

## Chapter 9. Recent trends in income inequality

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### Summary of key points

- In most advanced industrialized economies, within-country income inequality has risen since the 1980s after falling earlier in the 20th century. However, there were significant differences between countries in terms of the timing and extent of the rise.
- Globally, the picture is much more complex, with recent falls in inequality in many high-inequality countries resulting in an average Gini index today that is quite similar to that of about 1990.
- Significant rises in inequality since 1990 in several populous countries, including China, India, and the USA, mean that the average person lived in a country that had meaningful rises in inequality.
- Given several concerns about data quality and interpretation, it is important to consider multiple perspectives on inequality. In particular, figures on top income shares that incorporate tax data and national accounts are a key complement to standard Gini index estimates based on survey data alone and, in some cases, present notably less benign trends in recent years.

### Introduction

This chapter provides the global context of economic inequalities related to income, which is important to understand health and cancer inequalities. In recent years there has been something of a renaissance in the study of economic inequality, simultaneously responding to, and feeding, the emergence of a public and political consciousness of the issue. Today, social scientists find themselves equipped with a wealth of easily accessible data on inequalities, much of which was unavailable to them 20 years ago.

The purpose of this chapter is to briefly summarize this body of evidence. The focus is on income inequality within countries across three dimensions: overall inequality, the share of income received by the top 1% of the income distribution (referred to here as

the “top 1%”), and relative poverty rates. Some context is first provided by a brief look at recent changes in the global distribution of income.

Among advanced industrial economies, the availability of comparable long-term data reveals a general increase in income inequality in the final decades of the 20th century, after substantial declines earlier in the century. However, even among this relatively homogeneous group of countries there are significant and noteworthy differences in terms of the timing and extent of the increase. When global trends are considered, the picture is much more complex. Inequality has evolved very differently in different countries, with falling or constant levels of inequality in many countries and rising levels in others. No single narrative serves to capture this heterogeneity adequately, but some clear regional patterns do emerge.

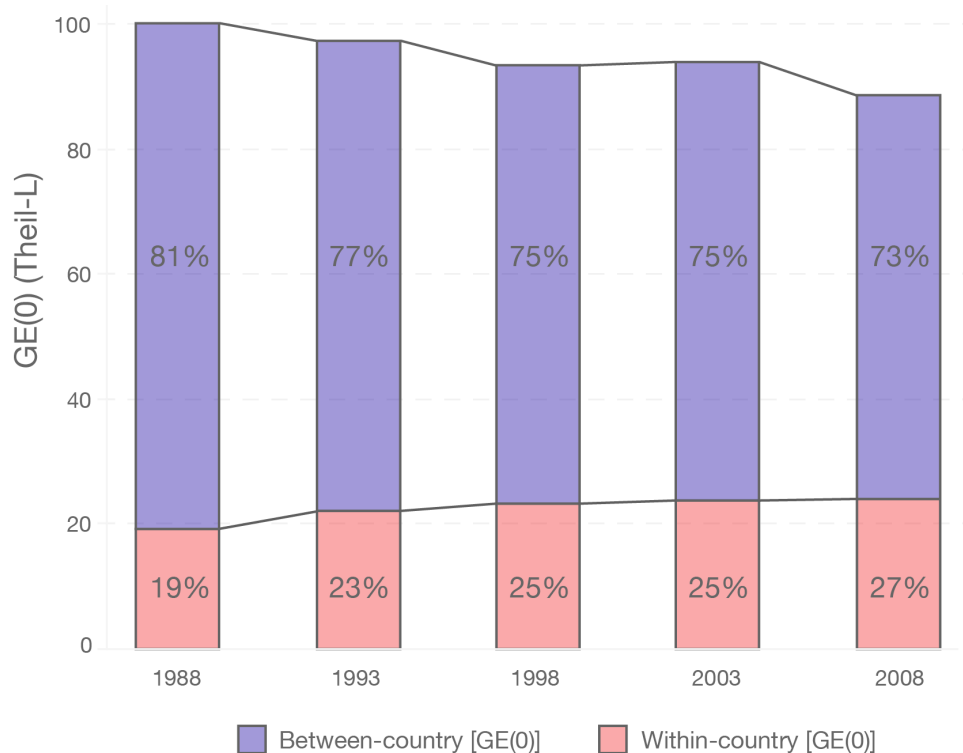
Important provisos about the coverage and quality of available data become increasingly pertinent the broader the range of countries and the longer the time period being considered. However, the interpretation of all inequality data requires some care. Unlike the measurement of height or weight, trends and comparisons of inequality data may appear quite different depending on the particular measure chosen. In this chapter these issues are highlighted, including a brief discussion of some particular limitations that should be considered when linking inequality data to health outcomes.

### **Global income inequality**

Global income inequality simply reflects the combination of inequality between countries and within countries. Between-country inequality is basically due to relative rates of economic growth. Rapid growth in many developing countries, most notably in Asia, and a relative slowing of growth in high-income countries have brought about a convergence in average per capita incomes between countries in recent decades; after two centuries of divergence, this development is of historical significance (Pomeranz, 2000). At the same time, some of the processes driving this catch-up, such as globalization or technological development, have been charged with contributing to the rising inequality seen within many countries, both rich and poor, since the 1980s (Freeman, 1995; Bourguignon, 2015; Basu, 2016). Studying changes in the global income distribution enables these movements to be considered jointly.

Lakner and Milanovic (2016) provided estimates for global inequality decomposed into separate within-country and between-country components (Fig. 9.1). The estimates show that although between-country inequalities are diminishing, they still vastly

outweigh within-country inequalities. The increase in within-country inequality visible throughout the 1980s and 1990s, although significant, has been outpaced by the convergence in average incomes between countries, translating into a reduction in overall global inequality.



**Fig. 9.1.** Global inequality decomposed into inequalities between countries and within countries. The estimates were constructed by combining national household surveys, some of which referred to consumption and others to (disposable) income, at 2011 purchasing power parity exchange rates. Where surveys in the reference year were unavailable, adjacent years were also used. The inequality metric here is of the Generalized Entropy family.  $GE(0)$  (or Theil-L index) is a decomposable measure of overall inequality equal to the mean log deviation. The top horizontal line shows the evolution of overall inequality and the lower horizontal line that of within-country inequality, both in population-weighted terms. The proportions of the between-country and within-country component of global inequality are given as percentages of total inequality for each reference year. Source: compiled from Lakner and Milanovic (2016, Table A.3).

