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Mapping recent inequality trends in developing countries

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1. Introduction

Over the course of the middle half of the 20th century, countries around the world underwent dramatic social transformations as incomes grew, inequality declined and living standards improved. Since roughly 1980, however, this downward trend in income inequality has reversed or stagnated in many regions. Leading researchers have warned that we are entering a new era of high and persistent inequality coupled with low economic growth (Piketty 2014; Scheidel 2017). Yet other research suggests that this inequality escalation is not a universal phenomenon. As many scholars of global inequality have noted, Latin America saw a sizable decline in the gini index in the 2000s. The available evidence also suggests that many countries in Africa and the Middle East experienced an inequality drop in the 1990s-2000s. Even in Asia, where aggregate inequality has been on the rise, there are nonetheless a few countries where inequality is defying the regional trend.

What does the available evidence tell us about inequality trends in these less studied regions of the world? What may explain these different trajectories across regions or countries? This paper provides a review of the state of knowledge about inequality dynamics in developing regions, with a focus on countries where the level of income inequality has fallen in recent decades. It is written to inform future research at LSE's International Inequalities Institute about the political drivers of redistribution.

There are three main reasons for a research focus on developing countries where inequality is falling. Firstly, while globalization is thought to have had a disequalizing effect on countries around the world since 1980, the degree of inequality change has differed markedly between countries, which suggests that institutions and national political choices do still matter (Alvaredo et al. 2017). Identifying the institutional and political differences that have helped to contain inequality may galvanize change in other settings.

Secondly, the same forces of globalization and policy norms will not necessarily impact all regions or countries of the world in the same way. The effect of commodity price changes for example, will influence exporters and importers differently, and their inequality consequences will likely be conditioned by the pre-existing degree of inequality in the ownership of land or capital. It was widely held in the 1980s, for instance, that liberalisation of exchange rates and crop markets would be inequality reducing in those parts of the world where land ownership was egalitarian and crops produced primarily by poor smallholders. There is thus a need for a more nuanced understanding of the potentially asymmetric effects of globalization in different country contexts.

Lastly, it has been contended that Africa, Latin America and parts of Asia never went through the war-induced levelling of inequalities that so profoundly reorganised societies in Europe, North America and some Asian countries between the 1920s and 1970s.1 This would suggest that inequality trends in these regions is unlikely to take the same shape as in the

[1] Although not all agree. Inequality fell in the three immediate postwar decades in many parts of Africa and Latin America too, although possibly not as strongly (see: Milanovic 2016).

West and Asia. Countries unaffected by war and other levellers may thus offer a glimpse of likely future dynamics in regions where the redistributive forces of the mid-century are wearing off.

However, this is a large research topic and some qualifiers are in order. Firstly, this study focuses on countries in Asia, Sub-Saharan Africa, Latin America, and the Middle East and North Africa. Other than for broad comparative purposes it will not consider Eastern Europe and Central Asia. It also does not directly discuss the Caribbean, South Pacific islands or other small island states (where inequality data is sparse), nor high income countries in Asia such as Japan, Singapore and Korea. It focuses solely on within country inequality rather than aggregate regional or global inequality, given our interest in national-level policymaking and the ability of domestic actors to influence inequality outcomes.

The study will also focus on episodes of inequality decline in the period since 1980, when income inequality is thought to have been stagnant or rising across most of the developed world. As argued by Branko Milanovic, Walter Scheidel and many others, the postwar economic 'golden age' (c.1950-1980) was characterised by falling inequality across countries throughout the world and underpinned by a global development paradigm and economic system that enabled redistributive policies (Milanović 2016; Scheidel 2017). Our interest is in inequality changes since the end of this period.2 Furthermore, when discussing case study choices, we are focusing on income inequality decline under conditions of rising per capita income, rather than crisis-induced inequality decline that left everyone worse off.

Lastly, this paper primarily measures inequality trends through ginis of income inequality, constructed from household survey data. Recent work by Piketty, Saez, Atkinson and others have measured inequality using tax data, and reported top income shares rather than ginis. Inequality trends are sensitive to the source of data and choice of measure. For most of the countries under review we simply have no alternatives to household survey data, but we recognize that assessments of inequality trends in the countries under review may change as new sources of information become available.

With these qualifiers, this paper identifies 27 developing countries, roughly half of which are in Latin America, that have seen a sustained decline in the gini of more than 3 percentage points in the past two decades. The secondary literature provides plausible, if not always fully elaborated, explanations for these encouraging developments. Data constraints remain a major barrier to current knowledge of trends in a large part of the world. In an additional 47 countries we found no inequality trend or the data proved too unreliable to make an informed judgement. Only 12 countries showed a robust increase in inequality. Through a review of secondary literature, this paper explores some of the proximate drivers of these inequality dynamics in 17 countries where inequality has declined, highlighting both economic and political forces.

[2] World Inequality Report also starts their analysis in 1980, for the same reason. They also highlight that data availability improves around this time.

This paper starts with a brief discussion of data on inequality and the most appropriate sources for identifying country-level episodes of falling inequality. It then discusses criteria for inclusion in future case study research and identifies a long list of countries. This is followed by a discussion of inequality trends at the global and regional level, drawing on available secondary literature. It also provides a short country-by-country literature review about 17 countries where inequality declined. The last section concludes and discusses options for future research. Appendix 2 provides an in in-depth discussion of inequality data reliability and comparability.

2. Measuring inequality

Measurements of inequality are sensitive to both the choice of measure and source of data. Although it has its critics, the most widely used inequality measure remains the gini index, a synthetic measure of income or consumption inequality across the entire distribution. A range of alternatives to the gini exist, which give different weight to dynamics across different parts of the income distribution. The more intuitive 'top income shares' popularized by Thomas Piketty for instance, measure only top income concentration, on the grounds that this provides a better measure of elite capture. Alternatively, the Palma ratio compares the income share of the richest 10% with the poorest 40%. However, because of its greater use and availability, this paper will primarily cite gini indices.

These inequality measures are usually derived from household surveys, which extrapolate an income or consumption distribution based on conditions in a sample of interviewed households. A major weakness of such surveys, however, is their tendency to underestimate top incomes, as wealthier households are more likely to opt out of surveys or under-report their earnings. They also tend to report labour income inequality more accurately than capital income, which also results in understated inequality. Recent work by Atkinson, Piketty and Saez (among others) has therefore increasingly relied on tax data instead of household surveys, on the grounds that it suffers from less underreporting (Atkinson et al. 2011). But although collection of tax-based income share data is rapidly increasing, it is only available for a small set of developing countries. In the absence of robust alternative inequality measures, this paper relies primarily on household surveys, although it will also report tax-based top income shares where available.

With growing popular and academic interest in income inequality, the number of coverage of inequality datasets containing data from household budget or income surveys has increased in recent years. But although the sheer amount of available data has increased, the different estimates presented in these databases are not always comparable across time and space and most datasets place onus on the user to assess the underlying data quality and usability. Of particular concern is the basis for measuring inequality. Inequality can be measured on an income or consumption basis, household or individual basis, and gross or net basis. Inequality levels will differ depending on the measurement basis. Furthermore, even when

these basic survey distinctions are held constant, there are many idiosyncratic differences in data collection methods and questionnaire design that can bias the measure.

With these concerns in mind, we reviewed the data and literature about the most widely used inequality datasets to determine their usability for assessing inequality trends in developing countries (see Appendix 2). This has led us to concur with the guidance of Atkinson and Brandolini (2009) and reiterated by Jenkins (2015), that it remains safest to use sources with as little manipulation of the data as possible, and where surveys themselves rest on as similar a basis as possible. There are several large inequality datasets with good coverage of developing countries, including the World Income Inequality Database (WIID) hosted by UNU-WIDER, the Standardized World Income Inequality Database (SWIID), which adjusts the WIID data for differences in survey type, and the more recently released Global Consumption and Income Project (GCIP), which similarly adjusts, imputes and extrapolates ginis from other sources. However, we treat these datasets with caution because of the mixed quality of measures included in them and the opaque methods in which the underlying data has been modified. We therefore choose to rely on the Socio-Economic Database for Latin America and the Caribbean (SEDLAC) to inform the Latin American inequality analysis and the World Bank's povcalnet for the rest of the developing world. When comparing povcal data points we ensure that they are based on similar types of surveys and that the estimates for any given country provide a plausible trajectory. In a few select cases we use national statistical sources as well, where these are richer than the World Bank collection. A full discussion of the pitfalls of measuring inequality, including a review of the main available international databases, is provided in Appendix 2.

3. Classifying inequality trends around the world

With these data quality concerns in mind, we examined trends in inequality and seek to identify those countries that show a sizable decline in inequality in recent decades. To develop a long-list of inequality decliners, countries were classified into four groups (A-D) based on the gini trend and data quality. Criteria for inclusion in these four groups are set out below. The classification rests in part on a qualitative judgement of the reliability of the data. Note that where inequality has both risen and fallen in different decades, we give precedence to the period of inequality decline (for instance in Latin America, where most countries saw inequality rise in the 1980-90s and fall in the 2000s).

A. **Strong and robust evidence of declining inequality:** countries included in this group are those with a recorded gini fall of >3 percentage points during a period of economic growth, sustained over a period of 5+ years (i.e. no immediate inequality reversal), and based on trustworthy and consistent sources.
B. **Plausible evidence of declining inequality:** data is less consistent and reliable than for Group A, but these countries also shows a sustained gini decline of >3 percentage points during a period of economic growth. For inclusion, the inequality decline needs to be captured by at least two successive surveys (i.e., it excludes declines measured

across only two data points), and the pace of decline needs to be plausible (i.e., it excluding unrealistically large year to year gini swings).

C. **Plausible evidence of increasing inequality:** countries with a rise in the gini of >3 percentage points, sustained over at least two surveys.
D. **Inconclusive data.** No clear evidence of either a fall or rise in inequality, whether due to a steady level of inequality or insufficient data.

The full results of the analysis are presented in Appendix 1. Group A consists of 16 Latin American countries in addition to Thailand. In a further 10 countries we find a plausible decline in the gini measured over successive surveys (Group B). This second group comprises seven countries in north or west Africa, including Algeria, Tunisia, Burkina Faso, Guinea, Mali, Mauritania and Niger, in addition to Iran, Malaysia and Cambodia. Among the Latin American countries, we provide country-by-country reviews for a shortlist of six counties which offer interesting political variation.

In 47 countries there are either no signs of a change in the gini or the data is too limited or inconsistent to draw any tentative conclusions (Group D); these are primarily countries in Africa and the Middle East. In 12 countries, primarily in Asia, we see evidence of increases in income inequality (Group C).

In a 2016 report on poverty and inequality, the World Bank set itself a similar task (World Bank 2016b). It examined global and regional inequality trends and selects a smaller set of countries where inequality has been declining and discusses the drivers of change (Brazil, Cambodia, Mali, Peru and Tanzania). While the results in their study are broadly similar to ours, we set more stringent criteria for identifying inequality declines (Tanzania for instance, is not included in the long list). This paper also draws on and complements work by Alvaredo and Gasparini on inequality trends in developing countries (Alvaredo & Gasparini 2015). But unlike Alvaredo and Gasparini we focus primarily on cases of declining inequality, and the analysis places more emphasis on political and policy trajectories than on economic theory.

The rest of the paper reviews literature and data trends on a global and regional basis, highlighting the economic and political events in 17 focus countries where inequality has declined.

4. Global and regional inequality trends since 1980

With the caveat that these trends are conditioned by the choice of inequality measure and data source, the country-by-country evidence suggests that inequality trends have differed considerably by region and country and that a stylized story of rising country-level inequality is far from generalizable. Studies that have aggregated these country trends have broadly concluded that within-country inequality in developing countries on average increased in the 1980s and 1990s and decreased in the 2000s, on an unweighted country basis (Alvaredo & Gasparini 2015; Lakner 2017; World Bank 2016b). Figures 2 and 3 provide data from the

GCIP database and suggests a narrowing of regional inequalities in the 2000s, with falling levels in Latin America, Africa, the Middle East and (to a lesser extent) Asia, while inequality in Western Europe, North America and Australia ('Western world') and in Eastern Europe and Central Asia have remained steady.

Alvaredo and Gasparini explain the upswing in developing country inequality in the 1990s by the rise of inequality in Eastern Europe during the transition from communism, which shifted labour from a low-inequality public sector into a higher inequality private sector, coupled with the economic take-off in some of Asia's largest economies which pushed up income inequality rapidly in China, India and Indonesia. Across these countries, a large share of national wealth shifted from public to private ownership (Alvaredo et al. 2017). Concurrently, inequality spiked in Latin America in the 1990s during a period of economic liberalization and structural reform. Since the 2000s in contrast, inequality growth has slowed in much of Asia and Eastern Europe and reversed in Latin America and parts of Africa. There may be a further break in the trend in 2008 following the global economic crisis. Inequality levels appear to have plateaued or fallen slightly in China and Eastern Europe since, resulting in a more rapid average rate of decline in the past decade.

However, the recently published World Inequality Report, which builds on the accumulated WID top income and wealth share data rather than the gini, gives a somewhat different picture, providing less support for an inequality fall in the 2000s. Because it uses top income shares drawn primarily from tax data, its coverage is patchier and some of regional trends rely on considerable extrapolation. It also rests on regional inequality measures, which treat regions as single units of analysis, rather than providing averages across countries within the region. Using these alternative sources and approaches, it finds that the top 10% income share has risen in Europe, North America, China and India, while it remained flat, rather than falling, in the Middle East, sub-Saharan Africa and Brazil at extremely high levels. For our purposes however, country-level rather than aggregate regional trends, are of greater relevance.

Another important point to note is that the 1990s marks an important break in growth performance in Africa, Latin America and the Middle East. In large parts of the developing world, GDP per capita grew little, or even declined, during the 1980s and 1990s, while growth rebounded in the late 1990s or early 2000s. These regions have gone from a situation where the bottom segments of the income distribution were seeing real and relative falls in consumption per capita, to one of strong growth, disproportionately benefitting the bottom deciles relative to the upper half of the distribution (Alvaredo & Gasparini, 2015).

As a consequence of these inequality trends, country-level inequalities have been converging.[3] This is illustrated in Figure 4, which plots the change in gini between 1980 and 2013 against the gini level in 1990.[4] It shows a strong negative correlation between the initial

[3] As also demonstrated and formally tested by Alvaredo and Gasparini 2013.
[4] I use the gini in 1990 to avoid capturing declines or increases driven by poor data quality (over- or under-estimation) in the first period.

level of inequality and the magnitude of inequality decline; highly unequal countries have on average grown more equal and vice versa.

This convergence effect should not be over-stressed, however. Overall the gini rank order has remained relatively stable since the 1980s. Ginis change slowly, and few countries have substantially outperformed others in gini decline, suggesting that structural determinants remain important for understanding differences in levels of inequality (Alvaredo & Gasparini, 2015).

There are also pronounced regional differences in level and trend differences. The next section reviews the regional secondary literature on inequality trends and their drivers in Latin America, Asia, the MENA region, and sub-Saharan Africa.

