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Inequality Increasing Everywhere? Conflicting Evidence from an Updated Global Database of Household Surveys

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Conflicting evidence from an updated global database of household surveys

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This paper presents the most up-to-date evidence on national inequality in income or consumption from as many countries as possible. We find that the Gini index for the average country began to fall in the early 2000s, but remains higher in 2013 than 25 years earlier. In a sample of countries with strictly comparable household surveys between 2008 and 2013, for every country where the Gini index increased by more than 1 point, there are two countries where it fell by more than 1 point. These findings are robust to a number of factors, including the use of alternative databases of inequality indicators. While we have used the best available evidence from household surveys, a number of measurement issues, such as missing top incomes and the use of expenditure instead of income surveys, remain unresolved.

JEL Codes: D31, D63
Keywords: inequality, national inequality, within-country inequality

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I. Introduction

As Atkinson and Bourguignon (2015) note in their introduction to the 2nd Volume of the Handbook of Income Distribution, inequality has become an issue of intense public discourse and research in the last 15 years. While much of the debate and literature has focused on richer countries, where data on inequality are much better, distributional issues are also important concerns in developing countries.[1] This paper presents the most up-to-date data on within-country inequality for the largest number of countries around the world, both developed and developing.[2]

We find that for the average country the Gini index of disposable income increased by around 2 points from 35.7 to 37.8 between 1988 and 2013. Average national inequality peaked in the early 2000s and has declined since then. Latin America and the Caribbean, the most unequal region, made the biggest contribution to this decline, while Sub-Saharan Africa shows a small decline on average. Eastern Europe shows a sharp increase following the fall of the Berlin Wall, but has since been on a downward trend. We show that our results are robust to a number of factors such as the underlying data source, the choice of sample, and the use of population weights. The decline appears to have intensified in the most recent period (2008-2013), which spans the Great Recession – for every country where the Gini index increased by more than 1 point, there are two countries where it fell by more than 1 point.

We add to the burgeoning literature on inequality by presenting the most up-to-date evidence using data that are as comparable as possible. The recent decline in inequality, while it needs to be interpreted carefully (see below), might come as a surprise to readers that are familiar with evidence showing relentlessly increasing disparities. Furthermore, although a number of recent papers report regional trends in national inequality, none of them take a global perspective.[3] Our paper makes another contribution, by testing systematically for the robustness of our conclusions to alternative data sources. 15 years after the publication of Atkinson and Brandolini (2001), who warn against the pitfalls in the use of secondary data on inequality, such robustness checks are rarely done in this literature.[4]

[1] Examples of the recent research on developed countries include the books by Piketty (2014) and Atkinson (2015). In a recent survey of policymakers in 15 developing countries, 77% recognized that the current level of inequality threatens long-term development (UNDP, 2014). In another survey of more than 500 Asian policymakers, 70% suggested that income inequality has become a more pressing issue in the last decade (Kanbur and Zhuang, 2012).

[2] It is important to note that, while taking a global perspective, this paper focusses on within-country inequality, i.e. inequality amongst persons within a country's borders. In other words, we do not measure global inequality (Anand and Segal, 2008, 2015; Lakner and Milanovic, 2016), which refers to inequality among all individuals around the world irrespective of their country of residence.

[3] For example, Alvaredo and Gasparini (2015) include low and middle-income countries, while Morelli et al. (2015) focuses on middle and high-income countries; Lustig et al. (2013) cover Latin America, while Hassine (2015) considers only Arab countries.

[4] For a recent overview and comparison of various inequality databases, see the special issue of the *Journal of Economic Inequality* (Ferreira et al., 2015). See Atkinson and Brandolini (2001) and Atkinson et al. (2010) for comparisons of OECD countries covering earlier periods. In a recent study, Lustig and Teles (2016) find that conclusions over inequality convergence are sensitive to the choice of international inequality database.

A few words of caution about what the data can and cannot show are needed before we begin our analysis.[5] First, while our database enforces some degree of comparability across countries (e.g. same equivalence scale throughout), we need to use both income and consumption expenditure surveys. Developing countries commonly use expenditure surveys, so a global analysis has to use both sources of evidence. While it is clear that expenditure surveys understate the level of inequality compared with an income survey, it is possible that they also underreport a potential increase.[6] Second, it is well known that household surveys have an incomplete coverage of top incomes (Atkinson et al., 2011), and thus potentially understate both the level and the increase in inequality. Third, and perhaps most importantly, the most recent period needs to be interpreted carefully because it spans the Great Recession, which has hit top incomes in rich countries (Saez, 2016). Therefore, it remains to be seen whether our evidence points towards a change in trends.

The rest of this paper is organized as follows. In section II, we describe the primary dataset (PovcalNet) and the alternative databases that are used in a robustness check. Section III begins with an analysis of average national inequality around the world, before focusing on within-country trends, in particular in the last five years. In Section IV, we discuss the robustness of these results to alternative definitions and data sources. The final section concludes. The Appendix provides a more detailed description of the data sources as well as additional results.

II. Data and methodology

This section describes the construction of the datasets used in this paper. We are interested in the inequality of disposable income or consumption expenditure among individuals. Income or expenditure are measured at the household level (thus ignoring inequality among household members) and assigned to each individual on a per capita basis (thus ignoring economies of scale for larger households).[7] We only examine the Gini index and do not test for Lorenz dominance (Atkinson, 1970) more generally.

[5] Other caveats include the following: (1) Because of the unavailability of sampling information, we cannot test for the statistical significance of the observed changes in the Gini index, although we include a rough bound of +/- 1 Gini point. (2) We only consider the change in one distributional measure, the Gini index, without testing for full Lorenz dominance. Therefore, our conclusions about the inequality change may not be robust to alternative social weights (Atkinson, 1970). (3) While full comparability of welfare aggregates is an impossible goal and the situation has generally improved, these remain important issues (Smeeding and Latner, 2015). Therefore, when we study the latest period, we only consider countries with strictly comparable surveys.

[6] A number of influential studies on the US reported that inequality in consumption expenditure increased slower than inequality in incomes (e.g. Krueger and Perri, 2006). However, Aguiar and Bils (2015) find that consumption surveys tend to understate expenditure on durable goods and thus the increase in inequality in consumption. In a sample of countries from Eastern Europe and Central Asia, we found the direction of change in terms income and consumption inequality to be the same, and the size of the changes rather similar (Box 4.4 in World Bank, 2016). However, these expenditure surveys likely suffer from the same issues as Aguiar and Bils found in the US.

[7] Databases of inequality statistics differ in their equivalence scales. PovcalNet uses the per capita scale because it is simple to compute (e.g. no information on the number of adults and children is required), has a natural counterpart in the national accounts, and poor households might have few opportunities for economies of scale (Chen and Ravallion, 2010).

A. Main dataset: PovcalNet

As described in more detail in the Appendix, the main source of the country-level Gini data is PovcalNet published by the World Bank.[8] For most countries, PovcalNet computes these statistics directly from household survey data.[9] It is the only database that covers all countries in the world. It enforces a minimum degree of comparability across countries, such as the use of per capita equivalence scales or a consistent treatment of extreme values throughout.[10] However, achieving a global coverage necessitates the mixing of income and consumption surveys (see below). Where possible, we supplement PovcalNet with microdata-based information from the All the Ginis (ATG) database (Milanovic, 2016) to increase geographic coverage of our data.[11]

We group observations into six benchmark years from 1988 to 2013 in five-year intervals because few countries hold annual household surveys.[12] If data for a benchmark year are not available, we use data from the nearest year within a two-year window either side of the benchmark year.[13] We use data from both income and consumption surveys, although we distinguish between them in a robustness check. In the main sample, as many countries as possible are used in each benchmark year. This implies that the country composition changes from one benchmark year to another since not all countries conduct a household survey every five years.