Note that in Fig. 9.1 there is evidence of a flattening-out in the within-country component in recent years. However, it should be noted that this trend, as well as that for overall global inequality, is sensitive to how incomes at the very top of the distribution are accounted for and, indeed, to the measure of inequality chosen. (Ravallion (2018), for instance, reported a range of Atkinson indices that yield rising global income inequality over this period.) In focusing on the share of income received by top-earning percentiles of the population (as captured in administrative tax data), the *World*

*inequality report* painted a rather different picture of the evolution of global inequality: between 1988 and 2016 the global top 1% pulled away, with average income growing 100% compared with 60% growth in the world average (WIL, 2018). (Lakner and Milanovic (2016) checked their global inequality estimates for robustness to making some allowance for these missing top incomes. In this case, a far smaller fall was reported over the period 1988–2008, and inequality was only observed to decline after 2000.)

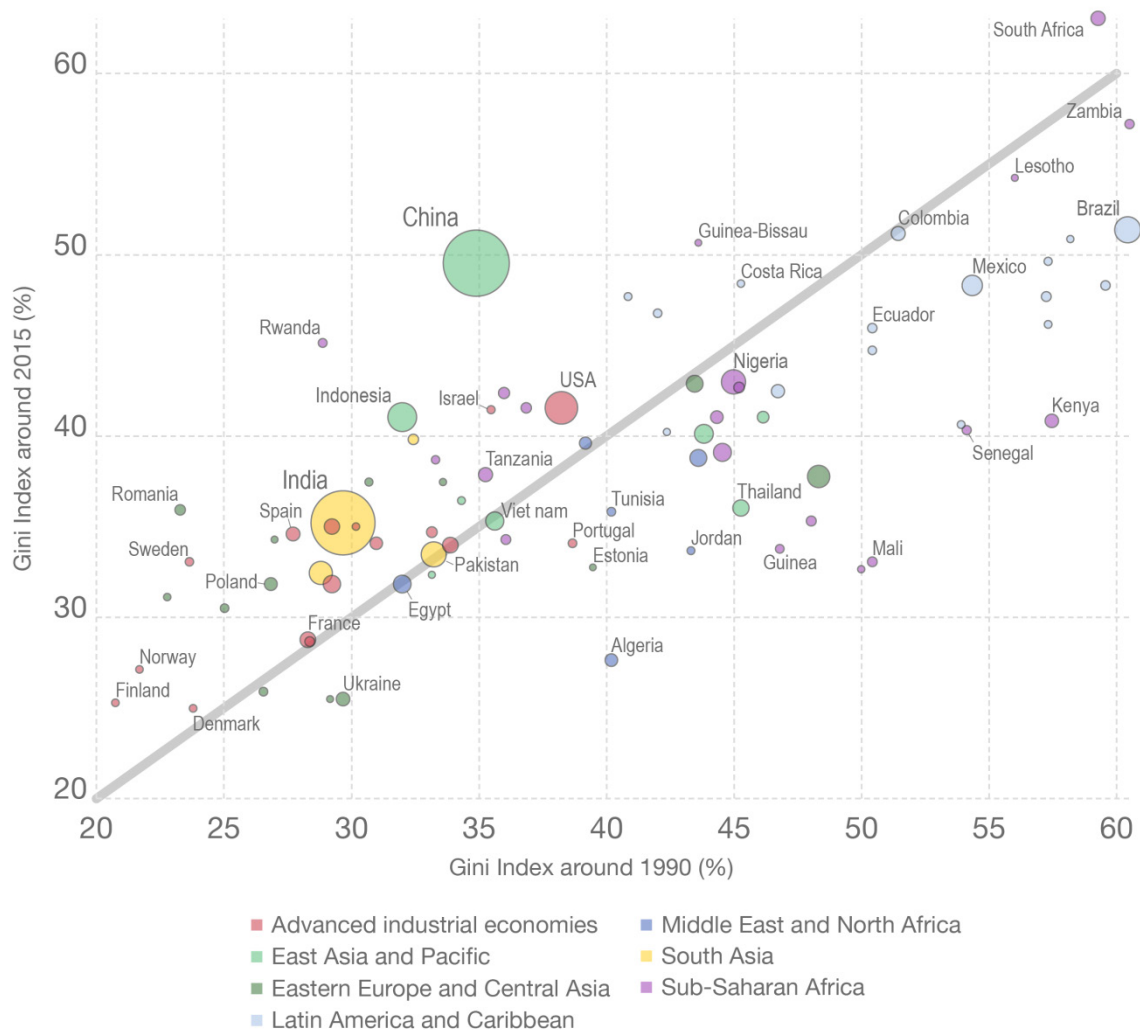
## Within-country income inequality

### *Overall income inequality*

Focusing on the within-country inequality, we first consider overall inequality as captured by the most commonly used inequality indicator: the Gini index. This attempts to summarize, in a single number, the degree of dispersion across the entire distribution. It is most easily understood in terms of mean difference: a Gini index of  $G\%$  means that, if we take any two households from the population at random, the expected difference is  $2G\%$  of the mean.

#### *Global picture since 1990*

Fig. 9.2 compares the Gini index for about 2015 with that for about 1990. The estimates are based on household surveys conducted at the national level, drawing primarily from the World Bank's Povcal database (World Bank, 2018), with additional figures from the *The chartbook of economic inequality* (Atkinson et al., 2017). Given that surveys are often not conducted on a regular annual basis, estimates for the year closest to each reference year were selected up to a maximum time difference of 5 years. On the basis of this rule, the shortest admissible time between surveys was 15 years, from 1995 to 2010. In practice, Mali had the shortest such time span, with surveys taken from 1994 and 2010; it is only for 6 out of 84 countries that the selected surveys fell less than 20 years apart.



**Fig. 9.2.** Gini index for about 2015 plotted against that for about 1990, including both income and consumption survey data. Only countries for which estimates of the Gini index were based on broadly comparable surveys for the two reference years were included. The closest survey to the reference year was selected, up to a maximum of 5 years difference. The size of the circles is in proportion to population size. Data for China are from Kanbur et al. (2017, Table 1.B). Source: compiled from Atkinson et al. (2017), Kanbur et al. (2017), and World Bank (2018).

It is important to stress that Fig. 9.2 includes a rather heterogeneous mix of data points that are based on a broad range of survey methodologies and concepts. This introduces significant comparability issues (Alvaredo and Gasparini, 2014; Lakner and Milanovic, 2016). Of these, the most acute divergence is between the use of consumption versus income as the measure of welfare within the survey. Generally speaking, lower-income countries use consumption measures and higher-income countries use income measures. Crucially, the level of consumption is, as a rule, more equally distributed across households than is income, with the gap increasing with

average incomes (World Bank, 2016, p. 78–9). (This gap reflects (i) the increasing propensity to save at higher incomes and (ii) a more general tendency for households to smooth consumption levels over time.) The more level distribution of consumption implies a downwards bias in consumption surveys relative to income surveys. This is particularly true for countries with higher average incomes that are represented in Fig. 9.2 on the basis of consumption surveys, such as the Russian Federation. In contrast, surveys in Latin American countries are predominantly based on income, thereby exaggerating somewhat their position relative to other low- and middle-income countries. (To address this issue, Alvaredo and Gasparini (2014), in their analysis of the Povcal data, choose to apply a downwards adjustment of about 15% to Latin American and Caribbean estimates, so that a Gini index of 50% is reduced to about 43%. This option is not taken here.) Moreover, even among surveys that measure household income, there are a range of income concepts that may be used, relating to which kinds of income are counted and how taxes and transfers are considered.

