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## Income Inequality, Equity and State Terror, 1976-2016

*Indra de Soysa* \* and *Krishna Chaitanya Vadlamannati* \*\*

### Abstract

The question of inequality and political violence is hotly debated. While some suggest that inequality leads to grievance-based violence, others suggest opportunity to dissent is what matters. Rather than large armed violence that is rare, we use political repression, or one-sided violence, to test propositions about inequality's role in the dissent-repression nexus. Using several measures of property inequality and equity, defined as equal access to political power and public goods, we find that inequality and equity matter for predicting political repression. The substantive effects of equity, however, are far greater than that of income inequality. We find only very small substantive effects of horizontal inequality measured as ethnic exclusion and discrimination on state repression, and these effects surprisingly are conditioned positively by strong democracy. These findings raise questions about horizontal inequality and grievance-based rebellion because increasing democracy should allow less repression of grievance-based dissent. The results are robust to the inclusion of several relevant controls, alternative specifications, estimating method, and dependent variables measuring repression.

Civil troubles arise, not only out of the inequality of property, but out of the inequality of honour, though in opposite ways. For the common people quarrel about the inequality of property, the higher class about the equality of honour; as the poet says—*the bad and the good alike in honour share*.

Aristotle, *Politics* (trans. Benjamin Jowett, 1950, 44).

### Introduction

Within country inequality has increased across the world (Milanovich, 2016; Piketty, 2014). Many expect globalization to be problematic for peace and stability, precisely because some are expected to benefit more from it than

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others (Rodrik, 2011; Stiglitz, 2002). The many “don’t haves” are expected to rebel against the few “haves,” an old and illustrious proposition about the cause of rebellion (Gurr, 1970). This grievance-based explanation of rebellion, however, is criticized, with many arguing that the “opportunity” to rebel matters more than do “grievances” (Skarpadas, 2003; Tilly, 1975; Tullock, 1987). Consider also that the era of globalization has seen massive reductions in the incidence of organized violence (Flaten & de Soysa, 2012; Gleditsch, 2008). Violent rebellions are rare despite the ubiquity of actual and perceived inequalities, and when they have been successful, they have failed to deliver “justice” (Acemoglu & Robinson, 2012; Dahrendorf, 1988). While non-violent rebellions are more successful at achieving objectives, states could easily repress them (Chenoweth & Stephan, 2011). Scholars of conflict, thus, have begun to integrate the outbreak of armed conflict that explicitly model political repression, or one-sided violence, as part of a continuum from peace to repression (state violence) to civil war (two-sided violence) (Besley & Persson, 2009). This study, thus, tests several measures of inequality and equity capturing both vertical and horizontal aspects of inequality and access to justice on the severity of dissent, which ostensibly elicits high state repression of physical integrity of citizens (Poe, 2004).

Using the latest available data on one-sided state violence against citizens—political terror and the violations of physical integrity rights of citizens—as our dependent variable, we examine if inequality of property (vertical inequality) is distinctively different from inequality of honour (equity) and whether these effects work only in terms of group grievances (horizontal inequality). We also test if democracy conditions inequalities in ways that reduce political terror. These findings only provide partial support for grievance-based propositions because while all measures of inequality and equity, whether class-based or group-based, matter for predicting higher levels of political terror, the most relevant, or “weakest link” indicators of ethnic discrimination and exclusion show negligible substantive effects. Moreover, the conditioning effect of strong democracy on ethnic discrimination increases repression, suggesting opportunity factors rather than just grievances alone may matter because it is not clear why moral outrage does not motivate rebellion in autocracies. Our results are robust to alternative data, models, and statistical methods.

## 1. Theory

The question of economic inequality and social stability goes back at least to Aristotle, who proposed the notion of a “golden mean,” which is that wealth and power must concentrate in a middle class rather than at the extremes, where rule by a large poor population (democracy) could lead to the rise of demagogues. Contrarily, the concentration of wealth and power in an aristocracy (plutocracy) could end in tyranny (Ebenstein & Ebenstein, 1992). Arguing against Plato, Aristotle saw a great danger in keeping people in mass poverty and preventing their advancement. He wrote, “poverty is the parent of revolution and crime” (Ebenstein and Ebenstein 1992: 70). Aristotle argued for the sanctity of private property rights to ensure the growth of a middle class through ‘incentive and progress.’ He wrote that,

Property should be ... private. For, when everyone has a distinct interest, men will not complain of one another, and they will make more progress because everyone will be attending to his own business (Ebenstein and Ebenstein 1992: 81).

Indeed, the Greek word *isonomia* (equality before the law) has historically preceded notions of democracy, or what the Greeks termed *demokratia* (rule by free people). Thus, if we are to take Aristotle’s propositions seriously for instructing poor countries today, we would want them to follow a path of rapid economic growth, so that a strong middle class could emerge and raise the opportunity costs of people for engaging in socially-destructive armed conflict. Rapid economic growth, however, also increases income inequality, since different starting points in terms of property endowments will raise the absolute “gaps” in income (Passé-Smith, 1998). Thus, high growth rates, while raising incomes will also raise inequality.