Table 1 shows the share of the global and regional population represented by the database used in this analysis.[14] On average, the full sample consists of 109 countries per benchmark year, ranging from 73 to 137 countries across the six years. The population coverage lies between 71% and 92% of the global population depending on the benchmark year.[15] The region with the highest population coverage is Latin America and the Caribbean whereas it is the lowest for Sub-Saharan Africa. Despite considerable progress in data availability, the 2013 data cover only about a third of the population in the Middle East and North Africa region and around half the population in Sub-Saharan Africa.

[8] See Smeeding and Latner (2015) for an independent review of PovcalNet.
[9] For a small number of countries for which microdata are not available (for example, China), PovcalNet continues to use grouped data in combination with a parametric Lorenz curve to compute the national Gini index. In the 2013 benchmark year, this applies to 3 out of 104 countries. The proportion of estimates based on grouped data has diminished over time, and has affected no more than 5% of countries in the last three benchmark years.
[10] For example, in their review of middle- and high-income countries, Morelli et al. (2015) use a range of sources, that differ in their equivalence scales or the elimination of extreme values.
[11] In the final database of benchmark years, about 9% of observations are drawn from the ATG database, especially during the earlier years. Although ATG includes a mix of data from primary and secondary sources, it is used here only for observations estimated directly from the Luxembourg Income Study.
[12] 2013 is the latest year for which a sufficient global population coverage can be achieved. In fact, it is the last year for which the World Bank has published global poverty statistics in October 2016.
[13] Among surveys that are equidistant to the benchmark year, the newer survey is chosen.
[14] The regional definition used throughout this paper follows the World Bank's geographic classification, except for the category "industrialized countries". These are the traditional high-income countries, as described in the Appendix.
[15] Given that survey availability tends to be higher in richer countries, the coverage in terms of global GDP (not shown) tends to be higher than the coverage of global population.

Table 1. Population coverage of the data used in the analysis

	No. of countrie	Share of regional population covered by data (percent)							
		World	EAP	EECA	LAC	MNA	SAR	SSA	IC
A. Full sample									
1988	73	79	90	93	91	42	96	10	75
1993	101	88	95	86	93	76	97	68	77
1998	106	71	95	82	95	70	22	71	75
2003	135	91	95	99	94	77	98	77	78
2008	137	92	96	93	95	72	98	70	95
2013	104	81	94	90	92	57	87	52	72
B. Sub-samples									
Balanced (1988-2013)	43	47	88	14	79	22	11	4	69
Balanced (1993-2013)	58	53	93	45	83	22	12	14	71
Long-run trends	91	84	95	83	87	62	97	53	76
Short-run trends	81	54	81	87	90	32	12	21	69
C. Share of income surveys for full sample (percent)									
2013		51	0	42	100	25	0	5	100

Sources: World Development Indicators, World Economic Outlook Database.
Note: The cells in the table show the share of the global or regional population (in percent) accounted for by the surveys included in the database. For the balanced and trend samples, the population coverage refers to the final year. The columns refer to the following regions: EAP (East Asia & Pacific), EECA (Eastern Europe & Central Asia), LAC (Latin America & the Caribbean), MNA (Middle East & North Africa), SAR (South Asia), SSA (Sub-Saharan Africa), and IC (Industrialized Countries).

To account for the effect of changes in the country composition, we also examine a balanced sample of 43 countries for which data are available for all benchmark years and which have the same welfare measure (income or consumption) throughout.[16] This sample represents 47% of the global population in 2013 (panel B of Table 1).

In the second part of the analysis, we directly look at trends in national inequality at the country level instead of changes in some global or regional average. We define two periods of interest: the long-run spell (1993-2008) and the short-run spell (2008-2013).[17] These samples include all countries for which we have data for the initial and final benchmark years, provided that the welfare measure is the same.[18] We choose 1993 as the initial year of the long-run spell since the coverage of developing countries is limited before this date. The long-run trend sample of 91 countries represents 84% of the global population in 2013. The short-run trend sample of 81 countries represents 54% of the global population in 2013.

[16] The Appendix provides further details on how these samples were created.
[17] As described in more detail in the Appendix, the short-run spells are drawn from the World Bank's Global Database of Shared Prosperity (World Bank, 2015) which only includes surveys that satisfy a high standard of comparability.
[18] The set of countries in these two samples thus differs from the balanced sample. In the spell samples, data need to be available in the initial and final years. In the balanced sample, data need to be available for all years.

B. Robustness checks

In Section IV, we check for the robustness of our results to two concerns. First, we examine if our results for the global average Gini index are sensitive to adjusting for differences between income and consumption surveys. As shown in panel C of Table 1, half of all surveys included in the database in 2013 use income, although this ratio varies markedly by region. The Industrialized Countries and Latin America tend to use income surveys, while South Asia, Sub-Saharan Africa, and the Middle East use consumption.[19] Given a declining marginal propensity to consume, our data would systematically understate inequality in countries where consumption data are used, compared to an income-based analysis. While this is a serious issue, one cannot reliably infer an income distribution from an expenditure distribution (Anand and Segal, 2015), so we ignore this issue in our main results.[20] In the robustness check, we follow Alvaredo and Gasparini (2015) and use a simple multiplicative adjustment factor to scale down the income-based Gini indices. Gini indices based on income surveys are multiplied by a factor of 0.861, which is derived from a set of Latin American countries that collect both income and consumption surveys (Alvaredo and Gasparini, 2015).[21] While such adjustment factors are frequently adopted in the literature, it should be noted that an adjustment that is invariant across countries and time is unlikely to be correct.[22]

The second robustness check concerns the underlying dataset used in the analysis. We could have used several alternative databases of distributional statistics. As reviewed in detail in a recent special issue of the *Journal of Economic Inequality* (see introduction by Ferreira et al., 2015), these databases include distributional statistics that are calculated directly from microdata, compiled from secondary data, or imputed. Atkinson and Brandolini (2001) warn about the pitfalls in using secondary databases of Gini indices. In fact, Ferreira et al. (2015) find large differences in inequality trends between the World Income Inequality Database (WIID), ATG and PovcalNet especially in developing countries. Given these concerns, we choose PovcalNet as the main data source. It is the only database with a global coverage that is (largely) based on microdata and calculates the welfare aggregate in per capita terms. This global coverage, however, comes at a cost of lower comparability, such as the use of both income and consumption surveys. In the robustness check, we compare our results with those from the following sources: the Economic Commission for Latin America (CEPAL), Eurostat, the Luxembourg Income Study (LIS), the Organisation for Economic Co-operation and Development (OECD), the Socio-Economic Database for Latin America and the Caribbean (SEDLAC), and the Standardized World Income Inequality Database (SWIID).[23]

[19] Deaton and Zaidi (2002) give theoretical and practical reasons why consumption may be preferable to income as a measure of welfare in developing countries.

[20] Nevertheless, various attempts have been made recently at "standardizing" income and consumption surveys, e.g. see Lahoti et al. (2016) and Niño-Zarazúa et al. (2016) in the context of global inequality, as well as the SWIID database discussed below.

[21] In a sample of countries from Eastern Europe and Central Asia, we find a slightly smaller factor of 0.824, which is not significantly different from the factor estimated by Alvaredo and Gasparini (2015).

[22] Regarding definitional differences in general (such as gross vs. net income, or equivalence scales), Atkinson and Brandolini (2001) caution against such simple across the board adjustments.