Such heterogeneity is unavoidable if one wishes to take a global view. However, to attempt to manage this issue, only countries for which the Gini index estimates for the two reference years were based on broadly comparable surveys are included in Fig. 9.2. This restricts the sample to 83 countries.

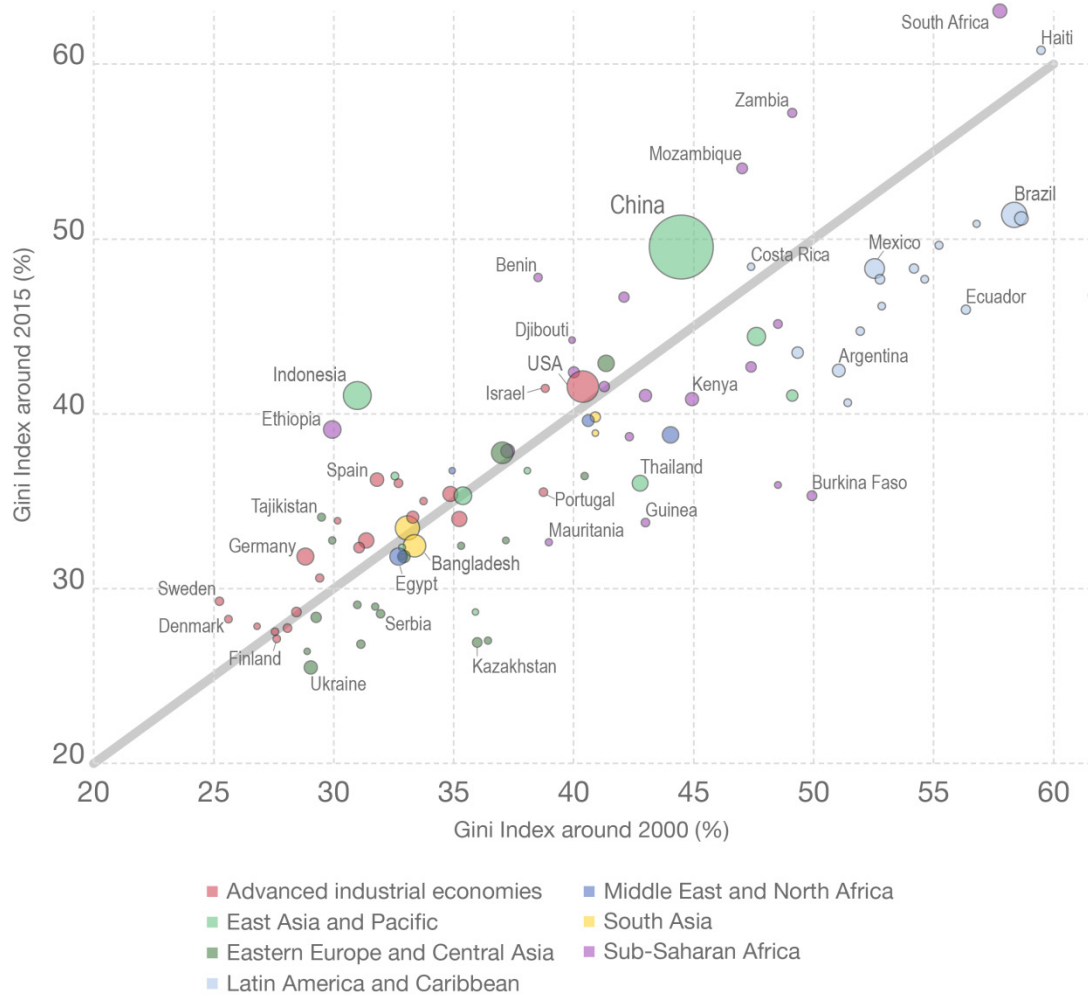
The colours of the bubbles refer to world region, with advanced industrial economies (as defined by the World Bank, 2016) presented as a separate group. Overall, inequality tends to be higher in Caribbean, Latin American, and sub-Saharan African countries. The Scandinavian countries, and several eastern European and central Asian countries, are positioned at the opposite end of the spectrum. Most advanced industrial economies have a Gini index clustered at about 30–35%, and the USA shows the highest inequality during both periods.

In the figure a 45-degree line is plotted. Those countries lying above the line in Fig. 9.2 show higher inequality in (or around) 2015 than 1990, and those below the line lower inequality. Across all countries, we see a roughly equal split between countries with higher or lower inequality across the two periods. However, comparing high- and low-inequality countries, we see different patterns. Among those countries with a Gini index below 40% in 1990, there were substantial declines in very few during the period until 2015. Above this threshold, however, the inverse holds. Fig. 9.2 therefore suggests a modest convergence in the Gini index across countries between 1990 and 2015. The

pattern, however, works in large part through regional dynamics. There was an increase in inequality in most southern Asian countries, in most advanced industrial economies, and in several transitioning countries in eastern Europe. Across the Caribbean and Latin America, as well as North Africa and the Middle East, the Gini index decreased for almost all countries. Countries in sub-Saharan Africa and the eastern Asia and Pacific regions had more mixed results, with falling inequality among countries with higher inequality in 1990 and rising inequality among countries with lower inequality in 1990.

