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The Global Perspective on Income Inequality[1]

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Abstract

This paper provides a comprehensive overview of the ongoing debate on global income inequality. It shows that global income inequality is a valuable analytical concept that significantly enhances our understanding of global economic dynamics. By addressing key methodological issues in the measurement of global income inequality, the paper compares different datasets used in the literature and conducts an exploratory analysis of recent trends. This analysis re-evaluates the relative impact of inequality between and within countries and highlights how growth and distributional dynamics in specific countries influence global income inequality.

Keywords: income inequality, globalization, measurement of inequality, convergence

JEL Codes: D31, F01, F60

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1. Introduction

Economic inequality is a topic of growing interest not only among academics but also in popular debate. Inequality is a key property structuring our economic system which is directly linked to notions of justice and related concerns on how our society should be organized. It is therefore essential to understand inequality conceptually and to measure it empirically. Although this is usually done by taking countries as units of analysis, a growing stream in the current literature is interested in taking a global perspective and analyzing economic disparities between all individuals in the world, regardless of where they live.

Inequality between the world's citizens is estimated to be very high. To illustrate, the top 0.1% (a group of around 790 thousand people) and the bottom 50% (around 3.8 billion people) enjoy a similar share of total global income, namely about 8%. Moreover, global inequality today is estimated to be at levels comparable to 1900 (Chancel et al., 2022), a period in world history characterized by colonization and imperial domination of a large part of the world, combined with a striking divide between a rising class of industrialists and the misery of a largely impoverished working class.

This article aims to provide an overview of the state of the art in this field. First, we raise the question whether it is relevant to study inequality at the global level. We defend the importance of analyzing global economic inequality and present it as an essential object of study that is relevant from both a descriptive as well as a normative point of view.

On this basis, we discuss methodological challenges relevant to the measurement of global inequality. The focus of this article is on income. We recognize that such a focus on income is not sufficient to understand the multidimensional properties of inequality (Therborn, 2014). However, income is nonetheless a key factor to consider for distributional analysis, and, in addition, one that reveals much about global history and the contemporary geo-economic constellations. This importance of measures of global income inequality for understanding world history and its geopolitical dynamics is illustrated in the third section of the article, which presents the main trends in global income inequality between 1820 and 2020 and makes explicit

how these dynamics relate to the overall historical developments within this period. Both inequalities between and within countries are discussed.

Recent developments in global inequality are discussed in more detail in the final section. Of particular interest is the role of China in the recent decline in global income inequality, which began around 1980 and continued until at least 2020. Although there is a consensus in the literature that standard measures of inequality fell during this period, the interpretation of this trend is still debated. The high growth rates in China, which were the main driver of the decline in inequality, will soon have the opposite effect, as China have already or will soon surpass those thresholds, below which higher growth in the country can contribute to a decline in global inequality.

2. The importance of the global perspective

Although the topic of income inequality has received additional attention in recent decades (Grisold & Theine, 2017), there is still no consensus that income inequality should be measured at the global level. Indeed, for many authors, global inequality is a spurious concept and its measurement a supposedly meaningless construct. Some important philosophers, such as Rawls (1993), argue that the international distribution is not subject to moral claims of redistribution. Similarly, some authors find it meaningless to compare individuals of different “societies” (Bhagwati, 2004). Therefore, it is important to justify that it constitutes a valid object of study.

Indeed, most arguments denying the scientific or practical relevance of measuring global income inequality are based on some version of the assumption that different countries represent different societies that are fundamentally distinct and separate and, hence, to be treated in isolation. Under such a premise, it would make little sense to summarize the disparities of all individuals in a single measure of inequality. As isolated societies, it would be difficult to argue that there is any injustice in the distribution of resources across these societies. At best, a measure of inequality would reflect disparities in well-being that might arouse the curiosity of some.

However, such a premise does not hold up to scrutiny: we do not live in a world of separate societies. At least since the colonization of the Americas, and then of

almost all regions of the world, the economic ties and dependencies that bind different parts of the globe together are so strong that it is difficult to defend the idea that each country is an isolated community, with perhaps only a few minor exceptions.

There are still good reasons to analyze countries separately, as they nonetheless retain some key features, like territorial integrity or institutional homogeneity. However, there are many aspects of economic reality that would remain hidden when focusing only on individual countries. For one, the expansion of international trade in the past centuries has been accompanied by a path-dependent co-evolution of complementary specialization patterns that make individual developmental trajectories of countries depend on the overall development of the global economy (e.g. Gräbner et al., 2020; Hidalgo & Hausmann, 2009; Wallerstein, 2004) .For another, price shocks to internationally traded products, such as oil or other primary resources, affect all countries at the same time (though in different ways).Moreover, due to the globalization processes, production chains are dispersed across countries, and large firms have a great deal of freedom to globally relocate production sites, headquarters, distributional infrastructure and the like. Local wages (and incomes) are therefore embedded in global dynamics of a “race for the best location” (Rodrik, 2011), which is why we cannot fully understand a country's economy (and its income distribution) without taking into account the international context in which it is embedded.

Finally, it could be argued that it is pointless to study global inequality because there is no global political entity that could redistribute income globally and provide the moral framework for claims of justice. In individual countries, it is possible to use measures of inequality as indicators of progress. The goal of reducing inequality can then lead to different policies. But at the global level, there is no global state that could introduce redistributive policies. Even if international organizations such as the World Bank claim to fight global inequality, their scope for action is very limited and certainly does not have the distributive power that a national state could have.

Although there is no global state, there are numerous institutional arrangements in the global economy, including trade agreements, patent laws, global health initiatives and financial routines regarding the treatment of accumulated debt (Anand & Segal, 2015) and so on. For some philosophers (Pogge, 1994), the existence of these international organizations justifies distributional claims in much the same way

that nation-states justify redistribution within the country. Moreover, Pogge (2010) argues that the rights of the poor are violated by the international order. For him, global poverty is the result of global institutions in which rich countries are directly involved. In this case, where rich countries are perceived as being responsible for the misery of others, it seems clear that some moral obligations are implied, at least to stop the unjust relations that still exist.

The economic interaction between people living in different countries is important from a normative perspective, because exploitation and economic domination can exist internationally. The clearest example of this is colonialism, a condition in which the entire economy of a colony is subordinated to the interests of the metropole (Bhambra, 2020). At least in this case, there is a strong argument for considering the inequalities between the people living in these countries. It would be difficult to justify that an industrialist in England and a peasant in colonized India in the 19th century belonged to completely isolated societies and that it is meaningless to consider a measure that takes this dimension into account. The fact that these two individuals lived far apart geographically does not necessarily imply that the inequality between them is negligible. In this case, there are even good arguments for rejecting the idea of measuring inequality only among English citizens, because this would hide a large part of the inequality in this colonial society as a whole.

Today, most former colonies have already gained their independence, and patterns of international domination/exploitation do not appear as clear-cut as in colonial times.

However, many authors argue that the negative consequences of colonialism not only continue to influence current developments but are compounded by other unjust aspects of international political and economic relations. For example, Hickel et al. (2021) estimate that countries in the Global North appropriate $2.2 trillion (constant 2011 dollars) in goods and services from the Global South each year due to unequal exchange.

