this was lower than the 86-90% during 1988 to 2005. Thus the advanced economies still predominate among the global rich and super-rich, even if by less than in previous decades. The rise of China is clear in these data, but its impact remains modest at the level of the global top 1% and the global top 0.1%, even if it is proportionally over-represented at the level of wealth billionaires. The other giant of the developing world, India, has made no significant incursions into the global top 1%, despite rapid economic growth over the past two decades.

The turning point for the participation of the emerging economies in the global rich appears to have been around 2005, and we find that this is the same turning point at which global inequality starts to decline. This trend was no doubt sharpened by the global financial crisis in 2008, which is having a lasting effect of slow growth in the advanced countries. But many developing countries were already converging with the developed economies before that point. As long as emerging economies continue to grow faster than the developed countries – which seems likely for the near future – both trends are likely to continue.

The increasingly international lives of the global rich imply that, as a class, they probably have more in common than other quantiles of the global income distribution. In emerging economies like China, Brazil and Malaysia, the members of the global top 1% include top executives in large firms, in addition to wealthy capital- and land-owning élites. Their professional lives will often involve international travel and deal-making associated with global commerce and investment, including (at the very top) at the World Economic Forum – fostering shared understandings and perhaps increasing awareness of common financial interests. We can only speculate about the consequences of the rising participation of the rich

from poorer countries in international fora and the global élite. It is by no means clear that it will contribute to declining global inequality, or benefit the non-rich within developing countries. Senior executives and business owners from different countries may find that they share more interests with each other than with their own compatriots.

Appendix: Regional classifications

ADV is the IMF classification Advanced Economies, composed of 37 countries: Australia, Austria, Belgium, Canada, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hong Kong SAR, Iceland, Ireland, Israel, Italy, Japan, Korea, Latvia, Lithuania, Luxembourg, Malta, Netherlands, New Zealand, Norway, Portugal, San Marino, Singapore, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Taiwan Province of China, United Kingdom, and United States.

EURDEV is the IMF classification Emerging and Developing Europe, composed of 13 countries: Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Hungary, Kosovo, FYR Macedonia, Montenegro, Poland, Romania, Serbia, and Turkey.

CIS is IMF classification Commonwealth of Independent States, composed of 12 countries: Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyz Republic, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan. Georgia, which is not a member of the Commonwealth of Independent States, is included in this group for reasons of geography and similarities in economic structure.

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