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WIDER Working Paper 2019/44

## **How do human rights violations affect poverty and income distribution?**

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May 2019

**Abstract:** The goal of this paper is to examine the impact of human rights on income distribution and poverty by exploring how both aid and trade can influence poverty and income distribution through human rights. The analysis employs data for 125 countries and uses a number of panel data methods. The results suggest that stronger human rights contribute to greater income equality and poverty reduction. The interaction of human rights with official development assistance and trade flows shows that as they increase, or, alternatively, as human rights records increase, both official development assistance and trade flows reduce poverty and lead to greater income equality. The region-disaggregated results suggest that promoting better human rights records is important for poverty alleviation and contributing to greater equality in income distribution.

**Keywords:** global panel of countries, human rights, income inequality, poverty

**JEL classification:** D63, I32, K38, O57, C33

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This study has been prepared within the UNU-WIDER project on Academic excellence.

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ISSN 1798-7237 ISBN 978-92-9256-678-4

Typescript prepared by Lesley Ellen.

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The Institute is funded through income from an endowment fund with additional contributions to its work programme from Finland, Sweden, and the United Kingdom as well as earmarked contributions for specific projects from a variety of donors.

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The views expressed in this paper are those of the author(s), and do not necessarily reflect the views of the Institute or the United Nations University, nor the programme/project donors.

## 1 Introduction

A country's human rights record can influence its level of poverty and living conditions. This can occur directly, through unequal access to resources and indirectly, through many channels including trade sanctions, the allocation of aid, conflicts, political violence, and repression. Human rights violations can aggravate conditions of poverty and the living conditions of the poorer segments of society. This in turn can constrain growth and development. In 2015, Amnesty International (2016) declared, in relation to human rights, that the world had reached an all-time low, and that international systems were no longer adequately able to deal with the issue. Given the corresponding widening of income inequality recently, it is crucial to understand whether a country's human rights record has contributed to this widening inequality and, if so, what type of relationship exists between human rights violations and income inequality and poverty.

This study focuses on the direct influence of human rights conditions on poverty and inequality, and on trade and aid allocation, as channels through which human rights violations may affect poverty. The international community has been debating the degree to which sanctions should be imposed, or aid restricted, to countries that violate human rights. Despite the fact that these are meant to punish governments that violate human rights, they often adversely affect the vulnerable and marginalized groups in society. However, the literature has only a limited understanding of the influence of human rights on poverty and similarly of the effects of human rights on poverty through trade and aid flows. The higher the aid and trade flows into a country, the more inclined it will be to conform to international human rights standards, which, in turn, will lead to greater equality in income distribution as well as to lower levels of poverty.

Given the surprising lack of any literature on the influence of human rights practices on income distribution and poverty and the effect of human rights conditions on income distribution and poverty through official development assistance (ODA) and trade flows, the contribution of this study to the literature is threefold: (i) to investigate, for the first time, the effect of human rights violations on income distribution and poverty; (ii) to investigate the impact of human rights violations on income distribution and poverty through the channels of ODA and trade flows; and (iii) to carry out the estimations at a region-disaggregated level. Countries have different levels of human rights. Thus, we can expect differences in the effects of human rights violations on income distribution across regions. If the impact of human rights violations on income distribution differs and the effect of human rights violations on income distribution through these flows is not homogenous, the need arises for policy makers to design different policies to generate higher income equality for different countries as well as different policies due to the indirect effects of trade and aid.

The panel GMM (generalized method of moments) estimation method is used. This method has the advantage of correcting for any potential endogeneity bias. Given the uncertainty and likely measurement errors in human rights, the robustness of the results is tested using two measures of human rights: the Cingrenelli-Richards (CIRI) Physical Integrity Rights Index (Cingranelli and Richards 1999) and the Political Terror Scale (PTS) measure by Wood and Gibney (2010). Greater detail of these measures is provided in the data section. Income distribution is measured by the Gini coefficient and poverty by the headcount poverty ratio, i.e. the percentage of the population falling below \$1.90 a day.

The rest of this paper is structured as follows. Section 2 discusses the literature. Section 3 describes the data. Section 4 presents the model and methodology. Section 5 discusses the results and Section 5 concludes.

## 2 Literature review

The proponents of globalization argue that conducive environments for trade are provided in places where human rights are protected, non-discriminatory practices are applied, and markets are open (Cottier 2002). Freedom of expression promotes transparency, while political accountability is also increased. According to these views, the entry of a country to the World Trade Organization (WTO) can encourage it to improve its human rights record due to the pressure to conform to international standards. Failure to maintain good human rights records can cause trading partners to impose trade sanctions on countries which can adversely affect the poorer segments of the society (Sykes 2003). However, critics point out that employing trade sanctions to ensure the maintenance of labour standards does not necessarily imply improved trade or labour standards (Brown 2001), but could aggravate conditions of poverty in poorer nations, which is consistent with the dependency theory.