[23] Given the large differences that can exist between secondary data sources, we concentrate on microdata-based databases in this comparison. Therefore, we do not include the World Income Inequality Database (WIID) in our comparison. Furthermore, the main advantage of WIID over Eurostat or LIS would have been the comparison of

As summarized in Table A.1 expanding a similar table in Ferreira et al., 2015), differences between databases include differences in definition (such as trimming, equivalence scales) and underlying data sources (e.g. LIS vs. EU-SILC data).[24] SWIID makes extensive use of cross-country imputations, while all other datasets draw directly on micro data. The datasets differ markedly in terms of geographic coverage: Eurostat, LIS and OECD cover primarily high-income countries, while CEPAL and SEDLAC cover only countries in Latin America and the Caribbean. Arguably, these are the regions where household surveys are most reliable, so it would be interesting to broaden the regional coverage, but the data are simply not available.

III. Main Results

This section presents the main findings of our analysis. We first summarize global and regional average Gini indices during 1988-2013. Next, we directly examine changes in inequality at the country-level over two specific time periods: 1988-2008 and 2008-2013 for a subset of countries that have data for both the initial and final year.

A. Global and regional average inequality during 1988-2013

Figure 1 plots the mean, median, 10^{th} and 90^{th} percentiles of the distribution of national Gini indices in five-year intervals between 1988 and 2013. It is clear that the mean Gini index was higher in 2013 (37.8) than in 1988 (35.7), i.e. for the average country, inequality in 2013 was about 2 Gini points higher in 2013 than 25 years earlier. Average national inequality increased during the late-1980s and the 1990s by nearly 5 points before declining by about 3 points until 2013 (full results are reported in Table A.2).

However, it is worth noting that the change in inequality is small relative to the dispersion across countries, as shown by the 90^{th} and 10^{th} percentiles in Figure 1. There has been a convergence in inequality levels across countries, as shown by the fall in the gap between the 10^{th} and 90^{th} percentiles. The median Gini is lower than the mean Gini, suggesting a skewed distribution, possibly because few countries have very high inequality (such as South Africa or Haiti).

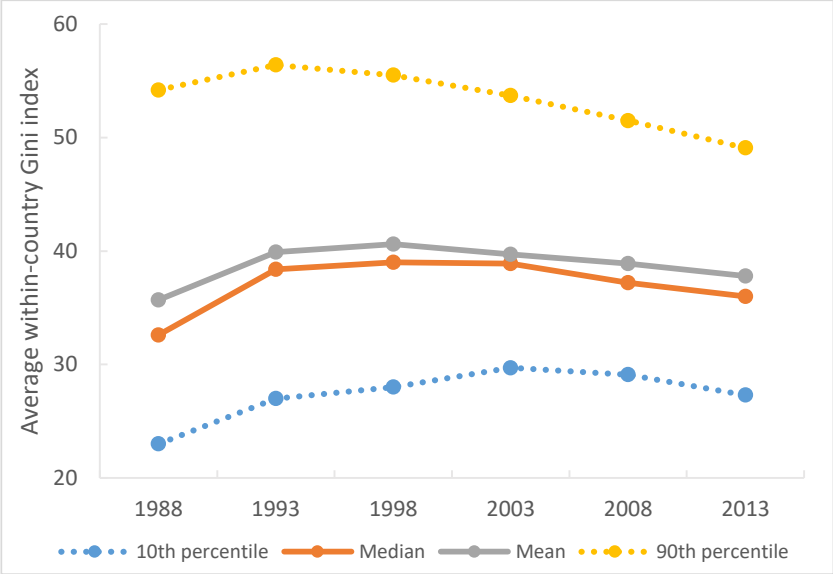
Given that we are interested in how national inequality has changed over time, we report only unweighted results in the main text. Population-weighted average Gini indices are presented in panel B of Table A.2. The time trend is largely similar to the unweighted results: The weighted average increased by an even larger amount during the 1990s, reflecting particularly rapid increases in inequality in large countries (e.g. China), but has fallen since then. However, in

developing country data. However, as Jenkins (2015) points out, few of the developing country observations in WIID have a high quality rating. In addition, the WIID uses PovcalNet as an input, e.g. of the 138 Sub-Saharan African observations after 2000, 59 are drawn from PovcalNet (or the World Development Indicators), which makes the entire comparison exercise circular. The exception to the microdata-based datasets is SWIID, which has been used in a number of recent cross-country studies.

[24] It is important to note that we use the summary "Key Figures" provided by LIS, not the raw micro database.

contrast to the unweighted results, national inequality for the average person has increased slightly in the most recent period.

Figure 1 Average national Gini index, 1988–2013



Source: Authors' calculations based on data from Milanovic (2016) and PovcalNet.
Note: Figure shows unweighted estimates across all countries available. Full results presented in Table A.2.

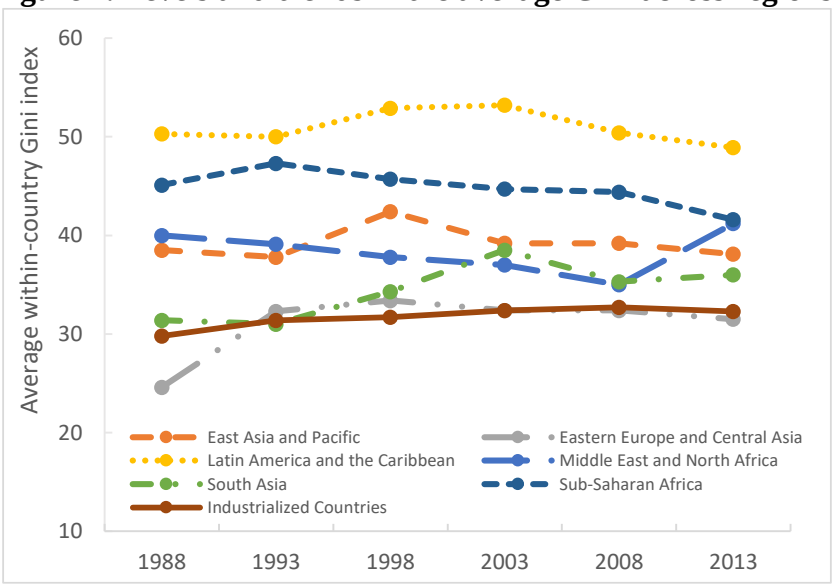
Figure 2 plots the average Gini index for seven regions in the world. The levels and trends in average inequality are quite different across regions, although the most recent decline is broad-based. Within-country inequality tends to be higher in developing countries than in developed countries (referred to as the "industrialized countries", as defined in the Appendix). The highest levels of inequality are observed in Latin America and the Caribbean, but it is important to bear in mind that this region tends to use income surveys which are expected to produce higher levels of inequality. This is particularly important when comparing inequality levels between, for example, Latin America (mostly income surveys) and Sub-Saharan Africa (only consumption surveys).

Latin America stands out as a region that has been most successful in reducing inequality in the last 10 to 15 years (for a detailed discussion see Lopez-Calva and Lustig, 2010), also driving the decline in the global average. However, these declines come after a prolonged increase during the 1980s (not shown here) and 1990s, such that, by 2012, the average Gini had returned to the level of the early 1980s (Székely and Mendoza, 2015). Hence, the long-run progress in the reduction of inequality in Latin America and the Caribbean has been limited. Furthermore, the downward trend has slowed, and inequality reduction has stagnated recently (Cord et al., 2016; Gasparini et al., 2016).