Figure 1. Average country gini, 1980-2014 (unweighted) (GCIP)

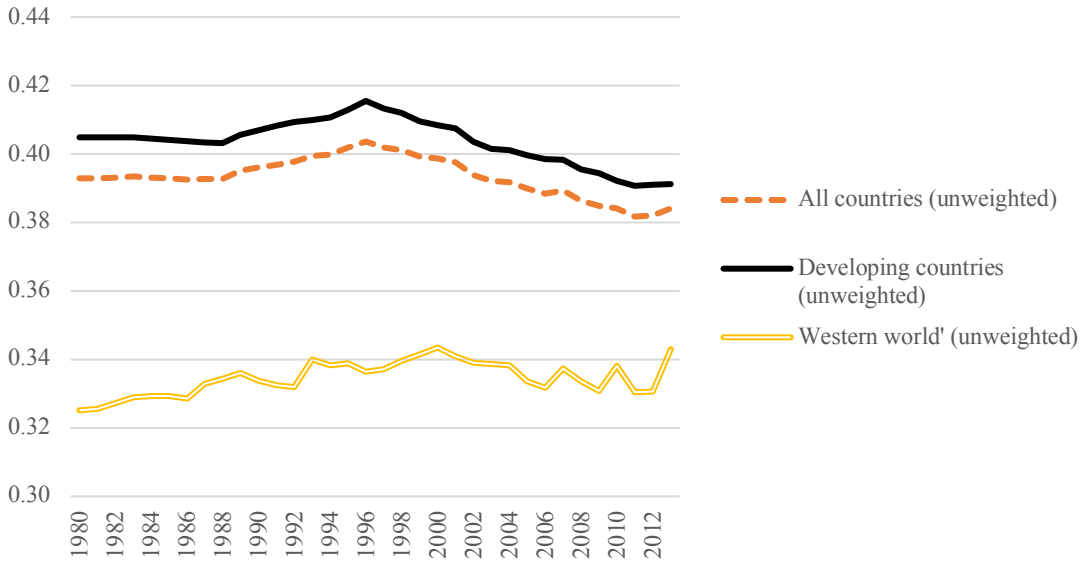


Figure 2. Average gini by region, 1980-2014 (unweighted) (GCIP)

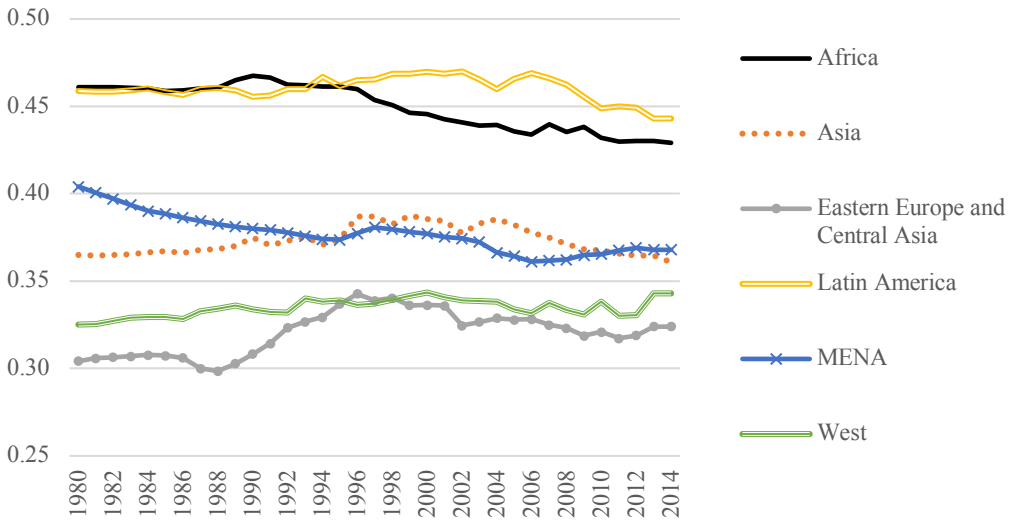
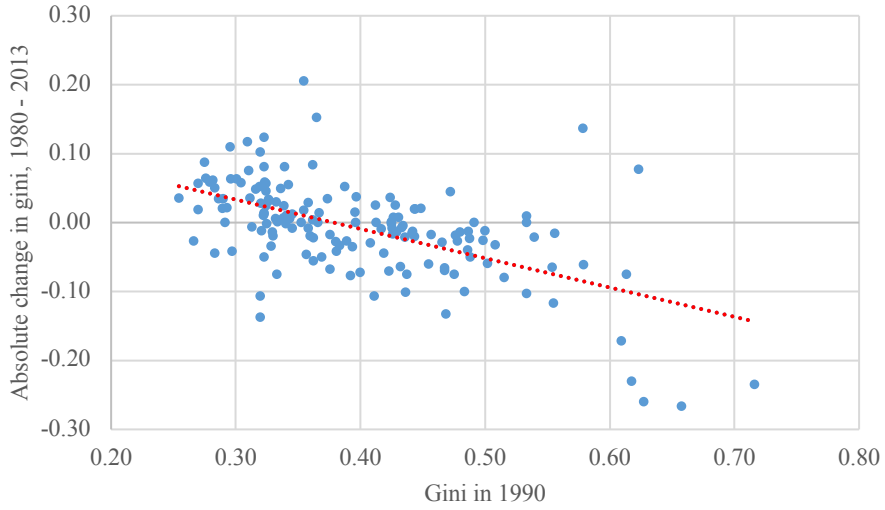


Figure 3. Convergence in country-level ginis, 1980-2013 (GCIP)

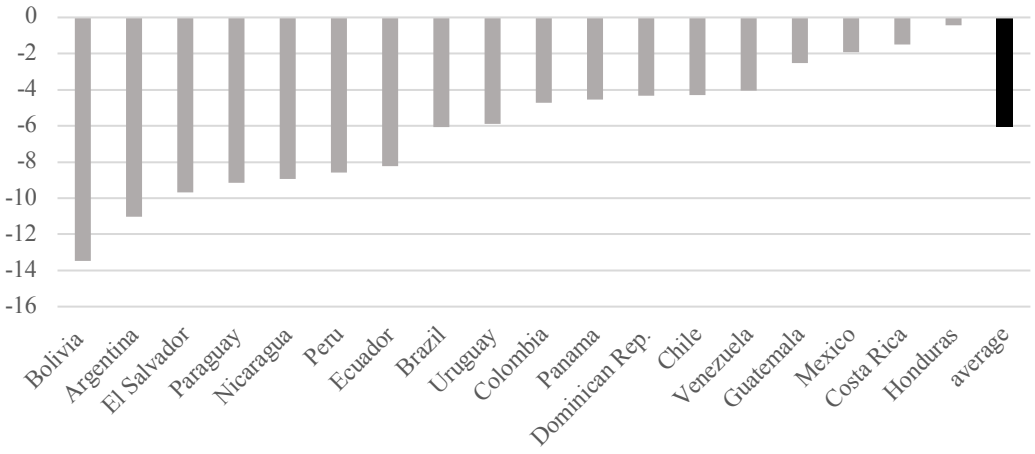


4.1. Latin America

Latin America saw a marked increase in inequality in the 1980s and 1990s followed by a fall in inequality across the region in the 2000s. This inequality moderation of the 2000s has generated considerable academic interest, in part because it provides an example of a substantial inequality decline during a period of high growth, growing global economic integration and trade liberalization (Cornia 2014).

The magnitude of the recorded decline in income inequality is sensitive to the years under review, but in aggregate there was a clear downturn starting in 2002 or shortly before, which began to taper off in 2011. As illustrated in Figure 4, 14 out of 18 Latin American countries saw a meaningful decline in the gini (of >3pts) between 2002 and 2012. Expanding the years under review suggests a decline of more than 3 pts in all countries other than Honduras and Costa Rica.

Figure 4. Absolute change in gini, in gini pts, 2002 – 2012[5] (SEDLAC 2017)



[5] Or closest year available.

Some existing analyses of this inequality trend, however, seek to temper optimism. This decline came after a prolonged rise in inequality and in many cases simply brought inequality back to the level of the early 1980s (Lakner 2017; Scheidel 2017). Since roughly 2011 this inequality decline has slowed or reversed, roughly coinciding with a decline in commodity prices, which raises questions about its sustainability.

A second note of caution relates to the measurement error inherent in survey-based gini estimates. Research from Brazil, using top income shares derived from tax data in combination with household surveys, shows no clear inequality decline (Morgan 2017). This analysis suggests that there was a small decline in the income share of the 'traditional middle class' (the 50th- 90th percentiles), while the top 10% share increased marginally, raising questions about the appropriate measures and data.

However, while dynamics at the top of the distribution may be contested, there is strong evidence of above-average income growth in the bottom income deciles in most countries in Latin America. Several academic studies have used econometric techniques to decompose this distributional change and identify its proximate causes. Several have also sought to distinguish the economic, exogenous drivers of change from policy-driven factors. Much of it is comparative and some exploits differences in economic and policy conditions across Latin American countries to identify causal mechanisms.

The findings from across this literature have attributed Latin America's inequality decline to several factors: rising educational attainment and falling skills premiums; rising minimum wages and increased job formality; devalued exchange rates and better prices for agricultural produce (which helped to reduce the urban-rural gap); better tax collection; an increase in social transfers, including the introduction of non-contributory pension systems in some countries; demographic change resulting in a falling dependency ratio in poor households; and the out-migration of low skilled workers (Cornia 2014; Lustig and López-Calva 2010; Azevedo et al. 2013).

Lustig and López-Calva, who decompose the inequality decline for Argentina, Brazil, Mexico and Peru, argue that a decrease in the skills premium (gap between high and low skilled earnings), and an increase in social transfers, explain most of the decline (López-Calva & Lustig 2010). The declining skills premium was a consequence of rising educational supply combined with strong demand for low-skilled workers. A similar exercise by the World Bank corroborated these results, concluding that strong labour income growth among low-income earners accounted for most of the inequality decline, although increases in transfers and pensions were also an important driver in many countries (Azevedo et al. 2013).

These shifts were underpinned by a favourable macroeconomic climate. Latin America's terms of trade improved over the 2000s, the export to GDP ratio rose on average, owing to strong demand from Asia (Cornia 2014). This helped to boost GDP growth, which increased demand for labour and improved government finances.

Furthermore, at the political level the continent underwent considerable change in the 2000s. The decline in inequality coincided with a swing to the left in many parts of the continent. In total, Latin American countries elected 15 different leftist governments between 1998 and 2011 (Cornia 2014). These social democratic leftist governments in Argentina, Brazil, Chile, the Dominican Republic, Ecuador, El Salvador, Panama, Paraguay, Uruguay; and more radical or populist leftist parties in Bolivia, Venezuela and Nicaragua, registered, on average, higher inequality declines than those of centrist or centre-right governments (Cornia 2014).6 But inequality decline was not limited to countries and periods with left-leaning governments. Some countries, such as Mexico and Paraguay, saw noteworthy declines under centre-right governments.

Roberts has made the argument that this political shift must be seen in light of sharply rising inequality in the 1980s and 1990s (Roberts 2014). Because of the structural adjustment reforms of the 1980s-90s era, which dismantled the existing safety nets for formal sector workers and reduced state employment, in combination with sluggish economic growth and macroeconomic instability, inequality in an already highly unequal Latin America rose to new heights. This crisis era led to greater calls for redistribution, not only among traditional working class, but also among many voters who hadn't historically identified with the left. Voters elected new left-leaning governments because of the poor economic record of previous right-wing governments.

Roberts also argues that the political party in power during the structural adjustment phase coloured this process. Where leftist parties formed the opposition during the neoliberal era, they were able to use their networks and support bases to launch successful political movements in the 2000s (e.g. Brazil). Where, in contrast, leftist parties had been in power during the 1980s-90s and were complicit in the introduction of structural reforms, the traditional left-wing parties lost credibility. These countries saw the rise of new populist, radical parties that drew their support from outside the traditional party structures (e.g. Bolivia, Venezuela). In these countries, the unemployed, indigenous organisations and other social movements gained ground, rather than the traditional union-based social movements.

Other political dynamics may also have been at play. Robinson has argued that it was those parties with support among the rural poor (for instance in Bolivia, Mexico, Brazil), that introduced the most progressive transfer systems (Robinson 2010). Huber and Stephens attribute Latin America's more redistributive social policies in the 2000s to a democratic coming of age, which enabled the election of left-leaning governments and forced conservative parties to take the concerns of the left seriously (Huber & Stephens 2012). Balcázar has examined the relationship between democracy and inequality, and finds that cohorts that grew up under democratic regimes in Latin America exhibit lower inequality than others (Balcázar 2016). He speculates that this effect is driven by a higher supply of public education under democratic conditions.

[6] This builds on Cornia and Roberts classification, but these classifications remain contested. Birdsall, Lustig and McLeod (2011) instead make a distinction between social democratic left (Brazil, Chile and Uruguay), and left populists (Argentina, Bolivia, Ecuador, Nicaragua and Venezuela).

There is also an emerging literature that explores why these inequality declines have slowed or reversed in recent years, much of it focused on Brazil. Morgan argues that the increased income share at the bottom of the Brazilian distribution came at the expense of the middle classes, who gained less from the pro-poor policies of the 2000s. He suggests that this squeezed middle may explain the eventual reduction in support for Brazil's workers party (Partido dos Trabalhadores, PT). Loureiro and Saad-Filho similarly argue that Brazil's inequality declines were achieved through pragmatic and non-confrontational reforms, which made few structural changes to the Brazilian economy and left income shares at the top intact (Loureiro & Saad-Filho n.d.). When growth slowed and public finances came under pressure, some of these gains were reversed and the PT's support base crumbled.

LATIN AMERICA CASE STUDIES

While 12 countries in Latin America have undergone a sustained decline in inequality, this section discusses country-by-country trends in a smaller sample of six countries: Argentina, Bolivia, Brazil, Chile, Mexico and Peru. This selection seeks to capture a representative range of political and economic trajectories. Inequality declines were particularly strong in Bolivia and Argentina, substantial in Brazil, Chile and Peru, and smaller in Mexico. Much of the reduction in inequality in Bolivia and Argentina happened under populist left-leaning governments, while Brazil, Chile and (to a lesser extent) Peru under centre-left leadership, and in Mexico under a conservative government. Economic performance has also varied across these proposed case studies, with strong growth in Argentina and Peru and more modest growth in Mexico and Brazil. All six countries were officially multiparty democracies during the period of inequality decline, although the strength of their democratic systems varied. The Economist Intelligence Unit ranks Bolivia as a hybrid regime, and the remaining five countries as flawed democracies, with Chile receiving the highest democracy score within the subgroup (Economist Intelligence Unit 2017).

MEXICO[7]

Mexico adopted a federal republican constitution in 1917 which remains in place until today. For much of the 20th century however, the country was a de-facto one-party state under the rule of the Partido Revolucionario Institucional (PRI). Many consider 2000 to be the year in which the country democratized, when PRI ceded power to the conservative National Action Party (PAN). The PRI returned to govern in 2012, with the election of current President Peña Nieto.

Inequality in Mexico rose sharply from 1989-94, then fell from 1994 until 2010, most strongly in the first decade, with a possible reversal in the aftermath of the 2008-9 crisis. It is one of the few countries in our sample where most of the inequality reduction happened under a conservative government.

Many of the Mexican studies have emphasised the importance of educational attainment growth to explain the fall in skills premiums and labour income inequality reduction since the late 1990s (Lustig et al. 2011; Campos et al. 2012) Although not all agree, some also link the growing demand for low-skilled labour to North American Free Trade Agreement (NAFTA), arguing that greater trade the U.S. increased demand for low-skilled manufacturing workers

[7] This section has been informed by an M.Sc. essay by Eimear Sparks.

(López-Calva et al. 2010). Some of the labour inequality decline is accounted for by growing low-skilled wages. At the same time wages of higher skilled employees declined, possibly because of the growing supply of educated workers.