Srinivasan (1998) discusses humanitarian motives for international labour standards in an investigation on the relationship between trade and human rights. Rodrik (1996) argues that ‘trade is a channel through which labour standards are arbitrated across countries towards the lowest level, requiring the use of trade policy to prevent a race to the bottom’ (Rodrik, 1996: 5). Harrelson-Stephens and Callaway (2003) use various measures of trade to find that increasing levels of trade are related to improved human rights conditions in a country, which provides support for the liberal perspective. Thus, according to the supporters of free trade, trade policy can be an important measure for improving a country’s human rights practices, which, in turn, can create conditions conducive to growth and the promotion of greater equality in income distribution. Certain studies also suggest that accession to the WTO can stimulate countries to improve their human rights records (Aaronson 2001; Subramanian and Wei 2007) and failure to do so can lead to the imposition of trade sanctions. Critics, however, argue that trade sanctions only lead to aggravating conditions of poverty in countries which are already in a vulnerable state (Brown 2001).

How human rights records can affect the distribution of income through ODA flows is less clear cut. While some studies document that human rights violations reduce aid flows into countries (Cingranelli and Pasquarello 1985; Neumayer 2003a, 2003b), which can adversely affect conditions of poverty, others show the opposite, i.e. aid flows into countries are not influenced by human rights records (Chomsky and Herman 1979; Schultz 1981; Carleton and Stohl 1987; McCormick and Mitchell 1988).

Neumayer (2003a, 2003b) notes that respect for civil/political rights plays a statistically significant role for most donors at the aid entitlement stage. At the aid granting stage, however, most donors do not promote respect for human rights consistently across aid recipients and tend to grant more aid to countries with a poor record on the basis of either civil/political or personal integrity rights. If this were the case, poor human rights records could lead to an improvement in the living standards of a country through foreign aid. This is perhaps explained by the fact that aid is influenced, to a great degree, by strategic considerations and political factors (Alesina and Dollar 2000). Lebovic and Voeten (2009) similarly note that aid is influenced by strategic considerations, while Richards et al. (2001) also find mixed evidence in favour of aid influencing human rights practices in recipient countries. They attribute this to the political motives of donor countries. The proponents of dependency theory argue that foreign aid is a channel through which core–periphery relations are reinforced (Richards et al. 2001). Respect for human rights could additionally indirectly influence ODA receipts into a country by enhancing the effectiveness of public expenditure programmes (Roberts 2003), thereby generating higher equality in income distribution.

### 3 Data

We use annual data, spanning the period from 1990 to 2014, for 125 countries. The sample constitutes a representative panel of the regions covering Eastern Europe and Central Asia, the Middle East and North Africa, Latin America and the Caribbean, East Asia and the Pacific, South Asia, Africa, and the high-income OECD countries (see the Appendix for the full list of countries included).

The dependent variables in the study are: i) income distribution, measured by the Gini coefficient (GINI), which can vary from 0 (perfect income equality) to 1 (perfect income inequality); and ii) poverty (POV), measured by the headcount poverty ratio, i.e. the percentage of the population living on less than \$1.90 a day, with data obtained from the World Development Indicators (World Bank 2015). The main independent variables of interest are: i) the human rights index (HRI); ii) the HRI interacted with ODA (which consists of disbursements of loans made on concessional terms—net of repayments of principal—and grants by official agencies of the members of the Development Assistance Committee (DAC), by multilateral institutions, and by non-DAC countries to promote economic development and welfare in countries and territories in the DAC list of ODA recipients, and includes loans with a grant element of at least 25 per cent, calculated at a rate of discount of 10 per cent, all measured as percentages of gross national income); and iii) the HRI interacted with trade (TR) (defined as the sum of exports and imports of goods divided by gross domestic product (GDP), with trade in services not being included, and data being in current US dollars).

Two measures of human rights are employed in the empirical analysis: i) the Cingrenelli–Richards (CIRI) Physical Integrity Rights Index, which is an additive index constructed from the Torture, Extrajudicial Killing, Political Imprisonment, and Disappearance indicators of the CIRI database, and ranges from 0 (no government respect for these four rights) to 8 (full government respect for these four rights) (Cingranelli and Richards 1999); and ii) the Political Terror Scale (PTS) metric offered by Wood and Gibney (2010), which measures the level of political violence and terror that a country faces in a given year on a ‘terror scale’ of 1–5, originally developed by Freedom House, where 1 represents the best case and 5 the worst; the index has been reversed so that 1 stands for the worst case and 5 the best, while it is consistent with the Cingranelli and Richards (1999) index.

The data used in compiling the PTS index come from three different sources: the annual country reports of Amnesty International, the US State Department Country Reports on Human Rights Practices, and the Human Rights Watch’s World Reports (Wood and Gibney 2010). The CIRI and PTS indexes include measures that impact economic growth. More specifically, the protection against expropriation drives much of the economic growth experienced by a country. The arguments included in the indexes illustrate a direct (positive) effect on economic growth and a (negative) effect on poverty since the protection of human rights makes people more optimistic, less fearful, and more trusting in the economy, and they therefore choose to work more. Another argument is that a country’s respect for civil and political rights has a positive effect on both domestic and foreign investments and, therefore, on economic growth. At the same time, respect for human rights generates positive spillovers that make people better trading partners, thus contributing to higher trade transactions and levels of economic growth.