Furthermore, it is possible to argue that rich countries (or, alternatively, those countries responsible for colonial oppression) should make some reparations to former colonies to undo the historical injustices associated with their current economic advantages. Since colonial history has an important impact on the current global

distribution of income and wealth, there may even be a case for international redistribution, where a similar argument can be made with regard to the consequences of climate change and the distribution of cumulative emissions over time (Fanning & Hickel, 2023).

The purpose of this article is not to evaluate the soundness of claims about the alleged injustice of the global economic system, but to illustrate that responding to related ethical questions of international justice cannot be resolved by philosophical inquiry alone, but requires historical contextualization and empirical analysis. Thus, the measurement of global inequality plays an important role in this discussion by providing empirical data that can be used to illustrate or support different positions on the matter.

Therefore, measuring global inequality is indeed meaningful because it represents an important aspect of the economic system that can be related to other variables of interest. It opens up a new perspective to understanding the world's economic history and reveals some fundamental aspects of how the globe has changed over time. It relates to distributional struggles, political and economic shifts within countries, and the rise and fall of different countries and empires.

3. Measuring Global Income Inequality

As we argued in the last section, global income inequality is worth studying. However, it is a broad concept that can be analyzed from many different angles. Quantifying global inequality is an important step towards a better understanding of the phenomenon. But to measure inequality, it is essential to specify how this concept is defined and operationalized.

Regardless of how we measure global income inequality, it appears to be very high – as high or higher than in the most unequal regions of the world. Estimates of the global Gini-coefficient, a standard measure of inequality ranging from zero (perfect equality) to one (absolute inequality), in 2020 range from 0.6 (Gradín, 2021a; Milanovic, 2024) to 0.67 (Chancel & Piketty, 2021) and 0.71 (Milanovic, 2024). In this section, some important aspects of the measurement of inequality are addressed, not only to explain this large variability, but also to clarify how these different estimates

should be interpreted. Much of the reason is that “global income inequality” is still a very broad concept that needs to be further specified in order to be measured, and the different figures refer to different concepts.

The present article focuses on income, although this approach certainly does not exhaust all dimensions of inequality that may be of interest. In addition to income, we are usually interested in a range of factors that influence the well-being (Therborn, 2014), capabilities (Nussbaum, 2005) and opportunities of individuals which are not effectively captured by income alone. In addition to the components of the broader concept of social inequality (such as health, educational attainment, personal networks, status, etc.), also other dimensions of economic inequality (such as inequality in wealth or freely disposable time) cannot be captured by only looking at income. Nevertheless, income distribution contains much information about the economic structure of the world and is an important dimension of global history. Although incomplete, it is a valuable source of knowledge that should not be neglected. For the sake of a concise analysis, we have chosen to focus on this dimension alone.

3.1. Data sources

There is no survey or comparable data source that collects income data directly at the global level. Therefore, computing global inequality requires the combination of data from different surveys. Unfortunately, the concepts used by different surveys are not always directly comparable. Moreover, each of these surveys contains sources of bias. Therefore, the estimates present in the literature must be interpreted with care and small variations in the indices should not be overinterpreted.

An important compilation of data is provided by the World Income Inequality Database (WIID), which integrates household surveys from different countries with national accounts through a detailed harmonization process described by Gradín (2021b, 2021c). The WIID data represent disposable income in 2017 international dollars, using purchasing power parity (PPP) exchange rates to account for price level differences across countries. Moreover, it includes estimations of the mean income of each percentile for nearly all countries from 1950 to 2021, facilitating a comprehensive

analysis of inequality dynamics both within and between countries. This breadth of data comes at the cost of accuracy.

The WIID employs interpolations and extrapolations to estimate incomes for years without survey data. Linear interpolation between two survey years might slightly affect the interpretation of a country's trajectory, as it may not reflect distributional changes during specific events. However, for more recent years, the density of surveys is rather high, so the possible biases are small. Interpolation and extrapolation facilitate intertemporal comparisons of global distribution. The errors introduced by this process are minor compared to the alternative of omitting countries-year pairs without data.

Recent studies have also used other data sources besides the WIID. However, these datasets generally rely on the same original household surveys, leading to similar findings by different authors. For example, Milanovic (2024) presents estimates that are very similar to those derived from the WIID (Gradín, 2021a). Minor differences between their estimates stem from methodological choices in combining different surveys to construct the global income distribution. One difference is that Milanovic (2024) makes his estimates from survey data alone, without using national accounts, while WIID rescale incomes to be in line with GDP. While there are concerns about rescaling incomes, this methodological choice does not significantly alter results, as shown by Milanovic (2005, p. 118).

Another key source for global inequality data is the World Inequality Database (WID), used by researchers like Chancel and Piketty (2021). The WID is distinct from the WIID as it combines not only household surveys and national accounts, but also tax and administrative data. Researchers compile WID data for each country following the Distributional National Accounts (DINA) guidelines (Alvaredo et al., 2021) to ensure international comparability. These alternative data sources aim to correct the underestimation of top incomes in national household surveys, a well-known source of bias. As it will be presented in the following subsections, WID shows higher levels of global inequality, which can be both a consequence of the adjustments in the top incomes as well as of the concepts used, as it refers to pre-tax post-replacement incomes among adults (with equal splitting within the household), rather than household per capita disposable income (as by Milanovic or WIID).

3.2. Comparing Different Currencies: Purchasing Power Parity and Market Exchange Rates

From a global perspective, it is evident that a harmonized definition of income is needed. This problem does not arise at the national level since all monetary flows can be expressed in the same currency. However, at the global level this is not possible because incomes in different countries are expressed in different currencies.

There are two common ways to achieve such a harmonization. One is to convert currencies into current dollars based on market exchange rates (MER), which is the rate that people receive when they actually exchange their money in the market. Since MERs are very volatile, applied work usually considers the average exchange rate over a given period of time (usually a year). The other option is to convert global income into international dollars using purchasing power parity (PPP) exchange rates, which aim to correct for differences in price levels across countries. Intuitively, PPP exchange rates are based on a prespecified basket of goods and services and normalize local income with respect to what these incomes can afford in terms of goods and services. The results associated with these two methods can show large differences, especially for poor countries, whose local currencies are usually less demanded on international markets. Because price levels for the basic goods contained in prespecified consumption baskets tend to be lower in poorer countries, PPP conversions adjust the incomes of these countries upward. The effect is that the overall inequality calculated is lower. For example, Milanovic (2024) estimates a global Gini in 2020 of 0.6 using PPP and 0.71 using official exchange rates.

There are good reasons for both using PPP and MER. PPP conversions better represent the command of goods and services traded locally, while MER better represents the command of goods and services traded internationally.