Much of Mexico's inequality fall was thus the fruits of earlier policy reform in the 1990s, including schooling expansion and trade liberalisation. However, concurrent with the inequality declines, Mexico also expanded its social safety net. Mexico's flagship cash transfer programme, Progresa (later renamed Oportunidades), was introduced in 1997 and provides conditional cash payments to poor households. While the full value of the cash transfer programme is only around 0.5% of GDP (2010), it has helped to alleviate poverty and improve the progressiveness of public spending. Its effect on the gini is comparatively small however. A non-contributory, rural pension system has also been introduced. These improvements aside, Mexico's level of government spending is low compared to other countries in its income bracket, and fiscal policy is only mildly progressive, with a lower level of fiscal redistribution than in Argentina and Brazil, for instance (Lustig, Amabile, et al. 2013).

CHILE[8]

Chile democratized in 1990, following 17 years of military dictatorship under Augusto Pinochet. The country was ruled by a centre-left coalition of parties until the early 2000s, and by the socialist Michelle Bachelet from 2006-10 and again from 2014 until 2017, punctured by one term under a centre-right government led by Sebastián Piñera.

In the 1970s and 80s, inequality rose sharply under the military regime, peaking in 1989. Chile, under Pinochet, has long been regarded a poster-child for neoliberal reform, with economists trained at- or associated with- the University of Chicago advising the military regime.

Many of the reforms in the 1990s and 2000s sought to reverse of the dismantling of the social safety nets during the 1970s and 80s. To enact some of the more far-reaching changes however, Chile first embarked on a constitutional reform, finally adopted in 2005, that removed some of the powers of Pinochet-era appointed senators and allowed for smoother legislative reform (Huber & Stephens 2012).

Inequality declined in two phases: in the early 1990s the economy grew steadily, unemployment fell and social spending increased. Growth slowed in the late 1990s and inequality levels increased modestly. The second phase of inequality decline started in 2003 and slowed with the global economic crisis in 2009.

Azevedo et al. find that falling labour income inequality and expanded social transfer systems explain most of Chile's gini reduction. Transfer programmes grew in the 2000s, with introduction of a conditional cash transfer in 2004 and social security reform, including the introduction of a large, non-contributory pension system. Furthermore, with increased labour formalisation the contributory social security system expanded (Contreas and Ffrench-Davis, 2014).

Chile was negatively affected by the global economic crisis in 2009, but Contreas and Ffrench-Davis credit the government with active counter-cyclical social policy, which helped

[8] This section has been informed by an M.Sc. essay by Patricio Espinoza.

to contain, although not decrease inequality further. Following the crisis, the gini continued to fall between 2009 and 2015.

ARGENTINA[9]

Argentina democratized in 1983, following almost a decade of military dictatorship (1976-83). Between 1983-89, the country was led by the centrist Unión Cívica Radical, UCR, followed by the Peronists, 1989-99, and then oscillated back to the UCR from 1999-2001 and Peronists in 2002-3, during a period of economic crisis. In 2003 the leftist leader Nestor Kirchner of the Peronist Justicialist Party was voted into office, who branded a new political movement that drew support from across parties. He was succeeded by his wife Cristina Kirchner in 2007 who remained in power until 2015.

Inequality in Argentina increased sharply during a period of economic stagnation the mid-1970s until the 1990s. Inequality then began to fall in the aftermath of the 2001 crisis and continued to do so through the Kirchner-era, buoyed by exceptionally high GDP per capita growth until 2011.

Policies changed considerably in the 2000s, as labour market institutions and social protection systems were strengthened (Lustig, Lopez-Calva, et al. 2013). As in most countries in the region, the falling skills premium explains some of the inequality fall. Returns to tertiary education rose rapidly in the 1990s, but then fell by corresponding amounts in the 2000s, although in contrast to some of its neighbours, this was driven primarily by growing demand for lower skilled employment, minimum wage legislation and stronger unions, rather than growth in educational supply (see review of evidence by: Lustig, Lopez-Calva, et al. 2013). Bergolo et al. found that three-quarters of the inequality decline was due to this labour income inequality decline, and the remaining quarter to more progressive social transfers, particularly the expanded pension systems and unemployment benefits (cited in: Lustig, Lopez-Calva, et al. 2013). It has also been argued that growth in agricultural exports spurred rural employment and contributed to more equitable growth (Kacowicz 2013).

After partially privatizing the pension system in the 1980s, Argentina re-nationalized the system in the 2000s in the wake of 2001 crisis which had gutted the pension funds (Huber & Stephens 2012). The real value of pensions fell substantially but coverage improved, albeit under a pay-as-you-go system.

BRAZIL[10]

After two decades of military rule, democracy was reintroduced in Brazil in 1985. The country was led by conservative or centre-right governments up until 2002, under Presidents Sarney, Collor and Cordoso successively. In 2002 the left-leaning workers party (PT) under Luiz Inácio Lula da Silva was elected. His successor, Dilma Rousseff, also of the PT, was impeached in 2016 and forced to step down.

Between 2001-06, it has been estimated that falling labour income inequality accounted for half the inequality fall, driven by strong employment and income growth and falling returns to secondary and tertiary education (Lustig, Lopez-Calva, et al. 2013). There is some suggestion, albeit speculative, that comparatively strong growth in some agricultural

[9] This section has been informed by an M.Sc. essay by Nicola Cullen.
[10] This section has been informed by an M.Sc. essay by Raquel Ezequiel.

industries helped to increase labour demand and wages in rural regions, which reduced geographic and sectoral earning inequalities (Ibid). Minimum wages rose under Cardoso and Lula, which had knock-on effects for several cash transfer programmes where benefits were pegged to the minimum wage.

Increased government transfers explain most of the remaining inequity decline. The expansion of coverage and higher transfer amounts under targeted cash transfer programmes such as Bolsa Familia which covered 22% of Brazilian households by 2009,[11] and the Beneficio de Prestacao Continuada (for the disabled and elderly), reduced both poverty and inequality. These programmes (or predecessors to them), were introduced under Cardoso, but grew in size under Lula's presidency.

BOLIVIA

Bolivia is one of the poorest countries in Latin America and has unusually high inequality, even by Latin American standards. Horizontal inequalities also loom large, with income gaps between the populations of indigenous and settler descent, and between men and women (Fortun Vargas 2012).

Bolivia returned to democracy in 1982 after more than two decades of military rule. During the 1980s and 1990s the country was ruled by a succession of parties, alternating between conservative and centre-left parties (Roberts 2014). The historically left-wing Movimiento Nacionalista Revolucionario (MNR) led the country in the late 1980s and early 1990s, but faced with serious economic setbacks, it fell to the MNR to introduce neoliberal structural reforms, which alienated much of its traditional support base (Roberts 2012). After a relatively narrow loss in the 2002 election to the MNR's Sánchez de Lozada, Evo Morales, Bolivia's first indigenous President, was elected in 2005 following the resignation of de Lozada. Morales's support base lay with a growing indigenous social movement and disgruntled labour movements, many strongly opposed to the exploitation of gas fields in the south of the country and privatization of water provision.

Over the 2000s, Bolivia it has seen one of the largest declines in inequality in Latin America, concentrated in the period 2005-11 and coinciding with the election of Evo Morales. Morales pursued a heterodox social agenda, including nationalisation of the gas fields, the introduction of a new 2009 constitution which granted new rights to communities of indigenous descent, and expanded transfer systems. However, political tensions have escalated recently as Morales has sought to lift the term limit to allow him to run in the 2019 elections.

Despite the policy ruptures of the Morales era, decomposition analyses of Bolivia's inequality decline suggest that the proximate drivers were similar to those of its neighbours. Falling labour income inequality, driven by falling skills premiums and increased educational attainment levels, explains most of the decline. Cash transfer payments, to families with school-aged children and the elderly, are large by regional standards, at 2% of GDP (Fortun Vargas 2012), although not well targeted. While the child transfer is progressive, the much larger pension system has little redistributive effect (Hernani-Limarino & Eid 2013). The country has virtually no personal income tax, and relies heavily on less

[11] Huber and Stephens, 2012, p.191.

progressive consumption taxes. Consequently, taxes and transfers make only a marginal difference to the level of inequality (Lustig, Amabile, et al. 2013).

PERU

Peru's political history has been chequered, and coloured by long-running rural insurgencies, including that of the Shining Path. After a period of successive military coups, Peru restored democracy in 1980, but the election of Alberto Fujimoro in 1990 led to a reversion in this process of democratization. Fujimoro, with military support, staged a 'presidential coup' in 1992, by suspending the constitution and congress. He subsequently undertook austerity measures to stabilize Peru's battered economy. Marred in scandal and in the aftermath of the contested 2000 election, Fujimoro fled the country in 2000. This brought Alejandro Toledo to power, the leader of the main opposition party under Fujimoro's rule. Toledo offered a centrist political agenda, promising wage rises and poverty reduction, alongside continued privatisation. Toledo was followed by a succession of leaders (Garcia, Humala, Kuczynski), with centrist or centre-right leanings.

Income disparities narrowed in the 2000s. While labour-income inequality decreased, as in other countries, owing to strong educational expansion in the 1990s and falling skills premiums, this had no equalizing effect at the household level, presumably because it was offset by assortative mating or greater female labour market participation among the higher skilled (Lustig et al. 2011). Most of the effect on household-level inequality came from increased transfer spending and better targeting of them (Ibid). A means-tested cash transfer programme was introduced in 2005, alongside several food assistance programmes, and a non-contributory pension system was introduced in 2011 (Jaramillo 2014).

4.2. Asia

Asian inequality trends have been more varied than in Latin America, although the largest countries in Asia, China, India and Indonesia, have seen a decisive rise in inequality since the 1980s, albeit starting from a low base. Many have invoked Kuznets style explanations to explain this rapid rise in inequality coinciding with economic growth and industrialization (Krongkaew & Ragayah 2006). Sharma et al. identify the transition from agriculture to industry and services as an important driver, in combination from the rapid growth in demand for skilled workers which drove up the skills premium (Sharma et al. 2011).

China has perhaps received the greatest attention in the Asian inequality literature. Lakner argues that the Chinese case follows a similar trend to that of Eastern Europe, where the transition to a market economy and structural transformation led to rapidly rising inequality. The rapid growth of the private sector and increase in privately-owned housing, drove up wage and wealth inequalities (Alvaredo et al. 2017). Galbraith has also emphasised the importance of financial markets, arguing that inequality dynamics in China in the 2000s are largely a consequence of the stock market and housing boom, and inequality therefore dropped following the 2008 crisis when the bubble burst (Galbraith 2012). However, possibly signalling that China's inequality has already peaked, the available data suggests a downturn

in inequality around 2006-08, possibly due to the diminishing availability of unskilled rural labour (Li & Sicular 2014; Piketty et al. 2016).

India's inequality trends also reveal a pronounced rise in inequality starting in the 1980s, with the top 1% income shares today exceeding its colonial era peak (Alvaredo et al. 2017). Following a post-independence era of state-led development, nationalisation of industry and high taxation, India deregulated its economy in the 1980s and 1990s and privatized previously state-owned enterprises, which contributed to extreme income growth among households at the top of the distribution.

For many Asian countries however, the inequality data is sparse and of mixed quality, making it hard to ascertain the trend. For three countries however, there is reasonably robust evidence of declining inequality in the 1990s or 2000s: Thailand, Malaysia and Cambodia. These three country cases are discussed in greater depth below.

THAILAND[12]

Although it has remained a constitutional monarchy over the course of the postwar era, Thailand's political history has been unstable, coloured by a cycle of coups, followed by military rule, constitutional reforms and short-lived interludes of democratic rule. Despite this political flux, the economy has grown strongly since the 1960s, with a spike in growth in the late 1980s and early 1990s.

Thailand stands out as one of the few Asian countries with a steady decline in the gini index since the mid-1990s, albeit from an exceptionally high starting point. It also has an unusually strong statistical basis for studies of inequality, with surveys of household income conducted bi-annually since the 1980s. However, shorter running series of top incomes suggest that inequality at the very top of the distribution may have continued to grow over this same period (Phongpaichit 2016a).

Between the 1960s and early 1990s the gini rose from roughly 0.41 in 1962 to 0.54 in 1992, a level of inequality rivalling that of Latin America, and exceptionally high by Asian standards. Unlike many other countries in the region, land reform in Thailand had remained timid following WWII, which may partly explain this high level of postwar inequality. Pasuk attributes the rise in inequality to labour repression, urban property boom and high incomes for the highly educated and internationally mobile, falling agricultural commodity prices and financial deregulation (Phongpaichit 2016b). However, although inequality rose, strong growth ensured falling poverty and at least some gains across all income brackets.

Inequality fell after 1992, albeit with a second smaller inequality spike immediately preceding the 1997 Asian crisis when asset prices boomed. Following the 1997 crisis the gini has fallen steadily to 0.46 in 2013 (World Bank 2016a). The crisis hit the urban areas disproportionately, and the devaluation of the Baht helped rural exporters. Ikemoto and Uehara have interpreted this inequality reversal as a Kuznets-type of transformation (Ikemoto & Uehara 2000). They argue that in the early 1990s, Thailand's labour-intensive manufacturing industries began to feel a labour pinch, and low-skilled wages began to rise. However, this inequality decline remained relatively muted as it was counteracted by a second economic transition: financial

[12] This section has been informed by an M.Sc. essay by Camilla Seale.

liberalization. This has kept demand for high skilled labour high, and because skilled workers were in comparatively short supply, skills premiums have remained high. Furthermore, capital income share of total income rose during the 1990s as profits soared.

The reversal in inequality starting after 1992 also coincided with stronger public calls for democratization, with an uprising in 1992 following the 1991 coup. After the 1997 crisis, the country adopted a new constitution that facilitated a return it to democratic rule. Pasuk places some credit for the fall in inequality in the 2000s with the democratically elected leaders that came to power following this constitutional reform. Thaksin Shinawatra's rule (2001-06) saw the introduction of some pro-poor measures, including universal healthcare, microfinance schemes, a moratorium on farmer debt and subsidies for rural producers, although he also sought to shake up and liberalise the private sector. Thaksin was accused of corruption and fled the country following a coup in 2006. The military agreed to restore democratic elections in 2011, which led to the election of Yingluck Shinawatra, Thaksin's sister. She too was overthrown in a coup in 2014.

Some have interpreted this political struggle, between populist politicians and an old, monarchical guard, in class terms. Thaksin's rise is regarded as a challenge to Thailand's economic and political establishment (Phongpaichit 2016a; Hewison 2014; Jones 2017). Thaksin retained support among the working classes, galvanized through a series of street protests (by the so-called red shirts), who used a rhetoric of class and inequality to mobilize supporters (Hewison 2014). The conservatives meanwhile, have accused Thaksin of corruption, populism and cronyism, and sought support from the middle and upper classes for maintaining the status quo.

As in some of the Latin American cases however, the income compression since the late 1990s does not appear to have extended to the top 1%. An analysis by Kobsak (2013) found that the fall in the gini resulted from rising incomes among the bottom 60% relative to the 60^{th}-99^{th} percentiles, while incomes in the top percentile rose sharply in relation to mean incomes (cited by Pasuk, Figure 2, 1988-2011). Forbes rich list covers the 50 families in Thailand with highest estimated wealth. Among those families that could be tracked across Forbes lists, the growth in wealth has outstripped GDP growth in the past decade, with the wealth of this group roughly doubling every three years (Phongpaichit 2016a). Another recent study of the top 1% income share in Thailand (albeit only for 2004-09) showed an uptick in the top 1% income share in 2008-09 (Vanitcharearnthum 2017).

Wealth inequality thus remains high, and most likely on an upward trajectory. A recent study of land ownership in Thailand concluded that land ownership was also extremely unequal, with a national land ownership gini of 0.89 (cited by Jones, 2017, p.669). The tax structure remains quite regressive, due to limited taxation of land and other capital and generous tax investment incentives (Ibid).