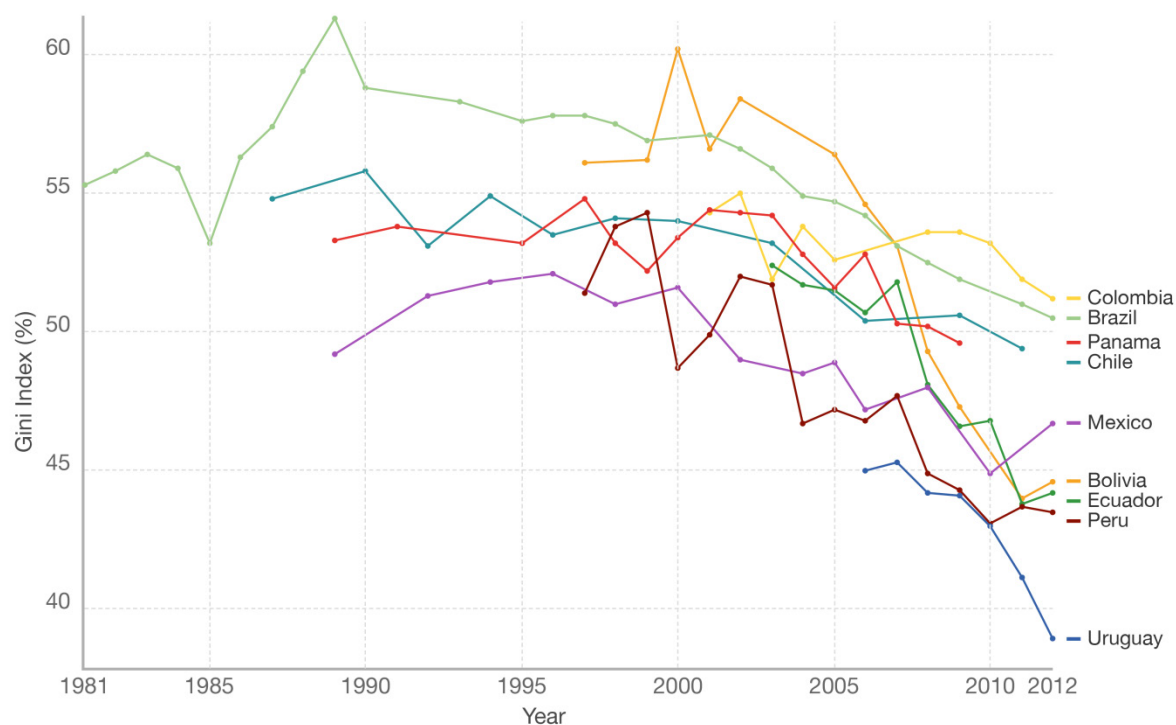
In terms of the average Gini index, these contrasting trends largely cancelled themselves out during the period; the mean index across all countries in the sample was more or less the same in about 2015 (38.6%) as it was in about 2015 (39.6%), a fall of 1 percentage point being small compared with the large variation in the data. However, sizeable increases in inequality in several populous countries, including China, India, Indonesia, and the USA, yielded a population-weighted average that increased by four percentage points (from 36.7% to 40.8%), in line with the rise seen in the within-country component of global inequality in Fig. 9.1. Therefore, although in the average country in the sample there was no significant change in the Gini index between 1990 and 2015, the average person lived in a country that had meaningful rises in inequality. (The sample covers less than half of the countries in the world but represents about 85% of the global population; although better global coverage might be expected to affect the unweighted mean reported here, the population-weighted mean would be unlikely to change much.)

Fig. 9.2 does not enable us to trace the different paths taken by countries over the 25 years between the observations; repeating the exercise for the period after 2000 yields some additional information (Fig. 9.3). In this example, surveys were selected with a maximum period of 3 years between each reference year; this increased the number of countries plotted to 93, but India was excluded because of the absence of survey data for about 2000. In terms of additional information, we see that the fall among Caribbean and Latin American countries was concentrated after 2000 (as confirmed in Fig. 9.4), whereas the rises in eastern Europe seen in Fig. 9.2 occurred in the post-Soviet period during the 1990s. Among advanced industrial economies, the rise seen over the full period from 1990 was still continuing into the new millennium.



**Fig. 9.3.** Gini index for about 2015 plotted against that for about 2000. Both income and consumption survey data were included. Only countries for which estimates of the Gini index were based on broadly comparable surveys for the two reference years were included. The closest survey to the reference year was selected, up to a maximum of 3 years difference. The size of the circles is in proportion to population size. Data for China are from Kanbur et al. (2017, Table 1.B). Source: compiled from Atkinson et al. (2017), Kanbur et al. (2017), and World Bank (2018).

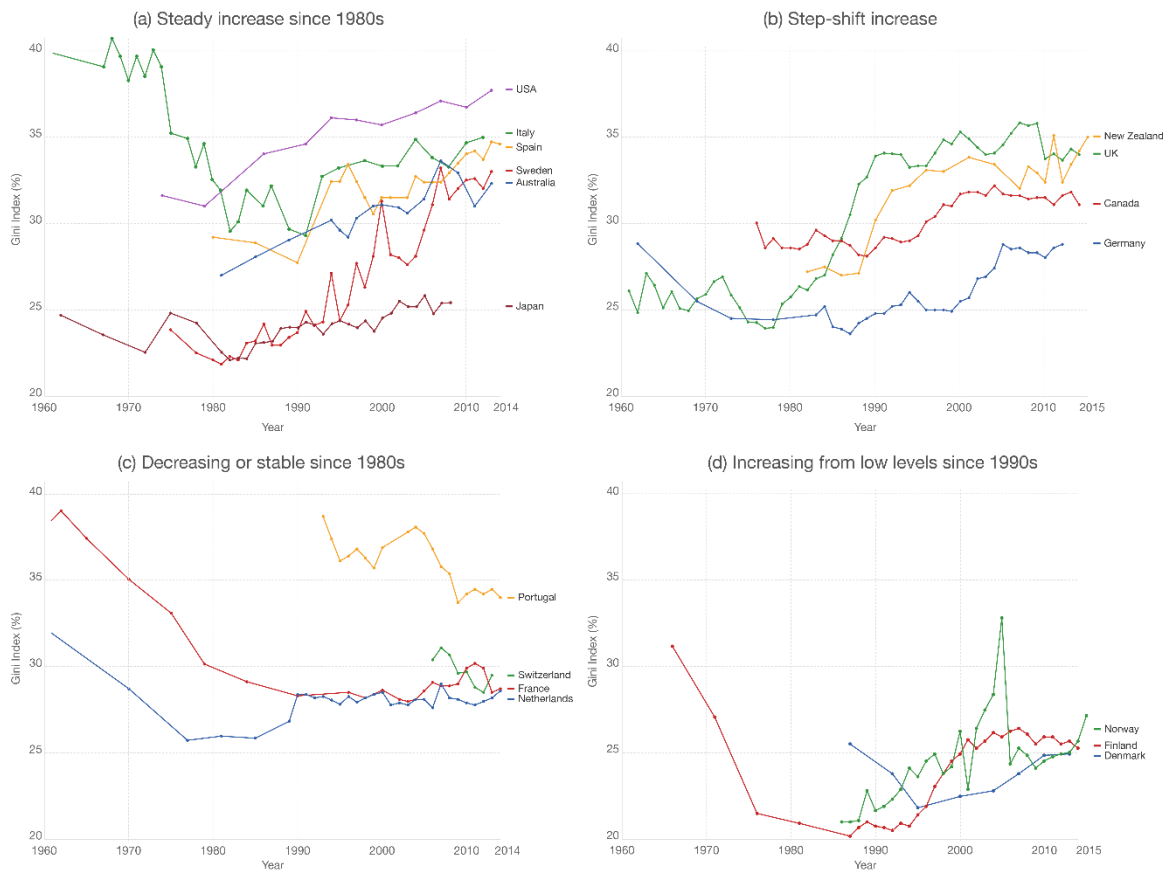




**Fig. 9.4.** Gini index in selected Latin American countries for the period 1981–2012. Figures refer to equivalized household income, defined as market income plus transfers, less taxes on wage income. Source: SEDLAC (CEDLAS and the World Bank) (2018).