Low-income households consume most of their resources in locally produced goods and services (such as food or housing). Therefore, it is more appropriate to use PPP exchange rates to study poverty. However, people with higher incomes tend to consume a range of internationally traded goods. Elites in poor countries buy computers, cell phones, cars, and other products whose prices are largely set on the

international market. In addition, elites are much more mobile, traveling and even living abroad frequently. Thus, converting elite incomes of poor countries using PPP exchange rates overstates their (international) purchasing power. Similarly, PPP rates also fail to reflect the purchasing power of other social groups that are able to spend money internationally, such as tourists or migrants sending remittances back to their home countries (Chancel et al., 2022).

At the same time, MER underestimates the local purchasing power of elites and the associated control over labor (and thus over services) within their countries (Segal & Moatsos, 2022), since the price of labor is determined locally. This means that elites in poorer countries can afford a greater number of personal services (as provided by cleaners, drivers, security guards, etc.) than their counterparts in rich countries (i.e., people with the same income when converted by MER).

Since it is not common to adjust incomes within countries for regional price differences (Ravallion, 2018b), a case could be made to compare the Gini of specific countries with estimates of global inequality using MER, as MER does also more accurately capture global relations of exchange and control. However, the majority of applied works focus on PPP-like measures.

In any case, the choice between PPP and MER comes with strong consequences for estimating global inequality and should be made with care. However, although it makes a big difference for the estimated *level* of inequality, it does not significantly impact observed *trends* (Alderson & Pandian, 2018). Some small differences in the trajectory can result from this choice and even change the direction of the observed trend. Dowrick and Akmal (2005) estimate that inequality decreased between 1980 and 1995 using PPP conversions, while it increased using MER. However, the overall change in inequality in this particular period was small, and the results were in any case ambiguous with respect to the direction of the trend in this period (Anand & Segal, 2008). In more recent years, where the trend is more pronounced, a difference in signs between estimates based on either PPP or MER does not emerge.

3.3. Defining income

There are different definitions of income used in the literature and the level of inequality calculated depends on the precise definition of income chosen. Inequality in disposable income (gross income minus taxes plus transfers) is expected to be lower than in market income (pre-tax and pre-transfers). This is always the case if the tax and transfer system is progressive: if those with higher incomes also pay a higher proportion of their income in taxes or receive a smaller share of their income in transfers, then the tax system reduces inequality. However, such measures of disposable income overstate the redistributive effect of tax and transfer systems, because they only consider income taxes and similar contributions, which tend to be progressive or proportional to income. Consumption taxes on the other hand, which are often regressive, are typically not taken into account because they depend on data on the exact consumption of households and cannot be derived from income data alone. Similarly, inequality is likely to be lower if we include in our definition of income goods and services that are not traded on the market. Subsistence production accounts for a large share of consumption for the poorest groups in many countries, and including it increases their income levels. In addition, goods and services provided by the state tend to be distributed to a large proportion of the population, thus reducing effective levels of inequality (The Foundational Economy Collective, 2022), although this is typically not captured by the available data.

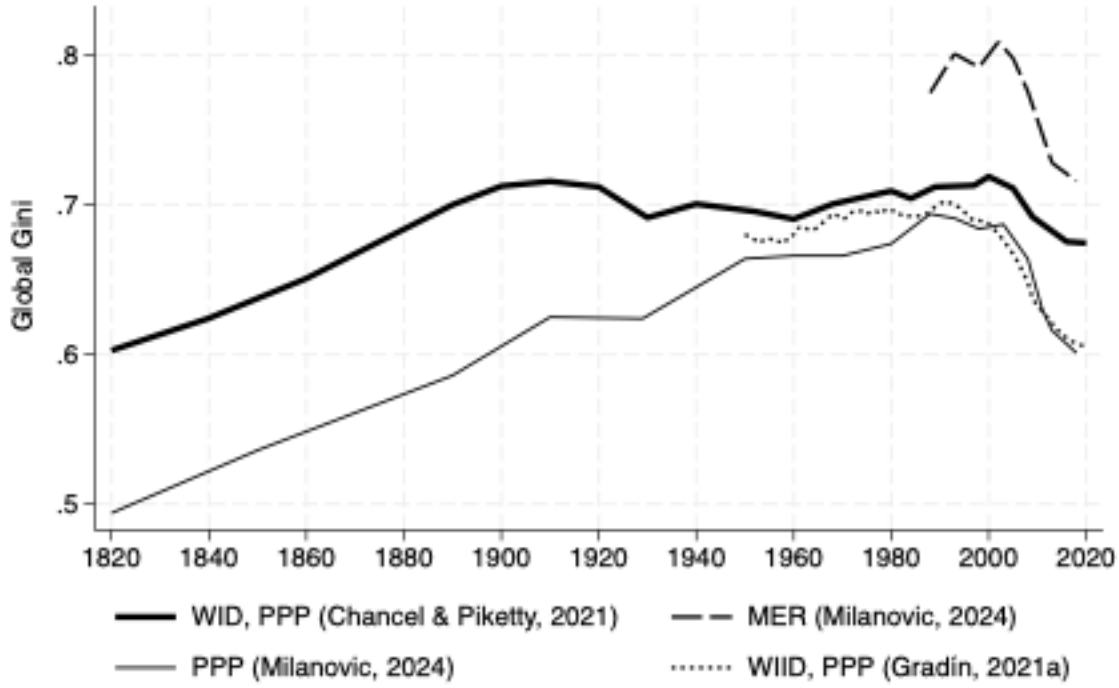

Figure 1: Estimates of global Gini in the literature

Figure 1 shows the estimates of global inequality from Chancel and Piketty (2021), Gradín (2021a) and Milanovic (2024), the latter providing estimates for both MER and PPP exchange rates. Using WIID, Gradín (2021a) arrives at estimates of global inequality in 2020 with a Gini of 0.6 using PPP, which is the same value as provided by Milanovic (2024), while estimate based on MER are significantly higher. On the other hand, Chancel and Piketty (2021) estimate a Gini of 0.67 using WID data. The disparity between the estimates from Chancel and Piketty (2021) and Milanovic (2024) are even wider for more distant years: in 1820, the difference reaches 0.1 Gini points. The difference is not only due to the fact that WID uses tax data to correct for incomes at the top of the national distributions, but also because it measures inequality in pre-tax post-replacement income (that is, pre-tax and pre-transfers, but including transfers that serve as a direct replacement for labor income, like pensions and unemployment benefits), in accordance to the DINA Guidelines (Alvaredo et al., 2021). That is, WID uses something close to pre-tax income, whereas the concept used by both Milanovic and WIID is disposable income. Therefore, it is to be expected that the WID data will provide higher values of inequality.

Different household surveys use different income concepts, which raises some concerns about the comparability of the data. Even more worrying for the measurement of global inequality is that some surveys do not collect data on income at all (Milanovic, 2021). Especially in poorer countries (mostly in Africa and South Asia), surveys are mainly designed to measure poverty and only ask questions about consumption. In estimating the global income distribution, these data need to be harmonized to effectively substitute for income data. Jayadev et al. (2015) provide a detailed analysis of how this can be done, and the general results on global inequality appear to be robust to these adjustments. It can be argued that the impact of this incompatibility is small because in these poor countries, individuals have little opportunity to save, so income and consumption can be assumed to be similar.

