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On data and trends in horizontal inequality

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WIDER Working Paper 2022/65

On data and trends in horizontal inequality

Carla Canelas*

June 2022

Abstract: Economic, social, and political inequalities are at the forefront of today's public debate. While governments around the world have made conscious efforts to promote social inclusion, and major progress in fulfilling basic needs has been witnessed during the last decades, certain groups of people are still left behind in many domains of life. This paper aims to summarize recent horizontal inequality trends across and within countries and to better understand these changes over time. Overall, horizontal inequalities have been falling in the developing world, in spite of significant country variation. Importantly, significant differences exist for different inequality dimensions, i.e. economic, social, political. In terms of data, few cross-country horizontal inequality datasets are available for research. In general, there is a trade-off between the coverage of countries and time periods as well as comparability of the results between countries and years. Contrary to vertical inequalities, there has not been a systematic effort to construct and maintain an up-to-date dataset on horizontal inequalities.

Key words: inequality, group-based inequality, horizontal inequality, ethnic groups

JEL classification: C80, D63, I24, J15

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1 Introduction

Economic, social, and political inequalities are at the forefront of today's public debate. The Sustainable Development Goals (SDGs) call for greater equity 'for all' and 'leave no one behind' by 2030. While governments around the world have made conscious efforts to promote social inclusion and major progress in fulfilling basic needs, such as education and improved health, have been witnessed during the last decades, certain groups of people are still left behind in many domains of life.

In India, for instance, children of Scheduled Castes (SCs) and Scheduled Tribes (STs) have higher annual dropout rates at all levels of school education than children from other groups. Also, in 2011, literacy rates in SCs and STs were 66 per cent and 59 per cent, respectively, compared with the national average of 73 per cent (Dang and Lanjouw 2018). In the USA, life expectancy is on average four years shorter for Blacks than for Whites and the Black infant mortality rate is 140 per cent higher than the White rate (Boustan and Margo 2015). In Guatemala, Indigenous females are by far the most disadvantaged group. In 2011, illiteracy rate among Indigenous women was 48.1 per cent and among Indigenous men 25.4 per cent, compared to non-Indigenous women 18.9 per cent and men 11.1 per cent (INE 2013). In Latin America, in general, Indigenous people are still among the poorest in the region, concentrated in low-skill occupations, mostly agricultural, and primarily rural (Canelas and Salazar 2014).

In addition, research has shown that horizontal inequalities are linked to violent conflict (Cederman et al. 2011; Østby 2008; Gubler and Selway 2012; Stewart 2008), economic underdevelopment (Alesina et al. 2016), poor public goods provision (Baldwin and Huber 2010), and electoral politics (Huber and Suryanarayan 2016).

This paper aims to summarize recent horizontal inequality trends across and within countries and to better understand these changes over time. Clearly, conclusions about inequalities within and among social groups are limited by data availability. As pointed out by Canelas and Gisselquist (2019), there are several issues for the production of horizontal inequality indicators, starting with the need for information on ethnic groups, which can be problematic for many countries. Along these lines, few cross-country horizontal inequality datasets are available for research. The first part of the article describes the different concepts underlying such databases as well as some publicly available datasets from academic publications.

The second part of this article uses the Education Inequality and Conflict (EIC 2015) and the Ethnic Power Relations (EPR) (Vogt et al. 2015) datasets to describe inequality trends within selected countries for social and political inequalities and the Østby dataset (2008) for trends in economic inequalities.

The rest of the study is organized as follows: Section 2 provides a brief summary of the measures of horizontal inequality (HI), Section 3 gives an overview of the different cross-country datasets of HI available for research. Section 4 summarizes recent horizontal inequality trends across and within countries. Section 5 discusses and concludes the article.

2 Measuring horizontal inequality

Stewart (2010) defines horizontal inequalities as 'inequalities among groups of people that share a common identity'. These inequalities are multidimensional, thus are manifested in the economic, social, political, and cultural dimensions. Economic HIs capture inequalities in access to and ownership of productive capital as well as inequalities in labour market outcomes. Social HIs include inequalities in human capital due to inequities in the access to education and health care facilities, as well as access to

housing, sanitation, and water. Political HIs refer to inequalities in the distribution of political power among different groups as well as disparities in people's capabilities for political participation. Cultural status HIs encompass inequalities in the recognition of different groups' cultural practices, language, and religion (Stewart 2008; Stewart et al. 2010).