CAMBODIA

While Thailand is unusual for the lack of redistribution in the early postwar era, Cambodia provides an example at the opposite extreme. Following the civil war of 1970-75 that brought the leftist Khmer Rouge to power, the society was radically and brutally reorganised. All industry was nationalized and farming was collectivized. An estimated 1.5-2.25 million people were killed (Heuveline 2015) against a 1970 population of 7.1 million, including most of the

existing elite and middle class. This wiped out both wealth and human capital. The Khmer Rouge era ended with a Vietnamese invasion in 1979, but was followed by a protracted civil war that drew to a close in 1993. Following this war, the monarchy was re-established, but the former Khmer Rouge commander, Hun Sen, appointed by the Vietnamese in 1985, has remained in power since.

Inequality in Cambodia in the 1990s was exceptionally low owing to the elimination of most private wealth over the preceding decades (Hill & Menon 2013). Cambodia's economy has grown rapidly since and poverty has steadily declined, owing to strong growth in the garment, tourism and construction industries. Inequality rose rapidly during this period of strong growth, although there are some signs of a decrease in inequality since 2007/08, initially due to the economic slowdown following the global economic crisis. However, scholars differ in the confidence they place in these inequality estimates. Some have chosen to reserve judgement about recent inequality trends (Hill & Menon 2013; OECD 2013), while others herald Cambodia as an inequality-reducing success (Sobrado et al. 2014).

Table 1 provides disposable income shares per capita and consumption shares from Cambodia's National Institute of Statistics Socio-Economic Surveys compared to estimates from a 2014 World Bank report. It shows a spike in consumption inequality in 2007 followed by a sharp reduction in inequality between 2007 and 2009 (during the global economic crisis), and again between 2010 and 2011. Measures of disposable income are only available from 2009, but show a similar sharp income inequality reduction in 2010-11. Rural-urban income disparities also narrowed during this period. Since 2011, income and consumption shares have remained relatively steady.

Table 1. Cambodia disposable income shares, 2009-15

	2004	2007	2009	2010	2011	2012	2013	2014	2015
Top quintile, % of income			62	61	51	50	51	51	48
Bottom quintile, % of income			2	3	4	4	5	3	4
Top quintile, % of consumption		52	45	46	37	38		39	40
Bottom quintile, % of consumption		6.4	8	7	10	10		9	9
Top quintile, % of consumption (Sobrado et al.)	42	46	41	40	38				
Gini (Sobrado et al.)	0.33	0.37	0.32	0.3	0.28				

Sources: Thailand Socio-economic survey reports 2012 and 2015 (tables 4 & 5); Sobrado et al, Table 5.

The first fall (2007-09) appears linked to the global economic crisis, which had a large effect on Cambodia's export-driven economy and disproportionately affected high income households (Sobrado et al. 2014). The urban garment industry was hit particularly hard. Socheth estimated that roughly 50,000 jobs were lost between 2008-09 (more than a third of the total), although this was followed by a rapid recovery in 2010-12 (Socheth 2013). Tourism receipts also fell marginally in 2009.

However, while the urban sector was negatively affected by the crisis, the rural sector thrived due to rising food prices. The rice price rose substantially between 2004 and 2012, spiking in 2008 and 2011, which helped poor rural farmers (the rural population constitute 90% of Cambodia's poor). The World Bank estimate that roughly half of the poverty reduction during this period was a consequence of rising rice prices and production (Sobrado et al. 2014).

It may seem counterintuitive that inequality fell during a period of shock to low-skilled, urban employment. Although not fully addressed in the available reports, it may well be that garment workers, despite poor working conditions, were concentrated in the upper half of the income distribution. Their relative loss in income may therefore have been inequality reducing, at least as measured by the gini.

While most of the inequality decline appears to be driven by these exogenous economic shocks, policy reforms may also play some role in these dynamics, although it is hard to quantify their effects. Government policies since 2004 have explicitly targeted inequality (through its Rectangular Strategy). Infrastructural investments have been considerable and road access, electricity access, irrigation and safe water supplies have improved substantially over the 2000s (Sobrado et al. 2014).

Urban working conditions have also improved in the past decade (although as already noted, the inequality consequences of this are harder to ascertain as paid wage employees tend to have above average earnings). The Better Work Programme, managed by the ILO, allowed Cambodia access to the US market in exchange for improved working conditions (Sobrado et al, 2014) and minimum wage laws in 2009 may also have improved earnings. The World Bank also found that returns to education began to decline in 2008, which may be putting further downward pressure on inequality.

MALAYSIA[13]

At independence in 1957 Malaysian society was characterised by strong social and economic cleavages between the ethnic Malay (Bumiputera), Chinese, Indian and British populations. While the Malay majority was largely engaged in the subsistence agricultural sector and poorer on average than other groups, the Chinese minority was highly urbanised and dominated the commercial sector, and the Indian minority dominated the largely European-owned rubber farms and government employment (Lee, 2010).

In the aftermath of the 1969 election, race riots broke out in Kuala Lumpur, with attacks on Chinese businesses and homes that left over a hundred dead.[14] In response to the riots the government adopted the 1971 New Economic Policy (NEP), which introduced affirmative action and poverty reduction policies, in an effort to narrow the gaps between the Bumiputera and Chinese and Indian minorities (Atkinson 2015b; Krongkaew & Ragayah 2006).

The NEP combined more traditional developmental programmes such as rural development and education, with active affirmative action aiming to reduce foreign- and minority ownership of capital. It used quota systems and preferential access to credit and pricing to increase the economic empowerment of ethnic Malays. It also increased Malay representation in higher education and gave the group preference in public employment (Lee 2010).

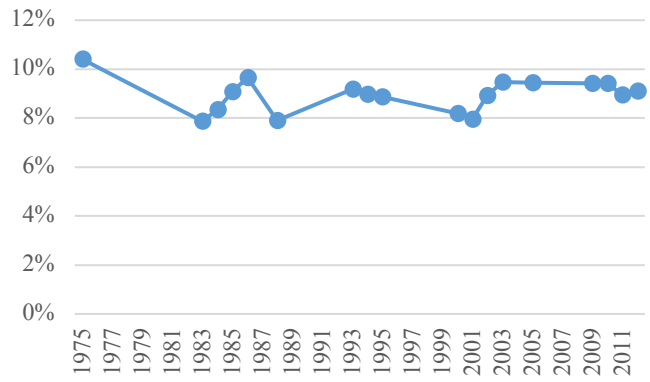
[13] This section has been informed by an M.Sc. essay by Maja Gustafsson.
[14] Death toll disputed.

Several studies have examined inequality in Malaysia since the introduction of the NEP. Most find that inequality declined sharply during the second phase of the NEP. The gini rose briefly in the early 1970s, possibly due to the oil price increases, as Malaysia began producing oil in the early 1970s. This was followed by a large fall between 1976 and 1990, from 0.53 to 0.45 (Shari 2000). Some of this inequality decline was likely driven by policy, although falling oil prices may also have played a role, by reducing scope for elite capture. While most gini analyses confirm this downward trend in inequality, there is less evidence of falling top income shares. Atkinson has constructed top income shares for Malaysia which have been included in the WID. They show a small decline in the top 1% income share in the late 1970s but no clear trend since (Figure 5).

The gini increased in the early 1990s, spiking in the years leading up to the 1997 crisis, then briefly fell during the 1997 crisis before recovering once more. Krongkaew and Ragayah have also attributed some of this inequality rise in the 1990s to the in-migration of unskilled workers, which helped to hold down wages in low-skilled sectors (Krongkaew & Ragayah 2006). Reforms in the wake of the Asian financial crisis, which sought to stabilize the economy and labour market, may prevented further escalation of the gini in the 2000s, although more empirical evidence of this is needed.

Whether ethnic tensions in Malaysia will continue to ensure a policy-regime focused on equity is far from certain. Roslan has argued that while the NEP was relatively successful in narrowing ethnic inequalities, its approach and rhetoric is less appropriate for tackling intra-Malay inequalities, which are becoming the bigger source of social tension (Roslan 2001).

Figure 5. Malaysia: Top 1% income share, WID



4.3. Middle East and North Africa

While the data is scarce and patchy, income inequality in the MENA region is thought to be relatively low relative to other countries in similar income ranges. A study by Hassine harmonized microdata from household surveys for 12 countries in the Arab region (Hassine 2015). It finds no generalizable trend across the region, with increases in Syria, Yemen, Djibouti and Palestine, and decreases in Egypt, Jordan and Tunisia. There has also been some effort to analyse dynamics at the upper end of the distribution and changes to wealth inequality, but this does not contradict the findings from the household surveys: within-country inequality in the region is comparatively low and stable (Ibid).

Recent literature on inequality in the MENA region has sought to relate inequality trends to the Arab Spring. Many papers revolve around the 'Arab inequality puzzle': despite progress on inequality and poverty indicators and relatively low inequality by global standards, the region saw considerable social upheaval in 2010-11 in what was widely perceived to be inequality-related grievances (Ianchovichina et al. 2015; Hassine 2015). Some have argued the squeezed middle class, rather than inequality per se, explains growing dissatisfaction in the region. Perception surveys reveal considerably lower self-reported life satisfaction than in other countries at roughly the same level of income per capita (Ianchovichina et al. 2015). These surveys also suggest that dissatisfaction was more pronounced among the top 60% than the bottom 40%. Hassine suggests that the breakdown of the social protection system as well as reduced state employment opportunities for the middle and upper middle classes during the structural reforms of the 1990s may explain this dissatisfaction. In the pre-adjustment era, inequality was managed both through migration and state employment, which was used to balance incomes geographically and ensure continued returns to skills. Counter-intuitively, a squeezed middle class may result in falling inequality, if income growth is comparatively faster at the bottom of the distribution that the upper middle.

The review of inequality trends in the MENA region identified three countries which have registered noteworthy gini declines in recent decades, despite structural reforms and economic liberalization. The political context and inequality trajectories in these three countries are discussed below.

IRAN[15]

Since the Iranian revolution of 1979, which overthrew the monarchy and brought to power a religious left-leaning state led by the Ayatollah Khomeini, Iran's income inequality and poverty levels have declined substantially. The country's economic performance over this period has been mixed, characterised by a dramatic fall in income during the Iran-Iraq war in the 1980s, a stagnant 1990s followed by a growth surge from roughly 2000-2011, driven in part by rising oil prices.

In an article from 2009, Salehi-Isfahani poses the question of whether the Iranian revolution, which defined itself as a movement of the "disinherited" and "barefooted", reduce poverty and inequality (Salehi-Isfahani 2009). His analysis relies on ad hoc poverty and inequality measures from the pre-revolution era measured for urban and rural areas separately, and a series of national household surveys conducted since 1984. He concludes that inequality and poverty dropped sharply in the immediate aftermath of the revolution, owing to confiscation of wealth, nationalisation of industry and emigration of Iran's elites. During the Iran-Iraq War (1980-88) poverty rose again, despite wide scale rationing, owing to the perilous state of state finances and widespread war destruction. Poverty spiked following the 1986 collapse of the oil price. Inequality in contrast continued to fall towards the end of the war as oil rents dwindled.

After the war inequality remained steady for almost 30 years, with a gini of roughly 0.44. While the data may be too crude to capture finer inequality movements, Salehi-Isfahani

[15] This section has been informed by an M.Sc. essay by Yannick Schwarz.

speculates that Iran's income inequality oscillated with the price of oil, with small spikes in the early 1990s (when oil prices increased), and in the early 2000s. Poverty meanwhile, fell steadily throughout the period, from over 40% in the immediate aftermath of the war to 12% by 2005. Given the economic liberalisation reforms of the 1990s and early 2000s, it is noteworthy that inequality didn't rise further. A number of progressive reforms are thought to have contributed to this relatively equitable growth, including heavily subsidized education and healthcare, rural infrastructural development, small-scale transfer programmes, and price subsidies on food and fuel.

After a steady level of inequality for almost 30 years, inequality dropped significantly in 2010, in tandem with the introduction of the Targeted Subsidies Program (Statistical Centre of Iran 2014). This programme sought to phase out Iran's substantial fuel subsidies (estimated at 20% of GDP), and replace them with an unconditional transfer of roughly $40/month per person, equal to 13% of average market income (Enami et al. 2016a). This universal transfer improved the progressivity of the fiscal income substantially. Using the 2011/12 household expenditure and income survey, Enami et al. calculated that it reduced final, net inequality by 4 gini pts relative to market income inequality (Enami et al. 2016b).

The targeted subsidies programme was introduced by President Ahmadinejad, who was elected on a pro-poor, populist platform. It sought to solve Iran's unaffordable, regressive subsidy, while mitigating popular resistance to rising fuel prices through a substantial cash transfer that came into effect in conjunction with price increases (Salehi-Isfahani et al., 2015). While initially intended to target only the poor, in the last minute it was extended to the entire population. Problematically however, the government failed to raise oil prices in line with the intended subsidy reduction schedule, which placed considerable pressure on the budget.

Since 2011, with the fall in oil prices, the government has experienced repeated budget difficulties and the current Rouhani government has attempted to reduce the size of the transfer by withdrawing payments from high income households. Furthermore, inflation has been high since 2010, which has eroded the real value of the transfer.

TUNISIA

Prior to the Arab Spring which forced President Ben Ali into exile in 2011, Tunisia had a relatively peaceful political history. The country was ruled by an autocratic one-party state with only one, bloodless transfer of power from Presidents Bourguiba to Ben Ali in 1987. In the first decades of independence the government pursued import substitution, intervened considerably in the industrial sector and maintained a large state sector. Since the 1980s the government has progressively liberalized the economy and it has seen considerable growth and diversification in its export base. It also produces some oil, although production levels are low compared to its neighbours.

According to povcal data, Tunisia's gini was relatively steady over the course of the 1990s and fell from 0.41 to 0.36 between 2000 and 2010. However, a government report, which adjusted the inequality measures, puts the fall at less than 2 pts over the same period, concentrated in the second half of the decade (Statistical institute & AFDB, 2012). Hassine also reports a decline of less than 2 gini points (Hassine 2015).

Despite this modest inequality progress, Tunisia offers an interesting case of a country that succeeded in retaining a comparatively strong social safety net during a period of

liberalisation from the late 1980s and onward, in contrast to other countries in the region (El-Said & Harrigan 2014). Thus while the magnitude of decline may be disputed, the lack of any substantial increase in inequality or poverty during the 1990s is interesting in its own right.

Policy reforms of the 1990s included cash transfer programmes for poor households (albeit relatively small in scope), needs-based free medical care, improved targeting of food subsidies and university scholarships for students with parents earning below minimum wage. A recent evaluation of Tunisia's fiscal incidence using a 2010 household consumption survey found the fiscal system to be progressive (Jouini et al. 2016). While the gini of market income inequality was 0.43 in 2010, inequality net of taxes and transfers and including the imputed value of education and healthcare, was 0.35. Most of this reduction is accounted for by a progressive tax, transfer and subsidy structure.

This inequality and poverty trend is perhaps surprising given that the country's experience during the Arab Spring. This popular uprising against the region's autocratic rulers, which started in Tunisia, was widely perceived to be triggered by rising inequality, poverty and unemployment. Some have argued, however, that it was not necessarily the grievances of the poorest segments of society, but those of the middle classes, that galvanized the movement. These groups were among the more direct impacted by liberalisation. In particular, job prospects for graduates, a comparatively privileged social strata, worsened with the decline in state employment.

ALGERIA

Algeria, much like Tunisia, has historically been ruled by a strongly interventionist and autocratic state. Since the coup in 1965, the country's leadership has remained relatively stable, with two comparatively peaceful transfers of power between candidates from within the ruling FNL party. Following riots in 1988, the government agreed to reintroduce multiparty elections. However, the success of the Islamist party (FIS) in the first round of voting in 1990 led to a military crack-down on the opposition and suspension of further elections. This resulted in a long-running low-grade civil war between the Islamic insurgents and military, although an amnesty deal in 1999 reduced the level of conflict. Tensions resumed during the Arab Spring (2010-12), but President Bouteflika rode out the storm by making some concessions to the protestors and has remained in power since.