Marxist-Leninist theories blame the capitalist system for uneven development, beginning with creating disparities between town and country, between classes and occupations, and regions within countries, a process which has now extended across the world (Cramer, 2002; Linklater, 1990). Cramer (2002: 285) writes,

War and non-war violence are bound up with the transition to, and trajectories of, competitive capitalist economic organization, contemporary violent conflicts are very much phenomena of class.

Indeed, neo-Marxist dependency theory and other critical theories, explained rebellion within poor countries as a result of inequality between classes and regions due to free market capitalism (Muller & Seligson, 1987). This perspective sees the rise of a commercial class as a negative force, where power becomes concentrated, markets become monopolized, resulting in parasitic processes. The capitalists capture state power to formalize exploitation, which perpetuates economic inequalities, whether across groups or across class (Boswell & Dixon, 1990).

These arguments have resurfaced in recent years given the rising levels of income inequality even within the industrialized world (Reinert, 2007). Many scholars, including neoclassical economists have joined the fray, arguing that globalization has empowered capital at the expense of labour, generating what some term a “race to the bottom” in social standards (Rodrik, 2011; Stiglitz, 2002). These scholars, although avoiding the unlikely scenarios of rebellion, do warn that rising income inequalities will destroy communitarian values, increase the intensity of distributional struggles and reduce the “affinities” among social classes and groups for the stable politics necessary for economic growth (Milanovich, 2016; Piketty, 2015). If historical analyses, going back at least to Aristotle and in the modern age to Karl Marx and is such a widely-discussed topic in current times, why have we failed to find strong evidence for this grievance-based explanation of civil conflict? Recent studies in behavioural economics seem to supply answers that reflect Aristotle’s basic wisdom about putting equity ahead of equality. Experimental research suggests that people do not seem to mind inequality as long as they think such inequality is not based on unfair processes (Almås, Cappelen, Sørensen, & Tungodden, 2010; Starmans, Sheshkin, & Bloom, 2017). Apparently, what people seem to reject is inequity rather than inequality, which most people accept if they feel people’s wealth is fairly obtained. Most working-class soccer fans do not desist parting with their hard-earned money to watch extremely highly-paid soccer stars on the soccer pitch.

Empirical studies, nonetheless, cannot find a clear link between income inequality and political violence (Muller & Seligson, 1987; Weede, 1986). Several recent studies report no effect of income inequality on the outbreak of civil war (Collier & Hoeffler, 2004; Fearon & Laitin, 2003). They conclude that income inequality, which is a good proxy for grievances, do not explain the onset of civil wars, or two-sided violence. However, at least one study reports

that the GINI is associated with higher political repression, suggesting that inequality-related dissent could lead to one-sided violence represented by high state violence against ordinary citizens, deterring civil war (Henderson, 1991).

As many have begun to argue, organized armed violence is a continuum from peace as the absence of violence to full scale civil war with state-perpetrated repressive violence as an alternative situation between peace and civil war (Besley & Persson, 2009). Besley and Persson (2009) attribute successful state repression that avoids civil war to a state's capacity to buy off dissent or crush it because of an advantage in terms of access to adequate revenue in the form of taxable income. Thus, conflict with a potential challenger depends on the relative access of rebels to revenue and the wage rate determining rebel labour. The model explains why natural resources lead to civil war, but there is no discussion of inequality-related grievances as a catalyst for dissent. Like many other models explaining civil war, repression and dissent depends much on absolute income and not relative incomes, since higher taxes allow states to repress effectively and higher incomes effect the opportunity costs of rebellion (Collier, Hoeffler, & Rohner, 2009; Fearon, 2005).

The question of conceptualizing and measuring inequality is not straightforward. First, inequality might be real (objective) or perceived (subjective). Secondly, as Aristotle's quote above suggests, inequality of property should be separated from notions of inequality of access, or equity, which he terms "honour." Thirdly, differences between rich and poor might not matter because, again as Aristotle first observed, a poor man is hardly able to threaten the stability of the state (except as a bandit). He argued that the real danger to states came from the avarice of the rich, who think they do not have enough. He wrote:

Equalization of property will take away from a man the temptation to be a highwayman. ... The greatest crimes are caused by excess and not by necessity. Men do not become tyrants so they may not suffer the cold. Great is the honour bestowed, not on him who kills a thief, but on one who kills a tyrant (Ebenstein and Ebenstein 1992: 84-85).