The measurement of horizontal inequality in the literature depicts a wide range of measures that go from simple group mean comparison to more elaborated inequality indexes. Mancini et al. (2008) and Stewart et al. (2010) make the case for three specific measures of horizontal inequality: the Group Gini (GGini) Index, Group Theil (GTheil) Index, and Group Coefficient of Variation (GCOV). The measures are defined as follows:

$$GGini = \frac{1}{2\bar{y}} \sum_r^R \sum_s^S p_r p_s |\bar{y}_r - \bar{y}_s| \quad (1)$$

$$GTheil = \sum_r^R p_r \frac{\bar{y}_r}{\bar{y}} \log \frac{\bar{y}_r}{\bar{y}} \quad (2)$$

$$GCOV = \frac{1}{\bar{y}} \left(\sum_r^R p_r ((\bar{y}_r - \bar{y})^2) \right)^{\frac{1}{2}} \quad (3)$$

where y is the variable of interest, i.e mean years of schooling, \bar{y} its mean value, R the number of groups with r and s two different groups of the population, and p the group's population share.

Along this line, Maliti (2019) applies these measures to educational attainment and wealth in Tanzania between 1990 and 2010, using gender and location as group identifiers. Muller (2017) focuses on consumption expenditure and educational attainment in Indonesia between 1997 and 2009 using ethnicity, religion, gender, and location as group variables. Leivas and dos Santos (2018) apply these measures to the case of Brazil, and look at socio-economic inequalities, measured in terms of income, across race, gender, religion, and geographic areas, and Canelas and Gisselquist (2018b) use these measures to look at ethnic inequalities in labour earnings and years of schooling in Guatemala.

Aggregate measures are particularly important for cross-country comparison; however, only a limited number of studies have covered a large number of countries. Canelas and Gisselquist (2019, 2018a) use the three above-mentioned measures to study trends in HI in education for a large set of countries, 95 countries, between 1960 and 2010. For their studies, the authors rely on the EIC dataset. Østby (2008), using Demographic and Health Surveys (DHS) data, creates a measure of economic horizontal inequality using household assets, and a measure of social horizontal inequality using people's educational attainment, for 55 countries between 1986 and 2004. The measure is defined as follows:

$$HI = 1 - \exp(-|\ln(\sum_{i=1}^M \frac{A_{i1}/A_{i2}}{M})|) \quad (4)$$

where M is the number of household assets (or years of education), and A_{i1} refers to the share of group 1 (the largest ethnic group) that owns asset i . A_{i2} is the corresponding share of group 2 (the second largest ethnic group).

Cederman et al. (2010) use the EPR data combined with G-Econ data to create two measures of economic inequality, the first one is defined as the square of the logarithmized ratio between the GDP per capita of the ethnic group (g), and the average GDP per capita of all groups in the country (G). As indicated

by the authors, the indicator captures deviations from the country average symmetrically and is zero for groups at the country average. The measure is defined as follows:

$$\text{lineq2} = [\log(\frac{g}{G})]^2 \quad (5)$$

The second measure is defined as follows:

$$\text{low ratio} = \frac{G}{g} \text{ if } g < G, 0 \text{ otherwise;} \quad (6)$$

$$\text{high ratio} = \frac{g}{G} \text{ if } g > G, 0 \text{ otherwise;} \quad (7)$$

By construction, deviations from the country mean are always positive numbers.

3 Cross-country datasets

There are several cross-country studies linking horizontal inequality, conflict, and the provision of public goods (see Baldwin and Huber 2010; Cederman et al. 2011; Østby 2008; Stewart 2008, among others). For most of them, the datasets used for the analysis are publicly available for replication of results. There have also been a couple of initiatives to compile data on HI across countries and over time such as the EIC dataset on inequality in education (EIC 2015) and the Ethnic Power Relations (EPR) Core Dataset that covers political inequality (Vogt et al. 2015). Contrary to vertical inequalities, however, there has not being a systematic effort to construct and maintain an up-to-date dataset on HI.

As pointed out by Canelas and Gisselquist (2019), there are several issues for the production of horizontal inequality indicators, starting with the need of information on ethnic groups, which can be problematic for many countries. Along this line, the authors consider and discuss three sets of challenges, when using survey and census data, to identify ethnic groups:

- The first set of challenges is ‘methodological’ (related to sampling procedures) and largely particular to small minority populations.
- A second set of issues stems from the conceptual challenge of capturing ‘ethnic’ identities and groups. Politically, socially, and/or economically salient groups change and evolve over time.
- A third set of challenges stems from the political salience of ethnicity and the fact that data are political—and ethnic data can be especially so.

Table 1 presents several cross-country inequality databases publicly available, its included indicators, sources used, welfare concept, population grouping, as well as the coverage of countries and periods within the database, respectively. The table is divided in three panels according to the type of horizontal inequality covered, i.e. political inequality, social inequality, and various types of inequalities such as socio-economic inequalities, political and economic inequalities, etc.