A number of other control variables are also used. Both the log of per capita income (PCI) and the gross secondary enrolment ratio (ENROLL) are used to measure the level of development of a country. The Polity Index (POL) from the Polity IV database by Marshall and Jaggers (2015) is also used to capture the quality of institutions in a country (Rodrik 1996). The index ranges from -10 (pure autocracies) to 10 (pure democracies). Corruption (COR) can adversely affect an

economy (Mauro 1997; Rose-Ackerman 1999, among others) by increasing rent seeking with no corresponding quid pro quo to the rest of the society. To this end, the International Country Risk Guide (ICRG 2014) corruption index is used. This index ranges from 0 (totally corrupt) to 6 (not corrupt) and has been reversed so that 0 stands for not corrupt and 6 stands for totally corrupt. The log of population (POP) is also included as a control variable to account for the size of the country (Neumayer 2003a, 2003b). The larger the population of a country, the greater might be the need for aid and trade, which will affect income distribution. Studies also illustrate that the success of achieving developmental objectives through aid depends on the effectiveness of government expenditure programmes (Roberts 2003). Therefore, government expenditure as a percentage of GDP (GOV) is also included in the empirical analysis as an additional control variable.

Trade sanctions can be imposed on a country that violates human rights to encourage changes in human rights policy (Sykes 2003), which, in turn, are expected to affect the poor groups of the population. Thus, a dummy variable (DSAN) is created for trade sanctions. This dummy variable is coded 1 if trade sanctions are imposed on a country, and 0 otherwise. Information on trade sanctions is obtained from the Threat and Imposition of Economic Sanctions (TIES) dataset by Morgan et al. (2014) and the US Department of the Treasury (2015) Sanctions Programs and Country Information. The TIES dataset spans the period from 1945 to 2011 and has data on economic sanctions, as well as on threats of sanctions.<sup>1</sup> Economic sanctions take many forms, including actions such as tariffs, export controls, embargoes, import bans, travel bans, freezing assets, cutting foreign aid, and/or blockades.

As this study covers the period up to 2014, the TIES data are supplemented by the US Department of the Treasury (2015) Sanctions Programs and Country Information. Data for all independent variables are sourced from the World Bank, except for trade sanctions and corruption data. Studies also show that accession to the WTO can improve human rights records (Aaronson 2001; Subramanian and Wei 2007), which, in turn, can improve trade flows that reduce inequality in income distribution. Therefore, a variable (DTWO) is also included to capture WTO membership. Data on WTO membership are obtained from the WTO (2016) website. Countries are coded 1 from the year of membership in the WTO, and 0 otherwise. Table 1 provides some summary statistics.

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<sup>1</sup> See Morgan et al. (2014) for greater details.

Table 1: Summary statistics

Variables	Mean	S.D.	Min	Max
<i>Dependent variables</i>				
GINI	0.41	0.09	0.16	0.66
POV	6.23	9.58	0.01	62.96
<i>Independent variables</i>				
HRI1	5.79	1.96	3.48	7.15
HRI2	3.83	1.65	1.98	4.62
PCI	3.58	2.69	1.74	8.91
ENROLL	63.27	28.64	5.16	119.72
POL	2.30	6.21	-8.74	9.28
COR	3.49	0.97	1.00	6.00
POP	7.57	14.32	1.74	10.68
GOV	14.92	6.39	2.06	69.54

Note: S.D. stands for standard deviation.

Source: Authors' calculation based on data given in Section 3.

#### 4 The model and methodology

The empirical panel data model is described as follows:

$$\begin{aligned}
 \text{GINI}_{it} \text{ or } \text{POV}_{it} = & \alpha_i + \sum_{j=0}^{q_1} \beta_{1j} \text{HRI}_{it-j} + \sum_{j=0}^{q_2} \beta_{2j} \text{PCI}_{it-j} + \sum_{j=0}^{q_3} \beta_{3j} \text{ENROLL}_{it-j} + \sum_{j=0}^{q_4} \beta_{4j} \text{POL}_{it-j} + \\
 & \sum_{j=0}^{q_5} \beta_{5j} \text{COR}_{it-j} + \sum_{j=0}^{q_6} \beta_{6j} \text{POP}_{it-j} + \sum_{j=0}^{q_7} \beta_{7j} \text{GOV}_{it-j} + \beta_8 \text{DSAN} + \beta_9 \text{DWTO} + \varepsilon_{it}
 \end{aligned}$$

where  $t$  denotes time and  $i$  denotes country. GINI is the Gini coefficient, POV denotes the poverty level, HRI is the human rights index, PCI is per capita income, ENROLL is the enrolment ratio (ENROLL), POL denotes the Polity Index (POL), COR measures corruption, POP measures population (POP), GOV is government expenditure, DSAN denotes a dummy variable for trade sanctions (coded 1 if trade sanctions are imposed on a country, and 0 otherwise), DWTO shows a dummy variable for WTO membership (1 for the year of membership in WTO, and 0 otherwise).  $\alpha_i$  captures country fixed effects and, finally,  $\varepsilon$  denotes the error term.

The empirical analysis is carried out through the panel GMM approach. The GMM methodology avoids endogeneity and is based on the approach recommended by Arrelano and Bover (1995) and Blundell and Bond (1998). The number of lags for each variable has been determined through the Akaike criterion, while the Hansen test for over-identification is used to check the validity of instruments. A two-step system GMM provides more efficient estimators over one-step system GMM, with the two-step GMM providing robust Hansen J-tests for over-identification.

#### 5 Empirical results

The empirical findings for the full sample are reported in Table 2. If we focus on the primary variables of interest, they document that both definitions of the human rights index lead to better

income equality, as well as to poverty reduction. In addition, according to the supporters of free trade, trade policies can be an important measure for improving a country's trade environment which, in turn, could be conducive to growth as well as the promotion of greater equality in income distribution.