The average Gini in Sub-Saharan Africa has declined steadily since the early 1990s, but continues to be the highest after Latin America. Furthermore, the regional average hides a lot of variation across African countries, which are almost evenly split into rising and falling inequality during the first decade of the 2000s (Beegle et al., 2016; Cornia, 2014). In Eastern Europe and Central Asia, average inequality rose sharply after the fall of the Berlin Wall, but has since been on a declining trend (Milanovic and Ersado, 2010). Similarly, inequality rose sharply during the transition to a

market economy in some East Asian countries. The average industrialized country saw an increase in the Gini index from 29.8 in 1988 to 32.7 in 2008. In the five years leading up to 2013, average inequality appears to have fallen in all regions except the Middle East and North Africa, where data are limited, and in South Asia.

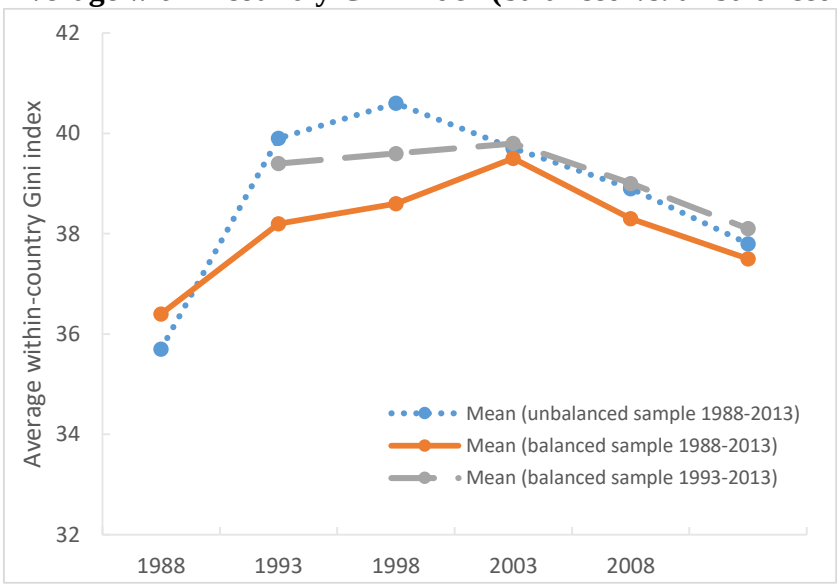
Figure 2. Levels and trends in the average Gini across regions



Source: Authors' calculations based on data from Milanovic (2016) and PovcalNet.
Note: The lines show the average within-country Gini index by region. It is the simple average in the full sample without weighting countries by their population. Full results presented in Table A.2.

One concern with Figures 1 and 2 is the fact that the sample of countries is different in every benchmark year, which may drive some of the changes from one period to the next. Figure 3 shows the average Gini index for the sample of 43 countries that are available in every benchmark year and have the same welfare aggregate throughout. This balanced sample follows a similar time trend, although the observed changes are smaller. The figure also shows the 1993-2013 balanced sample (58 countries), which follows a very similar trend in the latest years. Taken together, the analysis suggests that, in the average country, inequality may have peaked in the late 1990s or early half of the 2000s, and declined in the latter half of the 2000s.

Figure 3: Average within-country Gini index (balanced vs. unbalanced samples)



Source: Authors' calculations based on data from Milanovic (2016) and PovcalNet.
Note: The dotted blue line reproduces the mean national Gini index reported in Figure 1. The solid orange line includes only countries that are available in all bin years and have the same welfare aggregate. The dashed grey line includes only countries for which data are available for all bin years during 1993-2013 and have the same welfare aggregate. Full results presented in Table A.2.

B. Trends in national inequality during 1993-2013

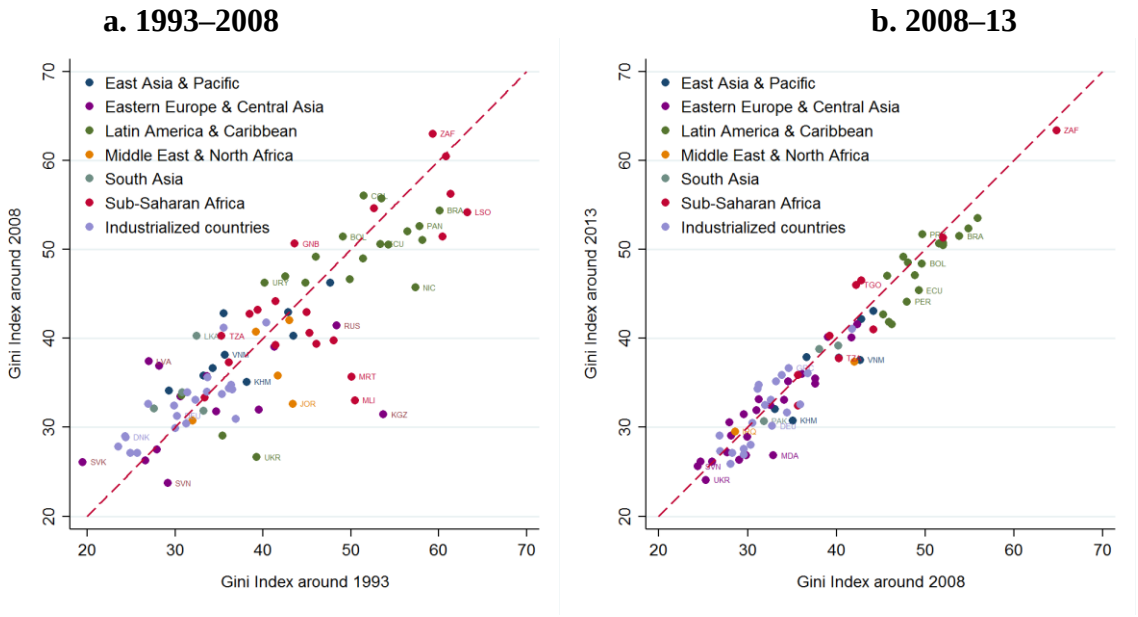
Another way to account for changes in the sample composition is to look directly at country-level trends in the Gini index, rather than examining global and regional averages. As discussed above, we examine changes in national inequality during two periods: 1993-2008 and 2008-2013. Although this is obvious, it is important to point out that any analysis of trends is sensitive to the beginning and end points. While our choice of period was dictated by data availability, often voiced concerns about rapidly rising inequality might well be based on a different time frame. For example, the surge in inequality in many Eastern European countries following the fall of the Berlin Wall (Milanovic and Ersado, 2010) had already occurred by the time the long-run sample begins. Similarly, during the 1980s, inequality rose strongly in some rich countries, such as the Netherlands, the United Kingdom, and the United States (Morelli et al., 2015).[25]

Figure 4 plots the Gini index for the final year against the initial year for the long-run (panel a) and short-run (panel b) spells. Countries that experienced no change in inequality lie along the dotted 45-degree line in these charts. Countries above the line experienced increasing inequality, whereas countries below the line saw a decline. Between 1993 and 2008, we observe some large drops in Gini, especially in Sub-Saharan Africa.[26] The other major region with declining inequality

[25] Morelli et al. (2015) report trends in the Gini index of equivalent household income drawn from the OECD and national statistical agencies.
[26] There may also be some issues with survey comparability. See Beegle et al. (2016) for a detailed discussion of survey comparability in Sub-Saharan Africa.

is Latin America and the Caribbean, as already discussed. The changes in inequality over the 5-year period between 2008 and 2013 were understandably smaller. Some countries with large changes in the Gini index have been highlighted in Figure 4.

Figure 4. Trends in the within-country Gini index, 1993–2013



Source: Authors' calculations based on data from Milanovic (2016) and PovcalNet.
Note: Countries along the dashed 45-degree line experienced no change in inequality. For countries below (above) the line, the Gini index decreased (increased).