Table 1: HI datasets summary

Datasets/paper	Dataset(s) used	HI indicator	Welfare concept	Population grouping	Country	Coverage	Period coverage
<i>Political inequality</i>							
Vogt et al. (2015)	Ethnic Power Relations Core Dataset 2021	Size of ethnic group, ethnic status (monopoly, irrelevant, powerless)	State power	Ethnic groups	165 countries		1946–2021
<i>Social inequality</i>							
EIC (2015)	FHI 360s Education Policy and Data Center's Education Inequality and Conflict (EIC) Dataset	GINI, GCOV, and GTHEIL	Years of education	Ethnic groups	97 countries		1960–2010
<i>Various types of inequality</i>							
Economic vs Cultural differences - Baldwin and Huber (2010)	Combination of Afrobarometer, the World Values Survey (WVS), and Comparative Study of Electoral Systems (CSES)	Ethnolinguistic fractionalization (ELF), cultural fractionalization (CF), and between-group inequality (BGI), GDP	Social differences	Country level	46 countries		1996–2006
Bad Religion? - Basedau et al. (2016)	Religion and Conflict in Developing Countries (RCDC) Dataset, World Christian Database, World Bank	Religious fractionalization index, polarization index of inter-religious structures, GDPpc	Socio-economic	Classify countries into regions and types of economies	130 developing countries		1990–2010
Relative Resources - Besançon (2005)	Different academic papers and the World Bank	Gini index, human capital Gini index, World Bank Gini index, overall prosperity (GDPpc)	Socio-economic + education (human capital)	Country level	151 countries		1960–2001
HI and Ethnonationalist Civil War: A Global Comparison - Cederman et al. (2011)	Combines EPR v.1.1 Core Dataset with Nordhaus's (2006) spatial wealth measures	GDPpc, ethnic status (monopoly, etc.),	Socio-economic-political	Ethnic groups	127 countries		1946–2005
Why Do Ethnic Groups Rebel? - Cederman et al. (2010)	Ethnic Power Relations (EPR) Core Dataset 2014 based on EPR v.1.1	Population discriminated	Social-ethnic differences	Country level	165 countries		1946–2013
HI, Crosscutting Cleavages, and Civil War - Gubler and Selway (2012) & The Measurement of Cross-Cutting Cleavages and Other Multidimensional Cleavage Structures - Selway (2011)	(9 surveys compiled) The World Values Survey, European Values Survey, the Eurobarometer, the Afrobarometer, the Arab Barometer, the Latin American Public Opinion Project, the Asian Barometer, the Comparative Study of Electoral Systems, and a survey conducted by the World Health Organization	EIC, ERC, EGC (ethnic income-religious - geographic crosscuttingness), ELF, income	Socio-economic, religious, and geographic access	Country level	159 countries		1945–1999
Ethnopolitical Rebellion: A Cross-Sectional Analysis of the 1980s with Risk Assessments for the 1990 - Gurr and Moore (1997)	Minorities at Risk Dataset	Political and economic inequalities	Socio-economic-political differences	Ethnic groups	Numerically coded countries		1940–2003
Polarization, Horizontal Inequalities and Violent Civil Conflict – Østby (2008)	The Demographic and Health Surveys (DHS)	Horizontal economic and social inequality, vertical economic and social inequality, economic and social polarization	Socio-economic	Country level	39 countries		1986–2004
Regional Inequalities and Civil Conflict in Sub-Saharan Africa – Østby et al. (2009)	The Demographic and Health Surveys (DHS)	Intra-regional inequalities (household assets, education years, gini, natural resources, ELF, GDPpc)	Socio-economic	Regional	22 countries		1986–2004

Source: author's elaboration based on stated sources.

The most up-to-date datasets are the FHI 360s Education Policy and Data Center’s Education Inequality and Conflict (EIC) Dataset (EIC 2015) and the Ethnic Power Relations (EPR) Core Dataset 2021 (Vogt et al. 2015). The EIC dataset is an unbalanced panel of countries that combines micro-data from several sources such as national censuses, DHSs, and household surveys. It contains measures of horizontal inequality in education across ethnic and religious groups as well as subnational divisions. The EPR Core Dataset 2021 is based on the original dataset EPR v.1.1 (Cederman et al. 2010) and identifies all politically relevant ethnic groups and their access to state power in every country of the world from 1946 to 2021. It includes annual data on over 800 groups and codes the degree to which their representatives held executive-level state power—from total control of the government to overt political discrimination.

The rest of the datasets are rather old and most of them have limited variation over time. Overall, there is a trade-off between the coverage of countries and time periods as well as comparability of the results between countries and years. Østby (2008), for instance, includes some Middle East, Asian, and Latin America and the Caribbean (LAC) countries, yet, for some of them, there is only one or two DHS surveys available for the whole period (1986–2004).