In terms of the remaining control variables, the results illustrate that per capita income leads to more income equality and less poverty, while the same holds for the case of school enrolment. Similarly, higher government expenditures lead to the same results, suggesting that public expenditure programmes lead to greater equality in income distribution and lower levels of poverty (Roberts 2003). Higher corruption scores lead to a worse income distribution and a reduced poverty score, while higher measures of population worsen income equality and poverty, consistent with the findings of Gupta et al. (2002). Improved quality in the political regime (i.e. movements towards democracy) leads to a better income distribution and to improved poverty scores. Finally, in terms of the dummy variables included, the presence of sanctions worsens both the picture of income distribution and that of poverty, as argued by Brown (2001), while membership of the WTO regime reverses that picture (the latter is also confirmed by the simultaneous effect—the interaction term—between WTO membership and the human rights index). These results suggest that accession to the WTO can cause countries to conform to international human rights records (Aaronson 2001; Subramanian and Wei 2007), which is expected to lead to a fall in poverty and income inequality.

All the relevant diagnostics are reported at the bottom of Table 2. For the validity of the instruments, the results need to reject the test for second-order autocorrelation, AR(2), in the error variances. Moreover, they need to reject the null hypothesis of difference-in-Hansen tests of the exogeneity of instruments. It is evident that the test for AR(2) of disturbances and the difference-in-Hansen test fail to reject the respective nulls. Thus, these tests support the validity of the instruments used, while difference-in-Hansen tests imply the exogeneity of the instruments employed. The table also reports the Hansen test for over-identifying restrictions. In the estimation process, 22 instruments have been used. These instruments were generated as we used two lags for levels and three lags for difference in the regressors. As the number of instruments was far lower than the number of observations, it did not create any identification problem, as reflected in the Hansen test. Reported Hansen test results also fail to detect any problem in the validity of the instruments used in the estimation approach. Finally, the explanatory power of the models, through the R-squared metrics, is highlighted to be strong enough across all four modelling specifications.

Table 2: GMM estimates: full country sample, income inequality measured by the Gini coefficient

Variables	Gini		Poverty	
	HRI1	HRI2	HRI1	HRI2
Constant	0.067** [0.04]	0.070** [0.03]	-0.051** [0.03]	-0.059** [0.02]
HRI(-1)	-0.078*** [0.00]	-0.086*** [0.00]	-0.053*** [0.00]	-0.060*** [0.00]
PCI	-0.062*** [0.00]	-0.064*** [0.00]	-0.089*** [0.00]	-0.096*** [0.00]
PCI(-1)	-0.034*** [0.00]	-0.038*** [0.00]	-0.019* [0.10]	-0.028* [0.07]
ENROLL	-0.058*** [0.00]	-0.066*** [0.00]	-0.064*** [0.00]	-0.070*** [0.00]
POL	-0.052*** [0.00]	-0.057*** [0.00]	-0.089*** [0.00]	-0.097*** [0.00]
COR	0.046*** [0.00]	0.057*** [0.00]	0.095*** [0.00]	0.102*** [0.00]
COR(-1)	0.032** [0.03]	0.037** [0.02]	0.049*** [0.00]	0.057*** [0.00]
POP	-0.040*** [0.00]	-0.046*** [0.00]	0.044** [0.02]	0.053*** [0.01]
POP(-1)	-0.026*** [0.01]	-0.033*** [0.00]	0.017* [0.06]	0.029** [0.02]
GOV	-0.092*** [0.00]	-0.099*** [0.00]	-0.078*** [0.00]	-0.089*** [0.00]
GOV(-1)	-0.049*** [0.00]	-0.056*** [0.00]	-0.057*** [0.00]	-0.066*** [0.00]
GOV(-2)	-0.030** [0.02]	-0.037*** [0.01]	-0.040** [0.03]	-0.049*** [0.01]
DSAN	0.020** [0.03]	0.027** [0.02]	0.036*** [0.00]	0.041*** [0.00]
DWTO	-0.035*** [0.00]	-0.042*** [0.00]	-0.053*** [0.00]	-0.058*** [0.00]
<i>Diagnostics</i>				
R <sup>2</sup>	0.54	0.61	0.59	0.63
AR(1)	[0.00]	[0.00]	[0.00]	[0.00]
AR(2)	[0.33]	[0.41]	[0.26]	[0.22]
Hansen test	[0.47]	[0.52]	[0.40]	[0.45]
Difference Hansen test	[0.70]	[0.77]	[0.53]	[0.64]
No. of observations	3,125	3,125	3,125	3,125

Note: HRI1 is the Cingrenelli-Richards (CIRI) Physical Integrity Rights Index, while HRI2 is the Political Terror Scale (PTS) measure by Wood and Gibney (2010). AR(1) is the first-order test for residual autocorrelation. AR(2) is the test for autocorrelation of order 2. Hansen is the test for the over-identification check for the validity of instruments. The difference-in-Hansen test checks the exogeneity of the instruments. Figures in parentheses denote p-values. \*:  $p \leq 0.01$ ; \*\*:  $p \leq 0.05$ ; \*\*\*:  $p \leq 0.01$ . All estimations were performed with time dummies and coefficients are not reported.

Source: Authors' calculation based on data given in Section 3.