### *Long-term picture in advanced industrial economies*

For several advanced industrial economies, we can benefit from longer-term Gini index series conforming to a more homogeneous set of definitions. In this section we refer to inequality of equivalized disposable household income, that is, income after taxes and transfers have been paid, measured at the household level, but adjusted to account for the size and composition of the household. We primarily draw on data presented in *The chartbook of economic inequality* (Atkinson et al., 2017). Fig. 9.5 demonstrates a general rise in overall income inequality among advanced industrial economies since the 1980s. However, the extent and timing of any increase differed significantly between countries. To highlight these differences, we group countries into those following loosely similar trends over this period. Several countries underwent a more or less continuous increase in inequality between the 1980s and the 2010s (Fig. 9.5a). Another cluster is formed by several Nordic countries, which began their climb somewhat later in the 1990s, and from a lower starting point (Fig. 9.5d).



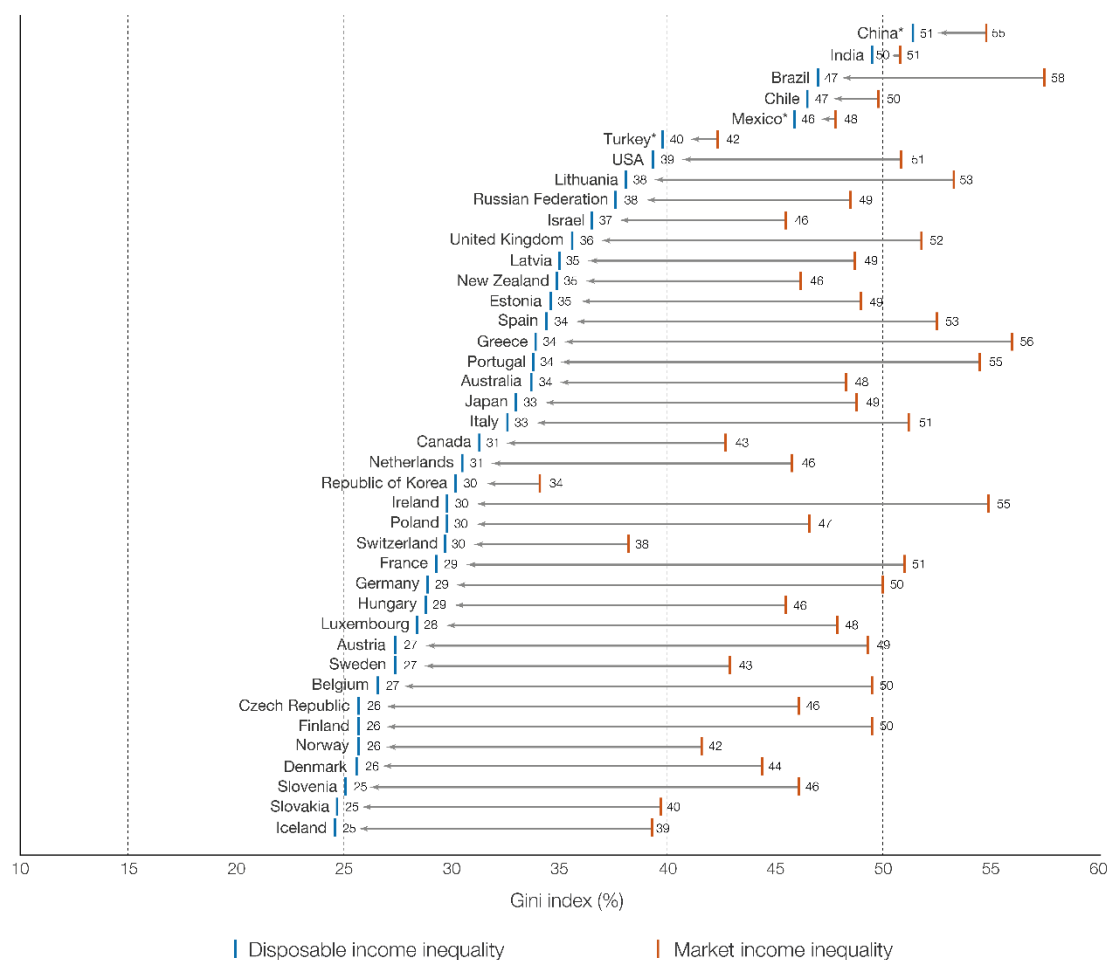
**Fig. 9.5.** Gini index in high-income countries for the period 1960–2015. In most cases figures refer to disposable (after taxes and transfers) household income, equivalized for household composition. For Canada, the unit of analysis is the family; for Italy, figures are per capita. Data for Denmark and the USA are from LIS (2018). Source: LIS (2018).

Indeed, a geographical distinction is often made between high-inequality English-speaking countries, the more moderate continental European countries, and low-inequality Nordic countries. Although it is informative, even this very loose typology masks important differences. For example, Sweden (Fig. 9.5a) stands out in terms of the extent of the rise in inequality seen there, following a different trend from its Nordic neighbours and joining the ranks of countries such as New Zealand and the United Kingdom. More modest, but still significant, increases in inequality in Denmark, Finland, and Norway contrast with the steady levels in France and the Netherlands (Fig. 9.5c), which contribute to a relative convergence between continental European and Nordic countries from the 1980s. The step increase in inequality seen at a greater magnitude in Canada, New Zealand, and the United Kingdom, and at a lower magnitude in Finland and Germany (Fig. 9.5b), also merits attention; the recent levelling out in these countries increasingly serves to accentuate the exceptionality of the USA among high-income countries.

Taken together, advanced industrial economies are today considerably more unequal places than they were in the 1980s. In very recent years, however, the trend is less clear, with the Gini index rising, falling, and levelling out in roughly equal proportions among advanced industrial economies in the post-2008 period (World Bank, 2016, Table 4.1).

#### *Inequality before and after taxes and transfers*

Using Organisation for Economic Co-operation and Development (OECD) data from 2014 (OECD, 2018), Fig. 9.6 shows the Gini index for market income in red and that for disposable income in blue. The size of the gap between the two measures captures the effect of the system of taxes and transfers (both public and private) on reducing overall inequality. (As noted by Morelli et al. (2015), this difference captures the effect of redistribution rather imprecisely. Between the countries there are important differences in what is counted as a transfer, particularly in relation to pension systems. Moreover, any market responses to tax policy are already included in market income inequality.)