For the well placed to organize large-scale violence, they would still need large enough armies, which suggests that only large numbers of poor would allow costly civil war rather than accommodation of interests (Besley & Persson, 2009). In other words, poverty serves as an opportunity-factor that allows the

organization of large violence. Unlike the question of organizing large civil wars that require big armies, however, social dissent might be organized for non-violent protest, which states might use repression to quell—or one-sided violence. This scenario is also likely the poorer the society because richer societies, *ceteris paribus*, have the state capacity to accommodate social demands, make reforms etc.

To complicate matters, this individualist position on “vertical inequality” is challenged by others who argue that what matters is not individual-level inequalities, but “horizontal inequality” between groups in society, such as ethnic and other identity groups (Østby, 2008; Stewart, 1998).<sup>1</sup> Since individuals that have no connection or affinity to others are harder to organize because of the lack of shared identity, “groupness” generated by political exclusion may matter for explaining conflict. Indeed, a large body of literature focuses specifically on how ethnic groups organize to challenge states and ruling groups because they are aggrieved over their socio-political status (Buhaug, Cederman, & Gleditsch, 2014; Cederman, Wimmer, & Min, 2010). They argue that horizontal inequalities resulting from ethnic exclusion and discrimination harden group identities, which then allow ethnic groups to overcome collective action problems that would otherwise prevent costly violence. They put the state at the heart of the analysis, suggesting that groups that are excluded from state power rebel (Cederman et al., 2010). They conclude that studies of civil war that have prefaced opportunity factors over grievance-generating factors might have been too quick to count out grievance.

If inequality captures grievances due to vertical and horizontal processes of economic and political discrimination and exclusion, then one corrective measure is to ensure open and democratic political processes. Indeed, the economist Simon Kuznets, who lent his name to the famous Kuznets curve, argued that income inequalities increase with increasing incomes and begin to reduce when higher levels of income are reached because of political processes, such as access to mass education and democracy (Higgins & Williamson, 1999). One-person-one vote principles should empower the people at the bottom for redistribution and fairness in terms of access to opportunities. Democracies also institute progressive taxation that redistributes wealth from the rich to poor. Recent studies on how people view inequality are revealing.

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<sup>1</sup> There is some confusion in economics about what constitutes vertical versus horizontal inequality. We follow Stewart (1998) who conceptualizes vertical inequality as inequality between individuals and horizontal as inequality between identity groups.



They find that people are willing to accept income inequalities if they think policies are fair. In other words, people accept that talent should be rewarded, or that others should not be punished for their savings behaviour or luck, but people react negatively to wealth that they feel is ill-gotten and achieved simply because of unfair policies (Starmans et al., 2017). Thus, inequality, whether horizontal or vertical, should be less likely to be grievance-promoting at very high levels of democracy, a conditional proposition we also test empirically.

The discussion above taken together leads us to examine three interrelated hypotheses that have distinct theoretical and practical implications:

**H1:** Inequality of property and lack of access of lower classes to political power (vertical inequality) increases political terror

**H2:** Inequality of access to political power and resources in terms of social group (horizontal inequality) increases political terror

**H3:** Inequality-based grievances decrease with rising democracy conditionally to lower political terror

While much of previous discussions about inequality-led grievances and conflict have been associated with civil war and large-scale armed violence, we focus on one-sided violence, or state repression of physical integrity rights. Political scientists have indeed studied the issue of human rights violations using data measuring the degree of physical violence and coercion used by a state against citizens. Most countries do not have civil wars, which are relatively rare, but they do contain various forms and degrees of coercion of individuals and groups, who for some reason or the other might be dissenting (Carey & Poe, 2004; Cingranelli & Richards, 2008; Gibney & Dalton, 1996; Henderson, 1991; Poe & Tate, 1994). An extreme example is North Korea, which has no civil war, compared to say India, but clearly North Korea is more repressive than India. Most indicators of human rights violations focus on negative rights, such as imprisonment for political beliefs, torture, disappearances, and political murder. As many claim, in many states, political dissent and repression exist in a form of diachronic relationship, where state repression is thought to be high where state elites are threatened and when accommodation is not a likely option (Poe, 2004). Since repression is both economically and politically costly, state repression of physical rights of people exist where there is dissent, which

makes measures of state repression in many ways a better indicator than civil war for capturing social grievances.

## 2. Methods & Data

We use a pooled time-series cross-sectional dataset covering roughly 160 countries over the 1976 to 2016-time period. The dependent variable is the level of political repression as measured by two well-established datasets—namely, the Political Terror Scale (PTS) and the Varieties of Democracy data program's indicator of the level of physical violence used by a state against its people.<sup>2</sup>

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Physical integrity is understood as freedom from political killings and torture by the government. Among the set of civil liberties, these liberal rights are the most relevant for political competition and accountability. The index is based on indicators that reflect violence committed by government agents and that are not directly referring to elections.

