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The Inequality We Want: How much is too much?

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Abstract

A key aspect defining the contemporary income distribution is the (increasing) share the top holds compared to the rest. This paper shows that income concentration increases towards the very top of the distribution, while the shares the middle and upper-middle income groups hold remains stable, across countries and over time. Traditional indicators less sensitive to changes at the extremes of the distribution might obscure inequality's actual dimension, and thus help perpetuating it. To avoid this, the ratio of the income share of the top 5 percent over that of the bottom 40 percent, denominated Palma v.2, is proposed here as a complementary indicator for the measurement of inequality.

The Inequality We Want: How much is too much?[1]

> *"There's class warfare, all right, but it's my class,*
> *the rich class, that's making war, and we're winning."*
> Warren Buffet (2006)[2]

1   Introduction

A casual look at world income distribution reveals large and persistent inequalities, both between rich and poor countries, and within countries. The severity of the problem is illustrated with few numbers, e.g. that the top 1 percent of income earners owns roughly 40 percent of global income, and the 85 richest individuals in the world own as much wealth as the bottom 3 billion (Oxfam 2014). In order to make more specific statements about inequality levels in certain countries however (e.g. whether they are rising or falling, how they compare to each other, etc.), we have to measure income differences and where they lie along the distribution according to some indicator.

Conventionally, this indicator would be the Gini coefficient. However, one of the crucial questions the Gini has difficulty answering is, what happens to the poor and the rich, especially the very rich? Most of the general public on the other hand is interested mainly in this aspect of inequality; rather than weighting changes to the income distribution equally, whether they happen at the top, at the bottom or in the middle of the income scale (Hasenheit 2014), most people intuitively oppose extreme concentrations (Oxfam 2014). In fact, most people are willing to tolerate certain discrepancies in incomes (and find these justified), as long as the differences between the top and bottom ends of the distribution are held in check. Because of the way it is constructed though, the Gini overemphasizes changes in the middle of the distribution, and cannot account for those happening in the extremes (Cobham and Sumner 2013).

To counter this shortcoming, Cambridge Professor Gabriel Palma recently suggested a different indicator to measure inequality particularly in the tails of the distribution. What Cobham and Sumner (2013) came to term "the Palma", is the ratio of the share of total income held by the top 10 percent of income earners over that of the bottom 40 percent, concentrating thus on the tails of the distribution while "ignoring" the middle. The measure thus states that "the top 10 percent of income earners own a share x times the size of that of the bottom 40 percent of the population". Besides the simplicity of calculation, the additional advantage of such an indicator is this intuitiveness in its interpretation, making it a persuasive tool for policy making.

However, it would be difficult to accept such an indicator comprising nominally only half of the population as a measure of inequality over the entire income distribution – if it wasn't for the fact that the actual income distribution supports this "exclusion" of the middle and upper-middle income groups. When looking at countries' income patterns according to deciles of the population, Palma

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found that across the world the middle income groups consistently hold about 50 percent of a country's total income, independently of the countries' developmental status, income level, political regime, location or other particular condition. Since at the same time inequality levels across countries are vastly different (ranging from a Gini of 24.6 in Slovenia to 65.4 in South Africa), this means that these differences are determined almost entirely in the extremes of the distribution (see Palma 2006, 2011, 2014).[3] Palma named these diverging dynamics the centrifugal and centripetal forces of the income distribution, creating heterogeneity in the tails while homogenizing the middle. For measuring inequality, it is thus not only important to focus on the extremes because this is what most people care about, but even more so because this is what characterizes the actual distribution, with the opposing forces conditioning "its" behavior.

This concentration of income in the top decile compared to the rest of the distribution naturally has one wondering what would happen to such an indicator if this upper fraction was sliced up even more, reduced to but a few percentiles – to the "real" elite of the proverbial 1 percent. Considering the simultaneous stability of its income share in the middle groups, inspiring Palma to propose his eponymous indicator, an intriguing question becomes: How are these dynamics affected when the top is reduced to 5 percent (1 percent)? And how is world income distribution *developing* with regards to Palma's hypothesis of the "diverging ends" and "converging middles" where smaller shares at the top are distinguished, i.e. is the middle (really) consolidating its stable share while the rich and poor drift further apart?

This paper aims to address these questions, on the premise that concern over inequality would be greater if the actual dimension of concentration at the top was made explicit (via an adequate indicator). Until recently, it has been impossible to "look inside" the high end of the distribution, for lack of available data. However, the appearance of new datasets is facilitating a first delve into these deep waters. In this vein, the present paper is to (i) analyze a specially designed global dataset dissecting the income distribution into ventiles, looking for a potential stable middle and diverging tails in a cross-sectional manner; (ii) peak into the distribution according to the top 1 percent via a smaller subset for which data is available; and (iii) tentatively test the hypothesis of a trend towards homogenization in the middle over time. It will introduce an additional ratio for measuring inequality levels to supplement the Palma indicator, a Palma v.2 (5/40 ratio), and v.3 (1/40 ratio), and argue for why especially the v.2 version seems a useful add-on to the portfolio of existing inequality indicators.

To this end, the paper is divided into 5 sections. After this introductory first section, the next one will put the discussion about inequality into a context of why we should be concerned about its current high levels.[4] The third section will briefly outline the methodology and describe the datasets

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3   Palma dubs this phenomenon the 50-50 rule, where 50 percent of the population hold about 50 percent of total income. At the same time, the diversity in inequality levels is explained by the way the other half of the population, i.e. the top decile and the bottom four deciles, divides the remaining 50 percent of total income amongst its constituents. And here, vast differences can be observed, between the Latin American and Southern African countries on the one hand, where the top income groups make multiples of the share the low income population secures (over 6 times again in the case of Honduras, and up to 9 times, in South Africa), and the Nordic and Eastern European countries on the other hand, where the elites' share is actually smaller than that of the poor groups (between 70-80 percent of the latter's in the cases of Slovenia or Sweden e.g.).

4   The paper largely omits the important discussion about the determinants of inequality for reasons of scope. Judging from the sheer endless list of causal factors and the resulting, at times conflicting theories, as well as inequality's ubiquitous appearance, it seems to me that the problem would be one of the economic system rather than an isolatable variable that defines inequality levels, where, as Atkinson (1983: 206) explains, "[t]he determination of the share of wages and profits in national income is a difficult problem. [...] it involves the whole economic system, and typically everything depends on everything else". Some of the most prominent factors mentioned to influence inequality levels include, by themselves or in combination, growth, trade liberalization, globalization, public social

used. The following, fourth section, will scrutinize the results obtained from the empirical data and present some answers to the question posed above. The final section will summarize the findings and discuss the implications for policy making, as well as sketch out some further lines of research.

2   Contextualization

Concern with the unequal distribution of resources has existed for a long time. However, the concept of what is considered unequal depends on the beholder and her (historical) context. For instance, Plato (427-347 BC) thought that any disparity greater than a 5:1 income ratio between the rich and poor Athenians would trigger ethical imbalance and lead to social ills (Groom 2014). George Orwell claimed that an income ratio between the top and bottom of the population's pay above 10:1 was the threshold. And the US financier John Pierpont Morgan held anything beyond a ratio of 20:1 to be inappropriate (ibid). Nonetheless, in 2013, the actual pay difference between FTSE 100 chief executives and their employees' *average* pay lies at around 120 times[5], while that of some multinational companies' CEOs reaches 427 or 653 times their employees' median pay (ibid). How do we accept these levels? Has our preference for or acceptance of inequality changed that dramatically, or are we just ill-informed about the actual levels of inequality, and the harm it is inflicting on our societies? While the first option could be partially responsible for current circumstances, it is likely that the latter plays a larger role: we are not aware of the full extent of today's inequality.

The conventional inequality measure of the Gini coefficient, an index number between 0-1, is difficult to interpret to the lay person without training in comparative inequality analysis. The enigma of an inequality level of 42 lowers the sense of urgency to act. Even if it was the answer to all the questions in the universe – what does it mean?

Incidentally, the mainstream economic literature has long viewed inequality as an indispensable, not necessarily negative, side-effect to the development process (Justino, Litchfield & Whitehead 2003), since it was assumed to recede automatically once the country's income level increased (following the logic of a Kuznets-like inverted-U shape trajectory of inequality dynamics along the process of the country's development). Many researchers have challenged this dominant belief (e.g. Bourguignon 2004, Palma 2011, ECLAC 2010, Piketty 2014). Suggesting instead that there exists a negative correlation between growth and inequality, they have argued that inequality is bad for growth (unproductive nature of the investment of the rich; low levels of human capital held by the poor; demand pattern of the poor being biased towards local goods; political rejection of the masses caused by rising inequality, etc; Chang 2014), and that, unless interfered with, it will continue to increase. However, these arguments have, more often than not, been sidelined in the discipline's official discourse. Accordingly, while some observers are concerned about the skewed income distribution as the "challenge of the century"[6], others complain about "this preoccupation with inequality" (Krueger 2013).

Notwithstanding, there is mounting evidence of the harmful impact high inequality has on a number

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spending, political regime-type, minimum wage, conditional cash transfer programs, diminished skill-premium, taxation, education, broader labor market policies (job creation), history and path-dependence, remittances or the emergence of specific sectors such as the maquila-manufacturing in Mexico or the rise of a massive financial sector.