Table 2 offers a more systematic summary of the within-country trends in inequality. Between 1993 and 2008, 42 out of 91 countries (46%) showed increasing inequality; 39 (43%) had a declining Gini index; and 10 (11%) showed no significant changes. In the absence of confidence intervals for the Gini estimates, we ignore changes within 1 Gini point in either direction as a rough adjustment for sampling errors, following Alvaredo and Gasparini (2015).[27] Hence, the number of countries with rising inequality was slightly greater than the number of countries going in the opposite direction. Yet, the average Gini among these 91 countries actually declined by 0.8 points from 40.1% to 39.3% (thus barely significant).[28] This is because, the decline in the Gini index in the countries where inequality decreased was larger than the increase in those countries where inequality rose.

[27] Without confidence intervals, any such cut-off value is essentially arbitrary. We follow Alvaredo and Gasparini (2015) who use 1pp, which they argue is typically significant at 5% in the SEDLAC surveys (also see Statistics Canada, referenced by Atkinson, 2003). Atkinson et al. (1995) refer to a change in the Gini index between 1 and 2 points as a modest increase. Other authors have used +/- 1% or +/- 2% (Smeeding, 2000; Burniaux et al., 1998), which would correspond to 0.4 and 0.8 points respectively, evaluated at the average within-country Gini of 40 in our sample. This suggests that our cut-off value is relatively conservative.

[28] When using population weights, however, the average Gini for this set of countries increased from 37.1 to 39.3, suggesting that inequality increased more rapidly in larger countries. The populous countries where the Gini index increased strongly over this period include China (7 points), Indonesia (5 points), and Bangladesh (5 points).

During the long-term spell, 1993-2008, Latin America and the Caribbean stands out as the region with a large decline in inequality: the Gini index fell in 58% of the countries in the region; for the average country in the region, it declined by 2.0 points. Meanwhile, many East Asia and Pacific countries (56% of the countries) and South Asian countries (75%) in the sample experienced an increase in inequality. The average Gini in East Asia and Pacific and South Asia increased by 1.3 points and 3.5 points, respectively. For the industrialized countries, the average Gini increased in over half of the countries. The Sub-Saharan African countries are roughly evenly split into increasing and decreasing inequality, with a small decline on average.[29]

Table 2. Number of countries with increasing or decreasing Gini index and average Gini

	Long-run (1993-2008)						Short-run (2008-2013)					
	Number of countries with:				Mean Gini		Number of countries with:				Mean Gini	
	↑	+/-1pp	↓	Total	1993	2008	↑	+/-1pp	↓	Total	2008	2013
East Asia and Pacific	5	1	3	9	37.8	39.1	1	1	5	7	39.3	37.3
Eastern Europe and Central Asia	5	2	6	13	33.9	32.5	6	8	9	23	31.9	31.4
Latin America and Caribbean	8	0	11	19	49.0	47.0	3	2	12	17	49.7	48.0
Middle East and North Africa	1	1	3	5	39.8	36.4	0	1	1	2	35.3	33.4
South Asia	3	0	1	4	31.0	34.5	0	1	2	3	36.7	36.2
Sub-Saharan Africa	8	2	10	20	47.6	45.1	3	2	4	9	44.1	43.8
Industrialized Countries	12	4	5	21	31.4	32.6	6	6	8	20	32.0	31.8
World	42	10	39	91	40.1	39.3	19	21	41	81	37.9	37.1

Source: Authors' calculations based on data from Milanovic (2016) and PovcalNet.
Note: Increases and decreases refer to changes that are greater than 1 Gini point in absolute value. The column labeled "+/-1pp" refers to countries that experienced an absolute change in inequality of less than 1 point, which is unlikely to be significant (as discussed in the text).

The evidence suggests that there was a shift toward declining inequality in the period between 2008 and 2013. The number of countries with decreasing inequality in this more recent spell is more than double the number of countries with rising inequality. The Gini index fell by more than 1 point in 41 of 81 countries (51%of the sample of countries), while it increased in 19 countries.[30] On average, the Gini fell marginally by 0.8 points. Populous countries with falling Gini indexes include Brazil (−2.4 points), Pakistan (−1.2 points), and Vietnam (−5.1 points). This development toward narrowing inequality can be observed across all regions. Hence, relative to the earlier period, the change has been most pronounced in East Asia and Pacific and in South Asia, where inequality had increased steeply between 1993 and 2008. Latin America and the Caribbean made the biggest contribution to declining inequality, accounting for almost half the total decline.

[29] As discussed above, Cornia (2014) and Beegle et al. (2016) find a similar result though in a slightly different period.
[30] This conclusion is not affected by our choice of cut-off value of 1 Gini point. Without any adjustment for sampling errors, the Gini index falls (increases) in 51 (30) countries. In addition, the results are similar when we include all countries observed in 2008 and 2013, some of which might suffer from survey incomparability. This adds 7 surveys, i.e. a total of 88 countries, of which 45 (20) show a falling (rising) Gini, with 23 estimates being within 1 Gini point.

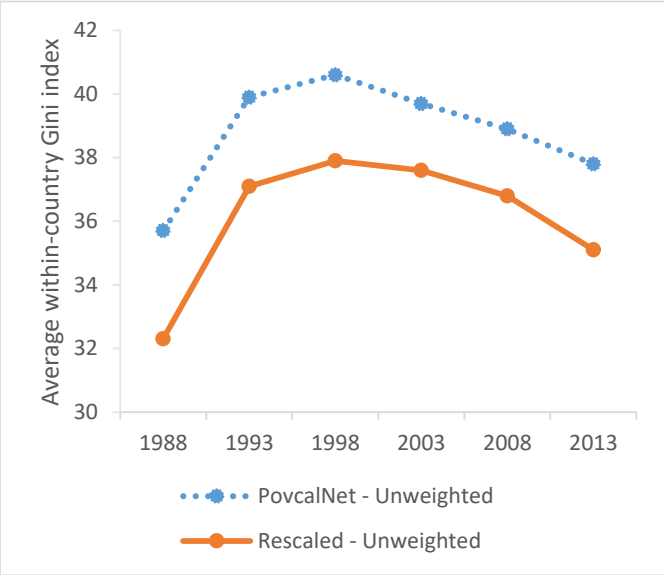
IV. Robustness checks

In this section, we check for the robustness of our results to two issues. First, we examine if our results are sensitive to using an adjustment for differences between income and consumption surveys that is often adopted in the literature. Second, we use alternative datasets on inequality to examine if our results are sensitive to the choice of PovcalNet as the underlying dataset.

A. Adjustments for differences between income and consumption surveys

Because countries differ in their use of income and consumption surveys, a global analysis invariably has to mix both types of surveys. As we discussed in Section II, for comparison with the rest of the literature, we follow Alvaredo and Gasparini (2015) and rescale income-based Gini indices by a factor of 0.861 in this robustness check. The dotted line in Figure 5, reproduces the mean Gini index without an adjustment reported in Figure 1. The solid line scales all income-based Gini indices by a factor of 0.861, which unsurprisingly shifts down the average Gini index. It is important to point out that the trends in the two lines are very similar. If anything, the initial increase and the recent decline become even more pronounced.

Figure 5. Average Gini index with rescaled income surveys



Source: Authors' calculations based on data from Milanovic (2016) and PovcalNet.
Note: The dotted line reproduces the mean national Gini index reported in Figure 1. The solid line multiplies all income-based Gini indices by a factor of 0.861, as explained in the text. Full results presented in Table A.2.