4 Global trends

In this section, drawing on the EIC and the EPR datasets as well as Østby (2008), I provide a short overview of regional trends in social, political, and economic horizontal inequalities.

4.1 Social horizontal inequality: education

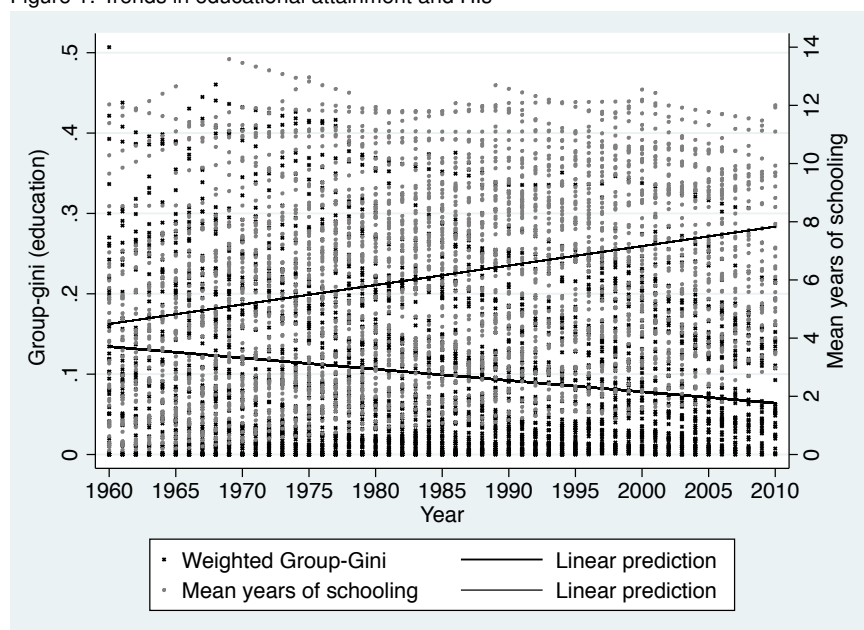
Human capital is an important component for development. Formal education has significant implications for health, labour markets, and social capital. Time and economic resources invested in education are significant worldwide, yet the distribution of these resources is highly unequal among different sectors of the population. Due to the significant implications that education has on individual options in the labour market, in terms of job characteristics and incomes, inequalities in education tend to widen the income gap, thus increasing economic inequality, and maintain the cycle of poverty Perna (2005).

Figure 1 depicts trends in educational attainment and horizontal inequalities in education for a set of 95 countries. Educational attainment, measured in years of formal education, is increasing around the world and, along with it, inequalities in the stock of education are decreasing.

The paper by Canelas and Gisselquist (2018a) uses the EIC (2015) dataset to look at regional patterns and trends in horizontal inequalities in education (HI-E). The authors find a general trend towards a decline in HI-E over time between the 1960s and 2000s, along with considerable regional variation. While acknowledging the problems linked to using formal years of schooling to measure HI,¹ the authors argue that the observed decreasing trends ‘[...] can be understood both in terms of contemporary shifts in government policies in support of greater social inclusion, and worldwide improvements in educational access, which in most regions have influenced not only equality between ethnic groups but also between other population subgroups, such as sub-national regions, urban-rural divides, gender, and even wealth quintiles’ (p. 319).

¹ Years of schooling is a bounded variable, meaning that as more and more people get access to education, the measure of inequality can only decrease, contrary to variables like income.

Figure 1: Trends in educational attainment and HIs



Note: fitted values adjusted for time and country fixed effects.

Source: author's elaboration based on EIC (2015) data.

That being said, while HIs in education have overall decreased over time, within countries significant differences persist. According to the World Inequality Database on Education from UNESCO (WIDE n.d.),² in 2013 the Fulbe in Nigeria had on average 1.49 years of schooling, while in the same country the Ebira/Igbira had attained on average 11.03 years of schooling.³ In terms of wealth quintiles, the 20 poorest per cent of the individuals aged 20–24 years had on average 1.74 years of schooling, while the richest 20 per cent had attained on average 12.13 years of schooling. In 2013, Nigeria had a population of 171.8 millions, 20 per cent of them were estimated to be in the range 20–24 years old NBS (2018). Roughly speaking, it means that around 6 million young Nigerians had on average 1.74 years of schooling.