The index is formed by point estimates drawn from a Bayesian factor analysis model including the following indicators: freedom from torture (v2cltort) and freedom from political killings (v2clkill) (See Coppedge et al. 2017: 76). The PTS data, however, also cover imprisonment and disappearances, which might explain the differences between the two, but also, actual violations as recorded by Amnesty International as well as expert coding biases are also likely to be at

2 We use the [Political Terror Scale](#) (PTS) and the [Varieties of Democracy](#) (VDEM) data on physical violence.

3 We use the [Political Terror Scale](#) (PTS) and the [Varieties of Democracy](#) (VDEM) data on physical violence.

play. Thus, we use both measures without judging the relative reliability of these measures independently.

Our first main independent variable is the GINI obtained from the World Institute for Development Research (WIDER), which generates the World Income Inequality Dataset (WIID).<sup>4</sup> The WIID data supplements the World Bank GINI data using OECD data, Eurostat, Luxembourg Income Study (LIS) and the World Bank's poverty research data. The WIID data report the actual GINI values as reported by the most reliable source for a number of years for each country. Following others, we linearly interpolate between the available years for each country and set the bounds between the lowest and highest values observed in the actual data. This method is unproblematic because the Gini is quite sticky (Coppedge et al., 2017; WIID, 2017). The WIID Gini data are not without complications for cross-country comparisons because of varying definitions used in many of the sources, although over time the data has been updated to make comparability as valid as possible (see WIID 2017 for detailed explanation).

Our second measure of vertical inequality is taken from the VDEM data project's measure of class-based access to political power and resources. This variable indirectly measures the access to political power of poorer segments of a population relative to the rich:

In some societies, income and wealth are distributed in a grossly unequal fashion. In others, the difference between rich and poor is not so great. Here, we are concerned not with the degree of social inequality but rather with the political effects of this inequality. Specifically, we are concerned with the extent to which wealth and income translates into political power (Coppedge et al. 2017: 260).

Expert coders assign values to their countries based on the following criteria:

0: Political power is monopolized by one social group comprising a minority of the population. This monopoly is institutionalized, i.e., not subject to frequent change.

1: Political power is monopolized by several social groups comprising a minority of the population. This monopoly is institutionalized, i.e., not

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<sup>4</sup> Data are obtained from this [database](#).

subject to frequent change.

2: Political power is monopolized by several social groups comprising a majority of the population. This monopoly is institutionalized, i.e., not subject to frequent change.

3: Either all social groups possess some political power, with some groups having more power than others; or different social groups alternate in power, with one group controlling much of the political power for a period of time, followed by another – but all significant groups have a turn at the seat of power.

4: All social groups have roughly equal political power *or* there are no strong ethnic, caste, linguistic, racial, religious, or regional differences to speak of. Social group characteristics are not relevant to politics.

Similarly, the VDEM also codes access to education and health in terms of the poorest in society being able to access these public goods relative to the wealthy. Accordingly, the coders address the following:

0: Extreme. Provision of high quality basic education is extremely unequal and at least 75 percent (%) of children receive such low-quality education that undermines their ability to exercise their basic rights as adult citizens.

1: Unequal. Provision of high quality basic education is extremely unequal and at least 25 percent (%) of children receive such low-quality education that undermines their ability to exercise their basic rights as adult citizens.

2: Somewhat equal. Basic education is relatively equal in quality but ten to 25 percent (%) of children receive such low-quality education that undermines their ability to exercise their basic rights as adult citizens.

3: Relatively equal. Basic education is overall equal in quality but five to ten percent (%) of children receive such low-quality education that probably undermines their ability to exercise their basic rights as adult citizens.

4: Equal. Basic education is equal in quality and less than five percent (%) of children receive such low-quality education that probably undermines their ability to exercise their basic rights as adult citizens (Coppedge et al. 2017: 260).

Health equality is addressed similarly. The validity of the data and inter-coder reliability is ascertained using vigorous methods, such as Bayesian item response theory and a host of other techniques (Coppedge et al., 2017). The values are then converted into an interval scale.

Next, we use measures of horizontal inequality for comparability. These measures are taken from two sources; namely, VDEM and measures constructed from the Ethnic Power Relations (EPR) database (Buhaug et al., 2014). The VDEM indicator essentially is the same as described above, but instead of income groups, they examine access to political power of social groups, such as ethnic, caste and religious groups regardless of their relative wealth. In other words, these indicators are measures of the equality of access. The measures of horizontal inequality based on the EPR data essentially measure the degree of exclusion of ethnic groups from state power and the population share of discriminated ethnic groups. The larger the share relative to the total population the greater the chance that grievance-based rebellion is likely to take hold.<sup>5</sup>

The appendix displays the inter-correlations between the vertical and horizontal inequality measures. While the GINI shows the right sign in terms of its association with the VDEM and EPR measures, none of the associations are high (the Pearson  $r$  is never greater than 0.30). Neither are the associations between the VDEM measure of equality of access to political power based on groups and the EPR measures of discrimination and exclusion ( $r = -0.27$  &  $-0.30$  respectively). Thus, all our measures of inequality, both horizontal and vertical, seem to capture distinct dimensions of inequality.