Algeria is heavily reliant on oil and its economic fortunes mirror the price of crude, with strong growth in the 1960-1980s and a severe decline between 1987 and 1995, when GDP per capita almost halved. Growth recovered in the 2000s as oil prices soared. The state sector has historically been large, providing an important source of employment and social services. In 1997, total public sector employment constituted roughly 60% of all formal employment (government, military and state-owned enterprises) (Handoussa & Tzannatos 2002).

As a consequence of debt distress, Algeria undertook structural reforms in the 1990s, including the privatization of state-owned enterprises, labour deregulation and rationalisation of public sector employment, resulting in a loss of roughly 500,000 jobs and an increase in unemployment while real wages stagnated or fell (Handoussa & Tzannatos 2002). Social spending however, remained relatively high throughout the period.

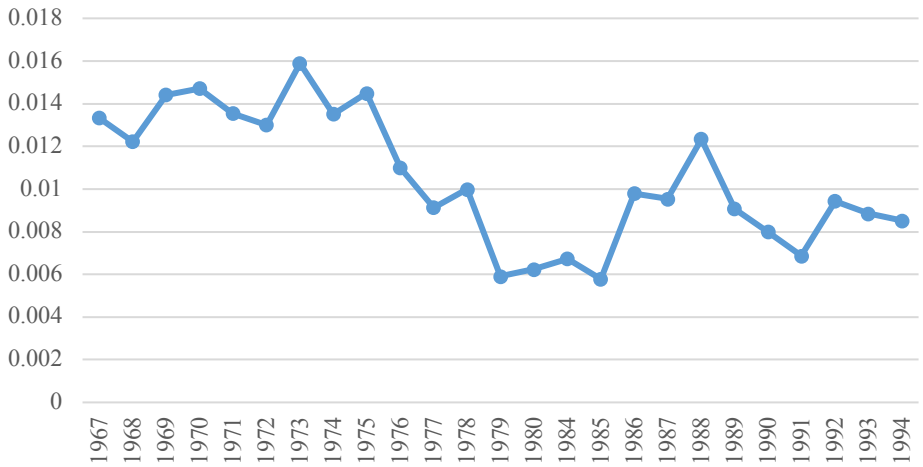
Migration to France and remittance flows to Algeria are also highlighted in the literature as an important contributor to household living standards. Margolis et al. (2015) have found that remittances are important for poverty reduction, although the effect on inequality was minimal

(Margolis et al. 2015). Adams and Page similarly find that migration (and remittances) as well as government employment as a social safety net, explain unusually low inequality in the MENA region, including in Algeria (Adams & Page 2003).

Povcalnet records a decline in the gini over this period of structural reform, from 0.40 in 1988, to 0.35 in 1995 and 0.28 in 2011, although the trend rests on only three data points. The IMF reports slightly different estimates, but confirm the fall in inequality in the 2000s, with a decline in the gini from 0.34 in 2000 to 0.31 in 2011 (International Monetary Fund 2013). Poverty meanwhile, stayed constant at 6% between 1988 and 1995 and dropped to 0.5% by 2011. These estimates shed doubt on the reliability of data. Given that GDP per capita fell by 40% between 1988 and 1995, it seems implausible that the poverty headcount and mean monthly consumption stayed constant.

An alternative source of inequality data, compiled by the University of Texas based on inequality in industrial wages, provides a longer-run series for Algeria, although the data series stops in 1995. It suggests a steady increase in inequality from c.1980-1995, although consistent with the povcal results, this series does record a spike in 1988 exceeding that of 1995.

Figure 6. Algeria: UTIP-UNIDO inequality measure based on industrial wages, 1967-97



What seems more plausible then, is that inequality increased during the crisis decades and has been decreasing in the 2000s, a trend not dissimilar from that in Tunisia and much of Latin America. This would also imply an inverse relationship with oil prices, with spikes in inequality coinciding with oil price falls. This may seem counterintuitive, given that resource rents are usually associated with rent-seeking and high inequality, but in a country with a large and interventionist state sector, the ability of the state to maintain the social safety net may be the more important driver of the gini.[16]

Studies and analyses of Algeria's inequality trends are relatively scanty, although a few reports in the grey literature make mention of declining inequality in the 2000s. An official government report on the 2011 household survey suggested a marginal improvement in equality between 2000 and 2011, with the top quintile share falling from 38% to 0.36% (Office National des Statistiques 2014). The IMF attributes the decline in the gini in the 2000s to the fall in unemployment and high levels of social spending. Education and health spending are

[16] Also keeping in mind that household surveys fail to capture the upper end of the distribution.

comparatively high, and the government also provides some needs-based cash transfers to the elderly and disabled (Handoussa & Tzannatos 2002).

4.4. Sub-Saharan Africa

With the exception of South Africa, the literature on inequality dynamics on in sub-Saharan Africa is thin. Few papers have exploited the data in the global databases due to data quality concerns. Even level differences between countries show large variations, which point to possible data quality and comparability issues. Most studies of inequality trends therefore limit their analysis to counting the number of countries with inequality falls versus declines, but even here the results vary considerably depending on sources and benchmark years and several authors have suggested that poor data quality may be driving these results too (Okojie & Shimeles 2006). The World Bank's data suggests that the average gini has declined, with inequality falling in more countries than it was increasing between 1993 and 2013 (World Bank 2016b).

In the absence of reliable household income or consumption data, some scholars have sought to exploit sources other than household budget surveys to study inequality dynamics. Shimeles and Nabassaga (2017) use an asset-based gini coefficient derived from the Demographic and Health Survey (DHS) to decompose inequality instead of consumption, as the consistent asset data from the DHS offers a longer and arguably less error-prone dataset (Shimeles & Nabassaga 2017). They report ginis over time but find no clear trend in the asset-gini between 1995 and 2013. An earlier paper by Booysen et al. used a similar methodology to calculate asset inequality in seven African countries between 1986 and 2001 (Booysen et al. 2007). It shows little change in asset inequality over this period, with a possible small decline in Ghana, Senegal, Tanzania, Zimbabwe, and small increase in Zambia and Kenya, while the trend in Mali remained flat.

Urban-rural inequalities have long been a source of debate in the Africanist literature, with scholars in the 1970s and 1980s concluding that the urban-bias was a key social cleavage in Africa. Many studies therefore used urban-rural income differentials as their main measure of social inequality. Consequently, some expected the neoliberal reforms of the 1990s to be inequality reducing, as they sought to raise the rural-urban terms of trade and offered small-holders higher prices for their cash crops (Sahn et al. 1997). Evidence of recent changes in urban-rural inequality is limited. A paper by Sahn and Stifel, using asset indices and health and education measures from the DHS, find no strong signs of either convergence or divergence, with a mixed track record across the 24 countries in their sample (Sahn & Stifel 2003). Mveyange (2015) uses night light at the sub-national level to estimate regional income inequalities and finds that regional inequalities increased between 1992 and 2003 but decreased between 2004 and 2012 (Mveyange 2015).

Unlike in Latin America, where the reforms of the 1980s and 1990s clearly increased inequality, it is less obvious how the African crises of the 1980s and 1990s and subsequent

structural reforms influenced the income distribution. As many African countries remain predominantly agrarian and often self-sufficient in food, the inflationary shocks of the 1980s and early 1990s tended to hit relatively better-off urban households harder. Urban wages fell relative to national income from the 1970s until the early 1990s in most Anglophone countries (Jamal & Weeks 1988; Jamal & Weeks 1993). The poorest segments of society, which relied less on markets and states in the first place, may have experienced a milder relative decline, although falling crop prices may have hurt those producing for the market.

These shifting urban-rural terms of trade may also explain trends in a cluster of countries in west Africa, which show consistent declines in their gini coefficients over successive surveys in the 1990s or 2000s. The next section discusses these cases in greater depth.

WEST AFRICA

Five neighbouring Francophone countries in West Africa – Burkina Faso, Guinea, Mali, Mauritania and Niger – saw significant declines in the gini in the 2000s according to povcal estimates (Figure 7). In most cases the inequality decline appears to start in the mid-late 1990s, but the strongest gini drops are in the second half of the 2000s, starting around 2005.

The inequality declines in this region coincide with a recovery in growth. In all five countries, growth was sluggish or negative between c.1980 and the mid-late 1990s. As in many other parts of the world, they undertook structural reforms in the 1990s and reduced macrofiscal imbalances. Burkina Faso, Mali and Niger all belong to the CFA Franc zone, and the 1994 devaluation of the Franc led to a sharp increase in prices across the region but is also thought to have helped restore export competitiveness. Growth accelerated in the late 1990s or 2000s in all countries apart from Niger, where growth remained relatively flat (Figure 8).

While the literature on inequality in this region is relatively limited and dominated by World Bank studies, it suggests that crop prices explain most of this fall. As in Cambodia, the increase in food prices during the 2000s benefitted poor, rural food producers and hurt comparatively wealthier urban dwellers. There is also some suggestion that the higher food prices increased rural agricultural wages. Consequently, the rural-urban income gap narrowed and the income distribution compressed. Figure 9 plots the FAO food price index; prices began to rise in the early 2000s, spiked in 2008 and 2011, but have remained considerably higher than in the 1990s.

Figure 7. Gini index for five countries in west Africa, povcalnet

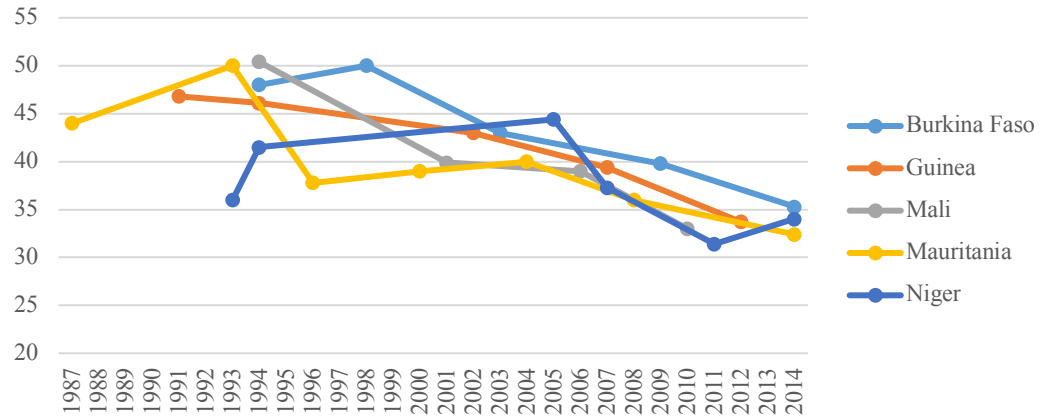


Figure 8. GDP per capita (constant $2010), World Development Indicators

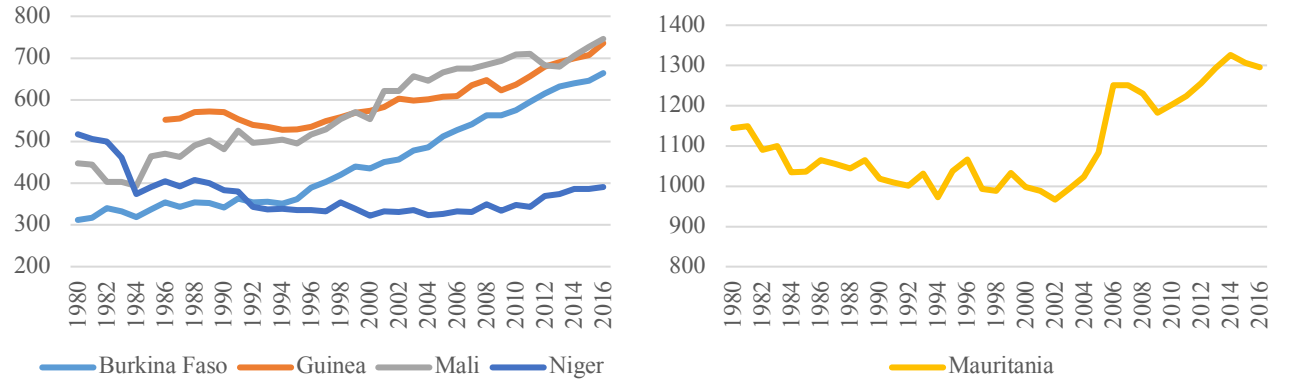
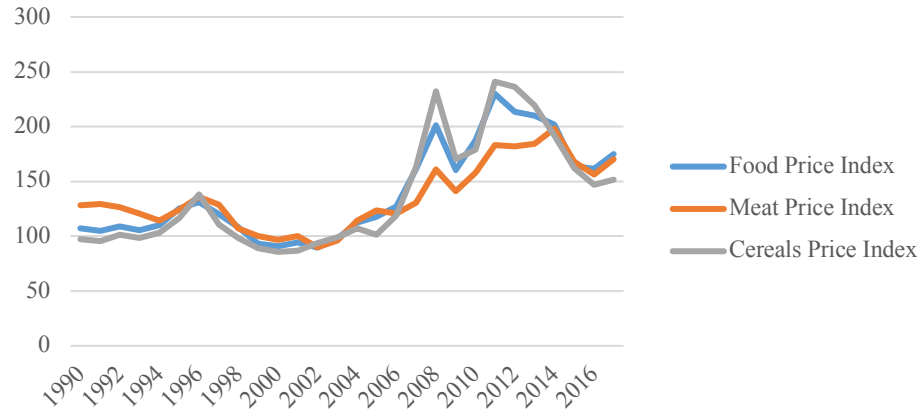


Figure 9. FAO food price index, 1990-2017[17]



BURKINA FASO

Burkina Faso has experienced relatively strong growth since the mid-1990s, with average household consumption roughly doubling over the period 1990-2013 (World Bank, 2017). Simultaneously, inequality declined. According to available data from povcalnet, Burkina Faso experienced a gini decline of almost 15 pts between 1998 and 2014. A World Bank study from 2017 provides a brief analysis of the latter part of this trend, building on the 2003, 2009 and 2014 surveys, which have been harmonized to minimize methodological discrepancies (World Bank 2017a). It finds that the gini dropped by 7 percentage points over this sub-period. Between 2003 and 2009 the main gains in poverty reduction were in rural areas, while poverty increased slightly in urban areas. Between 2009 and 2014 the pattern was reversed, with stronger declines in urban areas and only a modest continued fall in rural areas.

The World Bank attributes this more equitable consumption distribution to three factors. Strong cotton prices (which spiked in 2010) and favourable weather improved agricultural labour productivity which benefitted poor rural households disproportionately. Falling earnings in the urban areas, as job growth was largely confined to the informal sector, also helped to reduce the urban-rural gap. Remittances are also believed to be pro-poor in Burkina

[17] FAO food price index, http://www.fao.org/fileadmin/templates/worldfood/Reports_and_docs/Food_price_indices_data.xls (Accessed Jan 2017).

Faso, with poor rural household receiving a disproportionate share of internal and external remittances, mainly from migrants in neighbouring Cote d'Ivoire.

Some also attribute the increase in cotton production to liberalisation of the cotton sector and improved export conditions since the 1990s and the positive effect of the 1994 devaluation on export competitiveness. A series of reforms to the institutions governing the cotton industry has progressively removed the role of the state and improved producer prices (Kaminski 2011).

Fiscal policy is thought to have had a minor impact on inequality, as revenue and expenditure policies are regressive in aggregate and there are few transfers benefitting the poor, while the distributional impact of subsidies of agriculture and energy remain debated.