For robustness purposes and, based on the argument that a limitation of the Gini coefficient as a measure of inequality is that it is more sensitive to the middle part of the income distribution than to that of the extremes since it depends on the rank order weights of income recipients, as well as on the number of recipients within a given range, this part of the analysis therefore makes use of alternative measures of income inequality (recommended by Frank 2014). These measures include the Atkinson inequality measure and the Theil index. The new results, in both measurement cases, are reported in Table 3, and they provide strong empirical support for those in Table 2.

Table 3: GMM estimates: full country sample-Income inequality measured by the Atkinson and the Theil indexes

Variables	Atkinson		Poverty	
	HRI1	HRI2	HRI1	HRI2
Constant	0.055** [0.05]	0.061** [0.04]	-0.039** [0.05]	-0.048** [0.04]
HRI(-1)	-0.086*** [0.00]	-0.094*** [0.00]	-0.061*** [0.00]	-0.072*** [0.00]
PCI	-0.067*** [0.00]	-0.070*** [0.00]	-0.096*** [0.00]	-0.103*** [0.00]
PCI(-1)	-0.042*** [0.00]	-0.044*** [0.00]	-0.027* [0.10]	-0.034** [0.05]
ENROLL	-0.065*** [0.00]	-0.073*** [0.00]	-0.069*** [0.00]	-0.079*** [0.00]
POL	-0.058*** [0.00]	-0.066*** [0.00]	-0.094*** [0.00]	-0.105*** [0.00]
COR	0.049*** [0.00]	0.060*** [0.00]	0.092*** [0.00]	0.107*** [0.00]
COR(-1)	0.039** [0.02]	0.046*** [0.01]	0.058*** [0.00]	0.069*** [0.00]
POP	-0.045*** [0.00]	-0.052*** [0.00]	0.049*** [0.01]	0.060*** [0.00]
POP(-1)	-0.030*** [0.01]	-0.039*** [0.00]	0.024** [0.05]	0.036** [0.04]
GOV	-0.104*** [0.00]	-0.116*** [0.00]	-0.089*** [0.00]	-0.096*** [0.00]
GOV(-1)	-0.055*** [0.00]	-0.063*** [0.00]	-0.068*** [0.00]	-0.079*** [0.00]
GOV(-2)	-0.036** [0.02]	-0.046*** [0.01]	-0.049** [0.02]	-0.061*** [0.00]
DSAN	0.027** [0.02]	0.038*** [0.01]	0.042*** [0.00]	0.050*** [0.00]
DWTO	-0.040*** [0.00]	-0.048*** [0.00]	-0.057*** [0.00]	-0.064*** [0.00]
<i>Diagnostics</i>				
R <sup>2</sup>	0.56	0.62	0.61	0.66
AR(1)	[0.00]	[0.00]	[0.00]	[0.00]
AR(2)	[0.37]	[0.48]	[0.30]	[0.27]
Hansen test	[0.49]	[0.58]	[0.44]	[0.49]
Difference Hansen test	[0.64]	[0.72]	[0.50]	[0.59]
No. of observations	3,125	3,125	3,125	3,125

  

Variables	Theil		Poverty	
	HRI1	HRI2	HRI1	HRI1
Constant	0.051** [0.05]	0.058** [0.05]	-0.036** [0.05]	-0.042** [0.05]
HRI(-1)	-0.080*** [0.00]	-0.089*** [0.00]	-0.057*** [0.00]	-0.068*** [0.00]
PCI	-0.061*** [0.00]	-0.065*** [0.00]	-0.089*** [0.00]	-0.096*** [0.00]
PCI(-1)	-0.036*** [0.01]	-0.041*** [0.00]	-0.022* [0.10]	-0.030** [0.05]
ENROLL	-0.058*** [0.00]	-0.067*** [0.00]	-0.065*** [0.00]	-0.072*** [0.00]
POL	-0.052*** [0.00]	-0.060*** [0.00]	-0.087*** [0.00]	-0.095*** [0.00]
COR	0.041*** [0.01]	0.055*** [0.00]	0.084*** [0.00]	0.093*** [0.00]
COR(-1)	0.032** [0.03]	0.041*** [0.01]	0.052*** [0.00]	0.060*** [0.00]
POP	-0.040*** [0.01]	-0.047*** [0.00]	0.041*** [0.01]	0.057*** [0.00]

Variables	Theil		Poverty	
	HRI1	HRI2	HRI1	HRI2
POP(-1)	-0.026** [0.02]	-0.032*** [0.01]	0.021* [0.07]	0.032** [0.05]
GOV	-0.092*** [0.00]	-0.102*** [0.00]	-0.080*** [0.00]	-0.089*** [0.00]
GOV(-1)	-0.051*** [0.00]	-0.058*** [0.00]	-0.062*** [0.00]	-0.070*** [0.00]
GOV(-2)	-0.031** [0.03]	-0.040*** [0.01]	-0.042** [0.02]	-0.056*** [0.00]
DSAN	0.021** [0.04]	0.030** [0.02]	0.038*** [0.01]	0.045*** [0.00]
DWTO	-0.033** [0.02]	-0.041*** [0.01]	-0.053*** [0.00]	-0.058*** [0.00]
<i>Diagnostics</i>				
R <sup>2</sup>	0.54	0.60	0.58	0.63
AR(1)	[0.00]	[0.00]	[0.00]	[0.00]
AR(2)	[0.32]	[0.45]	[0.24]	[0.23]
Hansen test	[0.42]	[0.55]	[0.40]	[0.45]
Difference Hansen test	[0.66]	[0.68]	[0.53]	[0.55]
No. of observations	3,125	3,125	3,125	3,125

Note: HRI1 is the Cingrenelli-Richards (CIRI) Physical Integrity Rights Index, while HRI2 is the Political Terror Scale (PTS) measure by Wood and Gibney (2010). AR(1) is the first-order test for residual autocorrelation. AR(2) is the test for autocorrelation of order 2. Hansen is the test for the over-identification check for the validity of instruments. The difference-in-Hansen test checks the exogeneity of the instruments. Figures in parentheses denote p-values. \*:  $p \leq 0.01$ ; \*\*:  $p \leq 0.05$ ; \*\*\*:  $p \leq 0.01$ . All estimations were performed with time dummies and coefficients are not reported.