5   Up from 47 times in 1998, though down from a peak of 151 times in 2007.

6   As reads the cover of Progressive Economy Volume 2, 2014, an issue entirely devoted to this challenge. Obama has also identified it as such, although he toned down his discourse since, allegedly for fear of the "class warfare" discourse (https://www.youtube.com/watch?v=LfgSEwjAeno).

of aspects of societal wellbeing, including the adverse effects it can have on economic development through its association with social and economic exclusion and instability (Galbraith 2012), imperiling poverty reduction, social cohesion and governability, by leading to increases in crime, mass migration and other forms of social and political conflict and instability. These then create insecurity and distrust amongst economic agents, which could jeopardize economic growth and social development (Justino, Litchfield and Whitehead 2003). Moreover, the complex relationship between inequality and growth (and societal development) acts through a great number of diverse channels, making the disentangling of causal factors extremely difficult. Besides the ethical arguments against inequality[7], these instrumental reasons speak of an economic case for improving the distribution.

The recent availability of new and better datasets on inequality has sparked renewed interest in the topic (the hype over Piketty's 2014 book *Capital in the 21st Century* illustrates this beautifully[8]), especially since these show that inequality is much larger than it was assumed to be and, contrary to the belief that inequality was a problem affecting only poor developing countries, increasingly it is the rich countries that suffer its consequences as well.

This renewed interest in distributional dynamics returns to the forefront two related controversies, about, on the one hand, the efficient level of inequality and adequate policies for potential redistribution, and on the other hand, on a more basic level, the actual trends and directions of inequality. In other words, and coming back to the above question: how much inequality do we have, how much do we *want* to have, and how do we get from the one to the other? This paper is to concentrate chiefly on the first part of this question, revisiting world income distribution and discussing meaningful ways to measure it. However, the debates are intrinsically interlinked, since the way inequality is measured has profound implications for policy making, as is briefly outlined in continuation, so as to illustrate the importance of the measurement question transcending a mere "technical" level.

Palma (2006, 2011) argued on the basis of empirical data that inequality levels are defined by changes in the share of total income held by the extremes of the distribution (i.e. top and bottom) only, whereas the middle-income groups of a population are rather homogenous across countries. Accordingly, Palma identifies three population "groups" that are subject to distinct dynamics depending on their income level: the bottom 40 percent, which in most countries live in continuous poverty in spite of (massive) poverty alleviation programs, unable to increase their share of the total income; the middle 50 percent that defend theirs without being able to increase it significantly though, despite efforts to increase their (human) capital via education, etc.; and the top 10 percent, who are drifting away from the rest in stratospheric heights because their share of total income is large and increasing.

The implications these findings bear for policy responses in high-inequality countries are wide-reaching. Globalization has been thought to lead to convergence of incomes, which would make interference with distributional levels unnecessary.[9] Nevertheless, the empirical data does not confirm this prediction. Middle-income countries, highly interconnected in terms of international trade, "graduate" to the high income club being still highly unequal. In the Latin America of the 1990s, income inequality was growing as per capita income increased, moving, therefore, in the

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7   Political philosophy departs from the concept of duty of justice, according to which the responsibilities individuals feel towards their important relations for sharing the same country, ethnic group, etc. impose rules of conduct and responsibility; the Cosmopolitan view stresses that we must feel responsible for everybody just for being humans.

8   See e.g. the Krugman/Wren-Lewis/Palley discussion in the blogosphere, etc.

9   The Stolper-Samuelson theorem postulates that a rapid increase in international economic integration should have a positive effect on both within-countries and between-nations inequality.

opposite direction predicted by the trade-related factor-price-equalization theorem (Palma 2011). Moreover, middle-income countries with comparable GDP per capita levels (e.g. Tunisia and Ecuador) now display a wide array of distributional outcomes, undermining the conclusion of a predictable inverted-U shaped pattern à la Kuznets. If the consequent inequality is accepted as a threat, laissez-faire is out of the question, now that evidence of inequality increasing if left to itself is ubiquitous (Piketty 2014).

Alternatively, proponents of the human capital accumulation theory have long argued for increases in education as a weapon against inequality. However, differences and improvements in educational outcomes are unable to explain differences in inequality levels. Palma (2006: 11) hence challenges these mainstream policy prescriptions as ill-suited to tackle the inequality challenge: "*the top income decile is made up of individuals with relatively advanced levels of education, while those in the bottom four deciles have relatively low levels of formal education [...]. So why do these two relatively homogeneously educated groups have such great distributional diversity? In turn, if significant educational diversity is found among the population in deciles 5 to 9—e.g., in terms of the share of the population with secondary and (especially) tertiary education—why does one find such extraordinary similarity in the shares of national income of this educationally highly heterogeneous group?*"
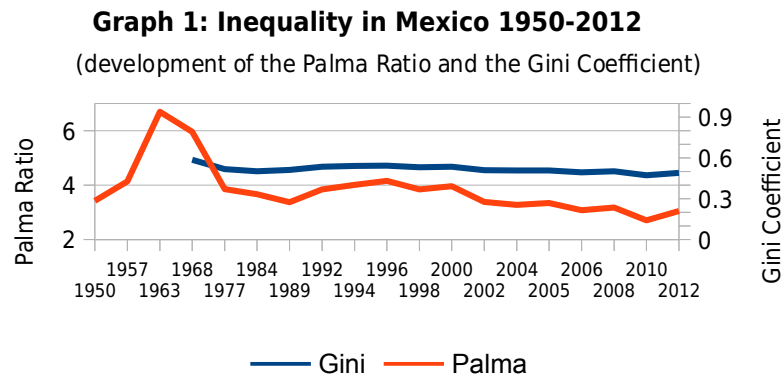
Hence, the discussion about adequate means to deal with inequalities is reopened. However, as the errancy of the human capital theory exemplifies, in order to design an "adequate" policy response, it is necessary to know where exactly inequalities lie along the income distribution. But also, what would constitute a threshold to take action in the first place. Those means applied without paying attention to where inequalities are perpetuated along the income distribution are bound to fail in the attempt to improve it, for addressing the "wrong" income groups. This paper wishes to contribute to the discussion about these two challenges, by presenting some new evidence about the high end of the world income distribution, as well as suggesting a measure that might indicate a threshold of inequality, signaling a "too much".

Is it "too much" if, looking at world inequality, the income of the poorest 5 percent of US Americans situates them at the 68th percentile of the world income distribution? While India's richest ventile does not even reach the poorest US percentiles, Brazilian rich are as rich as US rich, and their poor are as poor as the Indian or Chinese poor? This overlap of global, between- and within-country inequalities, illustrated by Milanovic (2011), starkly contrasts with the picture of income convergence, showing instead that inequality in the world is alive and well.[10]

A look inside the distributional dynamics also cements the need for a complementary measure to the Gini, which is unable to detect such distribution-internal dynamics as the "stable middle" and which lacks sensitivity in the extremes. By way of example, Graph 1 shows the development of inequality in Mexico, a notoriously unequal country, over the past 60 years according to the Gini coefficient, compared to how the Palma interprets it. The graph shows that where the Gini might have us thinking that nothing actually happens, large distributional changes can occur within the distribution, that are picked up upon by the Palma. The capacity of the Palma to better account for extreme inequalities makes it especially pertinent for high-inequality countries (such as Mexico). Its current proliferation as an alternative to commonly used indicators is therefore to be lauded/welcomed (for a discussion about its advantages over the Gini see Cobham and Sumner

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10 And as opposed to Kuznets-like expectations of receding inequality levels above certain income thresholds, it is the rich countries that are currently experiencing a backlash in their inequality levels, as if emulating the notoriously unequal middle-income countries of Latin America. See also Lakner and Milanovic (2013) for an estimate of the global Gini.

Graph 1: Inequality in Mexico 1950-2012

(development of the Palma Ratio and the Gini Coefficient)

Source: constructed with data from Sedlac (2014) and Tello (2010).

In sum, far from being an objective "technicality", the general usage of the Gini indicator as inequality measure obscures developments in the high and low ends of the income distributions, where most of these changes occur. The *location* of these changes within the income distribution is important for successful redistribution, as well as to increase people's sense of urgency to act upon inequality. If policies address those parts of the population where changes are least likely to occur, as happens with the human capital theory addressing the middle groups, the effect on inequality is likely to be minor. Hence, the choice of inequality indicator can be decisive for the study outcome of how high inequality is, and each option entails a value statement based on the underlying assumptions the measure is constructed upon: do we care mostly about changes in the middle of the distribution, or in the extremes, transfers between which groups of the population? As indicated at the outset, most people worry about (and underestimate[12]) concentration of incomes at the top, advocating for further scrutiny of that part of the population, and an indicator able to display this. The introduction of the 10/40 ratio is a decisive change in this regard. I will show in continuation that it could be complemented by a another ratio, even more sensitive to what happens at the very top, following Palma's lead denominated here "the Palma v.2".

3   Methodology

In an attempt to address the concerns presented, this paper analyzes the world relative distribution of disposable income[13], i.e. the shares of total national income a subgroup disposes of, where data is

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11 Some international institutions, such as the UN economic commissions in Latin America and Asia, and also Oxfam, have adopted the Palma into their portfolio already.

12 Interestingly, in a recent poll about inequality perceptions in the US, where people were asked to place themselves in the bottom 99 percent or top 1 percent of the income distribution, 68 percent of respondents said they were part of the 99 percent, while 13 percent though of themselves as part of the top 1 percent of moneymakers (19 percent had no opinion on the question). This strikingly indicates common misperceptions, both about the actual level of inequality, and the relative position of the different income groups (http://pollposition.com/2011/11/01/can-13-be-part-of-elite-1/).