B. Comparison with alternative databases of distributional statistics

As explained in Section II, we compare our baseline results, drawn from PovcalNet, with data from a number of alternative inequality databases. Table 3 presents the average difference in the

Gini index found in PovcalNet and alternative databases, together with the number of countries for which such comparisons are possible.[31] It is clear that there is a small overlap between PovcalNet and the alternative databases, except for SWIID. PovcalNet tends to report larger Gini indices than the alternative databases.[32] The difference is largest for the Eurostat, LIS, and OECD databases, all of which use equivalence scales that tend to lower the Gini index.[33] The absolute difference is smallest for SEDLAC, which uses a per capita scale and very similar surveys and methodologies compared with PovcalNet.

Table 3: Average difference in the Gini index computed from alternative sources

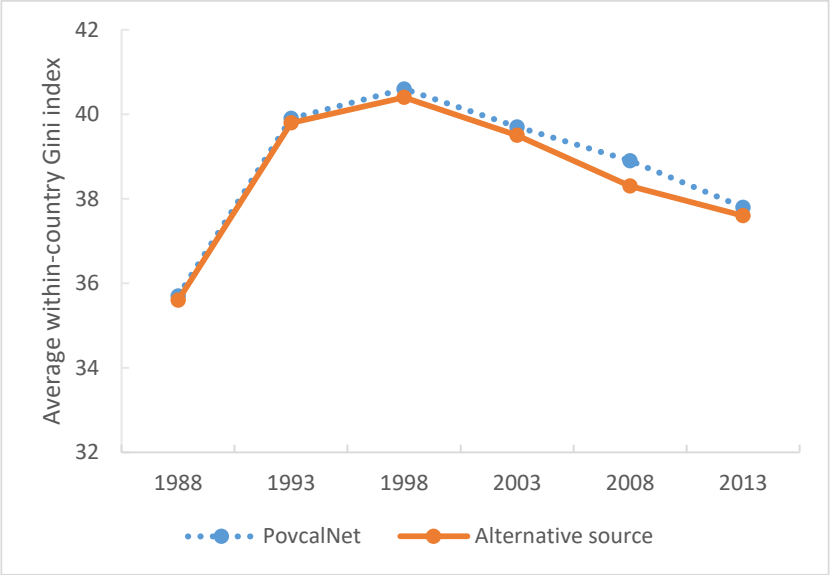
Dataset		1988	1993	1998	2003	2008	2013
Eurostat	Average difference		1.88	2.93	2.23	1.59	1.66
	N		7	18	24	30	31
LIS	Average difference	3.02	2.77	2.57	2.53	2.97	3.01
	N	19	24	27	25	10	12
OECD	Average difference	2.33	1.16	2.21	2.05	1.79	1.81
	N	6	11	11	23	29	18
SEDLAC	Average difference	1.55	0.71	-0.75	0.56	0.35	0.14
	N	9	13	19	15	18	17
CEPAL	Average difference	-0.57	-0.75	-0.84	-0.88	-0.92	-1.72
	N	3	9	6	10	14	15
SWIID	Average difference	2.26	1.86	1.80	1.24	1.41	2.21
	N	72	101	105	129	120	65
PovcalNet total # of observations		73	101	106	135	137	104

Source: Authors' calculations based on data described in the text.
Note: For every country, the difference is calculated as the PovcalNet Gini minus the Gini from the alternative database. The average across the countries in a given benchmark year is reported in the Table. *N* is the number of countries for which data are available for a given year in both databases, irrespective of the welfare measure used to compute the Gini index. The total number of observations from PovcalNet is reproduced from Table 1.

[31] Observations are matched on the basis of survey, not benchmark year. All the alternative databases use income. We make comparisons irrespective of whether PovcalNet uses an income or consumption survey. Enforcing this additional condition would reduce the number of comparisons by 3 out of 117 observations for LIS, 3 out of 98 observations for OECD, 2 out of 110 observations for Eurostat, and 1 out of 91 observations for SEDLAC and none for CEPAL.
[32] The only exception is CEPAL, which is the only database that includes a national accounts adjustment, as described in Bourguignon (2015).
[33] The equivalence scales used in the alternative databases allow for economies of scale in household consumption. For a large household, the equivalized income will thus be larger than the per capita income used in PovcalNet. Since poorer households tend to be larger, inequality in the distribution of equivalized income tends to be lower.

Given the limited number of possible pairwise comparisons, we begin with the baseline PovcalNet data, but where possible replace observations with data from Eurostat, LIS, and SEDLAC (in this order of preference).[34] Combining the different sources in this way, we can replace approximately two out of five PovcalNet observations. The solid line in Figure 6 shows the average Gini index for this new series, while the dotted line reproduces the baseline results (see Figure 1). Using the alternative databases reduces the level of the Gini index (the difference is within 1 Gini point in all benchmark years), but the trend in average inequality remains very similar. Therefore, a researcher who had used alternative data for Latin America and the high-income countries, would have arrived at a very similar conclusion on average inequality around the world.

Figure 6. Global average within-country inequality



Source: Authors' calculations based on data described in the text.
Note: The dotted line reproduces the mean national Gini index reported in Figure 1. In the solid line, PovcalNet observations are replaced with observations drawn from Eurostat, LIS and SEDLAC (in this order of preference) for the same survey year. Full results presented in Table A.2.

In our final robustness check, we examine whether the changes in inequality during the long and short-run spells are consistent across the alternative databases. This complements Table 3, which concentrated on levels. Table 4 compares the within-country trends that emerge from the various databases. The top row is reproduced from Table 2 for reference. The column labelled "↑↑" gives the number of countries for which both PovcalNet and the respective alternative database agree that the Gini index increased by more than 1 point. Column "↑" captures a weak agreement, whereby one database suggests an increase of more than 1 point, while the change is within 1 point in the other. Columns "↓↓" and "↓" are defined accordingly. The column "?" refers to countries in which both databases agree that the Gini changed by less than 1 point. Finally, the second-to-last column captures strong disagreements, where both databases suggest a change greater than 1 percentage point, but in opposite directions. The rows refer to the pairwise comparisons across the databases, while the last row combines Eurostat, LIS, and SEDLAC (in this order of preference).

[34] We only replace income-based Gini values since all of the alternative databases use income surveys.

Table 4: Change in the Gini index

a. Long run spell (1993-2008)							
Database	**↑↑**	**↑**	**?**	**↓**	**↓↓**	**Disagreement**	**Total**
PovcalNet	42		10		39		91
PovcalNet vs. Eurostat	1	2	2	1	1	0	7
PovcalNet vs. LIS	4	1	0	0	2	0	7
PovcalNet vs. SEDLAC	6	0	0	0	6	0	12
PovcalNet vs. CEPAL	1	0	0	0	4	2	7
PovcalNet vs. SWIID	34	8	5	9	27	5	88
PovcalNet vs. (Eurostat + LIS + SEDLAC)	11	3	2	1	8	0	25
b. Short run spell (2008-2013)							
Database	**↑↑**	**↑**	**?**	**↓**	**↓↓**	**Disagreement**	**Total**
PovcalNet	19		21		41		81
PovcalNet vs. Eurostat	7	3	7	3	10	0	30
PovcalNet vs. LIS	1	0	1	0	0	0	2
PovcalNet vs. SEDLAC	3	0	1	1	12	0	17
PovcalNet vs. CEPAL	1	2	0	1	8	0	12
PovcalNet vs. SWIID	8	9	6	16	15	2	56
PovcalNet vs. (Eurostat + LIS + SEDLAC)	12	1	9	4	22	0	48

Source: Authors' calculations based on data described in the text.
Note: The row labelled "PovcalNet" is reproduced from Table 2. The categories are described in the text. The final column gives the number of countries for which pairwise comparisons are possible.