MALI

Mali was highlighted in the World Bank's 2016 report on inequality for its substantial inequality decline in the 2000s (World Bank 2016b). It experienced a 7 gini points fall, from 40 to 33, between 2001 and 2011, despite being one of the poorest countries in the world with weak governance and state capability and growing insecurity in the northern region. Over this period GDP growth was positive, if modest and poverty fell from 58% to 49%.

Most of the inequality decline happened after 2007, when consumption growth among the poorest deciles grew well above the average, while consumption declined in the top 40%. The World Bank attributes this to favourable conditions for crop farmers, with an expansion in rice, maize and sorghum production. This was driven by favourable market prices and weather patterns, coupled with liberalization of the market, which allowed greater pass-through of price increases to farmers, as well as public investments in irrigation and subsidies for fertilizers (World Bank 2016b). The crisis in neighbouring Cote d'Ivoire also spurred cross-border trade in food products. At the same time the urban sector contracted, leading to negative income growth in the wealthier parts of Mali and contributing to a narrowing of the consumption gap.

NIGER

After a politically tumultuous 1990s, Niger experienced relative political stability between 1999 and 2007, under the leadership of Tandja Mamadou, who won the 1999 election following the introduction of a new constitution. In 2007 a second Tuareg rebellion erupted, which resulted in widespread fighting and disruption to the country's oil and mineral sector. This was followed by a military coup in 2011 following Tandja Mamadou's attempt to run for a third term. Niger's growth has been extremely volatile over this period, owing to these numerous political and economic shocks.

According to a World Bank assessment, Niger's poverty and inequality estimates are not strictly comparable across surveys. The main estimates rest on a short 3-month survey from 2005, a larger, year-long 2007/08 household budget survey, a series of vulnerability assessments between 2006-2010, and a series of panel surveys in 2011 and 2014 (wave 1 & 2). Unfortunately, differences in the method of measuring consumption and differences in length of survey weaken the comparability of the results. However, a 2012 World Bank study has adjusted the data from the 2005 and 2007/08 surveys to improve the comparability of poverty and inequality estimates. It confirms the downward trend in poverty and the gini

shown by the raw povcal data, showing an exceptionally large drop from 48% in 2005 to 37% in 2007/08.

This drop in inequality is thought to be driven by strong consumption growth in the bottom half of the consumption distribution and negative growth in the largely urban-based, top decile. It seems that these improvements, however, are in large part a consequence of the 2004 drought, which disproportionately affected the 2005 agricultural harvests of poor, rural farmers. The 2007/08 results show a bounce-back from this crisis and consequently a sharp reduction in poverty and inequality.

These results cannot be compared to the latter vulnerability surveys however, which provide a separate poverty and inequality series. Consistent with the earlier results, they show a drop in poverty between 2007 and 2008, but a large rise again between 2008 and 2010, coinciding with the increased instability in the country. We have found no reports analysing the 2011 or 2014 panel survey results, but the available data suggest a continued fall in inequality between 2008 and 2011 and an increase in inequality thereafter.

MAURITANIA

Mauritania saw sustained economic growth per capita since 2003, driven by the commodity price boom, following a decade of growth volatility and no sustained improvement in incomes. The political situation, however, remained unstable. Mauritania has been ruled by military rulers for most of its postcolonial history. A coup in 2005 was followed by a brief attempt to institute democratic rule, but was cut short by another coup in 2008. The country is also characterised by a racial divide between Mauritania's Arab majority and black African minority, and a long history of enslavement of black Africans. While not officially recognized, de-facto slavery is still practiced in the country (Figueiredo 2017).

According to povcalnet, Mauritania's gini declined from 40% to 32% between 2004 and 2014. While no reports have been identified that analyse the decline from 2004 to 2008, a recent World Bank study has decomposed the decline between 2008-2014, when the gini fell from 35% to 32% (World Bank 2017b). As in neighbouring countries, this inequality decline was driven by the food price boom which benefitted rural producers and hurt urban-dwellers. Almost all the gain in household consumption were among net food producing households (World Bank 2017b). In contrast, in the capital, Nouakchott, average household consumption declined on average and poverty increased over these same years as food prices increased and poorer migrants flowed into the capital. That said, growth in the capital intensive mining sector, which employs less than 2% of the labour force, may signal income growth at the very top of the distribution, which household surveys usually fail to capture.

GUINEA[18]

We have found no studies that discuss inequality data for Guinea and none of the surveys are available in the international microdata repositories. As in several other countries, the main inequality decline is after 2007. This may again reflect the food price crisis of 2008, which improved conditions for rural producers relative to urban workers.

[18] This finding is also corroborated by an M.Sc. essay by Saida Ali.

5. Conclusion

This review of the secondary literature on inequality in our identified set of inequality decliners enables us to identify some of the common conditions and drivers of change. The long-list can be grouped into four clusters of countries with similar initial conditions or drivers of change.

The **Latin American** cases are an obvious country cluster, given the clear region-wide decline in inequality starting in the 2000s. The secondary literature suggests that many of the same forces were at work across the region: strong growth in demand for low-skilled labour improved employment conditions for the poorest; educational expansion in the 1980s and 1990s coupled with changing demand for skills brought down the returns to education and thus labour income inequality; and new and enlarged social transfer systems improved the incomes of the very poor. Inequality declines followed a period of increased democratic contestation and a political backlash against the economic reforms and poor economic performance in the 1980s and 90s. There is variation however, in intensity of inequality decline across countries. The degree of state intervention in labour markets has also differed, as have the types and size of transfer programmes. While most countries pursued a similar basket of policies, these were nonetheless conditioned by individual country histories and institutional structures, and driven by local social movements for change.

A second country cluster includes **Iran, Tunisia and Algeria**, three countries led by repressive, authoritarian regimes and characterized by considerable state intervention in the economy and active government-led redistribution. Political power was centralised and relatively stable over the period under review. A closer look at these cases, however, shows inequality decline to have been relatively modest and limited to short spurts. Nonetheless, it is noteworthy that none experienced a sharp increase in inequality during the periods of economic liberalization, possibly because they were able to retain relatively progressive fiscal policies throughout the period. In the case of Iran, the 2010 cash transfer programme proved strongly inequality reducing, although its sustainability remains in question.

The third group combines five **West African countries (Burkina Faso, Guinea, Mali, Mauritania and Niger) and Cambodia**. All are agrarian societies, with food production in the hands of poor, rural small-holder producers. These countries experienced a noteworthy reduction in inequality in the past decade (largely since c.2005), driven primarily by favourable rural terms of trade. High food prices, particularly for staples such as rice, and favourable conditions for cotton and some cash crops, increased the incomes of rural producers and penalized non-farm workers, which narrowed the rural-urban gap. Policies may also have helped, but global economic swings are probably the main inequality driver in these countries.

The remaining two countries, **Thailand and Malaysia**, are more idiosyncratic. Malaysia's inequality decline is confined to the late 1970s and early 1980s, when, in response to race riots, the government introduced an affirmative action programme designed to benefit ethnic Malays. It provides an interesting case where political imperatives to tackle horizontal

inequalities also helped to reduce vertical ones. In Thailand in contrast, inequality rose to unusually high levels in the early 1990s, rivalling those in Latin America. While there has been some reduction in inequality since, the country has been locked in a political crisis since the early 2000s, pitted partly along class lines. So far the old political establishment has succeeded in thwarting the rule of democratically elected populists through successive coups. Both countries had unusually high inequality by Asian standards in the pre-decline period. In the case of Thailand there are some interesting parallels with Latin America; inequality fell following an extreme spike in the 1990s, while democratic contestation has ebbed and flowed over the past decades.

Looking across regions also reveals some cross-cutting themes. Most of the case study countries had comparatively high levels of income inequality prior to the inequality decline. Latin America is frequently deemed to have the highest levels of inequality in the world, while Thailand, Malaysia and pre-revolution Iran had unusually high inequality relative to their regional peers. Interestingly, most of these countries had limited involvement in the First and Second World Wars, which may help to explain their high inequality in the postwar era.[19] These cases may therefore shed light on the political limits to inequality escalation. When inequality in Latin America rose to new heights in the 1990s, it appears to have triggered a sufficiently strong political backlash to reverse some of the most egregious social costs of neoliberal reforms. The same might be said for Thailand and Malaysia, and possibly pre-revolution Iran. Are these cases evidence of the restraining (political) forces that kick into gear once countries reach an inequality frontier?

Economic, and largely exogenous, conditions played some role in bringing down inequality in most of the countries. Rising commodity prices, which increased rural labour demand, was particularly relevant in the African cases, as well as in Cambodia and to a lesser extent Thailand. Favourable commodity prices are also thought to have enabled an expansion of transfer programmes targeting poor households in Latin America. Concurrently, falling skills premia, driven by educational expansion and changing sectors of growth, are thought to have been particularly important for explaining inequality trends in Latin America and Asia.

Yet with the possible exception of West Africa, in all other regions there was also an active political discourse around redistribution and policy reforms that explicitly sought to ameliorate or reverse some of the inequality gains in the preceding decades. In Latin America, Tunisia, Iran, Thailand and Malaysia for instance, new political movements actively used a discourse of inequality to galvanize support for reform and politicians justified their actions on inequality reduction grounds.

Among most of the countries highlighted in this study, policy reforms were largely within the confines of an internationally-sanctioned economic framework. Most countries continued to pursue macroeconomic stability, few sought to increase state involvement in productive sectors or raise taxation levels dramatically, and most of the redistribute reforms and

[19] Many scholars have argued that WWI & WWII provided the catalysts for inequality decline (Piketty 2014; Milanovic 2016; Scheidel 2016).

investments in education and basic social safety nets had the blessing of the World Bank and other international organisations. A remaining question is whether these, arguably modest, reforms have already run their course.

In future research the International Inequality Institute intends to address these types of questions in greater depth. Through a series of detailed case studies of countries where inequality has fallen, focusing on both economic enablers and the political movements and discourses that brought about policy change, these studies will describe the change process. These cases will in turn inform thematic papers that examine some of the hypotheses raised by the country cases, be it about the political limits to inequality escalations, the economic conditions that enable redistribution, and the nature of policy tools available to individual nation states operating in a globalized world.

APPENDIX 1.

Table 2. Developing countries classified by inequality trend

Country	Region	Inequality trend	Notes
(A) Strong evidence of declining inequality			
Argentina	Latin America	Gini drop of 13 pts (2003 – 2015) (SEDLAC)	
Bolivia	Latin America	Gini drop of 16 pts (2000 – 2015) (SEDLAC)	
Brazil	Latin America	Gini drop of 12 pts (1989 – 2015) (SEDLAC)	
Chile	Latin America	Gini drop of 7 pts (1990 – 2013) (SEDLAC)	
Colombia	Latin America	Gini drop of 7 pts (2002 – 2015) (SEDLAC)	
Dominican Republic	Latin America	Gini drop of 8 pts (2003 – 2014) (SEDLAC)	
Ecuador	Latin America	Gini drop of 11 pts (2000 – 2014) (SEDLAC)	Some volatility in gini.
El Salvador	Latin America	Gini drop of 11 pts (2002 – 2015) (SEDLAC)	
Guatemala	Latin America	Gini drop of 6 pts (2000 – 2014) (SEDLAC)	Few observations.
Mexico	Latin America	Gini drop of 7 pts (1996 – 2010) (SEDLAC)	Some volatility in gini.
Nicaragua	Latin America	Gini drop of 12 pts (1993 – 2009) (SEDLAC)	Some volatility in gini, relatively few observations.
Panama	Latin America	Gini drop of 8 pts (1997 - 2015) (SEDLAC)	Some volatility in gini. Inequality decline mainly since 2003.
Paraguay	Latin America	Gini drop of 10 pts (1995 - 2015) (SEDLAC)	Some volatility in gini.
Peru	Latin America	Gini drop of 12 pts (1998 - 2014) (SEDLAC)	
Uruguay	Latin America	Gini drop of 6 pts (2007 - 2014) (SEDLAC)	National inequality data only available from 2006.
Venezuela	Latin America	Gini drop of 4 pts (2002 - 2006) (SEDLAC)	No SEDLAC gini data reported after 2006.
Thailand	Asia	Gini drop of 7 pts (1990 – 2013) (Povcal)	Povcal data, which draws on biannual series of socio-economic surveys for Thailand

(B) Plausible evidence of inequality decline			
Cambodia	Asia		Some evidence of decline in 2000s, although quite tentative.
Malaysia	Asia	Gini drop of 6 pts (1979-1989) (ATG)	Povcal alone shows no significant decline, only records data from 1984. Drop in 1970s/1980s also confirmed in top income share data.
Algeria	MENA	Gini drop of 12 pts (1988 – 2011) Povcal	Only three data points, questionable data quality.
Iran	MENA	Gini drop of 8 pts (1986-2014) (Povcal)	Steady decline over successive surveys, although main decline during Iran-Iraq war.
Tunisia	MENA	Gini drop of 6 pts (1995-2010) (Povcal)	Decline over several surveys, hard to verify survey consistency.
Burkina Faso	Africa	Gini drop of 15 pts (1998 – 2013) Povcal	Several data points corroborate decline, although drop seems implausibly large.
Guinea	Africa	Gini drop of 12 pts (1994 – 2012) Povcal	Relatively few data points.
Mali	Africa	Gini drop of 17 pts (1994 – 2010) Povcal	Fall corroborated over several surveys, although drop seems implausibly large. Economy was growing over this time.
Mauritania	Africa	Gini drop of 8 pts (2004 – 2014) Povcal	Based on only three obs.
Niger	Africa	Gini drop of 10 pts (2005 – 2014) Povcal	
(C) Inequality increasing			
Costa Rica	Latin America	Rise of 4 pts, 1990-2015 (SEDLAC)	
Bangladesh	Asia		
China	Asia		
India	Asia		
Indonesia	Asia		
Sri Lanka	Asia		
Benin	Africa		
Ghana	Africa		
Kenya	Africa		Small increase since 1994
Mozambique	Africa		Few observations.
South Africa	Africa		
Zambia	Africa		
(D) No clear trend or inconclusive data			
Honduras	Latin America		Some decline from 2005-09, but not sustained.
Afghanistan	Asia		Few observations.
Bhutan	Asia		Povcal drop from 2003, but decline based on only one, seemingly high, 2003 observation.
Lao	Asia		No clear trend according to povcal.
Mongolia	Asia		Insufficient obs.
Myanmar	Asia		No obs.
Nepal	Asia		No clear trend from Povcal

Pakistan	Asia		Povcal trend quite steady (+/- 2-3 pts over 11 obs).
Philippines	Asia		Povcal mixes income and consumption estimates. Trend flat if controlling for survey type.
Vietnam	Asia		No clear trend according to povcal.
Iraq	MENA		Insufficient data.
Jordan	MENA		Small decline of 2-3 pts; one unusually high outlier obs in 1992.
Lebanon	MENA		Insufficient data.
Syria	MENA		Insufficient data.
Yemen	MENA		Insufficient data.
Palestine	MENA		Insufficient data.
Algeria	MENA		Flat.
Egypt	MENA		Flat.
Libya	MENA		Insufficient data.
Morocco	MENA		Flat.
Angola	Africa		Povcal only records one data point, decline in SWIID and GCIP driven by inclusion of result from an urban-only 2000 survey.
Botswana	Africa		Possibly some increase, volatile trend.
Burundi	Africa		Volatile trend.
Cameroon	Africa		Relatively flat trend.
Central African Republic	Africa		Volatile data, few obs.
Chad	Africa		Two obs, small increase
Congo, D.R.	Africa		Two obs, no change
Congo, R.	Africa		Two obs, no change
Cote d'Ivoire	Africa		No clear trend.
Ethiopia	Africa		Data suggests a surge and decline in inequality 1990s (after peak in 1997/98), although drop is implausibly large. Decline during a period of crisis and war w. Eritrea.
Gabon	Africa		Only one povcal obs.
Gambia	Africa		Two obs, no change
Guinea-Bissau	Africa		Data volatile
Lesotho	Africa		Povcal data shows decline between 1994 and 2000s, but decline driven by only one extremely high observation.
Liberia	Africa		Two obs, no strong increase
Madagascar	Africa		Povcal results volatile, no clear trend.
Malawi	Africa		Only three povcal obs. Fall between 1997 and 2000s, but based on implausibly high 1997 estimate.
Mauritius	Africa		Two obs, no change
Namibia	Africa		No evidence of decline. ATG trend based on inconsistent survey types.
Nigeria	Africa		Trend volatile.
Rwanda	Africa		Small increase.
Senegal	Africa		Drop observed in data driven by one very high 1991 estimate, suggests implausible drop b/w 1991 and 1994.