Some countries publish summary statistics referring to inequality in individual incomes, while others focus on income per household, sometimes utilizing equivalence units to account for increasing returns to scale in household production. When it is not possible to access the micro-data directly to define the equivalence as one wish, this can lead estimates for different countries to become incomparable. Combining estimates that use different equivalized units should be avoided, so it is necessary to restrict the definition of the equivalized unit to one that can be applied across countries. In addition, the definition of an appropriate equivalence scale often requires consideration of the relative prices of different goods. Since prices are highly variable globally, regional scales should be used, leading to a herculean task that would require access to microdata on consumption at the global level (Smeeding & Latner, 2015), which is not available. Chancel and Piketty (2021), for instance, choose to simply ignore all children (under the age of 20) and calculate inequality only among adults. To account for redistribution among adults in the same household, they choose to divide household income equally by the number of adults. On the other hand, both Gradín (2021a) and Milanovic (2024) use per capita household income in their calculations. This difference certainly has an impact on the final level of inequality calculated, but it is not clear without further consideration which choice leads to higher or lower levels of inequality, as this effect also depends on the fertility rates of the different income groups.

3.4. Decomposing Global Inequality: Between and Within Countries

In line with recent literature, we understand global inequality as inequality among world citizens regardless of where they live. This cosmopolitan conception of inequality, called “concept 3” by Milanovic (2016), stands in contrast to more traditional approaches, which assess international inequality by inspecting disparities between the average incomes of different countries (“concept 1”), which can also be weighted by population size (“concept 2”). An alternative to this somewhat dichotomic approach is to consider the relevance of national entities by decomposing global inequality into inequality *between* countries and inequality *within* countries.

There are several ways to technically define these concepts, but perhaps the most revealing is to measure inequality using the Theil-L index (also called mean log deviation). This measure is additively decomposable, meaning that total inequality can be expressed as the sum of between-country inequality, i.e the inequality between average national incomes weighted by population, and within-country inequality, i.e. the weighted average of within-countries inequality (Shorrocks, 1980). Similarly, it is possible to project the same intuition to other inequality measures, such as the Gini index or the T10/B50 ratio, although in such cases a clean decomposition in the sense that between-country and within-country components add up to total inequality can often not be achieved. In these cases, the between-country component can be constructed by assigning each individual the average income of her country, while the within-country component is calculated by rescaling the incomes of different countries to make all average national incomes equal, without changing the relative distribution within countries.

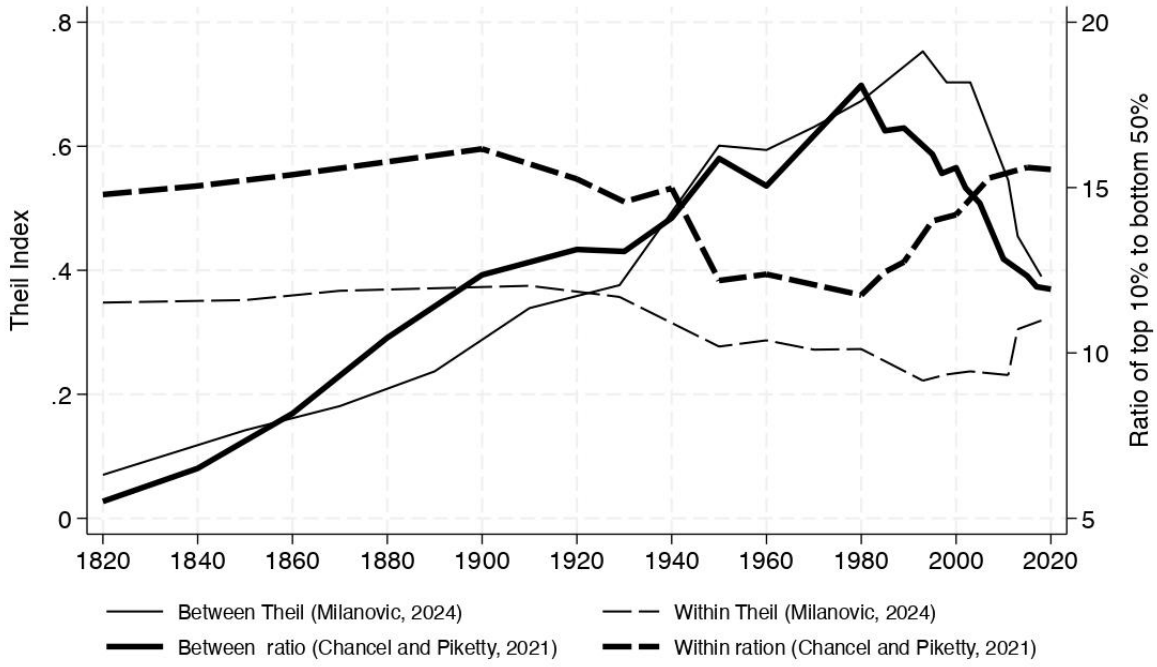

Figure 2: Decomposition of global inequality. The series from Milanovic (2024) refers to the Theil index. The between-country component from Chancel and Piketty (2021) is the ratio T10/B50 between the average incomes of the top 10% and the bottom 50% (assuming that every individual within a country has the same income). The within-country component from Chancel and Piketty (2021) is the ratio T10/B50 between the average incomes of the top 10% and the bottom 50% (assuming all countries have the same average income)

Figure 2 shows the decomposition of global inequality using different data sources. The trajectories of the between-country component appear to be very clear, rising continuously from 1820 to 1980/1990 and then falling until 2020. There also seems to be a consensus that the within-country component rose until the beginning of the 20th century and then fell. However, the trajectory after 1980 depends on the data used. While Chancel and Piketty (2021) show an increase from 1980 and a stabilization in the mid-2000s, Milanovic (2024) shows a rather constant inequality within countries after 1980. This difference is a consequence of the adjustments made by WID using tax and administrative data, which tend to show a sharper increase in inequality within countries over this period than survey data alone.

Moreover, the authors do not agree on the exact importance of each component. As shown in Figure 3, Chancel and Piketty (2021) estimate the share of the between-country component in the overall global inequality to be only 32% in 2020 while Milanovic (2024) estimates it to be 55%, although the overall trend of the shares

is similar. These differences follow from the fact that the data employed by Chancel and Piketty (2021) lead to larger estimates for inequality observed within countries.