13 In general, measuring inequality in terms of income only, reduces its multidimensional nature to a one-dimensional phenomenon. This excludes other important socio-political and cultural aspects, constraints and effects of inequality (social position, access to political power and other institutions, access to education and health care, gender differences and ethnic discrimination, etc) (Justino, Litchfield & Whitehead 2003), as well as its horizontal, between-group component (Stewart 2008). Nonetheless, income inequality is a reasonable proxy for inequality for our purpose, and has the added benefits over most other measures that it is relatively easily comparable across

disaggregated for ventiles or higher. The data utilized stems from two main datasets, in turn assembled from national household survey data:

3.1   The Datasets

1) the World Income Distribution Database (WYD) for 2008, the latest benchmark year available (and earlier versions where disaggregated ventiles are published) compiled by Milanovic (2014), which comprises 116[14] countries according to population ventiles (20 equal-size population groups), allowing for the calculation of the top 5 percent's income share. It combines data for developing countries from the World Bank's PovcalNet database with LIS data for the rich countries.[15] This dataset covers about 90 percent of world population, and 93 percent of its GDP in 2008 (Lakner and Milanovic 2013), justifying generalizations about the world income distribution. The WYD-2008 dataset comprises data on household per capita income (or expenditure) for individuals, where all household members are assigned the same (average) income/expenditure, i.e. any economies of scale in household consumption and within-household inequality are ignored (Milanovic 2009).[16]

2) the LIS[17] household survey microdatasets for a subset of 41 upper and upper-middle income countries reporting shares of household disposable income for the top percentile, utilized for the analysis of the richest 1 percent, as well as the comparison over time. No top-coding is applied, but household members' incomes are weighted according to the equivalent adult scheme. Since LIS data is harmonized to allow for time-series comparisons[18], although much smaller than the WYD-2008, this sample hosts the largest compilation of income distribution data for developments over time for the whole population, yet disaggregated up to the top 5 or 1 percent.

3.2   Setup of the Study

For the first part of the question, how distributional dynamics look like when the income share of richest 5 percent income earners is considered, and how this information could help measure inequality, income shares by ventiles are calculated from the WYD-2008 dataset. The investigation of the top 1 percent on the other hand relies on the LIS dataset, using the latest year of reporting so as to construct the largest sample available. Since surveys do not exist for all years and countries, and to maximize the sample of countries for the subsequent comparison over time, two year-points are chosen, the first point ("1990") includes all countries that present a survey in the early 1990s, while the later point ("2010") essentially includes all surveys from the late 2000s and 2011. A minimum of 15 years is guarded between the two datapoints.[19] Considering that approaches to harmonization differ between the two datasets, the resultant estimates for countries may differ accordingly. These discrepancies are small though and do not affect the results of the investigation.

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programs, policies, time and geographic space, as well as considerably well-documented.

14 For Switzerland in 2008, the bottom decile had average income of zero, which is why the WYD reports it as missing. It is therefore not included in this sample, since the bottom 40 percent share cannot be calculated without the first decile.

15 See also Milanovic 1999 for details on the sources for the surveys and Lakner and Milanovic 2013 for further details on the construction of the dataset.

16 This is because per capita incomes have the advantage that they are simple to compute and have natural counterparts in the national accounts (which do not compute equivalised incomes) (Lakner and Milanovic 2013).

17 Formerly Luxembourg Income Study

18 For details on the harmonization of the microdata see LIS' webpage at http://www.lisdatacenter.org/our-data/lis-database/documentation/

19 Except for the case of Australia, Austria and Slovenia, where the difference is 8, 11 and 14 years, respectively.

3.3   Data Limitations

Consciousness about the limitations of available data is opportune. While household survey data is no perfect source (diversity in methods applied for data collection; variation in choice of indicator between income and expenditure; lack of "universal" coverage, i.e. many countries do not publish survey data at least once a year; data published in quintiles rather than deciles means crucial information is lost in aggregation, Palma 2006), it remains a good starting point for a thorough investigation of world inequality patterns. However, while the quality of published datasets has improved, availability is still limited and comprehensiveness increased only very recently, when attempts have been made to improve comparability between different countries and over time. Nonetheless, due to the lack of appropriate historical data, time series testing is difficult for larger samples (Palma 2011). Besides, there are intrinsic problems with household survey data when it comes to reporting top incomes. The difficulty of reaching these households (considering that they are rare and often difficult to access) creates sampling issues leading to the understatement of incomes at the top (Lakner and Milanovic 2013).

However, at least three reasons speak for using the available data anyways: Firstly, the problem of under-reporting is intrinsic to all self-reported information, and likely to affect (to varying degrees) any kind of data we are able to collect on the income distribution, and at all levels of income. Alternative empirical approaches that try to escape these shortcomings, as usage of industrial data (Galbraith 2012), suffer from additional severe limitations, including the difficulty to account for informal labor, rendering them less suitable for the purpose at hand.[20] Yet other research, such as Piketty's and Kuznets' that rely on tax accounts, might appear to be more accurate at measuring top incomes. While arguably more reliable as to their objectivity (giving less leeway to individuals' disclosing income at their own discretion), they are constrained by the same informal sector problematic, as well as by massive underreporting and tax evasion, especially in developing countries.[21] Besides, it is quite likely that especially the highest income groups will have the knowledge and capacity to deduct large sums from their incomes ("income minimization", a problem likely to be particularly acute in developing countries, too, Lakner and Milanovic 2013) exposing this data to a bias as well. Moreover, few countries make these numbers available. For the purpose at hand, even if they were available, they would not be suitable, since they do not report incomes for the lower income groups.

Secondly, this information is what we have. Pragmatically, just because we don't have better data does not mean we should completely dismiss those we have. While critical awareness of their shortcomings is necessary, they can still tell us important stories that might further our knowledge about the state of the world we live in.[22] Thus, until for instance efforts were to be made to combine tax report and household survey data, to represent both the lower and upper income groups more adequately, household surveys seem to be the most reliable source we have for the purpose at hand. In this sense, the updated WYD-2008 dataset by Milanovic used in this study, which includes data by ventiles for a large part of the world, is an important improvement.

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20 Reliance on manufacturing data proves highly problematic in a developing country context where often over half of the working population is employed in the informal sector of which few accounts exist, and large shares of the labor force remain in agricultural (or services) sectors with entirely different income structures. Furthermore, it can be argued that manufacturing is not representative for the whole breadth of incomes, again making it difficult to extrapolate to the rest of the population.
21 In Mexico, for instance, only about 30 percent of workers pay taxes, restricting the representativeness of the sample and the predictive capacity of such numbers.
22 Atkinson (1983: 206) quotes Kuznets: "the approach adopted here 'is needed not only to warn against uncritical reliance on the estimates as they are usually shown but, perhaps even more, to counter their complete dismissal because of the serious errors and biases in them'".

Thirdly, considering that even the limited data we have with all its understating shows such stark income polarization, it is likely that the "real" distribution is even worse, only accentuating the argument.[23] Nonetheless, it is bearing all of the above shortcomings in mind that the conclusions proposed here should be approached.

4   Analysis

It is assumed here that not only is there a high concentration of income[24] in the shares of the very top percentiles of the distribution, but concern over inequality levels would presumably be higher if its actual dimension was more readily accessible. To create such awareness, the measuring indicator must be able to make high levels of concentration explicit. Palma (2006) suggested the usage of the ratio now known as "the Palma", whose key feature is its focus on the tails of the distribution where change is happening, particularly at the top decile.[25] This indicator thus comes much closer to describing actual income dynamics (compared, for instance, to the Gini). However, it is very likely that the distribution within this decile is highly unequal as well. So what happens if we disaggregate the top decile and look at the top 5 percent instead?

The hypothesis underlying this paper then is that in terms of stability, the upper middle exceeds the grouping Palma undertakes in terms of the population fraction to include the 19th ventile as well (i.e. ventiles 15 to 19 instead of deciles 7 to 9) due to the concentration of income being much higher in the top 5 percent then in the top 10 percent. The ensuing discussion is to investigate, firstly, how the top percentiles of the income distribution behave in a cross-sectional comparison, and subsequently over time.