Sierra Leone	Africa		Only two povcal obs. Decline after the war, which seems implausible.
Sudan	Africa		Only one povcal obs
Tanzania	Africa		No clear trend.
Uganda	Africa		No clear trend.
Zimbabwe	Africa		Only one povcal obs

APPENDIX 2.

How far can we robustly measure inequality trends?

The gini index

There are many ways of measuring inequality, each with its strengths and weaknesses, but the most widely available and used inequality measure is the gini index. Originally conceived by Corrado Gini in 1912, it measures the space between the Lorentz curve and line of equality for a given distribution of, for instance, income or wealth. It can be thought of as a summary measure of inequality across the entire income or wealth distribution. Ginis of income inequality are usually calculated from household surveys of either household income or consumption. These surveys seek to capture the total income or consumption of a representative sample of households in the country or region of analysis.

However, the design of these household surveys and basis for measuring the gini can differ considerably across time and space, which raises comparability issues. Three distinctions in survey type are particularly important to consider: (i) whether the gini is constructed on a household or per capita basis; (ii) whether it measures household income or consumption; and (iii) whether it measures income on a gross or net basis, i.e., before or after taxes and transfers. The gini will tend to be larger if measured on an individual rather than household basis, on an income rather than consumption basis, and on a gross rather than net income basis. Income-based ginis are the norm in industrialized countries, where most people earn their living from one or more stable wages. In developing countries, particularly ones with large agrarian populations and high labour market informality, consumption measures are preferred, as they are thought to be easier to measure accurately (Ferreira et al. 2015).

Beyond these three commonly considered differences in survey type, other, more idiosyncratic, differences in survey coverage, method and questionnaire can also affect the measured level of inequality. Sampling and coverage of these surveys are not necessarily consistent over time. While surveys are usually national in scope, they tend to cover only private households sampled on the basis of physical addresses. The extent to which the survey captures the homeless, pastoralists, people in institutional living (prisons, hospitals, dorms, army barracks), and the very wealthy, can thus affect the measurement. The sample

size and sampling method can also influence the extent of capture of wealthy households or the very poor. Surveys usually rest on small samples, in the order of 0.1-0.2% of the population. The sampling is often stratified by district or region, which means that samples from the main urban metropolises (where most wealthy households live), can be smaller still. Larger sample sizes and stratification procedures that oversample areas of extreme wealth or poverty, for instance, will therefore increase the probability of capturing the tails of the distribution.

Household survey questionnaire design, and thus the definition of income or consumption, can also differ substantially (Alvaredo & Gasparini 2015). To note just a few comparability problems, income surveys differ in the degree to which they capture capital income and rents and how they deduct taxes and social security payments. Consumption based surveys are sensitive to whether consumption is based on recall or diaries and whether or not they rely on several household visits spaced throughout the year (thus taking into account seasonal differences in agricultural production).[20] Most surveys impute income or consumption for own-production of food and owner-occupier homes, which raises questions about the most appropriate means of pricing own-produced food and housing.[21] A further issue is whether to adjust to price level differences within country. If rural incomes are adjusted for the fact that food and housing is less expensive in rural areas, inequality will tend to be lower than if measured on an unadjusted basis. Differences in methods of cleaning of the survey data, adjusting for non-responses, and identification and treatment of outliers, may also affect the observed inequality level.

A further consideration is the quality of the survey execution. In low-income countries, where aggregate household consumption is calculated from hundreds of quantities, prices and units, transcription errors are common. Some of the highest income earners captured in microdata sets from Kenya and Tanzania for instance were classified as unskilled wage labourers, in some cases because monthly wage had been incorrectly coded as a daily rate, and thus multiplied by 250 instead of 12 in the final income estimations.[22] Some surveys also contain large groups of respondents with implausibly low levels of consumption.

While many of these differences in questionnaire design or sampling method are idiosyncratic, thus creating noise but not necessarily systematic biases, it is also possible that global trends in survey design will affect the measurement of inequality across an entire region. Developing country household surveys are often supported by the World Bank. Improvements in design or changes in best practice advice from this institution may well bias the results across the entire developing world.

[20] A World Bank study from Niger found a sizeable difference in poverty and inequality when measuring consumption based on recall versus a 7-day diary (Backiny-Yetna et al. 2014).
[21] These methods rest on the assumption that households could chose to convert their food consumption into cash. In a recent working paper I compared the income distributions in Kenya, Tanzania and Uganda on a consumption versus asset wealth basis. On an asset wealth basis, the rural-urban gap is considerably larger than on a consumption basis, throwing doubt on the convertibility between food and assets (Simson 2017).
[22] Author's own review of survey microdata from Kenya and Tanzania. Similar observations were made by Czajka 2017.

Gini databases

Despite these data quality and comparability challenges, there have been several efforts to construct databases that collate gini data from across time and space, enabling researchers to track and compare country trends in inequality or to construct measures of global inequality. These databases tackle the comparability issues just discussed to greater or lesser extents. Some of the most commonly used databases, which also inform the analysis in this paper, are listed in Table 3 below. Although these databases draw from many of the same underlying household survey sources, a recent study of these inequality databases found the pairwise correlation between databases to be relatively weak (Ferreira et al. 2015).

Table 3. Inequality databases

Database and source	Coverage	Notes
Microdata-based databases		
Luxembourg Income Study (LIS)	Primarily OECD (52 countries)	'Gold standard' inequality data; harmonized inequality data calculated from microdata, income-based gini net of taxes.
SEDLAC *Socio-Economic Database for Latin America and the Caribbean (CEDLAS and The World Bank), July 2017*	Latin America and Caribbean only	Income-based gini net of taxes.
CEPALSTAT *United Nations Economic Commission for Latin America and the Caribbean*	Latin America and Caribbean only	Income-based gini net of taxes.
Povcal *World Bank*	Global (124 countries)	Draws on distributional data from household survey. Calculates a Lorentz curve by fitting a curve through available distributional measures. Uses LIS and SEDLAC data for OECD and LAC countries. Mixes consumption and income-based surveys and does not ensure comparability across or within countries.
Secondary source databases		
Deininger & Squire, 1996 *Deininger, Klaus and Lyn Squire, "A New Data Set Measuring Income Inequality", The World Bank Economic Review, 10(3): 565-91, 1996.*	682 observations for 108 countries. From 1996	Compiles ginis from across sources. Does not control for differences in type of inequality measures.
World Income Inequality Database (WIID) UN-WIDER	8,817 observations Latest update Jan 2017	Developed from D&S but has progressively expanded number of observations. Gives more than one estimate per country-year, where

UNU-WIDER, 'World Income Inequality Database (WIID3.4)', January 2017.		available. Does not control for differences in type of inequality measures but does give each observation a quality rating and provides details about source and survey type.
"All the ginis" dataset *Branko Milanovic, 2014*	2218 observations, ("standardized" ginis), 166 countries, 1950 - 2012 Latest update 2014.	Consolidates ginis from across nine other databases or independent sources. Provides dummies that can be used to correct for differences survey type. Database also provides all measures by source, making it possible to examine trends from any of the underlying nine sources individually.
Standardized gini databases		
Standardized World Income Inequality Database (SWIID) *Solt, Frederick. 2016. "The Standardized World Income Inequality Database."* Social Science Quarterly *97(5):1267-1281.*	5,036 observations Latest version: 2016	Regression analysis techniques to adjust for use of different types of inequality measures. Trends smoothed using 5-year moving averages. Uses the LIS as a 'gold standard'; compares adjusted values to the more rigorous LIS.
The Global Consumption and Income Project (GCIP) *The Global Consumption and Income Project (GCIP): An Overview, Rahul Lahoti, Arjun Jayadev, and Sanjay G. Reddy, 2016*	One observation per country and year (1960 – present); constructed using extrapolation and interpolation based on 1946 surveys. Data prior to 1980 is largely extrapolated.	Regression analysis techniques to adjust for use of different types of inequality measures. Large amount of extrapolation and interpolation. Unlike the SWIID, results are not smoothed.
Other inequality databases (non-gini)		
World Wealth and Income Database (WID.World)	57 countries Limited country coverage of developing countries. Latest updates 2017	Measures top income shares based on tax data (type of measure varies by country). Not strictly comparable across countries, but can be used for intertemporal analysis by country.
UTIP-UNIDO database *University of Texas Inequality Project (UTIP)*		Proxy based on wage group data by UNIDO industrial classification. Uses between-component Theil-T as lower-bound measure of income inequality.

The gini databases are commonly classified into three types (Ferreira et al. 2015). The first group of databases construct ginis directly from the underlying survey microdata to ensure that inequality is measured consistently (these databases are referred to by Ferreira et al. as microdata-based data sets). These databases come closest to ensuring comparability across time and space, but are usually limited in country coverage. They include the Luxemburg Income Survey (LIS), which primarily covers OECD countries, SEDLAC and CEPALSTAT databases for Latin America and the Caribbean, and the World Bank Povcal database for developing countries (data from Povcal is also made available in the World Bank World

Development Indicators (WDI)). In the case of LIS and the Latin American databases, the household survey designs tend to be guided by a common set of principles and harmonisation guidelines are used to analyse the data. Povcal, in contrast, calculates a gini from the underlying distributional data, but unlike LIS it does not ensure that the survey methods and questionnaires are consistent and thus still rely on the judgement of the researcher to determine the comparability of different observations.

The second set of databases compile secondary source gini estimates from across other regional or partial databases (such as SEDLAC, Povcal and LIS) as well as independent sources. One of the first such databases was that by Deininger and Squire (1996), which underpinned some of the early studies of global inequality. Their data was later incorporated into the World Income Inequality Database (WIID) hosted by UNU-WIDER. WIID has gradually expanded the original dataset to include additional identified gini estimates from across a wide variety of primary and secondary sources, in some cases providing several estimates for the same country and year. Each WIID gini is given a quality rating and details are provided about sources and coverage, but it is up to the individual user of the data to decide how to make use of the data and what confidence to place in any particular observation. Note that few developing country ginis receive the highest quality rating.

Branko Milanovic has used much of the same source data to construct two databases. The World Income Distribution (WYD) constructs gini estimates for as many countries as possible for specific benchmark years (starting with 1988). A second dataset, 'All the ginis,' pulls together gini estimates for as many years and countries as possible. Unlike WIID, however, Milanovic sets more stringent quality requirements for gini inclusion (excluding those where there is little underlying source material or where it builds on methods other than household surveys) (Milanovic 2014). Where there are several gini estimate for a single year he selects only one estimate, using a precedence approach to determine which estimate to select. *All the ginis* also gives additional information in the database about the type of gini measure (whether on an income or consumption, individual or household basis), allowing the user to adjust for survey type.

The last set of databases use much of the same source data, but seek to standardize ginis to improve the comparability of inequality between countries and over time. The Standardized World Income Inequality Database (SWIID) uses the data from WIID, LIS and WID, but employs econometric techniques to adjust the ginis upwards or downwards based on data type to facilitate comparison between two or more different types of measures (such as whether the survey is based on income vs. consumption, household vs. per capita etc.) (Solt 2016; Jenkins 2015). Rather than assuming a consistent ratio of convertibility between data types, it allows the ratios to vary by country or region and time period. The SWIID also imputes missing data between gini observations to give annual time series data and smooths the trends using a five-year moving average. The resulting standardized ginis should be interpreted as income-based ginis on an individual basis. SWIID provide standard errors and confidence intervals, although these measure the confidence in these adjustment procedures, not the confidence of the original survey estimates.

The recently released Global Consumption and Income Project (GCIP) database offers an alternative set of standardised ginis, which calculates the ratios between survey estimation methods by quintile while controlling for country characteristics (Lahoti et al. 2016). This database also extrapolates backwards and forwards to give estimated ginis for each country and year from 1960 to 2014, although the authors acknowledge that the data prior to 1980 is less reliable. Unlike SWIID, the data is not smoothed so the underlying volatility in the gini source data is retained. GCIP provides gini estimates on both an income and consumption basis for each country and year.

These various gini databases present quantity-quality trade-offs. While LIS and SEDLAC offer consistently measured ginis of high quality, these databases are limited in geographic scope. The global databases in contrast, pool data from sources of varied quality and consistency. The largest databases (SWIID and GCIP) rely on debatable imputation and extrapolation techniques to estimate missing observations, which gives a far greater number of data points but based on shaky assumptions (Jenkins 2015).

One of the main critique of these bigger, global databases is that they give users of the data undue confidence in results that rest on unreliable data (Ferreira et al. 2015). The usability of these inequality measures should therefore be considered in relation to the research aim. Many of these data exercises were designed to measure global rather than country-level inequality. When measuring global inequality, the income differences between poor and rich countries is going to be the main driver of results and smaller errors in the within-country distributional estimates, particularly for small countries, will be of small consequence, all else considered. Regional averages, particularly where population weighted, may also be relatively insensitive to noise. For the purposes of studying country-level trends however, these datasets are less appropriate.

A second concern is that the standardised gini databases is that the accuracy of the adjustments made to the data is itself a product of the quality of the underlying data. Where the results are based on poor quality data and limited observations, extrapolations and imputations may amplify statistical anomalies by assuming common trends across regions or constancy over time.