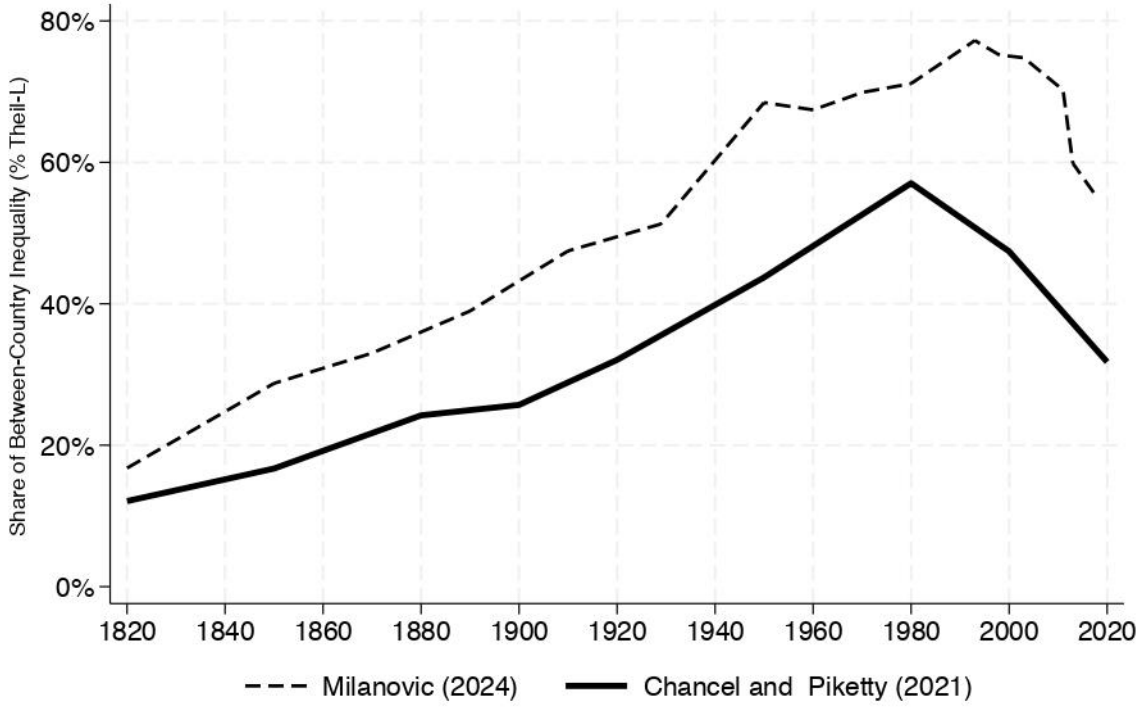

Figure *3*: Share of between-country component in overall global inequality as measured by a percentage of Theil-L

The estimation of different shares for each component may nonetheless motivate different approaches to how to better mitigate global inequality. Milanovic (2024) stress the importance of the between-country component, dedicating a great part of his analysis to discussing growth trends of different countries. On the other hand, Chancel and Piketty (2021) give more importance to within-country inequalities, stressing that the reduction of global inequality requires also the reduction of inequality within countries.

4. What has happened with global inequality since 1820?

Interpreting levels of inequality is difficult, whether at the global or national level. Even if we use more intuitive measures of inequality than the Gini, such as top shares, it is difficult to define what level of inequality should be considered “high” or “low” without comparing it to other distributions. There is more scope for analysis if we focus

not on levels but on trends. Provided we have comparable definitions over time, time dynamics can be identified even if there is uncertainty about the exact interpretation of levels. Although the quality of the data at the global level does not allow interpretation of small changes, some long-term trends can be identified that are robust to many different assumptions and definitions.

Although there is some consensus in the literature about the evolution of inequality in the nineteenth century, there is some important disagreement about the twentieth century. Although the current literature agrees that within-country inequality fell between 1910 and 1980/1990, while between-country inequality continued to rise until 1980/1990 and then fell, there is no consensus on the overall effect of these contradictory forces. This section presents the different positions and explains how their differences are rooted in the methodological choices made by different authors.

4.1. Main trends in within and between country inequality

The dynamics of global inequality in the 19th century seem very clear. At a time when some countries in Europe and North America were industrializing at a high rate, the gap between these rapidly developing countries and the rest of the world was widening markedly. At the same time, inequalities within these countries increased as the gap between a wealthy bourgeoisie and an impoverished working class widened. The 19th century was also characterized by the colonial empires of European countries. In a context in which some countries exercised direct power over others and managed foreign economies for their own benefit, it is also natural that inequality between countries increased. This period is often called the “Great Divergence” and is well documented historically (Pomeranz, 2000).

Although the income data for this period are of very poor quality, there are several authors who provide estimates of global inequality from 1820 onwards (Bourguignon & Morrisson, 2002; Chancel & Piketty, 2021; Milanovic, 2024). The direction of the trend is clear and in line with the historical intuition – for instance, data presented by Milanovic (2024) shows a sharp increase in the Gini coefficient from 0.5 in 1820 to 0.69 in the 1990s, as shown in Figure 1.

The trajectory of global inequality in the twentieth century requires a more detailed discussion, as both equalizing and disequalizing forces were at work

simultaneously, and different authors arrive at different interpretations of the period. The first half of the twentieth century was marked by a series of intense changes that reshaped the balance of power between capital and labor. The two World Wars destroyed and devalued much of the capital stock in European countries, while forcing many countries to introduce higher and more progressive taxation to finance the costs of war.

In addition, revolutionary events occurred that led to a process of redistribution unprecedented in history. The 1917 revolution in Russia and the continued expansion of socialism in other countries in the following decades were a powerful force in reducing inequality within countries. Not only because socialist countries carried out a radical redistribution of income within their borders, but also because it increased the pressure for redistribution within capitalist countries. Against the threat of socialist revolution, more progressive policies gained strength along with the bargaining power of the working class. This was particularly true in the decades after the Second World War, when welfare policies were introduced in many countries around the world, though more intensively in Europe (Scheidel, 2017).

While inequality within countries declined, inequality between countries is estimated to have continued to rise during and after the wars (Milanovic, 2024; Chancel & Piketty, 2021), as shown in Figure 2. Although many countries in the global South gained their independence during this period and colonial empires began to fall, it took several decades for the newly liberated nations to recover from their struggles for independence and internal conflicts and to formulate effective development plans (Chancel & Piketty, 2021). Meanwhile, it was a period of rapid growth in the North.

After 1980, both the between-country and within-country components moved in opposite directions: inequalities between countries began to decline, mainly because of high growth rates in Asia, while inequalities within countries increased, at least when using WID data, which are considered to be of better quality than pure survey data because they take into account the misreporting of national top incomes.

The trajectory of both components has often been explained by globalization, which intensified rapidly during this period. This idea was at the center of two important books published by prominent authors, Milanovic (2016) and Bourguignon (2015). Trade liberalization opened up the possibility for Asian countries to develop export-led

growth, while economic openness has been linked to the rise in inequality within countries (Bergh & Nilsson, 2010).

Probably one of the most famous graphs in this literature is the one published by Lakner and Milanovic (2016), commonly called the “elephant curve”. It shows the relative income growth of each global percentile between 1988 and 2008, the period after the fall of the Soviet Union and before the financial crisis. Four messages are clear from this graph: (i) the very bottom of the distribution had almost no growth; (ii) the middle of the distribution had significant gains; (iii) the gains of the 75th-90th percentiles were also very reduced; (iv) the very top of the distribution enjoyed comparably high growth rates.