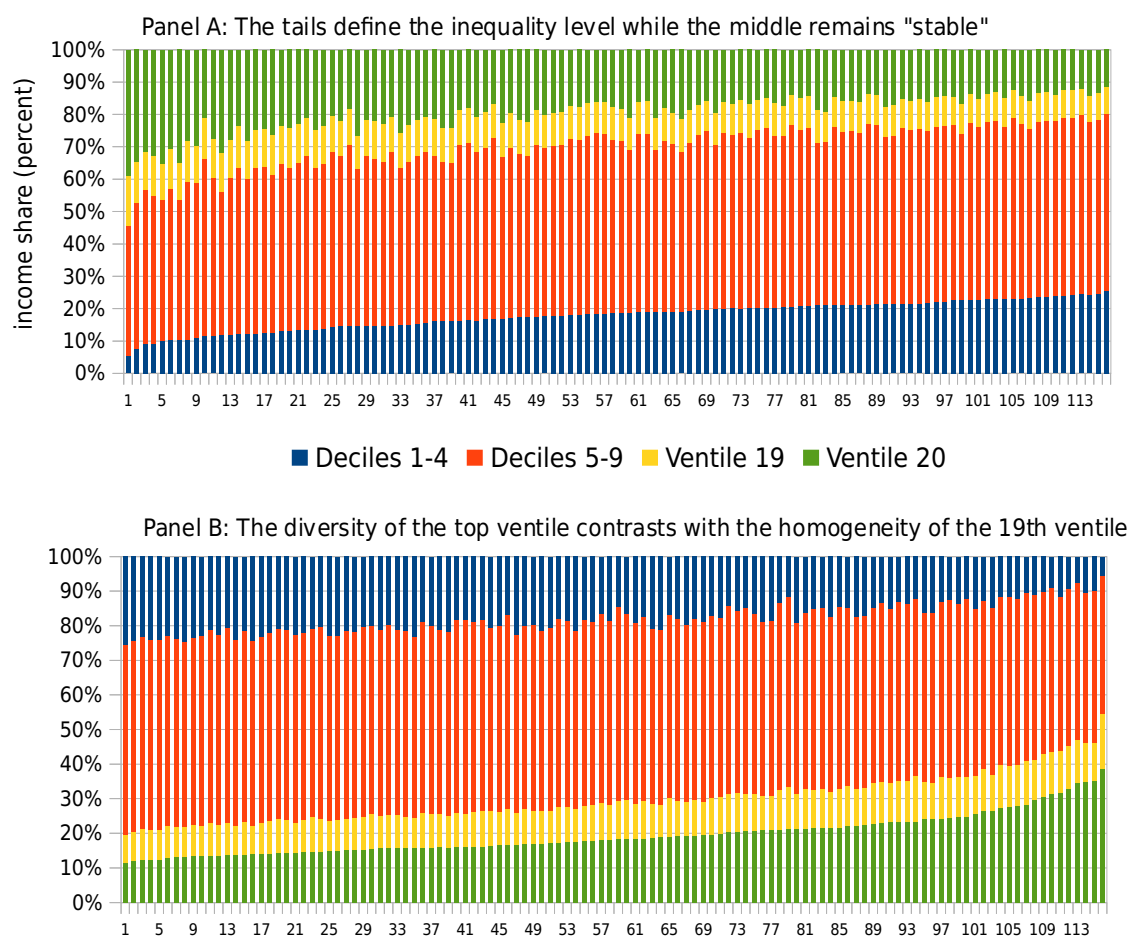## 4.1   Looking inside the Top Decile

Using the WYD 2008 dataset, this section scrutinizes the patterns the income share of the top 5 percent of the population in their respective countries displays for the benchmark year 2008. Panel A in Graph 2 shows the cross-sectional comparison of the 116 countries in the sample, ranked according to the share of total income the lowest income groups of their populations' hold.

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23 Nonetheless, before looking at the actual numbers, it is important to emphasize again that particularly the results obtained for the trend over time are preliminary, for lack of reliable panel data for a sufficient number of countries, and because most of the existing data is for OECD countries, presumably not displaying the same tendencies as developing countries. The numbers presented are therefore not to be taken as the final word on the issue, but rather as an incentive for further research in the area, especially when larger datasets will become available, over longer periods of time. Irrespectively, a preliminary look can be risked at those countries for which harmonized survey data is available over the last two decades.

24 Clearly, income is only one dimension of economic inequality, and a focus on that aspect relegates other important determinants like wealth, whose distribution is arguably less equal, to second rank. However, labor income is still the most important source of income for the vast majority of people. Even among those in the top 10-1 percent of the distribution, earnings from work account for shares of 70-85 percent (OECD 2014), making it one of the most important components of economic inequality. Moreover, asset inequality and income inequality are closely associated across countries (Goñi, López and Servén 2008). Finally, data on wealth accumulation in developing countries is very patchy, making large-scale analyses on wealth distribution difficult at this point.

25 Since other advantages of the Palma over the Gini and other traditional measures of inequality have been analyzed in Cobham and Sumner (2013, several) and Doyle and Stiglitz (2014), here the focus shall lie on the complementary features of related ratios to the Palma rather than comparing them to the Gini again.

Graph 2: Income Distribution in 116 countries, by population share (2008)

Panel A: The tails define the inequality level while the middle remains "stable"

Panel B: The diversity of the top ventile contrasts with the homogeneity of the 19th ventile

Source: constructed with data from Milanovic 2014.

Two features are pervasive: firstly, Palma's stable middle is easy to appreciate; across the sample, the middle 50 percent of the population hold on average 52 percent of total income, while differences in the shares of bottom and top deciles are large. This contrast between the homogenous middle and the heterogeneous extremes of the income distribution is reproduced in Table 1 below. Before turning to that, though, Graph 2 has a second salient feature: that the second highest ventile is extremely stable across the countries in the sample, and that differences in the top decile are defined almost entirely by the size of the highest ventile. Just to visualize this homogeneity in the 19th ventile, Panel B inverts the image, aligned now according to the size of the richest 5 percent.

It can be seen from Panel B that in those countries where the last ventile is extraordinarily large, the "extra" part cannot be taken from the low income groups anymore, and hence their middle 50 percent is somewhat smaller than the rests. But this extra part is not distributed equally within the top decile – the benefits accrue almost exclusively to the top 5 percent, while the second-to-last ventile. For most of the other countries there is a direct relationship between the bottom 40 percent's share increasing where the top 5 percent's decreases, while the middle 50 percent and the second to highest ventile remain overall fairly stable. Differences in the level secured by the top ventile in the

respective countries are vast: shares here range from almost 39 percent of total income (in South Africa) to 11.5 percent (in Slovenia) – less than a third. Analogously, the bottom 40 percent of the population hold on to a mere 5.5 percent at the low end (South Africa) compared to a maximum of almost 5 times this share (25.5 percent in Slovenia). These large differences contrast sharply with the relative homogeneity in the upper-middle income groups, where the difference for the augmented upper-middle 55 percent amounts to less than 20 percent between the highest (China) and lowest (Central African Republic) share.

Table 1: Measures of centrality and spread for different income groups in 116 countries, latest year

	Hmean	Median	Average	St. Dev.	C. of V.
D10	28.546	28.444	29.881	6.811	0.228
v19	10.179	10.217	10.328	1.282	0.124
v20	18.197	18.237	19.553	5.682	0.291
D1-4	16.535	18.654	17.890	4.348	0.243
D5-9	52.042	53.014	52.229	2.995	0.057
M55	62.466	63.072	62.557	2.342	0.037

Note: Hmean= harmonious mean, St.Dev.= standard deviation, C. of V.= coefficient of variation; M55= augmented middle 55%.

Source: constructed with data from Milanovic (2014).

Table 1 shows that the coefficient of variation for such an augmented middle (including arguably very upper-middle 19th ventile) is very small; such a population share would be even more homogenous than the middle 50 percent. Variations of the bottom and top groups, on the other hand, are a lot larger – especially that of the highest ventile. These observations are in line with our hypothesis according to which differences in inequality levels in the world are explained overwhelmingly by the differences in the shares of the extremes, while the middle-income groups own a similar share of total income all other the world. Palma found this relationship to hold when using the top decile as the delimitation of the elite income group. The new data analyzed here shows that this relationship holds the more, i.e. the middle becomes more stable, when a smaller fraction at the top is considered (top 5 percent), and analogously the middle is "augmented" to encompass 55 percent of the population.

If it is the case that the most stable subpart of the population is the augmented middle, while the most diverse part is the top percentiles, such findings would warrant the usage of a sort of "higher order" Palma ratio – a "Palma v.2". An indicator could be conceptualized where different, smaller shares of the elite's income, e.g. the highest 5 or 1 percent, are divided over that of the poorest 40 percent of the population.

What speaks for the usage of a Palma v.2, as a complementary measure to the Palma, is the extraordinary concentration of income within the top decile, i.e. between the top 10 percent and the top 5 percent of the income distribution. Whereas the 90th to 95th percentiles receive only somewhat more than the 18th ventile which lies just below it (20 percent more on average), for all 116 countries the last ventile secures on average almost the double (10.3 percent of total income for the 19th ventile and 19.6 percent for the last one), for 34 countries more than double, and three countries

– Guatemala, Central African Republic and Honduras – more than triple that of the five percent just below. No other ventile is marked by such drastic difference between the ones just next to it (whether that is above or below). Graph 3 below illustrates the relationship between the 20th ventile and the tenth decile, and the 19th ventile, respectively. As can be observed, the trajectory of the top 10 percent and the top5 percent is not only in close alignment, but also very diverse across countries. Meanwhile, the 19th ventile remains remarkably constant across countries, and does not display the same shape of large variance between countries.