The figures below compare the gini estimates from several different databases for a set of developing countries. This suggests however, that in the case of low income countries, the quality of the underlying data, rather than the adjustment procedures, is the most binding constraint. In the case of Ethiopia for instance, Povcal, ‘All the ginis’, GCIP and SWIID give a consistent inequality trend, but all capture an implausibly large inequality decline in the late 1990s of between 10-20 pts in the span of a few years. A closer look at the Ethiopian source data shows that while the 1996 survey was reasonably comprehensive, the 1997/98 survey was a short, limited welfare questionnaire based on a single household visit and recording data about consumption of only a few food and non-food items.[23] The 1999/2000 survey

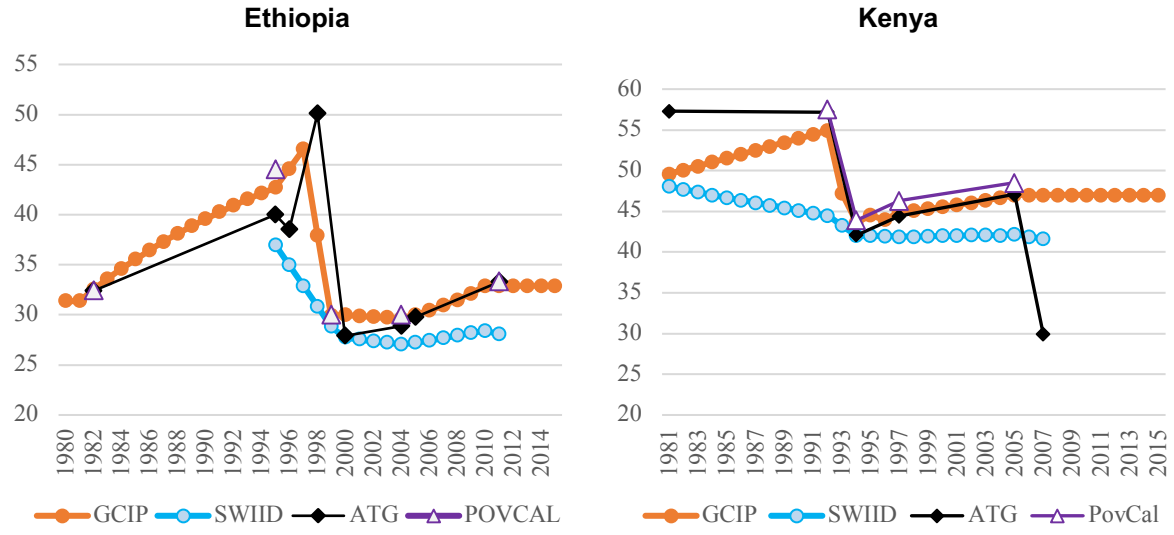
[23] UNU-WIDER, Country Documentation

meanwhile, excluded six zones in the Somalia region and two in the Afar region.[24] None of the estimates prior to 2010 receive a high quality rating in the WIID database. Note that the smoother SWIID trend is the consequence of the data manipulation (use of 5-year moving averages) rather than differences in spot estimates. This can give the false impression of smoother and more plausible inequality trend.

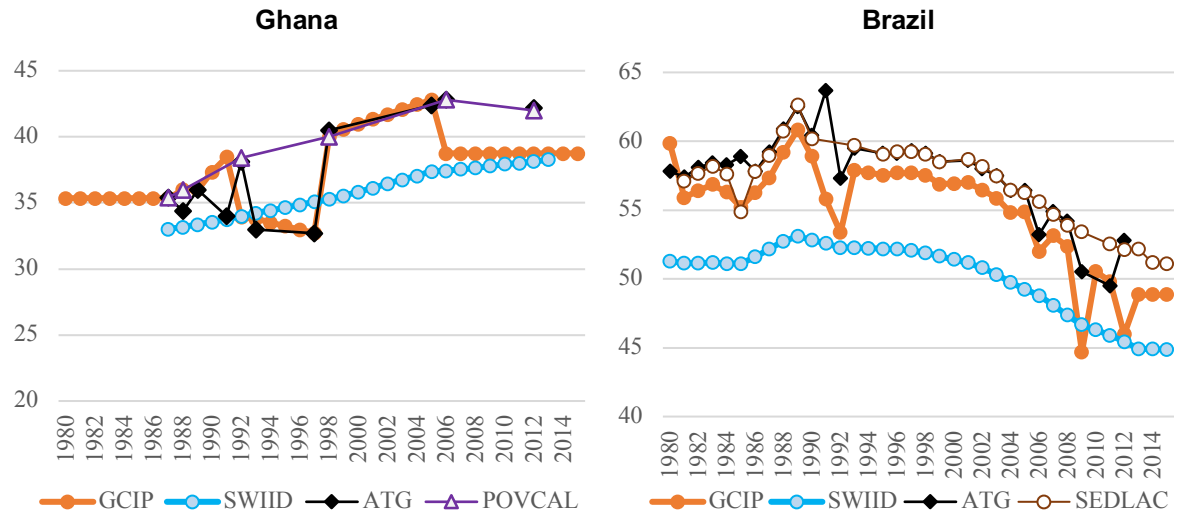
The same type of inconsistency occurs in the Kenyan data, where, with the exception of the smoothed SWIID estimates, all other three databases capture an implausible inequality drop of roughly 15 pts in two years (1992-1994). A review of the source literature shows that the Kenyan 1992 consumption and expenditure estimate was based on a single household interview and a data review found serious data collection deficiencies.[25] Both the 1992 and 1994 estimated are rated 'low quality' by WIID. In the Ghanaian case the differences in country inequality trend across databases appears sensitive to the exclusion criteria. Fewer underlying observations in Povcal and SWIID means a smoother trend than the bouncy results given by GCIP and ATG.

Lastly, for comparison, I also include the case of Brazil, which has considerably stronger inequality data than the African countries. Here differences in database coverage and standardization procedures appear to influence the gini level but not its trend. While ATG and GCIP include a few additional observations to those captured by SEDLAC (thus adding more noise to the trend), the magnitude of the decline in the 2000s is relatively consistent across databases.

Figure 11. Gini index comparing different databases, 1980-2015



[24] See World Bank Central Microdata Catalog: http://microdata.worldbank.org/index.php/catalog/central
[25] IHSN Survey Catalog: http://catalog.ihsn.org/index.php/catalog



In their reviews of inequality databases, Jenkins, echoing Atkinson and Brandolini, recommends the use of non-standardized databases over standardized ones, and limiting any inferences about inequality trends to estimates across surveys with similar methodologies (Atkinson & Brandolini 2009; Jenkins 2015). Heeding this advice, the analysis in this paper has used harmonized data where possible: SEDLAC for Latin America and Povcal for other developing regions, making sure to hold survey type constant. It also remains vigilant to implausible trends that may signal data quality or comparability problems. For some of the longer-term, regional comparisons the GCIP data has been plotted, but the results of these analyses should be regarded as rough estimates at best.

Alternatives to the gini

In part due to these comparability and quality challenges, some scholars have chosen alterative sets of sources to household surveys. Thomas Piketty's 'Capital in the 21st Century' used top income shares, derived from tax data, to study inequality trends in Europe and North America. The inequality data from these studies was later used to establish the World Wealth and Income Database (WID), which provides long-run series on top income shares for a growing number of countries. Because of differences in tax structure the WID inequality measures are not strictly comparable across countries, but they offer a valuable perspective on within-country inequality trends.

Piketty, Atkinson and others offer several arguments for the use of top income shares rather than ginis in the study of inequality (Atkinson 2015a; Milanović 2016, p.16; Székely & Hilgert 1999). On conceptual grounds they have criticised the gini because it is a synthetic measure with no intuitive interpretation. When examining changes to the gini it is not obvious which groups are gaining or loosing relative to others. The same gini can be obtained from different distributional curves and the same magnitude rise or decline could be caused by changes at different points in the distribution. The gini has also been critiqued for its sensitivity to the

distribution towards the middle, relative to that at the top and bottom. Concentration at the top or deprivation at the bottom are arguably more important for understanding power and politics in society than movements at the centre. Consequently, the gini is slow moving and worse at measuring short-term shifts in inequality.

A further objection to the gini estimates derived from household surveys is their tendency to underestimate inequality, due to the failure to fully capture the top and bottom of the distribution (Cornia 2014; Milanović 2016; Atkinson 2015a). Household surveys have been shown to seriously under-report top incomes, both because small sample sizes reduce the probability of sampling the extremely wealthy, and because wealthy households are less likely to agree to partake in household surveys. In poor countries in particular, where the inequality at the very top of the distribution is extreme, results are easily skewed by the extent of capture or omission of such outliers. A study by Szekely and Hilgert (1999) found that the ten highest incomes reported in household surveys across 18 Latin American countries were usually around the level of a general manager, suggesting that household surveys miss the top percentile(s) of the income distribution. Household surveys are also poor at capturing income from capital, which tends to be more unequally distributed than labour income. This missing top of the distribution means that household surveys underestimate inequality, and movements in the gini may be over or underestimated, if top income shares are growing faster or slower than incomes overall.

However, it is also important to note that much of the top income share data is presented on a pre-tax rather than post-tax basis, thus providing a measure of inequality prior to government redistribution. If the level of redistribution changes over a period of time, trends in pre- and post-tax inequality may differ. For studies of redistributive policies, a pre-tax inequality measure is therefore less appropriate.

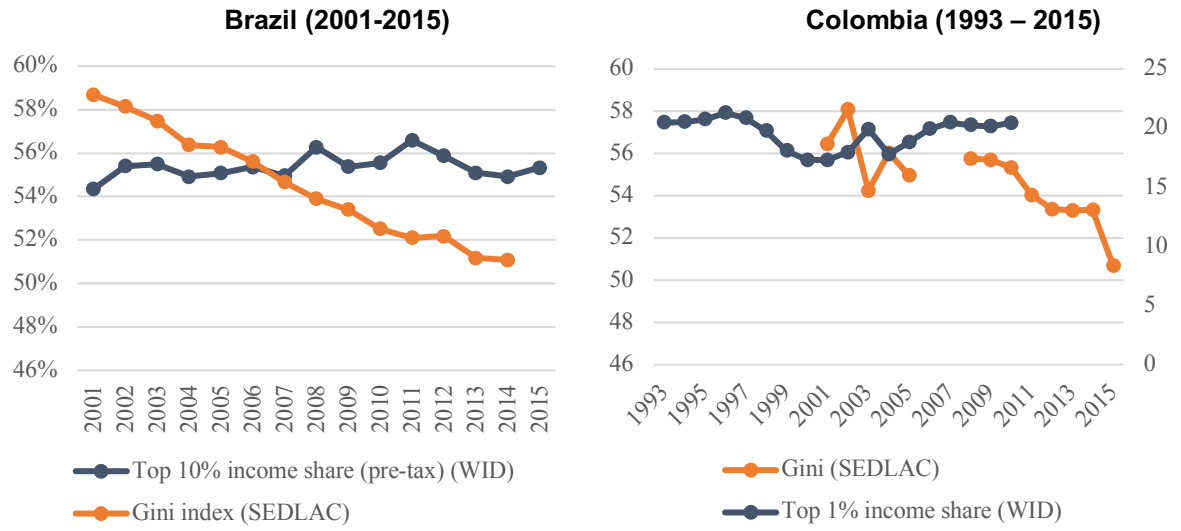
As shown by Alvaredo, it is possible to have a falling gini as measured by an uncorrected household survey, but an increasing one if the top tail had been appropriately captured.[26] In recent years researchers have therefore sought to correct gini estimates for the missing upper tail (Anand and Segal, 2017; Czajka 2017). A study of Cote d'Ivore found that imputing the missing high income earners from tax data into the household survey distribution increased the gini by 6 points, from 0.53 to 0.59 (Czajka 2017). There have also been attempts to use sources other than tax records to estimate top incomes. Van der Weide et al. have used property price data from Egypt to correct the urban gini estimates, in combination with assumptions about a Pareto distribution. In the Egyptian case this raised the estimated gini by 11 points (Van Der Weide et al. 2016).

It is also possible that the gini and top income share move in different directions, not solely due to measurement error, but also because the redistribution is taking place between the upper middle to the bottom. In Brazil the top 10% income share (pre-tax) remained relatively steady over the period 2001-2015 (as reported by WID), while the gini fell substantially (Figure 12). Efforts to decompose income growth rates by decile and correct for

[26] See discussion by Cornia, 2014, p.4.

underreported incomes at the top have shown that income shares fell slightly for the 50th-90th percentile while rising at the bottom (Morgan 2017). As in Brazil, in Colombia the top 1% income share increased slightly in the early 2000s as the gini began to fall.

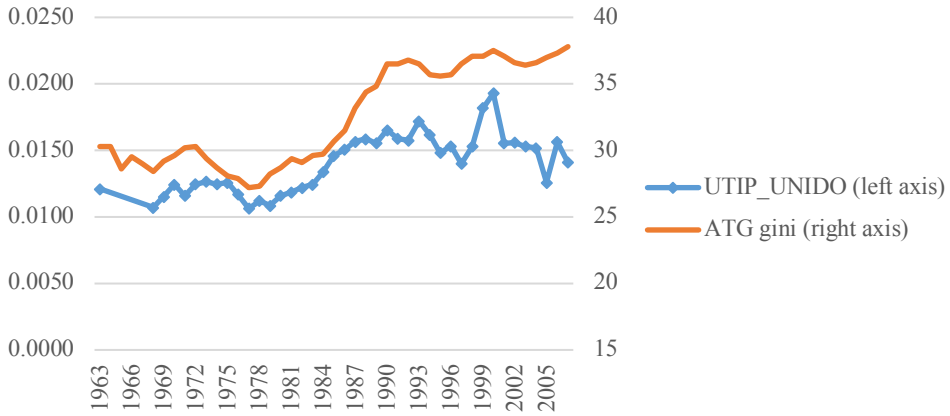
Figure 12. Comparison of top income share and gini trend



Lastly, one further alternative inequality source deserves mention. Galbraith has proposed using semi-aggregated economic datasets, such as those of average earnings by industry or subnational region, to estimate trends in inequality (Galbraith 2012). He observes that income inequality dynamics are often driven by changes in the structure of earnings, whether it be a rising or falling skills premium, and lagging and leading sectors. Because the sectoral and skills concentration differ across industries and geographic regions, changes in inequality in pay across such groups of employees are a strong proxy for inequality dynamics in the economy at large. He uses this data to show that labour income inequality is strongly correlated with financial markets; in the U.S. for instance, inequality tracks the stock market.

Using data from UNIDO on average earnings by manufacturing sub-sector, the UTIP-UNIDO database uses the between-group component of the Theil T statistic as a proxy for labour income inequality. The advantage of this approach is that it is simpler and cheaper to measure and less prone to error than ginis, which rest of results from expensive household surveys. Because income group data is available further back in time than household surveys, this approach allows the construction of longer inequality time series. For illustration, the figure below compares the inequality measure from UTIP-UNIDO for that from Milanovic's All the gini database for the United Kingdom. It shows considerable similarity in trend, if not always in the magnitude of change.

Figure 13. United Kingdom: inequality trends as measured by UTIP-UNIDO and the gini, 1963-2007



The UTIP-UNIDO inequality results, however, are less likely to approximate national income inequality in countries where the formal labour force and manufacturing sector is small. The results for low-income countries are therefore more volatile and less reliable to those from industrialized economies. Nonetheless, the use of semi-aggregate data from other types of datasets may prove an interesting alternative inequality series in low-income countries and a means of quality testing other data sources.

While these new and growing types of inequality data are rapidly improving our understanding of global inequality trends, at present the gini remains the most widely available measure of inequality in developing countries. Unlike the top income shares data moreover, it usually measures inequality net of taxes and transfers, which better suits the aim of this study. Despite numerous comparability problems, the measure is designed to allow comparisons across countries. For these reasons this paper has relied primarily on gini data, despite its many limitations.

Datasets

Abbreviation	Citation
SEDLAC	CEDLAS and The World Bank, July 2017, *Socio-Economic Database for Latin America and the Caribbean*, http://www.cedlas.econo.unlp.edu.ar/wp/en/estadisticas/sedlac/estadisticas
UTIP-UNIDO	Galbraith, James K., 2013, UTIP-UNIDO dataset, University of Texas Inequality Project (UTIP) https://utip.lbj.utexas.edu/data.html
GCIP	Lahoti, Rahul, Jayadev, Arjun and Reddy, Sanjay G., 2016, "The Global Consumption and Income Project (GCIP): An Overview." http://gcip.info/
ATG	Milanovic, Branko, 2014, *"All the ginis" dataset*, http://www.worldbank.org/en/research/brief/all-the-ginis
SWIID	Solt, Frederick, 2016, "The Standardized World Income Inequality Database." *Social Science Quarterly* 97(5):1267-1281. http://fsolt.org/swiid/
POVCAL	World Bank, *Povcalnet*, http://iresearch.worldbank.org/PovcalNet/home.aspx
WDI	World Bank, 2017, *World Development Indicators*, https://data.worldbank.org/products/wdi
WID	World Wealth and Income Database (WID.World), http://wid.world/

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