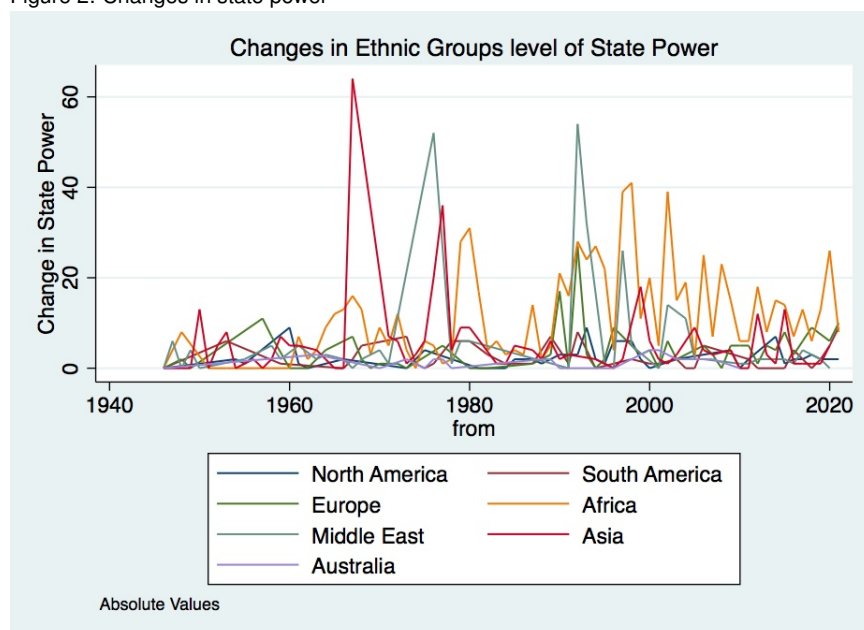
4.2 Political horizontal inequality: state power

Several studies have linked horizontal inequality with armed conflict (see Cederman et al. 2010, 2011; Gurr 1993; Østby 2008, among others). As pointed out by Stewart (2008), political inequalities are found to be strongly correlated with conflict, such that in countries with high political inequality the likelihood of conflict onset is high.

² Average number of years of schooling attained for the age group 20–24 years (WIDE n.d.).

³ Fulbe (those who speak Fulfulde) and the Ebira or Igbira are two of the 370 ethnic groups in Nigeria.

Figure 2: Changes in state power



Source: author's calculations based on the EPR dataset (Vogt et al. 2015).

The EPR data code the degree to which ethnic groups' representatives held executive-level state power—from total control of the government (monopoly) to overt political discrimination (discriminated).⁴ Figure 2 shows the regional changes in ethnic groups' level of state power from 1946 to 2021. These changes are calculated as the sum of the absolute values of the differences of moving from one category to another. Most changes have taken place in Asia (excluding the Middle East), the Middle East, Africa, and to a lesser extent in South America.

Between 1946 and 2021, the highest peak is for Asia. Altogether, the magnitude of changes on the level of state power in 1967 in Indonesia added to 34, followed by China with 30 in the same year. Rather than a big change, the number reflects an addition of small changes, with 12 out the 15 ethnic groups in Indonesia moving from powerless to irrelevant, and 29 out the 30 ethnic groups in China moving from powerless to discriminated.

The next two high peaks occurred both in the Middle East. The first one, at the end of the 70s, and the second one, at the beginning of the 90s, are driven both by changes in Lebanon. Most of the other changes took place in Africa, with the highest peak in 1997/98 driven by Sierra Leona, Liberia, and the Democratic Republic of the Congo (DRC).

States with at least one group being discriminated can also be identified.⁵ In the EPR dataset, there are 88 states that have discriminated one or more ethnic groups at least once between 1946 and 2021, see Table 2. In 2021, there are still 42 states where ethnic groups are subjected to active, intentional, and targeted discrimination by the state, with the intent of excluding them from political power. Table A1 in the Appendix shows the list of states with active political discrimination, as well as the ethnic groups subjected to it.

⁴ State power refers to executive power only, disregarding access to legislative and judicial institutions.

⁵ The EPR uses the following definition 'Discrimination: Group members are subjected to active, intentional, and targeted discrimination by the state, with the intent of excluding them from political power. Such active discrimination can be either formal or informal, but always refers to the domain of public politics (excluding discrimination in the socio-economic sphere)'.