**Fig. 9.6.** Gini index of market and disposable income, where figures refer to equivalized household income. Most observations are from 2014, but if data from 2014 were not available earlier observations are shown (the earliest is 2011, for China, India, and the Russian Federation). Estimates for the Netherlands are provisional, according to the OECD. \*, market income Gini index for China, Hungary, Mexico, and Turkey refers to income after taxes and before transfers. Source: OECD (2018).

The large variation in the redistributive effect of taxes and transfers systems in different countries means that the resulting level of overall inequality of disposable income has a large degree of independence from market incomes. For instance, inequality in Chile, India, and Mexico is comparable to that in Finland if we consider incomes before taxes and transfers. However, these countries contrast sharply in terms of their levels of disposable income inequality. Despite starting out with the least equal distribution of market income among OECD countries, Ireland achieves a level of income inequality after taxes and transfers that is considerably lower than that of the United Kingdom.

This is, however, not to downplay the role of market incomes in shaping disposable income inequality. The Republic of Korea is a case in point here: despite minimal redistribution, it lies towards the middle of the rankings in terms of disposable income inequality because of its very low level of inequality in incomes before taxes and transfers (e.g. lower than inequality after taxes and transfers in both the United Kingdom and the USA). More generally, increasing concerns about the political or economic limits to redistributive taxation have brought attention to the level of inequality of market incomes as an important issue in its own right, as well as to the potential role of predistribution policies to encourage a more equal spread of incomes, assets, and opportunities before the operation of the taxes and transfers system (Atkinson, 2015).

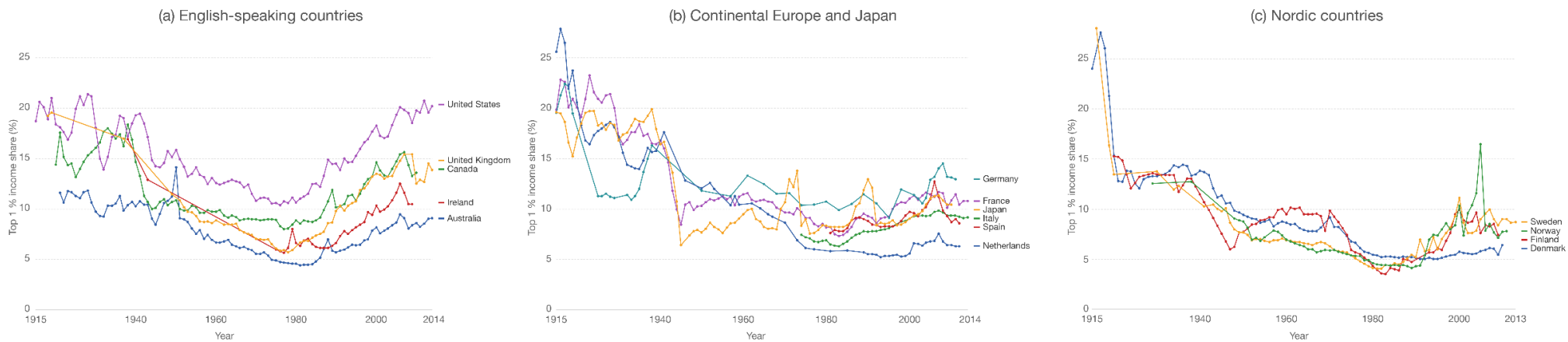
### ***Top income shares***

In recent years, increasing attention has been paid to the share of income received by the highest-earning proportions of the population (referred to here as “top income shares”) (Atkinson and Piketty, 2007, 2010). This approach has several advantages. First, it addresses a lack of sensitivity in the Gini index to shifts at the extremes of the distribution (Osberg, 2017; WIL, 2018). Second, in practice, the use of the top income shares measure has gone hand in hand with the use of administrative tax data and national accounts aggregates, as opposed to household survey data alone. (Alvaredo et al. (2016) set out a methodology for incorporating both survey and tax data to impute an income distribution consistent with total household income as reported in national accounts. Some of the top income shares series in the World Inequality Database (WID, 2018) are derived in accordance with this distributional national account (DINA) approach.) Such fiscal data avoids one major shortcoming of survey data: that of underreporting of incomes or non-response by those at the very top of the income distribution, and the underestimation of inequality that this may imply.

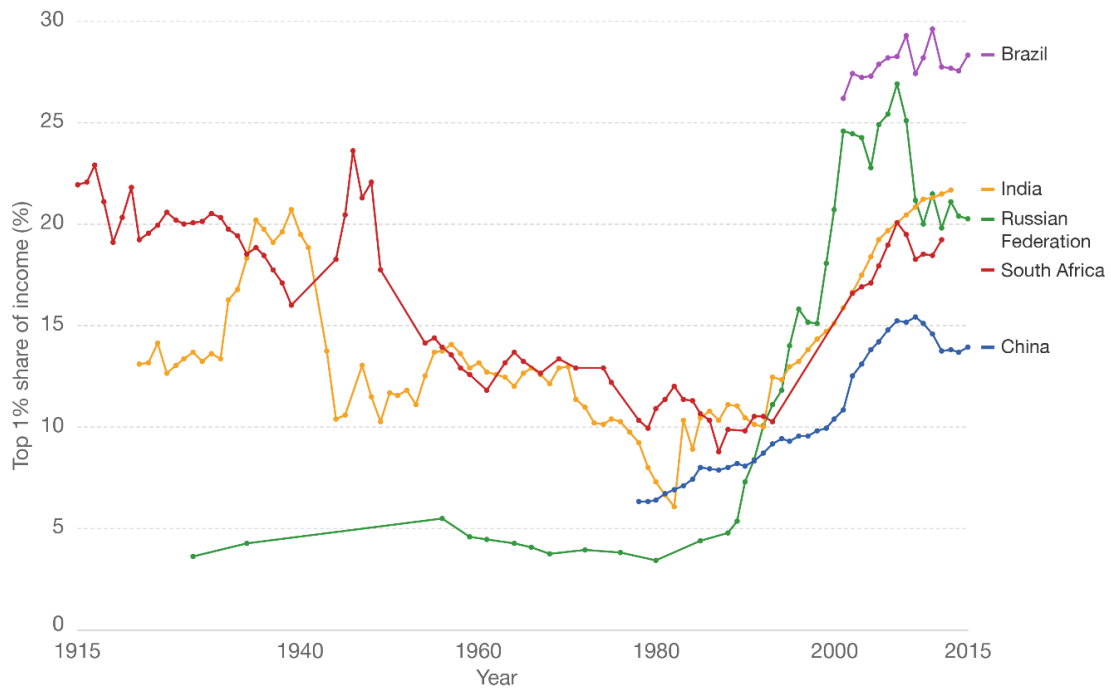
The Gini indexes reported in the previous section were based exclusively on household surveys. (Analysis by Atkinson et al. (2011) shows that a combination of survey data and administrative tax data for top incomes in the USA implies that standard Gini index estimates for the country based on survey data alone underestimate the increase in inequality between 1970 and 2006 by more than one half.) As well as affecting levels, this may potentially also understate inequality trends over time, as demonstrated by Atkinson et al. (2011), for instance, in the case of the

USA. Top income shares therefore serve as an important counterpart to the foregoing observations using Gini index estimates based on survey data alone.