According to Milanovic's argument, the winners were both an emerging “middle class” in the developing world (especially China), located in the middle of the global income distribution, and the very rich, which were concentrated in the Global North. The traditional (lower) middle class of the rich countries, on the other hand, was seen as the loser of the process, a group corresponding to the 75th-90th percentiles of the global distribution. The working class of the rich countries gained new competitors with greater economic openness, which depressed their real-wage growth and increased unemployment. This process can be seen as the counterpart of the reduction of inequality between countries, as the jobs lost in the rich countries were gained in less developed regions, especially in China.

Ravallion (2018a) criticizes the interpretation of the “Elephant Curve” because both the effect of the collapse of the Soviet Union and the stagnation of Japan in the period are not commented by Milanovic, while Corlett (2016) shows that one of the main features of the graph, the low growth in the 75th-90th percentiles, disappears when these two factors are removed from the calculations.

The very complexity of the dynamics involved and the vagueness of the concept of “globalization” make it difficult to confirm the relationship between this concept and global inequality. Ravallion (2018a), for example, claims that globalization can be associated with rising inequality in some countries (Bergh & Nilsson, 2010), but not all – in some other countries, economic openness has been associated with falling inequality.

As Alvaredo et al. (2018) argue, we cannot understand the distributional dynamics of the period as a mechanical consequence of globalization and technological change. Policies and institutions play an important role in shaping observed trajectories. Some factors that are often related to the rising inequality within countries during this period should be mentioned separately. The first is the rise of neoliberal policies leading to massive deregulation of labor and financial markets, the reduction of the progressivity of taxes and the welfare state. This was very clear not only in the rich world with the so-called “Reagan-Thatcher revolution” but also in many other regions, including the shift to a deregulated economy in India and the introduction of a market economy in China.

Figure 4 shows the growth incidence curve for different periods using WIID data. The Elephant shape can be identified between 1980 and 2000. After 2000, a main characteristic of the graph from Lakner and Milanovic (2016) – the elephant’s trunk – is not visible anymore, as the higher rates in top percentiles do not appear.

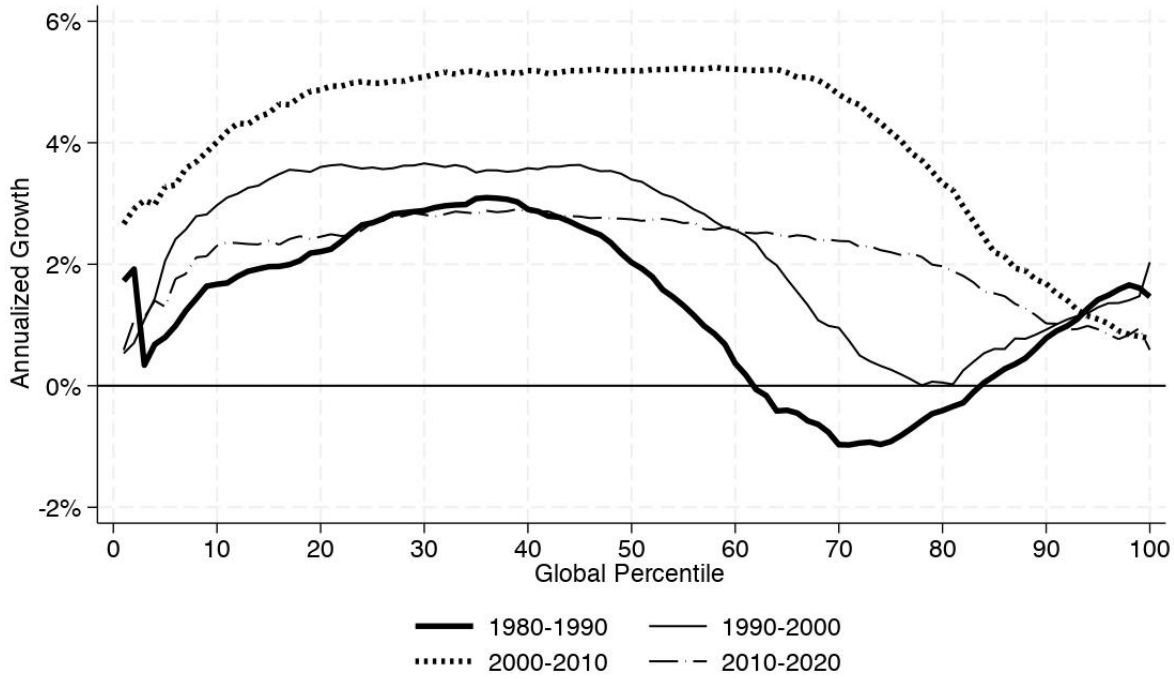

Figure 4: Global growth incidence curve for the respective periods. Own calculations using WIID data.

To the same extent that the socialist revolutions reduced inequality within countries, both through direct redistribution and through the rise of working-class

power in other countries, the fall of the Soviet Union led to a significant increase in inequality within countries, not only but also because “shock therapy” liberalization in Russia took the country from one of the most egalitarian to one of the most unequal in the world. The transition to a market economy in China also led to a sharp increase in inequality in that country (Clark, 2023; Hung & Kucinskas, 2011).

Although there was a general trend of rising inequality within countries, there were exceptions. In particular, income inequality in the Middle East, Brazil, and sub-Saharan Africa was relatively stable, albeit at very high levels (Alvaredo et al., 2018). Even within Europe, some countries, such as Belgium, France, Greece, Hungary and Spain, experienced a decline in inequality during some periods (Atkinson & Morelli, 2014).

After 1980/1990, the between-country component of global inequality declined. The importance of Chinese growth for this trend to materialize has been emphasized repeatedly in the related literature (Alderson & Pandian, 2018; Anand & Segal, 2008; Hickel, 2017; Sala-i-Martin, 2006). Since it is a very populous country, home to a big share of the world's population, any changes in (average) income in China have a direct impact on the shape of the global distribution. Given that China's growth rates have been consistently higher than the world average since the 1980s, with exceptionally high rates of 8.8% p.a. between 2000 and 2020[2], and taking into account that China was a relatively poor country in the 1980s, its impact on the development of global inequality during this period does not come as a surprise.

Other Asian countries also closed the gap with the rich world. India plays a very important role because it is also a very populous country and its growth rates have been higher than the global average. While this means that India contributed to the reduction in inequality, its impact was much smaller than that of China. India's growth was much lower than China's and more in line with the global trajectory, meaning that incomes in the country grew at similar rates to the parts of the global distribution to which it belonged. Calculating global inequality without India does not change the overall trend of global inequality, only the level. In contrast, removing China from the calculations has a major impact on the observed trajectory (Guerriero, 2024).

[2] Calculations using WIID data.

The downward trend in between-country inequality got another push with the 2008 financial crisis. While rich countries were hit hard by this shock, developing countries experienced smaller losses. China and India continued to grow at high rates, and Milanovic (2021) estimates that two-thirds of the decline in global income inequality between 2008 and 2013 can be attributed to these two countries.