Table 2: Discrimination of state power from 1946 to 2021

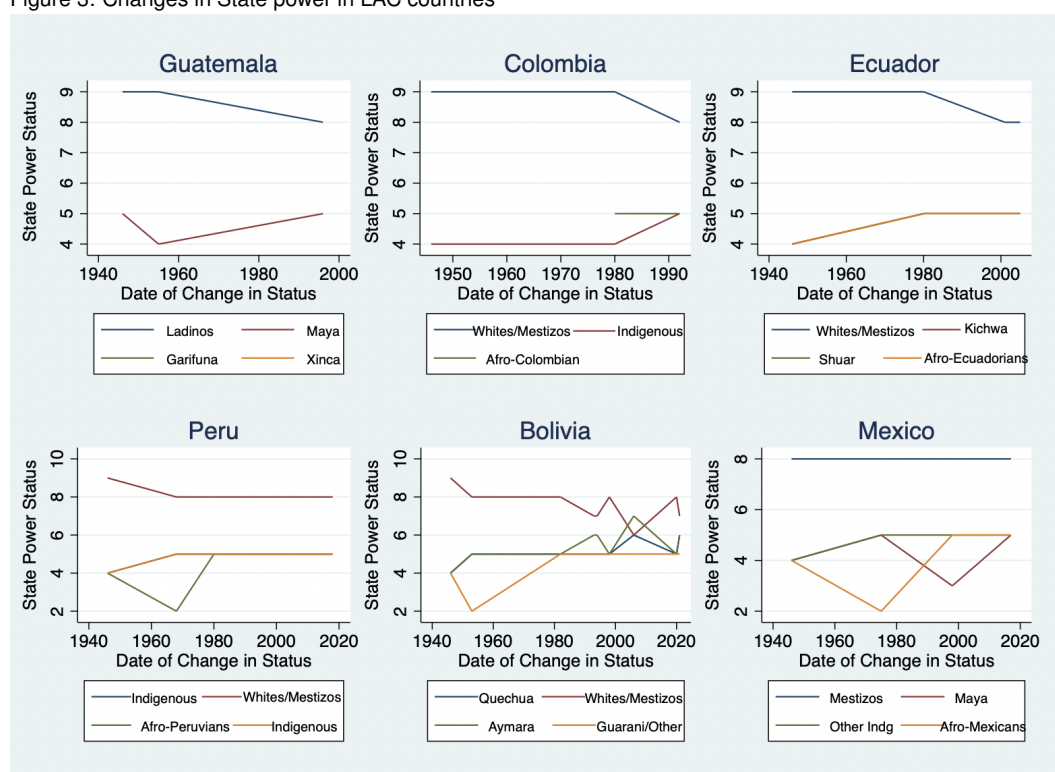
Region	Number of countries 1946–2021	Number of countries 2021
Americas	16	2
Europe	17	9
Africa	25	10
Middle East	13	10
Asia	16	11
Oceania	1	0
Total	88	42

Source: author's elaboration based on the EPR dataset (Vogt et al. 2015).

Figure 3 shows the evolution of state power in six LAC countries: Mexico, Colombia, Peru, Bolivia, Ecuador, and Guatemala. According to a recent report from the World Bank (Freire et al. 2015), these six countries together account for 88.4 per cent of the Indigenous people in Latin America, with shares that range between 7 per cent and 41 per cent of their general population.

The figure is self-explanatory, in all countries but Bolivia, the Indigenous people and the Afro-descendent have passed from 'discriminated' to 'powerless', while the 'Ladinos' and 'Whites/Mestizos' have oscillated between 'monopoly' and 'dominant' in terms of state power, over time.

Figure 3: Changes in State power in LAC countries



Source: author's calculations based on the EPR dataset (Vogt et al. 2015).

Bolivia shows an interesting evolution with the rise in power of the Aymara group in 2006 with Evo Morales as head of state. During Morales's period, state power was shared among the Aymara, the Quechua, and the White/Mestizos, who for the first time in the Bolivian history became a 'junior partner' together with the Quechua group.

Ethnic inequalities in Bolivia are well documented; before the 1952 Revolution, colonial forms of labour exploitation were perpetuated through the 'hacienda' system. While the Revolution was able to remove this system in wide parts of the country through the agrarian reform and institute universal suffrage

in Bolivia,⁶ political participation of Indigenous people remained limited. Indeed, before Morales's election, as pointed out by Calla (2003), most Indigenous political demands were achieved through Indigenous social movements on the streets rather than in Congress.

In terms of economic HI, according to Hicks et al. (2018), during Morales' time in office, the income gap between Indigenous and non-Indigenous households was reduced by roughly one quarter. The reduction in income inequality was true for most Indigenous groups. Further, the authors did not find significant evidence of a preferential impact on any one specific Indigenous group. This shows that a more balanced distribution of political power among groups can have a beneficial effect and reduce other types of inequalities, such as, in this case, income inequality.