Another benefit of tax data is that they are often available over far longer timeframes than household survey data are. Consequently, for many countries a much longer-term view of inequality trends is available with top income shares than with the Gini index calculated from household surveys. The downside is that, at present, long-term data are available for a limited range of countries, somewhat skewed towards advanced industrial economies, and this makes summary statements of global scope difficult. Fig. 9.7 shows the share of (pre-tax) income received by the top 1% across three groups of high-income countries: English-speaking countries, central Europe (plus Japan), and Nordic countries. Fig. 9.8 shows the same series for the so-called BRICS grouping of countries (Brazil, the Russian Federation, India, China, and South Africa). In both cases the data are drawn from the World Inequality Database (WID, 2018).



**Fig. 9.7.** Top 1% share of pre-tax income (all income received by individual owners of capital and labour, before tax/transfers but after pensions) in high-income countries for the period 1915–2014. The Italian series on top income share was extended to 2014 (provisional estimates) using adjusted council-level data on incomes reported in income tax returns, kindly provided by Demetrio Guzzanti. Source: WID (2018).



**Fig. 9.8.** Top 1% share of pre-tax income (defined as for Fig. 9.7) in BRICS countries for the period 1915–2015. BRICS, Brazil, the Russian Federation, India, China, and South Africa. Source: WID (2018).

Many of the general observations noted for the Gini index (Figs. 9.2–9.4) still hold. English-speaking countries have, in general, seen a prominent rise in the top 1% share in recent decades, with more muted increases in continental European and Nordic countries. This rise came after a fall, such that most European countries today remain much more equal places than in the early 20th century. After strong rises in inequality since the 1980s, the BRICS group of countries (Fig. 9.8) today displays levels of top 1% shares that are generally higher than that of high-income countries, in parallel with the Gini index.

The correlation between top income shares and Gini index is, however, far from perfect; indeed, the correlation has weakened somewhat since 2000 (Morelli et al., 2015). The persistently high top 1% share in Brazil, for instance, contrasts with the falling Gini index seen in Fig. 9.4. In the Russian Federation, large declines in the Gini index based on consumption surveys during the 1990s (coinciding with the post-Soviet economic collapse) directly contrast with the rocketing top 1% share over the same period.

Overall, the picture of recent inequality trends painted by top income shares is somewhat less benign than that given by standard Gini index estimates. Among the 22

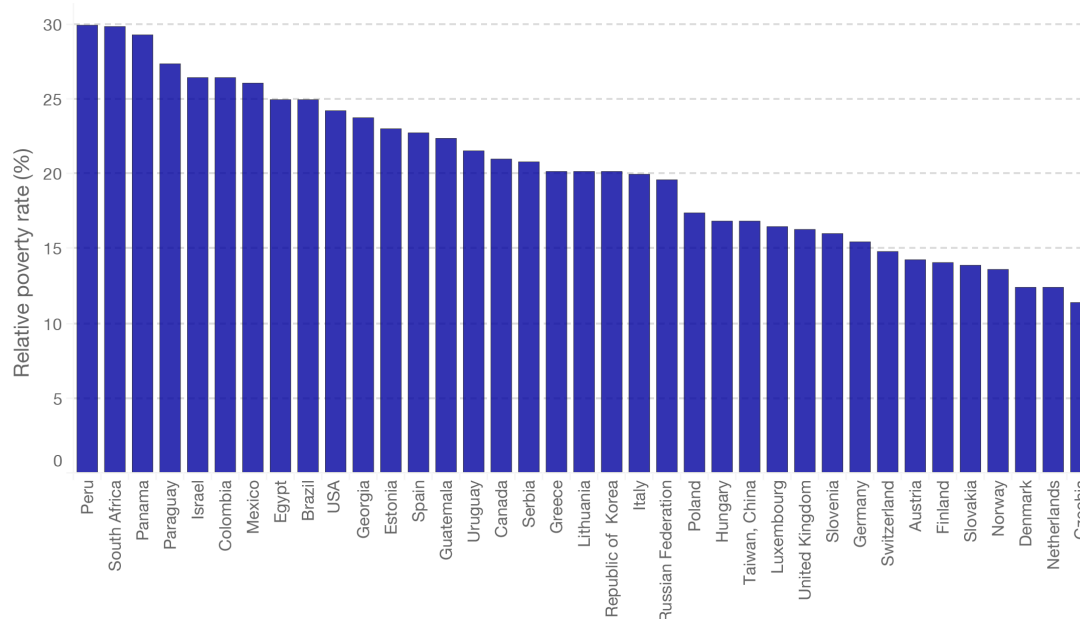


countries for which top 1% share estimates were available in the World Inequality Database (WID, 2018) about both 2000 and 2015, more countries saw meaningful increases than falls; this is in direct contrast to the change in the Gini index over the same period (Fig. 9.3). This disparity is at least partly due to selection, however, with those countries that have rising Gini index values in Fig. 9.3 overrepresented within this small sample. Nevertheless, given the acknowledged weaknesses of Gini index estimates based on household survey data to capture movements at the extremes of the distribution, data on top income shares, where available, provide an indispensable additional perspective.

### ***Relative poverty rates***

Whereas top income shares track the incomes of a fixed (upper) proportion of the population, poverty rates do the reverse: they fix a level of income (a poverty line) and track the proportion of the population that falls beneath that level. In the case of an absolute poverty rate, that poverty line is set so as to maintain a constant purchasing power over time, at a level considered necessary to achieve a certain minimum standard of living. Relative poverty rates instead refer to a poverty line that is tied in some way to the average standard of living of the time. In real terms, that threshold may rise and fall with the overall fortunes of the population in question. It is this comparative feature that makes the measure an indicator of inequality.