Source: Authors' calculation based on data given in Section 3.

There are micro- and macro-theoretical reasons for why the association between inequality and human rights should be observed, and also why it differs across various regions. At the micro-level, theory suggests a number of arguments based on the link between assets, threats, and the propensity to employ violence against opponents. The political survival argument states that in countries or regions with a small winning coalition relative to the overall electorate, there are a series of incentives for tolerating corruption, rent seeking, and the abuse of human rights in ways that maintain loyalty among elites to the governing coalition (Boix 2003; Poe 2004). At the macro-level, certain studies focus on inequality and repression (Cingranelli 1992; Abouharb and Cingranelli 2004, 2007). The theoretical rationale for considering regional differences in the link under study is based on critical macro-theory along with other micro-theories. One example is the principal-agent model (Mitchell 2004), about the reduction in the size of government that can occur in those regions/countries that have undergone some form of structural adjustments, which implies that fewer principals (e.g. government leaders) have the ability to constrain the discretion of agents (e.g. police and soldiers) in ways that will lead to less protection of civil and political rights.

This part of the empirical analysis therefore repeats the estimates across different geographical specifications, i.e. Europe, Africa, America, and Asia and Pacific. The new results are reported in Table 4. They highlight that although they provide evidence of robust support for those reported in Table 2, the size of the primary control variables (plus certain drivers from the remaining controls) seem to differ substantially across regions. In particular, the results seem to be stronger in the case of the African countries group (-0.095 and -0.101 for income inequality, and -0.074 and -0.080 for poverty), followed by the America and Asian and Pacific group, which report very similar results (-0.067 and -0.069 vs -0.065 and -0.068 for income inequality, respectively, and -0.055 and -0.058 vs -0.053 and -0.056 for poverty, respectively). Finally, the findings for the European countries show the weakest picture on the impact of the human rights index on both income inequality and poverty (-0.042 and -0.049 for income inequality and -0.035 and -0.039,

respectively). These findings make clear the significant role of human rights protection for both income inequality and poverty in country groups, such as Africa and Asia. They also confirm the need for these groups not only to find the appropriate institutions to eliminate (or to reduce) the inequality and poverty issues, but also to make the current ones even stronger in how they carry out their duties. Countries should take ownership of such institutions and exercise their political will to fund them through local taxpayers and make them enforceable (Widner 2001; Keith and Ogundele 2007; Murray 2007).

Table 4: GMM estimates: geographical country samples

Variables	Gini		Poverty		Gini		Poverty	
	HRI1	HRI2	HRI1	HRI2	HRI1	HRI2	HRI1	HRI2
	<b>Europe</b>				<b>Africa</b>			
Constant	0.075** [0.03]	0.093** [0.02]	-0.068** [0.04]	-0.073** [0.03]	0.033* [0.09]	0.039* [0.08]	-0.020* [0.10]	-0.024* [0.10]
HRI(-1)	-0.054*** [0.00]	-0.058*** [0.00]	-0.040** [0.03]	-0.048** [0.02]	-0.104*** [0.00]	-0.112*** [0.00]	-0.083*** [0.00]	-0.089*** [0.00]
PCI	-0.049*** [0.00]	-0.056*** [0.00]	-0.065*** [0.00]	-0.076*** [0.00]	-0.081*** [0.00]	-0.086*** [0.00]	-0.110*** [0.00]	-0.121*** [0.00]
PCI(-1)	-0.028** [0.02]	-0.037*** [0.01]	-0.024** [0.05]	-0.039** [0.02]	-0.047*** [0.00]	-0.055*** [0.00]	-0.041*** [0.00]	-0.050*** [0.00]
ENROLL	-0.041*** [0.00]	-0.048*** [0.00]	-0.044*** [0.00]	-0.050*** [0.00]	-0.086*** [0.00]	-0.097*** [0.00]	-0.076*** [0.00]	-0.084*** [0.00]
POL	-0.026* [0.06]	-0.030** [0.05]	-0.036** [0.04]	-0.041** [0.03]	-0.068*** [0.00]	-0.077*** [0.00]	-0.105*** [0.00]	-0.116*** [0.00]
COR	0.034** [0.03]	0.039** [0.02]	0.035** [0.02]	0.040** [0.02]	0.064*** [0.00]	0.069*** [0.00]	0.104*** [0.00]	0.120*** [0.00]
COR(-1)	0.022* [0.06]	0.029** [0.05]	0.024** [0.05]	0.029** [0.04]	0.046*** [0.00]	0.055*** [0.00]	0.065*** [0.00]	0.072*** [0.00]
POP	-0.027** [0.02]	-0.034*** [0.01]	0.025** [0.05]	0.030** [0.04]	-0.054*** [0.00]	-0.059*** [0.00]	0.059*** [0.00]	0.066*** [0.00]
POP(-1)	-0.014* [0.08]	-0.022* [0.06]	0.013* [0.09]	0.019* [0.08]	-0.037*** [0.00]	-0.046*** [0.00]	0.037** [0.02]	0.045*** [0.01]
GOV	-0.088*** [0.00]	-0.095*** [0.00]	-0.072*** [0.00]	-0.078*** [0.00]	-0.104*** [0.00]	-0.119*** [0.00]	-0.102*** [0.00]	-0.116*** [0.00]
GOV(-1)	-0.044*** [0.00]	-0.053*** [0.00]	-0.054*** [0.00]	-0.061*** [0.00]	-0.068*** [0.00]	-0.074*** [0.00]	-0.065*** [0.00]	-0.070*** [0.00]
GOV(-2)	-0.029** [0.02]	-0.037*** [0.01]	-0.039** [0.02]	-0.046*** [0.01]	-0.050*** [0.00]	-0.059*** [0.00]	-0.059*** [0.00]	-0.062*** [0.00]
DSAN	0.011 [0.16]	0.017 [0.15]	0.009 [0.24]	0.014 [0.21]	0.034*** [0.01]	0.040*** [0.00]	0.046*** [0.00]	0.051*** [0.00]
DWTO	-0.030*** [0.01]	-0.038*** [0.00]	-0.040*** [0.01]	-0.047*** [0.00]	-0.047*** [0.00]	-0.056*** [0.00]	-0.064*** [0.00]	-0.068*** [0.00]