Graph 3: The Top of the Income Distribution for 116 countries (2008)

(Income shares held by the 10th decile and the 19th and 20th ventiles)
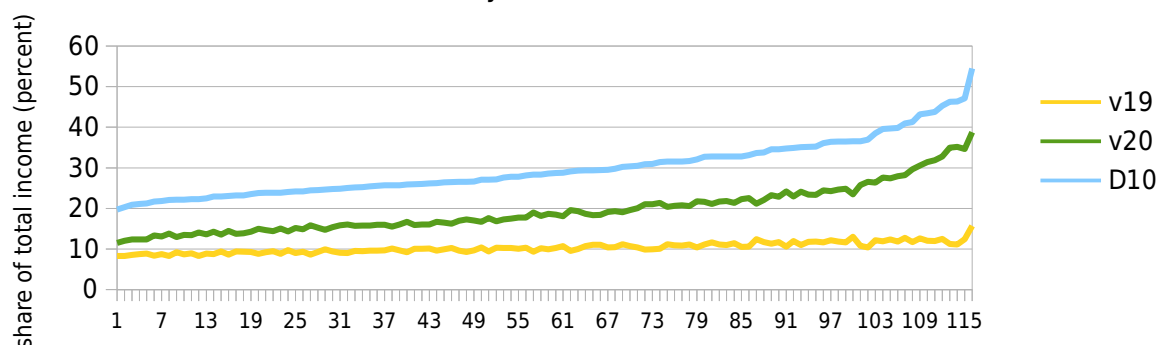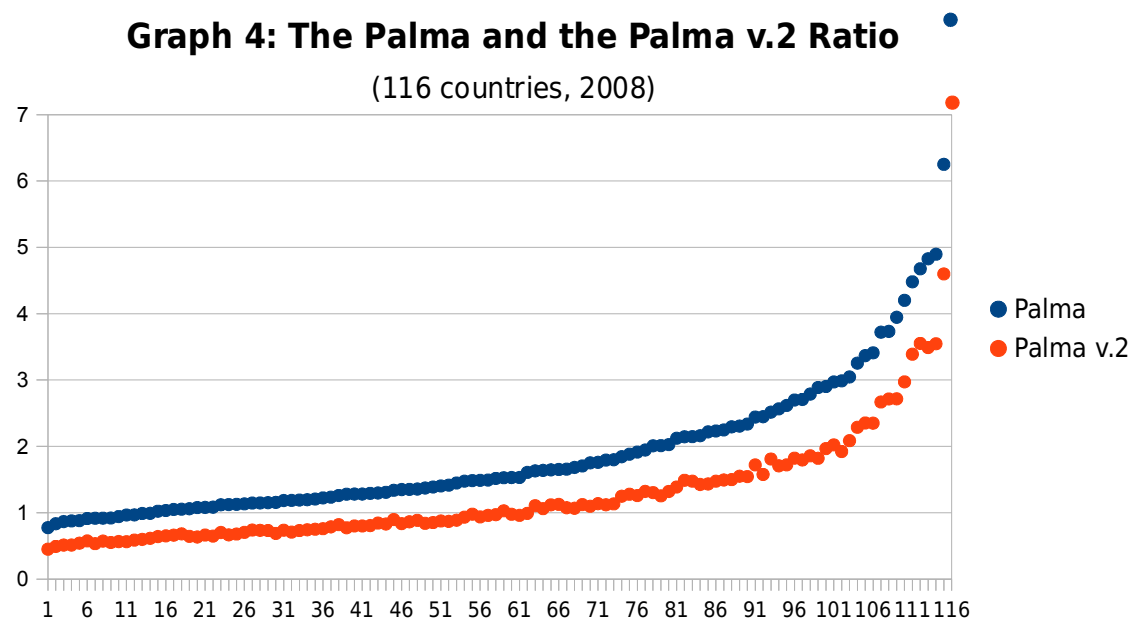

Source: constructed with data from Milanovic (2014).

On the basis of these findings we can construct a Palma v.2, which, on a world average, takes the value of 1. This is a very interesting feature, since it shows the unity of the top 5 percent (keep in mind that this is not the global Palma v.2 though, but a country average!) defending the same share of total income as the 40 percent with the lowest incomes. This translates into a person in the top ventile owning 8 times the share of a person in the bottom 40 percent of the population. Moving away from the average, at the low end this difference shrinks to a Palma v.2 of 0.45 times in Slovenia, whereas at the other extreme, in South Africa, this indicator reads just over 7, meaning that a person in the top 5 percent owns 56 times the share of total income a person in the bottom 40 percent can hope to have! Such absurd inequality seems to be a unique trademark of some Southern African and the Latin American countries. The latter region, e.g., features a Palma v.2 of 2.7 when isolated from the rest. Of the top 20 most unequal countries, 15 are Latin American, and only Uruguay, Argentina, and Venezuela are located further down (rank 26, 27 and 34, respectively[26]).

The Palma v.2 shares this feature with the Palma: The most stylized features of the Palma, which cannot be observed by the Gini-inequality ranking are, in Palma's (2014: 14) words, that "*inequality across the world, as measured by this ratio, increases first relatively slowly, and almost linearly, only to switch gear when Latin American countries enter en masse (around ranking 100) to increase then rapidly and geometrically.*" He continues to assert that, had the "steady pace" of the first four fifths continued, the maximum Palma ratio should be around 3, rather than triple this amount. A similar pattern can be observed with the Palma v.2, which is slightly more linear in its lower rankings, and increases even more steeply once "the usual suspects" enter the ranking (shortly after rank 100) (see Graph 4). Data points for South Africa are off the chart, literally – is this "too much"?

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26 Considering high inflation in Argentina and Venezuela, there might exist measurement challenges in these two countries though (Palma 2014).

Graph 4: The Palma and the Palma v.2 Ratio

(116 countries, 2008)

Source: constructed with data from Milanovic (2014).

Just like the Palma, a Palma v.2 would lie fairly close to the Gini at levels of lower inequality. However, in countries with higher inequality the difference between the two (three) indices increases dramatically, testifying to the higher sensitivity of the Palma and Palma v.2 to highly polarized distributions. Graph 4 also shows that the rankings ordered by the Palma do not in all cases coincide with those of the Palma v.2: Guatemala, Uruguay or Uganda for instance rank higher in the Palma v.2 than their corresponding position along the Palma scale would have us assume. Israel or Thailand, on the other hand, display a lower Palma v.2 ranking than their Palma implies. This shows that a the concentrations at the very top are not necessarily predictable by the look of their top decile, increasing the two measures' complementarity.

Summing up, the Palma v.2 could be a useful supplement to the Palma, offering some unique features beyond the attributes of the Palma (of which, many are shared by the Palma v.2, such as its intuitiveness and simplicity, making it easy-to-interpret and suited for policy-making): it is even more sensitive to changes in the upmost ranks of the income distribution, while accounting for the fact that the top decile in itself is highly unequally distributed. The elegancy of the 50/50 rule make the Palma uniquely suited for policy purposes; however, the Palma v.2's unity-relation make the latter a good ally for measuring what most people care about when inequality is the concern: the concentration of income at the very top, at the expense of the low-income groups.

But how do these traits feature when the top ventile is further disaggregated?

4.2   Disaggregating the Top Ventile

Unfortunately, comparable data for the top 1 percent of the income distribution is even more sparse. The LIS database hosts 41 countries for which such numbers are available for at least one year.

Graph 5 displays their richest populations' share of income and how this ranks them relative to the remainder of countries. It thereby illustrates the importance of dissecting the top decile. While the top rankings are no surprise to a scholar of inequality, some of the middle positions run counter to expectations based on Gini rankings (or even Palma).

**Graph 5: 41 Countries Ranked According to their Top 1%**
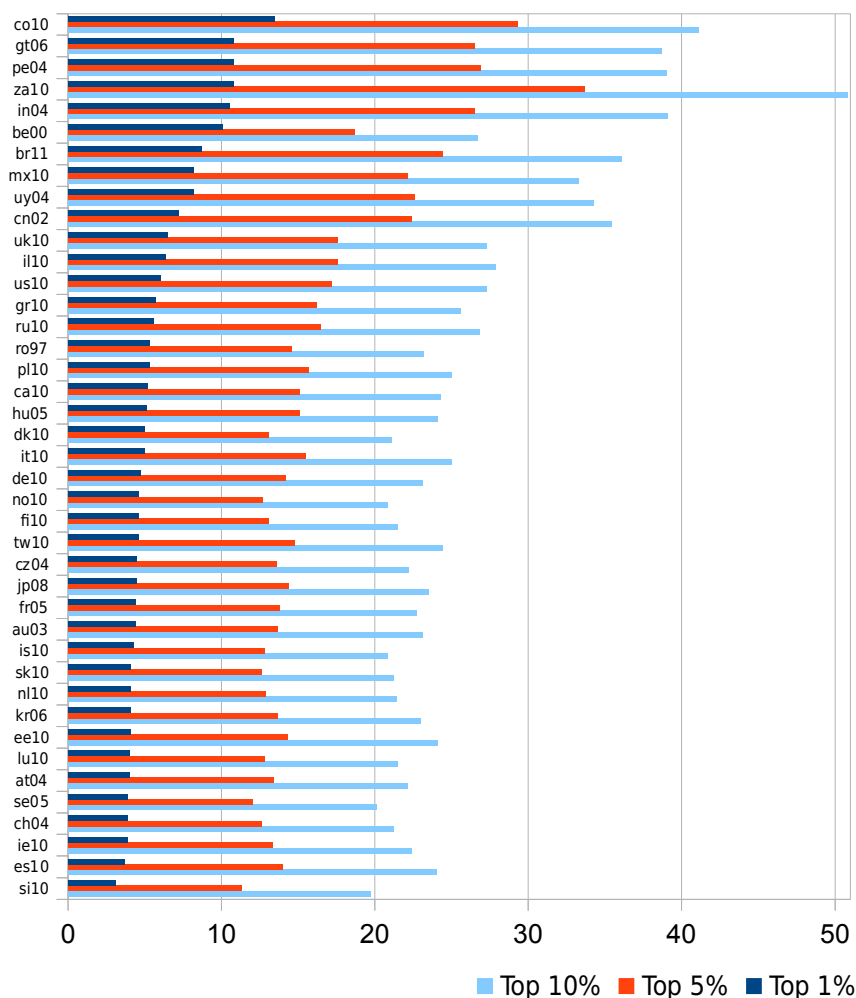
Source: constructed with LIS (2014) data

The graph shows that scoring relatively well in terms of inequality according to measures such as the Gini does not necessarily mean having a less unequal distribution of incomes as concerns the extremes of the distribution, as the cases of Belgium or Denmark (Gini of 26.2 and 25.2, respectively, in 2010) illustrate.