Naturally, we control for several potentially confounding factors. First, we control for the level of development by including per capita income, since richer countries are likely to have greater state capacity and higher opportunity costs of rebellion. We also control for population size because larger populations are thought to have weaker state capacity and potentially a greater chance that one or another social or territorial group is likely to dissent. We use the World

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<sup>5</sup> For detailed explanations, see (Buhaug et al., 2014).

Development Indicators online database to obtain per capita income and population data, which are logged to reduce skewness (World Bank, 2016). We also control for regime type, since strong democracies and strong autocracies are likely to have important impacts on the repression of dissent. We use the standard Polity IV database's polity2 indicator to create a dummy variable capturing strong democracy if polity2 is above 6, which takes the value 1 and 0 if not. Similarly, an autocracy dummy is created by the variable taking the value 1 if the polity2 scale is below -6, 0 if not. The reference category are anocracies that lie between the values -6 and +6 on the polity scale of -10 and 10 (Jagers & Gurr, 1995).

Having accounted for income level, demography and regime types, we also control for natural resource wealth; namely oil and gas production because of the so-called 'natural resource curse' (Ross, 2015) Access to natural resources also determine the degree of income inequality and political discrimination (Acemoglu, 2005; Basedau & Lay, 2009; de Soysa & Binningsbø, 2009). We use the oil and gas extraction data in the Ross-Mahdavi dataset and create a dummy variable taking the value 1 if there is even 1 dollar per capita of oil and gas produced, and 0 if not.<sup>6</sup> Ongoing civil violence is likely to increase political terror. We enter a term for ongoing civil war by using the Uppsala-PRIO armed conflict dataset's civil war incidence indicator. A civil war takes the value 1 if at least 25 deaths have occurred in a single year, 0 if not (Gleditsch, Wallensteen, Eriksson, Sollenberg, & Strand, 2002). We also compute the time of peace to capture the general nature of political violence from a historical perspective. If indeed inequality is also a strong predictor of civil wars, then the inequality results should be sensitive to the inclusion of these controls. We run our results with and without the conflict variables in the models to ascertain the extent of the impact of civil wars vis-à-vis the effects of inequality on political terror. We also use year and country fixed effects in the models to capture unit heterogeneity and account for spuriousness via any trending in our crucial variables.

We use ordered probit analysis when using the ordinal PTS data as the dependent variable because the PTS is a 5-point ordinal scale. We use standard OLS method when estimating the interval scale of the VDEM physical violence as the dependent variable. Since this variable is presented as the lack of physical violence, we invert it to compare the results with the PTS and for

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<sup>6</sup> The data are available at this [database](#).

ease of interpretation and clarity. We conduct the Wooldridge test to ascertain if our data suffer serial correlation and we cannot reject the null hypothesis of no serial correlation (Wooldridge, 2002). Therefore, we compute Newey-West standard errors that are robust to heteroscedasticity and autocorrelation (Newey & West, 1987). One drawback of using the probit method is that country fixed effects cannot be computed without introducing bias, nor is it possible to adjust standard errors for serial correlation even if the standard errors are clustered on the country units. Hence, we also test the basic model with a lagged dependent variable for robustness (Beck & Katz, 1995). Having established the similarity of results using both dependent variables, we continue with the VDEM measure of political terror using OLS because of the advantages of being able to use country fixed effects and to control for autocorrelation.

### **3. Results**

Table 1 presents results of the effects of GINI income inequality on political terror. Columns 1-3 estimate the PTS using ordered probit and columns 4-6 estimates OLS models using the VDEM's physical integrity rights violations data. In column 1, we estimate the model without the civil war and peace-history variables. As seen there, the GINI has an independent positive effect on political terror, which does not change much when the civil war and peace year variables enter in column 2. Higher income inequality increases the risk of political terror. The results are also robust to the inclusion of a lagged dependent variable (LDV) in column 3. Vertical inequality, thus, is associated positively with political repression. The control variables are all reasonable and have the predicted sign.

Per capita wealth reduces political terror while country size increases it, results congruent with the civil war literature, which finds income level and population size to be the most robust predictors of civil war risk (Hegre & Sambanis, 2006; Ward, Greenhill, & Bakke, 2010). Oil and gas production seems to increase the risk of repression, while strong democracy reduces repression, results reported by several others (Davenport & Armstrong, 2004; de Soysa & Binningsbø, 2009). Autocracy does not seem to be robustly significant when the PTS is used. Civil wars raise the risk of repression as expected, while the longevity of peace reduces the risk.