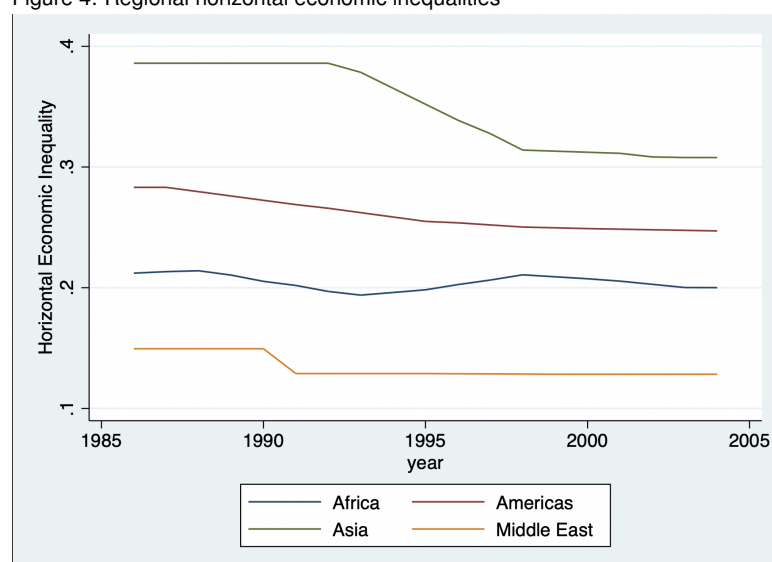
The case of Guatemala is rather puzzling. The Indigenous population, all together, accounts for 41 per cent of the population. After 36 years of a civil war, where Indigenous people were indiscriminately targeted and massacred by the Guatemalan Army (Comisión para el Esclarecimiento Histórico 1999), the Indigenous groups have not been able to sustain a social movement with enough influence in national politics. In the paper by Canelas and Gisselquist (2018b), the authors argue that the diverse socio-economic inequalities among the Indigenous population, as well as their number (24 ethno-linguistic groups) and small size (the largest group accounts for 13 per cent of the population), have, to a certain extent, contributed to dampen collective action along 'Indigenous' lines.

4.3 Economic horizontal inequality: household assets

In the paper by Østby (2008), the author uses DHS data across 38 countries for 1986–2007 to analyse the probability of conflict in countries with severe economic and social HIs. Economic HIs are measured by average household assets. This is the *HI* measure described in Section 2.

Using this measure, Figure 4 plots regional trends in horizontal economic inequality. Table A2 in the Appendix shows the list of countries available for each of the geographic regions depicted on the graph. Overall, a declining trend in Economic HI can be observed for all regions in the dataset, in spite of significant regional variation.

Figure 4: Regional horizontal economic inequalities

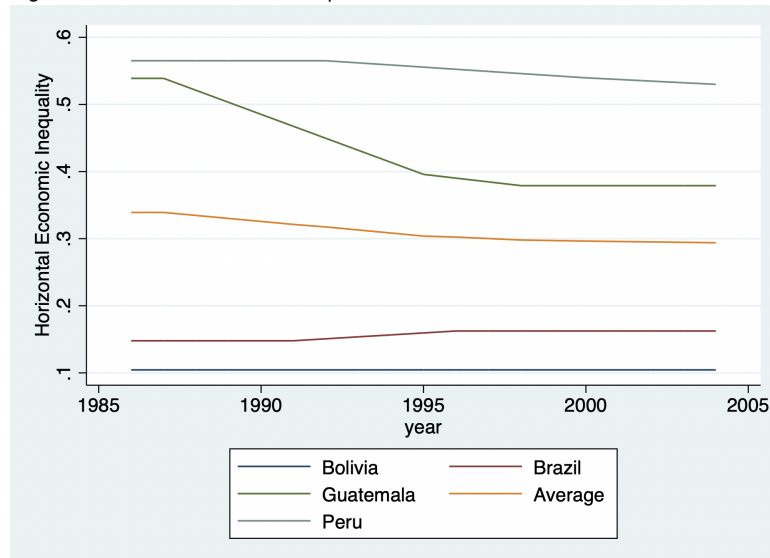


Source: author's calculations based on the Østby (2008) dataset.

⁶ Literacy requirements and racial restrictions were removed as voting requirements.

Similarly, Figure 5 shows the evolution of horizontal economic inequality for all LAC countries in the dataset, i.e. Peru, Bolivia, Brazil, and Guatemala, between 1986 and 2004. The figure shows an average declining trend, with some country variation. Among the four LAC countries in the dataset, Guatemala shows the biggest decline in HI, notably between 1986 and 1995. This is surprising, since during those years, the country went through the deadliest period of its civil war. Peru also shows a declining trend, although it remains the most unequal country among the group during the whole period under analysis.

Figure 5: Horizontal economic inequalities in LAC countries



Source: author's calculations based on the Østby (2008) dataset.

5 Concluding remarks

Few cross-country horizontal inequality datasets are available for research. This article first describes the different concepts underlying such databases. In general, there is a trade-off between the coverage of countries and time periods as well as comparability of the results between countries and years. Contrary to vertical inequalities, there has not been a systematic effort to construct and maintain an up-to-date dataset on HI. As pointed out by Canelas and Gisselquist (2019), there are several issues for the production of horizontal inequality indicators, starting with the need for information on ethnic groups, which can be problematic for many countries. That being said, the EIC and the EPR initiatives show that it is possible to construct such a dataset based on existing surveys and suggest that what is more likely lacking is the willingness to do so.