In practice, relative poverty lines are typically defined as some fraction of the contemporaneous median income. We now consider the percentage of individuals with disposable incomes less than 60% of the national median, adopted by the European Union (among others) as its headline poverty indicator. When those countries with estimates available between 2012 and 2014 are considered (Fig. 9.9), poverty rates range from 11% in Czechia to almost 30% in Peru and South Africa. As with other dimensions of income inequality, lower-income countries generally feature more heavily at the top end of the rankings. Again, English-speaking and southern European countries have generally higher levels of inequality than their continental European counterparts, which in turn are more unequal than Nordic countries.



**Fig. 9.9.** Relative poverty rates (percentage of the total population living in households with equivalized disposable income < 60% of the median) for about 2014. Source: LIS (2018).

In terms of trends over time (Fig. 9.10), few generalizations are possible, with the exception that, when the most recent observations are compared with those about 1980, no country with available data for this period has seen a meaningful fall in poverty rates. However, some countries stand out for the increase that has occurred over this period; Israel is particularly notable in this respect, and Germany, Spain, and Taiwan, China also had increases of several percentage points. There was also a significant jump in Finland from the mid-1990s onwards, which moved the poverty rate towards the higher end among Nordic countries, matching the movement seen in the Gini index. After earlier falls in the poverty rate, Canada and France have largely rebounded in recent years. In contrast, in the United Kingdom, a marked increase throughout the 1970s and 1980s has been reversed since 2000, leaving the country with poverty rates more in line with those of the continental European countries. The available data for Ireland extend back long enough to show, at least, that this fall was mirrored there.



**Fig. 9.10.** Relative poverty rates (< 60% of the median) for the period 1978–2014. \*, including Taiwan, China. Source: LIS (2018).

### Using economic inequality data in health inequalities research

To maintain a meaningfully consistent metric across countries and years, attention must be paid to a number of seemingly technical issues in the definition and measurement of inequality. Following Atkinson and Bourguignon (2015, p. xxxiv), we can consider a checklist of questions in assessing the comparability of two inequality data points: (i) inequality of what (pre- or post-tax income, wealth, consumption, other dimensions of well-being); (ii) between whom (individuals, families, or households, with various ways of accounting for household composition); (iii) according to which sources (surveys, tax data); and (iv) according to which measure (Gini index, top shares, etc.).

Such issues, as we have already seen, impinge upon us even in attempting to describe recent inequality trends; they are even more important in attempting to investigate the social impacts of economic inequality, including its relation to health outcomes including cancer. Particular caution has been sounded in the inequality literature against the uncritical use of secondary databases of distributional statistics in econometric studies involving inequality measures as an independent variable (Atkinson

and Brandolini, 2001; Jenkins, 2015). Given the facility of sources such as the World Income Inequality Database assembled by the United Nations University World Institute for Development Economics Research (UNU-WIDER, 2018), and its standardized counterpart, it is easy to lose sight of the quality of the ultimate data upon which the sources are constructed, the significant comparability issues between many of the underlying sources that are available, and the interpolation used to fill in for those that are not. Notwithstanding improvements in recent versions of these sources, Atkinson and Bourguignon (2015, p. xxxiii) still advise “careful inspection” before their use.

Clarity about proposed causal mechanisms and how these relate to available distributional data is also needed. In discussing health inequality, Deaton (2013) made a strong case for the position that “facts and correlations, without an understanding of causation, are neither sufficient to guide policy nor to make ethical judgments”. Even if we view the facts of inequality as of ethical import in and of themselves (Atkinson, 2015), in seeking to connect them to other social phenomena, such as health, attention to causality is surely warranted. For instance, causal interpretations of the negative cross-country association between population health and income inequality, as observed in several studies, should be informed by the general absence of an effect when moving to panel or time series data, as surveyed in O’Donnell et al. (2015). However, any empirical approach must take into account the strengths and weaknesses of the various inequality data used. Atkinson and Bourguignon (2015, p. xxxvii) further remind us that a very noisy regressor – as the foregoing discussion suggests many inequality series may well be – is unlikely to yield significant results, regardless of the true relationship. Moreover, depending on the causal path being hypothesized, some inequality measures may be more apt than others. If, for instance, extreme economic disparities are thought to pose a threat to health equality via specifically political channels, as Deaton (2013) suggests, then inequality measures that pay particular attention to top income shares may be more relevant.

## Conclusions

In recent decades, levels of income inequality have risen in most advanced industrial economies. Long-term data show that this increase was preceded by a sustained decline from the early 20th century onwards, tracing a broad U-shaped trend (Atkinson and Piketty, 2007, 2010) over the century in English-speaking countries, with more muted increases in continental European countries. These increases continued in many

countries into the 21st century, but Gini indexes have been broadly stable since the global financial crisis of 2007–2008.

When the view is broadened to the global level, the picture is much more heterogeneous. Declines in many countries balance out rises in others, at least in terms of the unweighted mean. However, many of the world's most populous countries had significant increases in inequality, resulting in an increasing population-weighted average since 1990. In terms of inequality among all global citizens, this increase in the within-country component was outpaced by convergence in mean incomes of countries, resulting in a decline in global inequality that has gathered pace since 2000.

As we have argued, data on top income shares cast doubts on some of these conclusions, at times contradicting trends shown in the Gini index based on household survey data alone. However, the restricted coverage prevents us from making a full like-for-like comparison at present. More generally, it is important to remember that the way we choose to operationalize our common notions of inequality, and how we measure this, may considerably affect the resulting picture of inequality. A focus on wealth inequality, for instance, would paint a far starker picture of the state of economic inequality, with the poorest 40% of households typically owning less than 5% of household net wealth in OECD countries (Balestra and Tonkin, 2018) and top 1% wealth shares far outstripping those of income (WIL, 2018). Available data on wealth inequality are too scarce to enable any confident statements to be made about global trends. Tentative first estimates of the global top 1% share of wealth from the *World inequality report* (WIL, 2018) largely mirror those presented for income, however, with rises throughout the 1980s and 1990s before flattening out in the new millennium.

Many would point out the importance of absolute differences in income, particularly in a global context, whereas in this chapter we have exclusively discussed relative inequality (Atkinson and Brandolini, 2010). In analysing survey data, Kharas and Seidel (2018) found that the incomes of those at the 5th percentile of the global distribution in 1993 grew considerably faster until 2013 than the incomes of those at the 99th percentile (see Lakner and Milanovic, 2016). This sounds considerably less progressive, however, when presented in absolute terms; such increases translate to only tens of dollars per year at the bottom of the distribution but to thousands of dollars per year at the top.

In this chapter we have given a summary of recent inequality trends, emphasizing the differences that are seen across countries and regions. We have also tried to indicate some of the limitations of the existing data and indicate where care is needed in their interpretation. Such considerations should form a background to any understanding of inequality trends, and are of particular importance to those seeking to study the interaction between economic inequality and other social phenomena, including health outcomes.

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