Income Inequality, Equity and State Terror, 1976-2016

	(1) PTS_A	(2) PTS_A	(3) PTS_A	(4) VDEM	(5) VDEM	(6) VDEM
<b>GINI</b>	0.0117*** (0.00392)	0.0111*** (0.00395)	0.00885*** (0.00215)	0.157*** (0.0283)	0.138*** (0.0281)	0.01 (0.00553)
<b>Income per capital (log)</b>	-0.267*** (0.0471)	-0.192*** (0.0464)	-0.106*** (0.0235)	-6.445*** (0.290)	-5.057*** (0.318)	-0.211*** (0.0776)
<b>Population size (log)</b>	0.266*** (0.0377)	0.208*** (0.0422)	0.0965*** (0.0222)	3.184*** (0.257)	2.253*** (0.259)	0.0701 (0.0601)
<b>Democracy</b>	-0.768*** (0.141)	-0.686*** (0.112)	-0.353*** (0.0672)	-23.08*** (0.938)	-21.19*** (0.923)	-0.489* (0.263)
<b>Autocracy</b>	-0.220* (0.120)	-0.0766 (0.104)	-0.0475 (0.0568)	12.99*** (1.224)	14.99*** (1.165)	1.008*** (0.269)
<b>Oil producer (dummy)</b>	0.233** (0.107)	0.172 (0.107)	0.123** (0.0549)	3.030*** (0.876)	1.772** (0.847)	0.200 (0.197)
<b>Civil War Ongoing</b>		1.098*** (0.113)	0.467*** (0.0722)		11.32*** (1.073)	0.389 (0.330)
<b>Years of Peace since last war</b>		-0.00855** (0.00362)	-0.00382** (0.00185)		-0.148*** (0.0208)	-0.0111** (0.00533)
<b>Lagged dependent variable</b>			1.178*** (0.0484)			0.950*** (0.00601)
<b>/cut1</b>	1.179 (0.740)	0.845 (0.871)	1.837*** (0.472)			
<b>/cut2</b>	2.498*** (0.748)	2.225** (0.874)	3.767*** (0.481)			
<b>/cut3</b>	3.558*** (0.755)	3.441*** (0.874)	5.474*** (0.490)			
<b>/cut4</b>	4.479*** (0.782)	4.559*** (0.894)	7.063*** (0.523)			
<b>Constant</b>				-53.81*** (5.483)	-49.97*** (5.349)	-2.576** (1.241)
<b>Countries</b>	161	161	161	158	158	158
<b>Observations</b>	4,478	4,478	4,045	5,395	5,395	5,395
<b>Time Fixed Effects Country Fixed Effects</b>	NO	NO	NO	NO	NO	YES

Robust standard errors in parentheses  
 \*\*\* p<0.01, \*\* p<0.05, \* p<0.10

**Table 1. Ordered Probit & OLS Regressions of Income Inequality (Vertical) & Political Terror, 1976-2015**



In columns 4-6, again, the GINI seems to raise the risk of repression as measured by the VDEM data measuring physical integrity rights violations. Thus, the effects of vertical inequality as measured by the GINI is positively associated with political terror somewhat differently measured and conceptualized. Since we are now estimating an OLS regression, the substantive effects are easily ascertained. Holding all control variables at their mean values, raising the GINI by a standard deviation above the mean, leads to an increase of political terror by roughly 8% of a standard deviation of political terror (see appendix Table 2 for summary statistics). Comparatively, holding the other variables at their means, raising income by a standard deviation reduces political terror by almost 35%, or roughly 4.3 times greater than the effect of income inequality. Likewise, having a civil war raises political terror by 38% of a standard deviation of political terror, relative to not having a civil war. Importantly, however, whether one tests the PTS or the VDEM indicators, the effect of GINI on repression is only slightly affected by the inclusion of variables measuring civil peace and its history, an issue that may require further examination. Interestingly, in column 4, when we enter country fixed effects in the OLS specification, the effect of the GINI on political terror loses statistical significance. The test of joint significance of the results for the country effects are statistically highly significant, which suggest strongly the presence of country heterogeneity and thus omitted variables bias in previous models. Previous studies that report a strong effect of inequality on political terror, thus, are likely to be biased due to omitted variables (Wilson & Butler, 2007).

In Table 2, we enter our VDEM assessed indicators of access to political power by class and by social group. Here, both vertical and horizontal inequality in terms of political influence matter negatively on political terror. These effects are robust to country and time fixed effects. The results suggest that equality of access, or equity in terms of the sharing of political power between rich and poor and among social groups decrease the risk of political terror (and serious dissent). Substantively, holding the controls at their means, a standard deviation increase in class-based equity in terms of access to political power, reduces political terror by 22% of a standard deviation of political terror. A similar increase in social group equity in terms of political power decreases the risk of political terror by 37% of a standard deviation of political terror. Comparatively, these effects are as great as the risk emanating for having a civil war. Again, the control variables show very reasonable and intuitive results, except that the effects of per capita income no longer are statistically significant when country

fixed effects are estimated.