While 5 countries (Colombia, Guatemala, Peru, South Africa and India) compete for the top positions amongst themselves and lead the table in all three disaggregated groups, beyond these top 5 the lines become more blurred. The strong regional dynamics discernible when analyzing the top 10 percent of the income distribution are less marked when looking at the top 5 or even 1 percent, especially as regards those countries perceived as more equal according to other measures of inequality, namely the Northern European ones, and especially the Nordic countries, where Denmark, Finland and Norway lie exactly in the middle of the 41 countries presented when measured by their top 1 percent income holders. Nonetheless, it is also clearly noticeable that all the Latin American countries included remain faithful to their reputation and make the top 10.

Interestingly, some of the Asian countries (Japan and Korea) rank significantly more equal according to their highest percentile than when the 20th ventile or top decile is considered, and the same is true – and even more pronounced – for Spain, which features the second smallest share for the top 1 percent in the sample (though not when the top 2 or 3 percent is considered, see below), and Estonia and Ireland. This shows a distributional diversity within the elite, which does not necessarily run along the same lines as the rest of the distribution. This could either be an indicator of more "flat" structures within the elite in these countries, or a sign that the concepts used do not capture the existing concentration (e.g. a 0.1 percent or smaller share would be necessary to see further divergence). An interesting case warranting further investigation for its consistently low inequality is Slovenia, ranking last (i.e. most equal) in terms of its top 1, 2, 3, 5 and 10 percent's share, as well as Palma and Gini (incidentally, the country also features the second highest minimum wage in relative terms in the world...).

Graph 6: Comparing the original Palma with the Palma v.2 and v.3

(41 countries, latest year)

Source: constructed with LIS (2014) data.
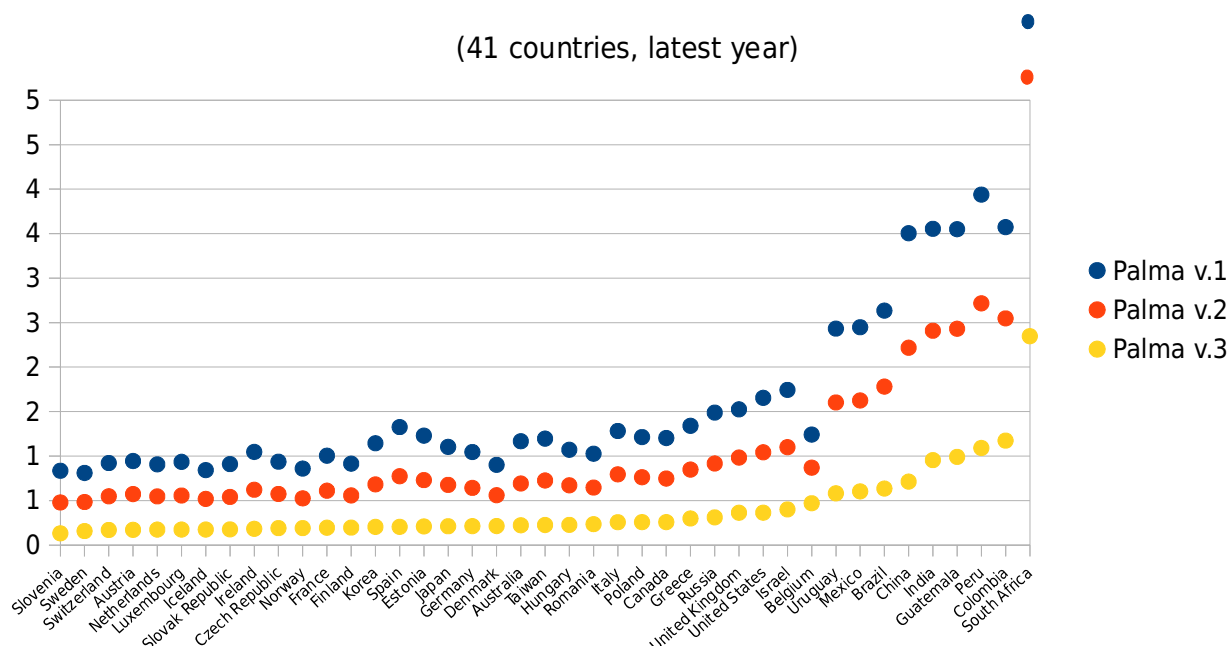
Combining the information the Palma-family can provide, Graph 6 shows two interesting dynamics comparing the three Palmae: on the one hand, the "original" Palma seems to capture more movement for the rich, middle-inequality countries compared to its derivatives. On the other hand, especially at higher inequality levels (South Africa is off the chart again), the three indicators lose the fairly strong correlation they display for countries with low inequality.

Clearly, the set of countries for which data on the top percentiles is available is too small and regionally biased (it cannot account for most of Africa and large parts of Asia) to make definite statements about this issue on the world scale. However, considering that it comprises a number of the notoriously most unequal countries, as well as the most equal ones in terms of most indicators, allows for the formulation of some tentative conclusions. In this sense, the same phenomenon observed above describing the difference between the 19th and 20th ventile can also be identified when comparing the 100th and the 99th percentile of income: in many cases the former is more than double the size of its closest neighbor, this distance being far larger than that to the next-lower, 98th,

percentile.[27]

While it seems difficult to change the fact of high concentration at the very top, apparently some countries are nonetheless able to significantly enlarge their bottom part's share. For instance, even though the Scandinavian countries still maintain a large top 1 percent share, their bottom deciles appropriate approximately 23-25 percent of total income – compared to the lowest four deciles of the Latin American countries getting about only half of that. That this is not an intrinsic feature of their income distribution but the result of conscious policy making becomes clear when comparing the pre-tax and transfer distribution of the Nordic with that of the Latin American countries.

Unfortunately, the information about pre-tax and transfer income distributions is even more limited than that of disposable income, and difficult to compare. Hence, a direct comparison between two countries, rather than a larger sample, must suffice to point to the policy importance in this instance: While the level of inequality according to market income (as measured by the Gini) in Mexico and Denmark is not that different, the latter manages to reduce its disposable income Gini to almost half its size, whereas the Mexican Gini remains almost intact. While we cannot compare the market income of the top percentiles to their disposable income due to the lack of available data, it seems that, unsurprisingly, redistributive policies in Denmark have a larger equalizing impact than those in Mexico, even if this leaves the hegemony of the top 1 percent untouched.

**Table 2: Income Distribution in Mexico and Denmark,
Before and After Taxes and Transfers (1963-2010)**

	Mexico		Denmark	
Year	Gini Market	Gini Net	Gini Market	Gini Net
1963	55.203	49.760	46.744	25.456
1968	55.555	52.523	57.727	26.707
1970	55.639	52.741	60.561	30.843
1975	56.291	53.244	53.237	28.190
1978	51.933	49.296	46.851	25.609
1980	49.433	47.199	43.118	25.465
1983	45.683	44.053	40.985	25.313
1985	44.840	43.445	40.617	25.002
1988	46.061	44.765	41.900	25.616
1990	47.193	45.956	43.371	25.810
1993	49.014	47.739	43.633	23.152
1995	49.145	47.550	43.289	21.800
1998	50.296	48.700	43.221	22.266
2000	50.201	48.600	42.296	22.500
2001	49.482	47.517	42.197	22.555
2002	49.096	46.800	42.117	22.607
2003	48.407	46.305	42.251	22.702
2004	47.678	45.700	42.404	22.800
2005	47.935	45.750	42.872	23.041
2006	47.975	45.628	43.326	23.274
2007	48.217	45.967	43.181	23.346
2008	47.577	45.235	44.109	23.901
2009	46.984	44.654	45.039	24.476
2010	46.390	44.073	46.707	25.347

Source: adapted from Solt (2009)

Such comparison shows that the high inequality levels observed in certain countries are not unchangeable in principle. With the right policy application, they could be diminished significantly

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27 Similar differences can be observed between the last and second-to-last percentile in different databases, e.g. the Eurostat dataset, where percentile 100 is often about the double in size compared to percentile 99.

– at least insofar as the share of the poor groups could be augmented. However, this table scarcely discloses any information about the concentration at the top. As Graphs 5 and 6 above showed, depending on the choice of indicator, inequality rankings will be altered. This alludes to the importance of choosing the "right" indicator for the purpose at hand. Anecdotal evidence shows that Mexico champions the art of concentrating income at the very top like few others: citizen Carlos Slim Helú, richest man on earth, before the crisis (in 2006) had an *hourly* income of US$2.2 Million. This compares to the Mexican *daily* minimum wage of $4.39.[28] However, as we just saw when disaggregating the very top, the highest percentile in DK is also significantly higher than we would expect from the size of its top decile, or ventile even (and certainly compared to its Gini).[29] Nonetheless, with 23.4 percent of total income, its bottom 40 percent of income earners secure one of the largest shares for their group in the sample. At the same time, its middle groups (deciles 5 to 9) own more than 55 percent of total income, placing it above the sample's average. This must mean that the country manages to redistribute from its top decile towards the bottom, yet leaving its highest percentile, as well as middle groups, relatively intact. Accordingly, a Palma v.3 would place Denmark exactly at the middle of our sample, while the Gini, Palma and even Palma v.2 would place it in the top 10 of most equal countries. Were there data available for smaller fractions of the elite (0.1, 0.01 percent etc.), it is conceivable that rankings would look yet different again.