While there is broad agreement in the literature on the direction of trends in inequality, both within and between countries, the overall effect of these two opposing forces is still debated. Milanovic (2024) identifies three eras of global inequality: in the first era global inequality increased from 1820 to 1950 as both within- and between-country inequality rose, while in the second era from 1950 to 1990 global inequality stagnated at a very high level. Finally, from 1990 to 2020, inequality declined due to the rise of Asia. In contrast, Chancel and Piketty (2021) identify only two periods. These authors agree on the period of divergence in the 19th century but argue that global inequality stabilized in 1910 and has continued at a very high level until the present. Although these authors also find a decline in some measures of inequality (but not all) in the period 2000 to 2020, they do not consider this to be significant enough to label it a specific era. According to the authors, it is too early to say whether this reduction will continue in the future.

One reason for this disagreement is that the WID data point to a higher contribution of within-country inequality to global inequality (due to corrections of national top incomes using tax data and national accounts), while this component is of less importance in Milanovich's data. Therefore, the trajectory of increasing total inequality until 1950 and a decline after 1990, which is mainly driven by the between-country component, as found by Milanovic, does not appear in the WID data (as can be seen in Figure 1), because the force of the within-country component, which acts in the opposite direction, gains more weight when measured with the WID data, where the increase in within-country inequality since 1980 is very pronounced, while it is almost invisible in Milanovic's data.

4.2. Inequality reduction from 2000 to 2020

The decline in standard measures of global inequality from 1990 (or at least since 2000) to 2020 is well documented and robust to different measures and different choices among available data sources (Alderson & Pandian, 2018). However, the interpretation of this period is still an open debate.

Although they do not describe it as an era of falling inequality, Chancel and Piketty (2021) also present data showing a decline in global inequality over this period. However, the authors claim that global inequality has been stable since 1910. This interpretation is based on two things. First, the decline found in their data seems to be less pronounced than in the data presented by other authors, such as Milanovic (2024). While these authors find a decrease of 0.05 Gini points (from 0.72 to 0.67), Milanovic (2024) estimates a decrease of 0.1 Gini points (from 0.7 to 0.6), as shown in Figure 1. Moreover, Piketty and Chancel understand this period as part of a longer historical process. Compared to the rise in inequality between 1820 and 1910, this decline seems small. It only covers a period of 20 years, and it is not clear whether this process will continue in the future.

Moreover, while this decline in global inequality can be observed using standard measures of inequality such as the Gini, Theil-L or top10/bottom50 income shares, this is not the case for all measures. For example, the top 1% share of global income remained fairly constant over the period, dropping only from 21.7% in 2000 to 20.7% in 2020 (Chancel & Piketty, 2021). This means that the redistribution did not affect the very rich and was limited to the middle of the global distribution. Moreover, the bottom of the global distribution did not experience high growth rates. Thus, the interpretation of the period depends on how much weight we give to the two extremes of the distribution.

A very different trajectory of global inequality is found when absolute measures of inequality are used, with global inequality rising since the beginning of the data series. This fact that has received an increasing attention in the recent literature (Atkinson & Brandolini, 2010; Gradín, 2021a; Niño-Zarazúa et al., 2017; Ravallion, 2018b).

At least since Dalton (1920), it has been argued by many (e.g. Atkinson, 1970; Atkinson & Brandolini, 2015; Ravallion, 2018b) that there is no “right” or “wrong” choice of a particular measure of inequality. Each corresponds to different normative views on how to compare different distributions. To ignore that inequality has increased by some measures is to hide a possible perspective on history. Moreover, global inequality is estimated to have increased for measures that give more weight to the bottom of the distribution (such as the Atkinson index with a value greater than 2.5), reflecting the fact that the very poor largely remained in misery and the redistribution took place in the middle of the distribution. However, it is beyond the scope of this text to address the interpretation of these alternative measures more deeply.

Another criticism is that only some Asian countries are successfully narrowing the gap to the rich world, while the rest of the Global South remains distant (Hickel, 2017). Overall, inequality is still high and in terms of GDP , there is still a large gap between the countries of the North and the majority of countries in the rest of the world (Liberati, 2015). As shown in Figure 5, low-income countries have not closed their gap to the high-income countries. The reduction of inequality in the period was driven by high growth rates in lower-middle and especially in upper-middle-income countries. Figure 6 shows that this convergence was mainly located in East Asia and the Pacific, while the mean income of other regions, especially Sub-Sahara Africa, has not gotten closer to the mean income of North America (the richest region). This means that while some countries in the middle of the global distribution were closing the gap with rich countries, they were also widening the gap with low-income countries. So it was not clearly a process of exhaustive convergence, but rather a partial catch-up process by a specific subset of countries.

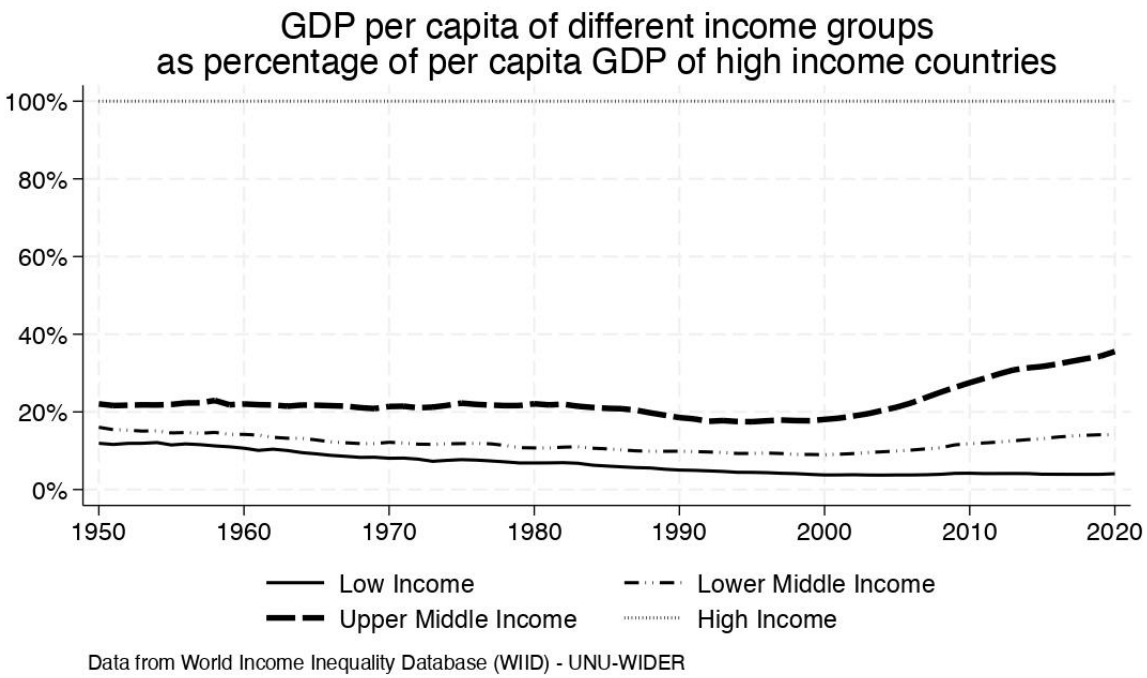

Figure 5: GDP per capita of different income groups as a percentage of GDP per capita of high-income countries. Author´s calculations based on WIID data.