Variables	Gini		Poverty		Gini		Poverty	
	HRI1	HRI2	HRI1	HRI2	HRI1	HRI2	HRI1	HRI2
<i>Diagnostics</i>								
R <sup>2</sup>	0.49	0.54	0.52	0.57	0.60	0.65	0.62	0.69
AR(1)	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]
AR(2)	[0.31]	[0.38]	[0.21]	[0.22]	[0.44]	[0.52]	[0.46]	[0.52]
Hansen test	[0.42]	[0.48]	[0.35]	[0.41]	[0.37]	[0.64]	[0.61]	[0.54]
Difference Hansen test	[0.63]	[0.70]	[0.44]	[0.56]	[0.46]	[0.55]	[0.60]	[0.69]
No. of observations	1,000	1,000	1,000	1,000	725	725	725	725
	<b>America</b>				<b>Asia &amp; Pacific</b>			
Constant	0.069*** [0.01]	0.076*** [0.01]	-0.059** [0.02]	-0.066** [0.02]	0.067** [0.05]	0.074** [0.03]	-0.058** [0.05]	-0.069** [0.04]
HRI	-0.074*** [0.00]	-0.080*** [0.00]	-0.064*** [0.01]	-0.073*** [0.00]	-0.070*** [0.00]	-0.079*** [0.00]	-0.059*** [0.00]	-0.070*** [0.00]
PCI	-0.068*** [0.00]	-0.075*** [0.00]	-0.104*** [0.00]	-0.113*** [0.00]	-0.066*** [0.00]	-0.074*** [0.00]	-0.094*** [0.00]	-0.104*** [0.00]
PCI(-1)	-0.047*** [0.00]	-0.053*** [0.00]	-0.033* [0.09]	-0.039* [0.08]	-0.038*** [0.00]	-0.048*** [0.00]	-0.024* [0.07]	-0.033* [0.06]
ENROLL	-0.064*** [0.00]	-0.071*** [0.00]	-0.072*** [0.00]	-0.086*** [0.00]	-0.064*** [0.00]	-0.069*** [0.00]	-0.069*** [0.00]	-0.080*** [0.00]
POL	-0.063*** [0.00]	-0.069*** [0.00]	-0.101*** [0.00]	-0.116*** [0.00]	-0.058*** [0.00]	-0.066*** [0.00]	-0.089*** [0.00]	-0.096*** [0.00]
COR	0.054** [0.02]	0.062*** [0.01]	0.098*** [0.00]	0.104*** [0.00]	0.049*** [0.00]	0.057*** [0.00]	0.099*** [0.00]	0.105*** [0.00]
COR(-1)	0.038** [0.04]	0.044** [0.02]	0.055** [0.02]	0.064*** [0.01]	0.034*** [0.00]	0.040*** [0.00]	0.054*** [0.00]	0.061*** [0.00]
POP	-0.046*** [0.01]	-0.053*** [0.00]	0.049** [0.03]	0.057** [0.02]	-0.042*** [0.00]	-0.048*** [0.00]	0.046*** [0.00]	0.053*** [0.00]
POP(-1)	-0.039** [0.03]	-0.046** [0.02]	0.024* [0.09]	0.031* [0.08]	-0.033*** [0.00]	-0.039*** [0.00]	0.025** [0.03]	0.038*** [0.01]
GOV	-0.094*** [0.00]	-0.105*** [0.00]	-0.085*** [0.00]	-0.093*** [0.00]	-0.103*** [0.00]	-0.114*** [0.00]	-0.084*** [0.00]	-0.089*** [0.00]
GOV(-1)	-0.050*** [0.00]	-0.058*** [0.00]	-0.050*** [0.00]	-0.058*** [0.00]	-0.054*** [0.00]	-0.062*** [0.00]	-0.060*** [0.00]	-0.068*** [0.00]