The second part of this article uses the EIC and the EPR datasets to describe inequality trends within selected countries for social and political inequalities and the Østby (2008) dataset for trends in economic inequalities. Overall, horizontal inequalities have been falling in the developing world, in spite of significant country variation. Importantly, significant differences exist for different inequality dimensions. For instance, in most LAC countries, on average, social and economic inequalities have decreased over time, yet political inequalities have remained fairly constant.

Nonetheless, successful stories regarding political inequalities, like the Bolivian case, are worth mentioning. The raise in power of the Aymara group in 2006 with Evo Morales as head of state was followed by a period of steady growth combined with government investment in social spending. While the commodities boom of the 2000s, together with the nationalized hydrocarbon industry, were paramount in assuring state revenues, Morales redistributed that money through spending in basic infrastructure

such as hospitals, schools, power plants, or irrigation systems. As economic growth does not necessarily translate into a reduction in economic inequality, the Bolivian case illustrates the importance of political willingness and national policies in reducing disparities among and between individuals and groups.

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Appendix

Table A1: Politically discriminated ethnic groups in 2021, ERP

Region	State	Ethnic group
America	Dominican Republic	Dominican Haitians
America	Chile	Mapuche
Europe	Belarus (Byelorussia)	Poles
Europe	Bosnia-Herzegovina	Roma
Europe	Bulgaria	Macedonians
Europe	France	Roma
Europe	Greece	Roma, Macedonians
Europe	Italy/Sardinia	Roma
Europe	Montenegro	Roma
Europe	Russia (Soviet Union)	Crimean Tatars, Roma
Europe	Serbia	Roma
Africa	Congo, Democratic Republic of (Zaire)	Tutsi-Banyamulenge
Africa	Equatorial Guinea	Ndowe, Bubi, Fernandinos, Annobon Islanders
Africa	Eritrea	Kunama, Saho, Afar
Africa	Ethiopia	Tigry
Africa	Kenya	Somali
Africa	Morocco	Sahrawis
Africa	South Sudan	Murle
Africa	Sudan	Fur, Nuba, Masalit, Zaghawa
Africa	Uganda	Banyarwanda
Africa	Zimbabwe (Rhodesia)	White Zimbabweans
Middle East	Bahrain	Shi'a Arabs
Middle East	Iran (Persia)	Arabs, Bahais, Baloch, Kurds, Turkmen
Middle East	Israel	Israeli Arabs, Palestinian Arabs
Middle East	Jordan	Palestinian Arabs
Middle East	Kuwait	Bedoon
Middle East	Kyrgyz Republic	Uzbeks
Middle East	Lebanon	Palestinians (Arab)
Middle East	Saudi Arabia	Ismaili Shia (South) (Arab), Ja'afari Shia (Eastern Province) (Arab)
Middle East	Turkey (Ottoman Empire)	Kurds, Roma
Middle East	Yemen (Arab Republic of Yemen)	Al-Akhdam
Asia	Bangladesh	Bengali Hindus, Tribal-Buddhists, Biharis (Urdu-Speaker)
Asia	Bhutan	Lhotsampa (Hindu Nepalese)
Asia	Brunei	Bumiputera (other), Non-Bumiputera (Indigenous), Chinese
Asia	Cambodia (Kampuchea)	Vietnamese
Asia	China	Tibetans, Kazakh, Uyghur
Asia	India	Kashmiri Muslims, Other Muslims
Asia	Laos	Hmong
Asia	Myanmar (Burma)	Chinese, Indians, Muslim Arakanese, Karenni (Red Karens)
Asia	Pakistan	Baluchis, Ahmadis, Hindus, Christians
Asia	Sri Lanka (Ceylon)	Sri Lankan Tamils
Asia	Thailand	Malay Muslims

Source: author's elaboration based on the ERP dataset (Vogt et al. 2015).

Table A2: List of countries by regions

Regions			
Africa	Middle East	Americas	Asia
Benin	Kazakhstan	Bolivia	India
Burkina Faso	Kyrgyz Republic	Brazil	Nepal
Cameroon	Turkey/Ottoman Empire	Guatemala	Philippines
Central African Republic	Uzbekistan	Peru	Sri Lanka
Chad		Trinidad and Tobago	Vietnam
Cote D'Ivoire			
Ethiopia			
Gabon			
Ghana			
Guinea			
Kenya			
Liberia			
Malawi			
Mali			
Mozambique			
Namibia			
Niger			
Rwanda			
Senegal			
South Africa			
Togo			
Uganda			
Zambia			
Zimbabwe			

Source: author's elaboration based on the Østby (2008) dataset.