It becomes clear from the empirical data presented that the different inequality measures rank countries differently. While in itself this is not a revolutionary finding, it does mean that the undifferentiated usage of the Gini coefficient to describe and compare inequality levels among countries has serious shortcomings as to its accuracy when the distributional extremes are scrutinized. However, indeed any one (summary) measure will potentially face problems when attempting to describe every change in a distribution where different forces are at work at the same time and prioritize diverse aspects of inequality. Depending on the stated objective of the investigation it then becomes paramount to choose the adequate corresponding indicator(s). The impact of this choice is accentuated in high inequality countries such, where a similar Gini coefficient compared to another country can mask large differences that are captured by a Palma ratio or its derivatives instead: for instance, comparing Portugal and Sierra Leone, both feature a Gini of 34.4 in 2010 – however, their Palma's of 1.38 and 1.73, respectively, position them more than 20 ranks apart from each other on a global scale.

Palma v.2 or Palma v.3?

Taking into account the vast inequality within the top decile of the distribution, it makes sense to include a Palma v.2 or Palma v.3 measure into the portfolio of available indicators. This is particularly relevant in high-inequality countries, where the lower income groups of the population feature a particularly small share of total income combined with the high concentration at the top end. Just like the Palma, the derivatives are more intuitive than the Gini in its interpretation ("the top 1 percent earns x times what the bottom 40 percent receive"), and simpler in its calculation. The Palma v.3's disadvantage compared to the other two is that its values mostly lie below 1, making interpretation slightly more cumbersome and hence less practical to manage ("In Brazil, the top 1 percent's share of total income is 0.635 times that of the bottom 40 percent"); it lacks the elegant feature of the Palma of offering a simple-to-handle number as a result. Notwithstanding, it could be

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28 Although with the crisis Slim lost almost half of his wealth (from $67billions in 2008, he went to $35billions in 2009), he now "resurrected" to the top spot, owning $79.5billion (Forbes 2014). Oxfam (2014) calculates that Mr. Slim could pay the yearly wages of 440,000 Mexicans with income derived from his wealth.

29 If even within these countries considered fairly equal the strong divide between the highest decile and the top1 percent can be appreciated, it seems to be a lot more difficult to decrease the economic supremacy of this small elite group, even under concerted policy application, than to divide income more equitatively over the rest of the distribution.

a useful supplement for the more traditional indicators and the Palma. However, between the two concentration measures presented here, the Palma v.2 seems more suitable than the third order Palma, not only because the top 1 percent of income earners are hard to come by with household surveys (and most attempts to measure them anyways) and only few countries make related data available, but also because only three countries in the sample feature a Palma v.3 above unity[30], making interpretation of the resulting fractions less elegant.

Therefore, the unique feature making the Palma v.2 interesting in this context, is its potential to function as a threshold of sorts. As long as its value lies under 1, differences are slight. However, as soon as the threshold of 1 is surpassed, its values increase very quickly. As stated above, world average for the Palma v.2 is 1. Of the 116 countries in the sample, half have a Palma v.2 above 1 (57 countries), some significantly so (the Latin American and some Southern African countries, up to 7 in South Africa). In this sense, a Palma v.2 of 1 could be a signaling limit for excessive inequality: when the top 5 percent of income earners keep a larger share of total income than the bottom 40 percent, it is "too much" and alarming inequality and concentration levels have been reached. Subsequent thresholds might indicate the urgency with which this excessive inequality must be addressed (e.g. Palma v.2 above 2: prioritize; above 3: top priority...) While countries might have their idiosyncratic tolerance for inequality, the Palma v.2=1 lends itself as an upper bound to be aspired (e.g. as an objective for post-Millennium Development Goal indicators), besides being an intuitive and "catchy" relationship to remember also for lay persons. Considering the concentration of income at the top of even the highest decile, it seems useful to combine such a measure with the Palma ratio.[31]

It should be clear by now that inequality differences are largely decided in the extremes of the distribution, highly concentrated at the smallest fractions of the top. Is this a pattern reinforced over time, i.e. have the tails diverged over the last decades while the middles' share has simultaneously become more homogenous?

4.3   Developments within the Top Income Shares over Time

That Lakner and Milanovic (2013) find 44 percent of the increase of global income between 1988 and 2008 to go to the top 5 percent of world population points towards a divergence of the tails. The four developing countries that are represented in the WYD dataset by ventiles from 1988-2008 (Colombia, Pakistan, Philippines and Thailand) testify to these trends. Although this sample of four countries is obviously too small to make any generalizations, its income distribution develops exactly as we would expect from our hypotheses: the middle groups remain relatively stable (their share drops slightly from an average of 50.6 percent in 1988 to 50 percent in 2008), while the top increases its share mostly at the expense of the bottom (poorest four deciles see their share shrink from 16 percent in 1988 to 14.7 percent in 2008), shifting the gain mostly onto the highest ventile (from 22.3 percent in 1988 to 23.8 percent in 2008). The subsample's Palma v.2 increases from 1.5 to 1.93 over the period considered. Their 19th ventile, on the other hand, remains extremely stable, confirming that the increase at the top comes at the expense of the bottom.

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30 Information about this fraction of the income distribution is only available for a small subset of countries, so no generalizations about the world distribution can be made on the basis of the available evidence, especially considering that this subset is comprised mainly by the rich/OECD countries, of which at least the European subset (especially the Northern European ones) are less unequal than the world average.

31 From the WYD dataset, only 14 countries have a Palma below 1, making it an ambitious threshold to aspire at the outset. However, considering the different concepts the two indicators measure, a combination of both Palma and Palma v.2 below 1 as threshold for excessive inequality could be envisioned.

Graph 7: Shares held by different income groups in Colombia, Pakistan, Phillippines and Thailand (1988-2008)
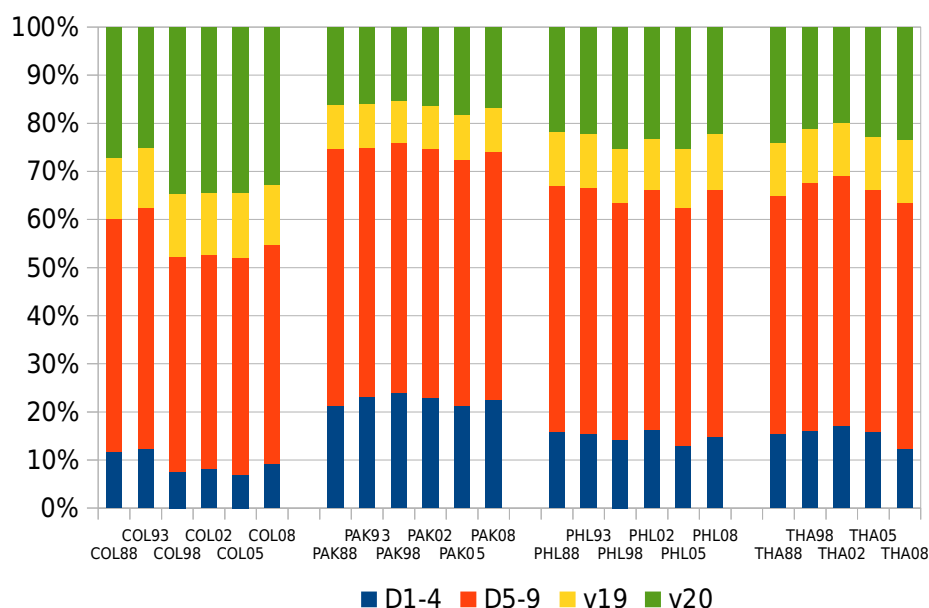

Source: constructed with data from Milanovic (2104).

Do such dynamics hold for the top 1 percent as well? To test a distributional trend over the last two decades, a subset of 25 countries for which disaggregated data exists for the top 5 and top 1 percent for the early 1990s and the late 2000s is selected from the LIS dataset.[32]

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32 This small dataset unfortunately does not include any developing countries, making it less representative on a world level. However, it is the only comparable dataset including information about the respective countries' entire income distribution, and separately listing the top 1 and top 5 percent.

Graph 8: Income share held by the top 1% in 25 countries (1990-2010)
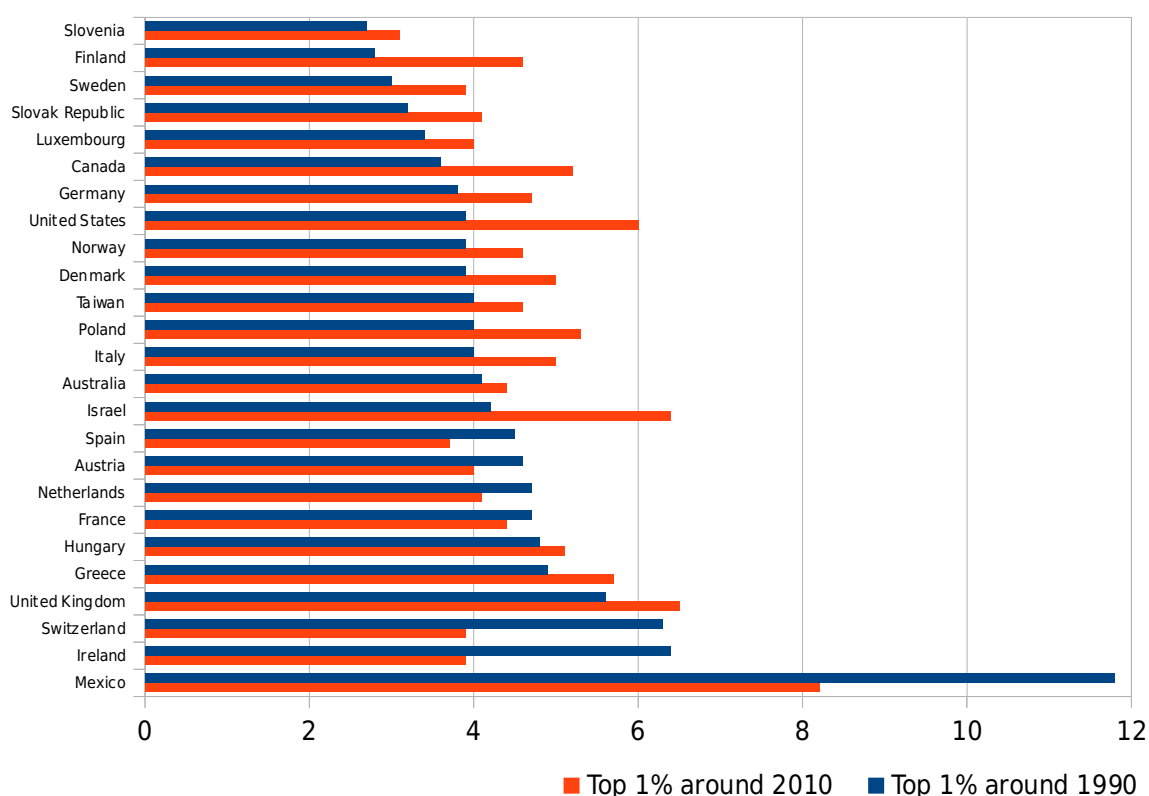
Source: constructed with LIS (2014) data.