Variables	Gini		Poverty		Gini		Poverty	
	HRI1	HRI2	HRI1	HRI2	HRI1	HRI2	HRI1	HRI2
GOV(-2)	-0.030** [0.02]	-0.037*** [0.01]	-0.046** [0.02]	-0.057*** [0.00]	-0.035*** [0.00]	-0.039*** [0.00]	-0.047*** [0.00]	-0.053*** [0.00]
DSAN	0.025* [0.08]	0.031* [0.06]	0.039** [0.04]	0.046** [0.03]	0.027*** [0.00]	0.033*** [0.00]	0.040*** [0.00]	0.048*** [0.00]
DWTO	-0.041*** [0.00]	-0.045*** [0.00]	-0.059*** [0.00]	-0.068*** [0.00]	-0.047*** [0.00]	-0.056*** [0.00]	-0.059*** [0.00]	-0.066*** [0.00]
<i>Diagnostics</i>								
R <sup>2</sup>	0.52	0.57	0.56	0.65	0.59	0.62	0.62	0.67
AR(1)	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]	[0.00]
AR(2)	[0.35]	[0.41]	[0.26]	[0.27]	[0.43]	[0.56]	[0.51]	[0.48]
Hansen test	[0.49]	[0.53]	[0.41]	[0.45]	[0.40]	[0.64]	[0.55]	[0.57]
Difference Hansen test	[0.60]	[0.66]	[0.52]	[0.63]	[0.52]	[0.63]	[0.63]	[0.66]
No. of observations	600	600	600	600	800	800	800	800

Note: HRI1 is the Cingrenelli-Richards (CIRI) Physical Integrity Rights Index, while HRI2 is the Political Terror Scale (PTS) measure by Wood and Gibney (2010). AR(1) is the first-order test for residual autocorrelation. AR(2) is the test for autocorrelation of order 2. Hansen is the test for the over-identification check for the validity of instruments. The difference-in-Hansen test checks the exogeneity of the instruments. Figures in parentheses denote p-values. \*:  $p \leq 0.01$ ; \*\*:  $p \leq 0.05$ ; \*\*\*:  $p \leq 0.01$ . All estimations were performed with time dummies and coefficients are not reported.

Source: Authors' calculation based on data given in Section 3.

## 6 Conclusion

While the literature focuses on how inequality in income distribution affects human rights, little attention has been paid to how human rights can affect income distribution. Similarly, little is known about the interactive effects of trade openness and aid on income inequality and poverty through human rights. This is a critical issue given the recent widening of income inequality and corresponding increases in human rights violations. The central objective of this paper, therefore, was to empirically examine the impact of human rights on income distribution and poverty, and the effects of human rights on poverty and income distribution through aid and trade flows. The results suggest that stronger human rights records contribute to greater income equality and to poverty reduction. The interaction of human rights with ODA and trade flows illustrate that as aid and trade flows increase, human rights have a negative effect on both income inequality and poverty.

These findings have important policy implications. In particular, they suggest an important complementary role for stronger human rights records and greater income equality, with both trade and aid flows enhancing income equality and reducing poverty through human rights. Thus, for trade and aid to have tangible effects on society requires the protection of human rights. The developmental policies of governments should, therefore, focus on the promotion of human rights. This highlights the need for governments to promote institutions that protect human rights.

The region-disaggregated results supported the findings of the full sample. However, the findings were strongest in the case of the African countries group, followed by the Americas, the Asian and Pacific group and, finally, Europe. These results suggest that promoting better human rights records is important for poverty alleviation and contributing to greater equality in income distribution. Opening up a country to trade and receiving higher aid flows is expected to reduce poverty only if human rights records are strong. Thus, policy makers should focus on improving institutional quality to enhance human rights records. Aid and trade policy can similarly be used for improving a country's human rights practices and reducing poverty.

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## Appendix

### List of countries

**Europe (40)** = Albania, Armenia, Austria, Azerbaijan, Belarus, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Ireland, Italy, Kazakhstan, Kyrgyz Republic, Latvia, Lithuania, Luxembourg, Moldova, Netherlands, Norway, Poland, Portugal, Romania, Russia, Slovakia Republic, Slovenia, Spain, Sweden, Switzerland, Tajikistan, Turkmenistan, UK, Ukraine.

**Africa (29)** = Algeria, Angola, Botswana, Cameroon, Central African Republic, Chad, Congo Democratic Republic, Egypt, Ethiopia, Gambia, Ghana, Kenya, Liberia, Libya, Mauritania, Morocco, Mozambique, Niger, Nigeria, Rwanda, Senegal, South Africa, Sudan, Tanzania, Togo, Tunisia, Uganda, Zambia, Zimbabwe.

**America (24)** = Argentina, Bahamas, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, El Salvador, Equator, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Trinidad and Tobago, Uruguay, USA, Venezuela.

**Asia (30)** = Bangladesh, Brunei, Bhutan, Cambodia, China, Hong Kong, India, Indonesia, Iran, Israel, Japan, Jordan, Kuwait, Laos, Malaysia, Nepal, Oman, Pakistan, Philippines, Qatar, Singapore, Saudi Arabia, South Arabia, South Korea, Sri Lanka, Syria, Thailand, Taiwan, Turkey, Vietnam.

**Pacific (2)** = Australia, New Zealand.