Of the 91 countries that are observed in our data between 1993 and 2008, we can match 25 countries from Eurostat, LIS or SEDLAC. For 19 of these countries, whether we use PovcalNet or the alternative dataset results in the same conclusion over the change in inequality between 2008 and 2013. For the United States, there exists a weak disagreement: According to PovcalNet, the Gini index increased by 1.4 points (from 40.4 to 41.8), while it increased by only 1 point (36.1 to 37.1) according to LIS.

During the 2008-2013 period, we can match 48 of the PovcalNet observations to an alternative microdata-based source. Of these 48 countries, 22 countries showed a declining Gini index in PovcalNet and the different sources, while 12 countries saw a change in the opposite direction. For 14 countries, the change in the Gini index was within 1 point in at least one of the data sources. Examples of such weak disagreements include Portugal (fall by 1.6 points according to Eurostat, whereas it only fell by 0.7 points according to PovcalNet) and Slovak Republic (increase by only 0.5 points according to Eurostat data, whereas it increased by 1.4 points according to PovcalNet).

Therefore, the main conclusions about the country-level trends are robust to using alternative microdata-based sources: During 1993-2008, the Gini index increased in more countries than it fell; between 2008 and 2013, the Gini index fell in a larger number of countries than it rose. A similar conclusion also emerges from the comparison with SWIID, although the number of disagreements is greater. However a word of caution is needed here: SWIID would have used many of the survey-based PovcalNet estimates as inputs for its imputations, so it is not surprising

that it matches quite closely for those country-years. In other words, we have not run a controlled experiment of predicting SWIID out of sample and then comparing with results from actual surveys.

V. Conclusion

This paper has studied changes in national inequality for as many countries as possible between 1988 and 2013, the last year for which surveys cover a sufficiently large share of the global population. We find that the average Gini index of per capita household income or expenditure may have peaked in the early 2000s, but remains higher in 2013 than 25 years earlier. Between 2008 and 2013, we found that there were twice as many countries with falling inequality than rising. These trends have been quite broad based across regions, although Latin America stands out in terms of declining inequality.

Our results are robust to a number of factors, such as using the same sample of countries throughout or applying a simple adjustment factor for differences between income and consumption surveys. While we have used the microdata-based source with the widest geographic coverage, and found very similar results when using alternative data sources, our results are subject to three main caveats, which we discuss in turn. Therefore, while the evidence based on household surveys presented here provides a starting point, it leaves a number of important issues for future research.

Household surveys are likely to underreport top incomes, but in the absence of administrative records in most developing countries, it is impossible to quantify just how much of a problem this is.[35] A large informal sector and the absence of broad-based income taxes seriously limit the usefulness of administrative tax data even if they were available. Hence, in the short-term, research should also explore alternative top-heavy data sources, such as data on real estate transactions (e.g. see van der Weide et al., 2016).

Consumption expenditure is often a better measure of welfare in economies where agriculture and own-consumption are widespread, as well as for measuring poverty. However, as emerging economies become dominated by wage employment, the continued use of consumption surveys may be questioned. These surveys understate living standards at the top and might miss rising inequality. For instance, in China household savings as a percent of GDP increased by some 6 points between 2000 and 2008 (Ma and Yi, 2010), while the Gini index of consumption expenditure remained essentially flat. Given that savings are skewed towards the top of the distribution, this would suggest a rise in the inequality of incomes.

Finally, it is important to point out that the most recent period, during which we found a declining Gini index in a large number of countries, is rather special. In the developed countries, this period spans the Great Recession, which has hit top incomes leading to a compression of the income distribution. Many developing countries benefitted from a period of high commodity prices, which had funded equity-enhancing public investments especially in Latin America (World Bank, 2016).

[35] In some developing countries both sources of data are available in recent years. In Brazil, top income shares suggested an upward trend, in contrast to the Gini index (Box 4.5 in World Bank, 2016). On the other hand, in Argentina and South Africa, the two measures moved rather similarly (Alvaredo and Gasparini, 2015).

Therefore, it might not be possible to sustain these gains in a future scenario of lower commodity prices and weaker growth in developing countries. In fact, Latin America has already begun to see a stagnation in inequality reduction in the last couple of years (Cord et al., 2016; Gasparini et al., 2016). But what this evidence also shows is that it is possible to reduce inequality. While a globalized world places some constraints, inequality remains largely a choice that is down to domestic policy makers.

VI. Appendix

A. Data sources and definitions

PovcalNet, our primary source of data, is an online tool that is primarily designed to allow users to replicate the World Bank's estimates of absolute poverty. It also provides a number of distributional statistics such as the Gini index. We mostly rely on the October 2016 release of PovcalNet, which we supplement with observations from the October 2015 version. Both versions use 2011 Purchasing Power Parity (PPP) exchange rates. The World Bank continues to use 2005 PPPs in its poverty measurement for some countries such as Egypt, Iraq, Jordan, Syria, and Yemen. The data for these countries are based on the 2014 release of PovcalNet.

We supplement PovcalNet with observations from the All the Ginis database where possible.[36] While this database includes a mix of primary and secondary sources, it is used here only for observations that are calculated from LIS data. As explained in Milanovic (2016), these observations are calculated directly from microdata using per capita household disposable income among individuals which is consistent with PovcalNet. In our final database of benchmark years, about 9%of observations are drawn from the ATG database, especially during the earlier years.

As described in the main text, we assign the annual data to six benchmark years, at five-year intervals between 1988 and 2013. Surveys need to be within a two year window on either side of the benchmark year, and newer surveys are preferred among equidistant surveys. Our analysis also considers a balanced sample, which includes countries that have an observation with the same welfare aggregate (income or consumption) in every benchmark year. To maximize the number of countries in this sample, we made a few adjustments to the survey years, such that the country would have the same welfare measure throughout.

For the long-run within-country trends, we take 1993 as the starting point, which improves the sample coverage among the developing countries, especially in Africa. The countries for these long-run trends are chosen from the benchmark-year sample. For a few countries, the initial and final survey years are changed (within +/- 2 years around 1993 and 2008, respectively) to obtain a spell with the same welfare measure in the initial and final years.

[36] All the Ginis (dataset), https://www.gc.cuny.edu/Page-Elements/Academics-Research-Centers-Initiatives/Centers-and-Institutes/Stone-Center-on-Socio-Economic-Inequality/Core-Faculty,-Team,-and-Affiliated-LIS-Scholars/Branko-Milanovic/Datasets. ATG also includes estimates from SILC microdata, but these did not provide additional observations to our database.

Data for the short-run sample is based on the World Bank Global Database of Shared Prosperity (GDSP).[37] This database monitors a country's performance in terms of shared prosperity, which is measured as the growth rate of the poorest 40% over an approximately five-year interval. The database only includes countries that have strictly comparable surveys over this period. In the long-run spells, we only restrict countries to use income or consumption throughout. As discussed in detail in Beegle et al. (2016), consumption aggregates can vary in many subtle ways which complicates comparisons between such surveys. The October 2016 release of the GDSP approximately covers the period 2008-2013, and we selected those countries whose initial and final years are within +/- 2 years of the benchmark years 2008 and 2013, respectively. We supplemented these data with countries from the October 2015 version of the GDSP according to the same rules.