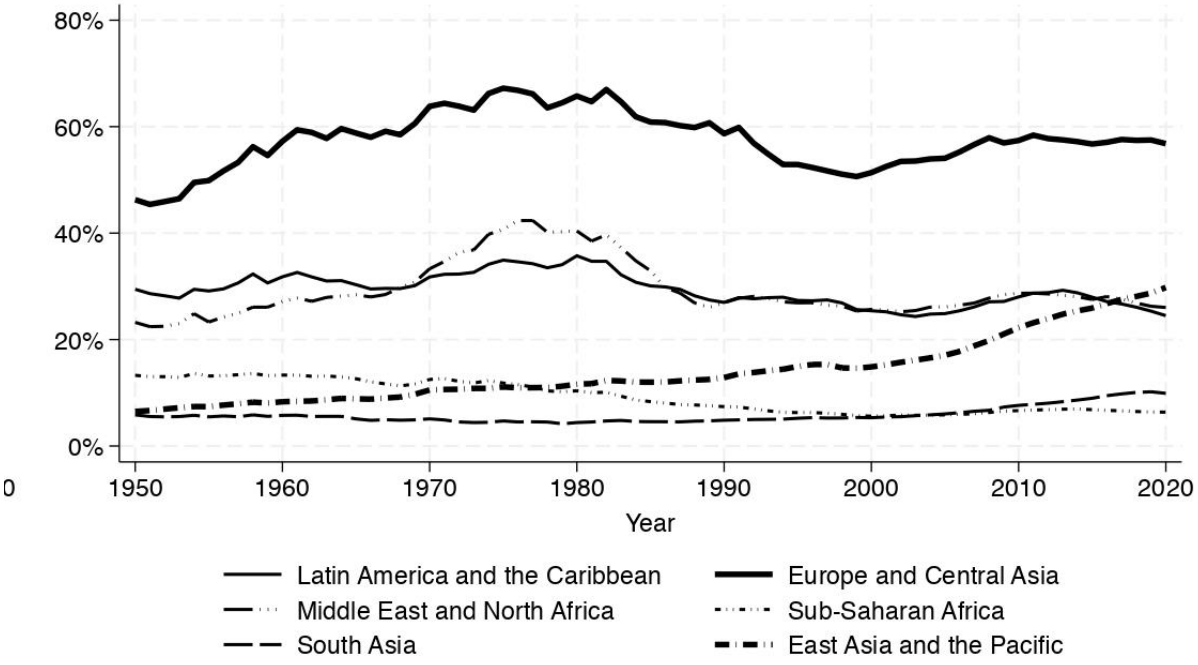

Figure 6: GDP per capita of different world regions as a percentage of North America's GDP per capita. Author´s calculations based on WIID data.

4.3. Recent developments and the future

Recent years have been marked by intense economic shocks, most notably the tensions between the US and China, the COVID-19 pandemic and the Russian invasion of Ukraine. As the entire global economy was affected by these events, so was global inequality. The growth rates of all countries were affected, but not in the same way. Since GDP data for most of the world are already available for the period of the pandemic, it is possible to examine the short-term effects in inequality between countries.

If we look at “concept 1” (Milanovic, 2016), that is, inequality between countries not weighted by population, global inequality has fallen during the pandemic (Deaton, 2021). However, using “concept 2” and thus taking population size into account, inequality has increased. Indeed, the United Nations (2023) estimates that the pandemic caused “the largest increase in income inequality between countries in three decades”. Deaton (2021) argues that the increase in “concept 2” could be explained by the fact that average incomes in India fell very sharply during the period, which was not offset by still-growing incomes in China. As these two countries are home to a big share of the world's population, their trajectories are the main drivers of inequality.

These shocks have changed the downward trend in global inequality. However, there are other reasons to believe that the period of declining inequality has come to an end. As already noted by many authors (Anand & Segal, 2008; Gradín, 2021a; Milanovic, 2024), the main driver of the downward trend in inequality until 2020, high growth rates in China, would have the opposite effect once incomes in the country exceed a certain level. The exact point at which this happens depends on the measure of inequality used. If Theil-L is chosen, higher growth than the global average contributes to rising inequality if the country's mean income is higher than the global mean. WIID data show that this was already the case for China in 2020 (Guerriero, 2024).

Because of this effect, if the growth trends from 2000-2020 were to be repeated, global inequality would begin to rise already in the coming years, as projected by Guerriero (2024). Conversely, if China were to start growing at rates similar to the world average, this would contribute to stabilize the current level of global inequality.

The continuation of the downward trend in global inequality requires high growth rates in other regions of the world. Higher growth rates in India could continue to be an important driver. In addition, faster development in sub-Saharan Africa would be crucial, as the region remains the one with the lowest incomes in the world. Moreover, the reduction of inequality within countries is an additional important factor.

5. Conclusion

This article provided an overview of the current state of the art in the study of global income inequality. After arguing for the importance of a global perspective in understanding distributional dynamics, we discussed some key methodological issues in measuring global income inequality. It has been shown that the precise definition of income and the way different currencies are converted have important effects on the level of inequality calculated. However, some long-term trends can be clearly identified that are robust to these specifications.

In general, the trajectory of global inequality since 1820 can be resumed as follows. Until 1910, inequality rose sharply both within and between countries. From 1910 to 1980/1990, inequality within countries fell, while inequality between countries continued to rise. From 1980/1990 onwards, the opposite is true, with the between-country component falling. Chancel and Piketty (2021) show that the within-country component has risen since 1980, while the data used by Milanovic (2024) show a more stable trajectory over this period. Since both components moved in the same direction until 1910, it is clear that global inequality was rising until that date. Developments in the twentieth century are less clear, and while Milanovic (2024) finds an overall upward trend until the 1950s and a decline after 1990, Chancel and Piketty (2021) claim that global inequality has remained stable at high levels since 1910.

Although the authors largely agree on the direction of the trend of each component of total inequality, Chancel and Piketty's (2021) data suggest a higher importance of the within-country component, probably because of the higher level of inequality within countries found in their data, which corrects the underestimation of top incomes using administrative and tax data. The data from Chancel and Piketty (2021) show the decline in the within-country component offsetting the rise in the

between-country component between 1910 and 1980, while the trajectory found by Milanovic (2024) is mainly driven by developments in between-country inequality.

Understanding future trends in global inequality requires new explanatory factors, as the rapid growth in East Asia will no longer contribute to a decline in global inequality (Guerriero, 2024). It is not just that China is gradually distancing itself from poor countries. The entire international system is changing, with growing geopolitical tensions around the globe and many forces challenging U.S. hegemony. The consequences of this scenario remain to be seen, but it is reasonable to expect that they will have a profound impact on income distribution at the global level.

The discussion in this article makes it clear that the study of global inequality is an important source of knowledge that can enhance our understanding of global history and inform the interpretation of current developments in two ways: as a descriptive elucidation of geopolitical trends at the international level as well as by providing an empirical nuance to debates on the ethical perspectives on global justice.

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