	(1) vdem	(2) vdem	(3) vdem	(4) vdem
Equal Access to political power (class)	-7.506***		-6.391***	
	(0.401)		(0.565)	
Equal Access to political power (group)		-7.875***		-9.020***
		(0.343)		(0.654)
Income per capital (log)	-4.562***	-4.805***	1.167	0.273
	(0.304)	(0.295)	(0.978)	(0.953)
Population size (log)	2.062***	2.591***	3.741*	-0.210
	(0.244)	(0.237)	(2.027)	(1.943)
Democracy	-17.30***	-14.99***	-20.19***	-19.07***
	(0.869)	(0.890)	(1.005)	(1.022)
Autocracy	12.83***	10.57***	15.10***	13.90***
	(1.122)	(1.092)	(1.072)	(1.041)
Oil producer (dummy)	0.548	-0.0537	0.776	0.567
	(0.787)	(0.771)	(1.183)	(1.044)
Civil War Ongoing	11.20***	7.474***	8.596***	7.628***
	(0.994)	(0.949)	(0.852)	(0.866)
Years of Peace since last war	-0.0730***	-0.0762***	0.0490*	0.0242
	(0.0203)	(0.0195)	(0.0274)	(0.0274)
Constant	-43.32***	-50.39***	-113.1***	-31.49
	(4.651)	(4.566)	(35.30)	(33.95)
Countries	158	158	158	158
Observations	5,395	5,395	5,395	5,395
Time Fixed Effects	YES	YES	YES	YES
Country Fixed Effects	NO	NO	YES	YES

Standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.10

**Table 2. OLS Regressions of Access to Political Power by Social Class (Vertical) /Social Group (Horizontal) & Political Terror (VDEM), 1976-2016**

In Table 3, we estimate the two remaining measures of equity measured as access to education and health care assessed in terms of class. Again, both

education and health equity reduce the risk of political repression. Substantively, increasing both education and health by a standard deviation, holding controls at their means, would reduce political terror by roughly 30% of a standard deviation of political terror. Thus, these effects, which are roughly equal to having a civil war, are fairly large effects, which are robust to two-way fixed effects. When entering education and health equality, the effect of income per capita becomes positive and significant. This result is not surprising, however, given the tight correlation between income level and education and health equality ( $r = 0.74$  &  $r = 0.67$  respectively). It might very well be that equity, which is very tightly related to the level of development matters more than does property inequality measured by the GINI because very poor countries could have low GINIs but high inequalities related to access to basic public goods, such as education and health.

	(1) vdem	(2) vdem
<b>Education Equality</b>	-3.585*** (0.718)	
<b>Health Equality</b>		-6.302*** (0.595)
<b>Income per capital (log)</b>	2.550*** (0.964)	3.540*** (0.932)
<b>Population size (log)</b>	2.338 (2.051)	2.139 (2.033)
<b>Democracy</b>	-21.84*** (1.054)	-21.29*** (1.037)
<b>Autocracy</b>	16.44*** (1.090)	16.30*** (1.080)
<b>Oil producer (dummy)</b>	1.264 (1.166)	1.062 (1.160)
<b>Civil War Ongoing</b>	7.971*** (0.864)	7.632*** (0.852)
<b>Years of Peace since last war</b>	0.0570** (0.0287)	0.0535* (0.0279)
<b>Constant</b>	-100.1*** (35.69)	-101.9*** (35.25)
<b>Countries</b>	158	158
<b>Observations</b>	5,395	5,395

Standard errors in parentheses

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.10$

Time & country fixed effects estimated

**Table 3. OLS Regressions of Education and Health Equality & Political Terror, 1976-2016**

Next, in Table 4, we enter horizontal inequality measured as political exclusion and discrimination of ethnic groups as measured by the EPR data and used in the study of civil war risk (Buhaug et al., 2014). As seen there, both political exclusion of discriminated groups and the population share of the largest discriminated ethnic group are positively and statistically significantly related to political terror. Compared with the other results, however, the substantive effects of these two variables are negligible. Keeping with the method used above, a standard deviation increase in the size of the discriminated population, holding the controls at their means, increases political terror (and presumably the level of dissent) by roughly 4% of a standard deviation of political terror.