Although there are important exceptions, in most countries the income share of the rich increased for all three concepts of the elite (the top 10, 5 and 1 percent of income earners). Table 3 shows that, on average, the bottom deciles lost a significant percentage of their share over the period under consideration, while the largest corresponding increase accrued to the top decile. Within this highest income elite, the benefits clearly fell to the 20th ventile (0.7 percent increase in their share of total income), as compared to the 19th (0.2 percent increase). Meanwhile, the middle and upper-middle groups remained virtually unchanged (albeit a slight increase can be detected in the augmented middle 55 percent). Besides, two interesting tendencies can be observed: firstly, the coefficients of variation are much smaller for the middle income groups' shares than for the extremes (top and bottom), both in 1990 and in 2010, especially if the top percentiles are taken separately (i.e. top 5 and 1 percent). Secondly, however, *all* of these coefficients decrease over the period considered (all ranges become smaller), where particularly large decreases can be observed for the deciles 5 to 9 and top 5 percent groups.[33]

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33 However, the coefficients of variation are rather sensitive to changes in the sample of the countries (e.g. if Mexico is taken out, the middle 50 percent's coefficient decreases to 0.017 for both years, whereas that for T1 decreases from 0.227 in 1990 to 0.185 in 2010). A different subset might yield different results. Taking a conservative approach, the observed trends might thus be most useful as starting point for further research, rather than (statistically significant) and robust results.

Table 3: Measures of centrality and spread for different income groups in 25 countries, 1990-2010

	Hmean		Median		Average		St.Dev.		C. of V.		Change
	~1990	~2010	~1990	~2010	~1990	~2010	~1990	~2010	~1990	~2010	1990/2010
D10	22.2	23.3	22.3	23.1	22.7	23.6	4.2	3.0	0.187	0.129	1.11
v19	8.8	9.0	8.9	9.0	8.9	9.1	1.0	0.8	0.108	0.084	0.23
v20	13.3	14.2	13.4	13.8	13.8	14.5	3.4	2.3	0.242	0.161	0.90
P100	4.1	4.6	4.0	4.6	4.5	4.8	1.8	1.1	0.395	0.229	0.49
D1-4	21.5	20.5	22.4	21.4	22.0	20.9	3.2	2.9	0.147	0.138	-1.00
D5-9	55.2	55.3	55.3	55.2	55.2	55.3	1.9	1.1	0.034	0.019	0.15
M55	64.1	64.4	63.9	64.2	64.1	64.4	1.6	1.3	0.025	0.020	0.32

Note: Hmean= harmonious mean, St.Dev.= standard deviation, C. of V.= coefficient of variation

Source: constructed with LIS (2014) data.

Moving away from the averages into the individual countries' dynamics, the vast majority of countries saw their elites' shares increase; the same seven countries that experienced a decrease in their top 5 percent also saw their top 1 percent shrinking (with the largest decreases observable in Mexico and Ireland). Only in three of the 7 countries displaying a decrease in the top 1 percent does this exceed 1 percent though (Mexico with 3.5 percent, Ireland with 2.5 percent and Switzerland with 2.4 percent, see Graph 8). As to changes in the middle groups, half of the countries in the sample experienced slight increase, the other half slight decrease; in two thirds of the countries these changes where less than 1percentage point of total income, and except for changes in Mexico and Spain (5.3 and 2.5 percent increase for the middle deciles), the remaining 6 countries saw changes of less than 2 percent. Developments in the low end of the distribution are less encouraging, although moving in the direction predicted by Palma's hypothesis: two thirds of countries saw the share their deciles 1 to 4 secure shrinking, and of those countries where it increased, only in three countries this positive change surpassed the 1 percent mark (Greece and Mexico, with 1.1 percent increase each, and Ireland with 2 percent). This general picture shows that in the majority of countries the bottom groups lost income share while the top groups gained ground, whereas in the middle part no clear tendency can be discerned for this subset of countries.

It seems, thus, that indeed the middle and upper middle groups are more homogeneous now than two decades ago. However, even the top and bottom parts in our sample are "converging" according to their diminished spread (if less so). At the same time, the tails seem to be drifting apart, albeit consolidating their shares. Further research would have to investigate the decisive factors behind these patterns, but it is likely that declining top tax rates and capture of the institutions via "rigged political rules" (Oxfam 2014) by the elites, as well as stagnating real wages in many of the countries considered play a role.

In sum, while the share of the bottom 40 percent of income earners decreased over the time considered, that of the top shares, whether one looks at top 1, 5 or top 10 percent, increased – i.e. the tails drifted apart. Meanwhile, the middle and upper-middle income groups (deciles 5 to 9, augmented middle 55 percent, upper-middle 35 percent, even percentiles 90 to 95 to some degree) not only remained stable but homogenized insofar as their spread decreased (with deciles 5 to 9 and the augmented middle 55 percent showing the lowest internal divergence, and top 1 percent the highest, for both years, followed by the 20th ventile – just as expected).

5   Conclusion

The findings here presented confirm Palma's predictions of a homogenizing middle and diverging tails within the income distribution. But they also show that it is necessary to look into the top decile to see the "real" income distribution. The concentration at the very top speaks for the usage of an indicator that can account for this pattern. The empirical evidence points to a lack of fit into either the Gini-world of a broad variety of incomes experiencing changes around the middle of the distribution, or the simple concentration of incomes at the top of the distribution – rather, it seems to indicate two different, coexisting worlds within each distribution: one of decreasing inequality within the middle groups, and one where the poor and rich continue to drift apart (with the top percentiles living in a world of their own – and surely, if we could look into the top 1 percent, distances would increase even more). Which one do we want to live in? Do we want the kind of inequality we have? And if not, how do we change it?

Two essential findings raise above all others: 1) the fact that, in every country, the top 5 percent's income share is so much larger than the next five percent's (i.e. the distribution in the top decile itself is very unequal), at times exceeding the triple value of the following ventile; and 2) only where the bottom is so squeezed already by the top that they would literally have zero income if the top was to appropriate itself of another slice of their share, the middle 50 percent sees a reduction in their dominance over 50 percent of total income, at the gain of the top 5 (rather than top 10). Such patterns can hardly be considered in the interest of the majority of people, and resemble a world governed, in Stiglitz' (2011) words, "of the 1 percent for the 1 percent by the 1 percent". It is likely that most people, if aware of these trends, would oppose them. The currently widespread ignorance of these actual inequality patterns, where extreme wealth and poverty are both underestimated and the "stable middle" does not feature at all, obstructs the application of effective remedies to improve the distribution. It also means that the choice of inequality indicator, far from being a dry, technical exercise, is indeed highly (politically and ideologically) charged. Policy prescriptions to resolve the inequality crisis have evolved into the (politically cheap) increase of access to education, in combination with (financially cheap) patchy anti-poverty programs (such as conditional cash transfers), rather than tackling the issue at its head, the high end of the distribution (via fiscal and labor market policies, such as progressive direct taxes, but also minimum wage policies). Arguably, this has to do with the fact that the actual dimension of inequality is not stated explicitly enough in the indicators we use to describe it.

With better data becoming available to describe the actual distributional patterns, this investigation shows that the reliance on one inequality indicator, be it the Gini or another (however sophisticated) to account for the whole income distribution, is risky considering the opposing tendencies within the distribution. While the Gini, and/or Palma, is not to be substituted, they can (and should, in order to truly display the degree of polarization in countries' income distribution) certainly be complemented by an indicator accounting for the top 5 percent, such as the "Palma v.2" proposed here. By combining these indicators, a more realistic picture of the income distribution can be provided.

Further research has yet to confirm if these trends indeed hold throughout the world, and in the longer run. It should also address the question, how the elite has been able to capture such a large share of total income so consistently. And why some elites (i.e. the Latin American and Southern African) are able to appropriate consistently higher shares than their peers elsewhere?

In the meantime, improving the income distribution starts with choosing an appropriate indicator to measure inequality, which offers a clear threshold of how much is "too much". Then we can start

thinking about the best ways to change the existing distribution towards the one we prefer. And only then can we choose the inequality we want to live in.

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