The population data used in the analysis are obtained from the World Development Indicators, supplemented with the World Economic Outlook for any missing countries. The group of industrialized countries includes Cyprus, Iceland, Norway, Switzerland, all countries in the EU-15 and North America, most high-income countries in the Caribbean, East Asia, the Pacific, and the Middle East, and the small Western European nations.[38] All other countries, including the high-income countries in Latin America or the new EU members, are included in the geographic regions as defined by the World Bank.[39]

We compare the robustness of our results to using alternative data sources for the Gini index, in particular CEPAL, Eurostat, LIS, OECD, SEDLAC, and SWIID.[40] These are summarized in Table A.1 which is taken from Ferreira et al. (2015) with small updates. A detailed description of each dataset, except for Eurostat, is included in the special issue of the Journal of Economic Inequality (2015, volume 15). Gini data from CEPAL and OECD can be downloaded from their online databases. Following the convention adopted in PovcalNet, we adjust the year variable for Eurostat to the income reference period, which is often the previous calendar year. For SEDLAC, we use the series using per capita household income, which is most comparable with PovcalNet. For LIS, we use the summary measures provided in the document "Key Inequality Workbook". SWIID is the only dataset in our analysis that goes beyond microdata. It uses a mix of primary and secondary sources together with extensive cross-country imputations. We take the average of the 100 multiply-imputed values provided by SWIID.

[37] For the data and documentation, see http://www.worldbank.org/en/topic/poverty/brief/global-database-of-shared-prosperity. The database by itself does not report Gini indices, but these can be obtained from PovcalNet for the same surveys.

[38] Any such regional classification is essentially arbitrary. For this set of countries, the World Bank assumes a zero absolute poverty headcount in its calculation of global and regional poverty totals. The full list of countries is available on p. 49 of World Bank (2016).

[39] See http://data.worldbank.org/about/country-and-lending-groups.

[40] For some countries in the CEPAL and SEDLAC databases, especially in earlier years, the Gini estimates cover only urban areas. We have used these urban estimates for the entire country whenever national results were unavailable. The same rule has been adopted with PovcalNet.

Table A.1. Comparison of Gini databases used

	Microdata-based datasets						Imputed
	PovcalNet	CEPAL	Eurostat	LIS	OECD	SEDLAC	SWIID
Dataset summary							
Inequality Indicators (Gini (G), Theil (T), Atkinson (A), Others (O))	G,T,O	G,T,A,O	G,O	G,T,A,O	G,O	G,T,A,O	G
Statistical Significance Indicators (i.e., standard errors or confidence intervals) (Always (A), Sometimes (S), Never (N))	N	N	N	N	S	A	A
What is the unit of time: month (M), quarter (Q), year (A)? Are corrections made for inflation? (Yes(Y)/No(N))	Varies (Y)	M(N)	A(Y)	A(Y)	A(Y)	M(Y)	Y
Description of welfare concept							
Income (I) or consumption (C)	Varies	I	I	I	I	I	I
Monetary (M) or total (T)? If 'total', does it include auto-consumption (Yes(Y)/No(N)) , imputed rent (Yes(Y)/No(N))?	V-NS	T(Y,Y)	M	T(Y,N)	M	T(Y,Y)	T(Y,N)
Includes estimates before taxes and transfers? (Yes(Y)/No(N))	NS	NS	N	N	Y	N	Y
Includes estimates after taxes and transfers? (Yes(Y)/No(N))	NS	NS	Y	Y	Y	Y	Y
Equivalization of household incomes: per capita (PC), or alternative equivalence scale (E)?	PC	PC	E	E	E	PC & E	E
Type of equivalence scale if applicable (square root (SR), Other (O))			O	SR	SR	O	O
Are differences in prices by region (rural, urban, etc.) accounted for?(Yes(Y)/No(N))	V-NS	NS	NS	N	N	Y	N
Adjustments to the original data source (for harmonization purposes)							
Correction for under-reporting (Yes(Y)/No(N))	N	Y	Y	N	varies	N	N
Is documentation sufficient to replicate results? (Yes(Y)/No(N))	N/A	N	N	N/A	N	N/A	N/A
Adjustment for top coding? (Yes(Y)/No(N))	NS	N	N	Y	N	N	N
Is documentation sufficient to replicate results? (Yes(Y)/No(N))	N	N/A	N/A	Y	N/A	N/A	N/A
Elimination of extreme values (Yes(Y)/No(N))	NS	N	NS	Y	V-NS	N	N/S
Is microdata made available through the dataset provider? (Yes(Y)/No(N))	N	N	Y	Y	N	N	N
Version/date of last update (month/year)	10/2016	04/2016	04/2016	03/2016	05/2016	05/2016	07/2016 (v.5.1)

Source: Ferreira et al. (2015) with small updates and supplemented with the Eurostat database.
Note: *NS* means "not stated." Data were accessed around May 2016 (date of last data update given in the table) from the following sources:
http://estadisticas.cepal.org/cepalstat/WEB_CEPALSTAT/estadisticasIndicadores.asp?idioma=i;
http://ec.europa.eu/eurostat/data/database; http://www.lisdatacenter.org/wp-content/uploads/data-key-inequality-workbook.xlsx; http://www.oecd.org/social/income-distribution-database.htm;
http://iresearch.worldbank.org/PovcalNet/;
http://sedlac.econo.unlp.edu.ar/download.php?file=archivos_estadistica/inequality_LAC_2016-04.xls;
http://fsolt.org/swiid/.

B. Additional results

Table A.2. Average within-country Gini index (detailed results)

	Year						Change:
Region	**1988**	**1993**	**1998**	**2003**	**2008**	**2013**	**2008-13**
A. Unweighted, full sample							
East Asia & Pacific	38.5	37.8	42.4	39.2	39.2	38.1	-1.1
Eastern Europe & Central Asia	24.6	32.3	33.4	32.4	32.4	31.5	-0.9
Latin America & the Caribbean	50.3	50.0	52.9	53.2	50.4	48.9	-1.5
Middle East & North Africa	40.0	39.1	37.8	37.0	35.0	41.2	6.2
South Asia	31.4	31.0	34.3	38.5	35.3	36.0	0.7
Sub-Saharan Africa	45.1	47.3	45.7	44.7	44.4	41.6	-2.8
Industrialized Countries	29.8	31.4	31.7	32.4	32.7	32.3	-0.4
World	35.7	39.9	40.6	39.7	38.9	37.8	-1.1
B. Weighted, full sample							
East Asia & Pacific	33.0	35.5	38.4	40.8	41.4	41.4	0.0
Eastern Europe & Central Asia	26.4	38.1	35.6	36.0	35.6	35.4	-0.2
Latin America & the Caribbean	54.9	53.9	55.7	54.6	51.8	50.2	-1.6
Middle East & North Africa	42.1	37.7	38.1	36.2	35.7	43.3	7.6
South Asia	31.7	30.8	33.5	33.3	33.6	34.7	1.1
Sub-Saharan Africa	40.5	45.2	45.9	42.0	44.1	41.8	-2.3
Industrialized Countries	33.3	35.4	35.8	35.8	35.6	36.1	0.5
World	34.4	37.1	40.1	39.1	39.1	39.5	0.4
C. Robustness of global average (unweighted)							
Balanced (1988-2013)	36.4	38.2	38.6	39.5	38.3	37.5	-0.8
Balanced (1993-2013)		39.4	39.6	39.8	39.0	38.1	-0.9
Rescaled	32.3	37.1	37.9	37.6	36.8	35.1	-1.7
Alternative source	35.6	39.8	40.4	39.5	38.3	37.6	-0.7

Source: Authors' calculations based on data described in the text.

Note: Panel A shows the average within-country Gini index, as reported for example in Figures 1 and 2. Panel B shows the population-weighted averages. Panel C reports the results for a number of robustness checks: The balanced sample includes only countries that are available in all years and have the same welfare aggregate (Figure 3). The line labelled "rescaled" multiplies all income-based Gini indices by a factor of 0.861 (Figure 5). The line labelled "alternative source" replaces PovcalNet observations with data drawn from Eurostat, LIS or SEDLAC (Figure 6). The last column gives the change (in percentage points) over the most recent period.

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