	(1) vdem	(2) vdem
<b>% size of largest discriminated group</b>	8.947** (3.849)	
<b>Ethnic exclusion of discriminated groups</b>		8.021** (3.472)
<b>Income per capital (log)</b>	2.021 (1.270)	1.836 (1.250)
<b>Population size (log)</b>	5.557* (2.898)	5.816** (2.896)
<b>Democracy</b>	-24.11*** (1.277)	-24.14*** (1.274)
<b>Autocracy</b>	16.60*** (1.186)	16.62*** (1.181)
<b>Oil producer (dummy)</b>	1.149 (1.462)	1.154 (1.461)
<b>Civil War Ongoing</b>	8.582*** (1.020)	8.583*** (1.020)
<b>Years of Peace since last war</b>	0.0518 (0.0379)	0.0567 (0.0379)
<b>Constant</b>	-134.6*** (49.37)	-137.8*** (49.38)
<b>Countries</b>	153	153
<b>Observations</b>	3,963	3,963

Standard errors in parentheses  
 \*\*\* p<0.01, \*\* p<0.05, \* p<0.10  
 Year and country fixed effects estimated

**Table 4. OLS Regressions of Political Exclusion of Ethnic Groups & Political Terror, 1976-2006**

Compared with the substantive effect of democracy, which reduces the standard

deviation of political terror by almost 78%, the effects of political discrimination of ethnic groups is very small indeed. In fact, the substantive effect of the GINI is more than double the effect of ethnic discrimination's effect, albeit in this case without estimating country fixed effects. The effects of ethnic exclusion from state power and the size of the discriminated ethnic group remain only little affected if we drop the civil war and peace year variables from the models, showing some degree of independence between these variables in so far as they affect political terror. The direct effect of ethnic discrimination, however, though showing the expected sign, is substantively very small. Again, previous studies using similar indicators without examining country fixed effects are likely to be over emphasizing discrimination's effect related to other omitted factors.

In all our models in all tables, the effect of strong democracy measured by our dummy variable using the Polity index predicts lower political terror, results that are statistically significant and substantively extremely large. Using democracy as a conditioning factors between inequality and political repression, we estimate our measures of vertical and horizontal inequality interacted with strong democracy to test the potential grievance versus opportunity arguments. Political dissent that is threatening enough for a state to use physical violence against its citizens should be less likely in a democracy for any given level of inequality and equity.

The results appear in Table 5. As seen in column 1, the interactive effect between GINI and democracy decreases the risk of political terror. The coefficients of interactive terms cannot be easily interpreted. Thus, we estimate marginal effects and examine the margins plots based on the two different values of the democracy dummy (appendix Table 3 for marginal effects). As seen there, the inequality of property measured by the GINI lowers the incidence of political terror among strong democracies. The marginal effects are statistically highly significant. Strong democracies do not suffer violence-inducing dissent with increasing GINI values.

This effect is reversed, however, when examining column 2 where we estimate the conditional effect of educational equality and democracy. As education equity increases with democracy, the chances of one-sided violence increase. Why this should be so is not intuitive except that access to education to all classes might lead to greater mobilization, which may lead even democracies to engage in some political violence. Indeed, many of the former Soviet States

	(1) vdem	(2) vdem	(3) vdem
<b>GINI</b>	-0.07** (0.04)		
<b>Democracy</b>	-20.12*** (2.47)	-23.27*** (1.04)	-26.86*** (1.38)
<b>GINI x Democracy</b>	-0.08 (0.05)		
<b>Education Equality</b>		-5.25*** (0.76)	
<b>Education equality x democracy</b>		3.61*** (0.76)	
<b>% size of discriminated ethnic group</b>			8.29** (3.96)
<b>Size of disc. ethnic group x democracy</b>			38.68*** (7.94)
<b>Autocracy</b>	16.43*** (1.08)	16.44*** (1.07)	16.55*** (1.17)
<b>Income per capita (log)</b>	2.43** (0.95)	2.42** (0.96)	2.36* (1.30)
<b>Population size (log)</b>	1.44 (1.97)	3.99** (2.03)	7.32** (2.91)
<b>Oil producer</b>	1.09 (1.19)	1.21 (1.13)	0.85 (1.51)
<b>Civil War ongoing</b>	7.87*** (0.86)	7.36*** (0.84)	7.86*** (1.01)
<b>Years of peace since last war</b>	0.06* (0.03)	0.04 (0.03)	0.05 (0.04)
<b>Constant</b>	-79.19** (34.27)	-128.25*** (35.36)	-164.65*** (49.82)
<b>Countries</b>	158	158	153
<b>Observations</b>	5,390	5,390	3,809 <sup>‡</sup>

Standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Two-way fixed effects estimated

<sup>‡</sup> Data available until 2010.

**Table 5. Conditional effects of inequality & democracy on political terror, 1976- 2016**

suffered greater degrees of violence as they democratized relative to when they were strict autocracies, which is only a partial explanation since our measure of democracy takes the value 1 at a very high level of the Polity index. More likely,

the effect is driven by poor democracies, such as India, Sri Lanka, Indonesia, the Philippines, Kenya etc. where access to education is likely to be weak and the opportunities to dissent are likely to be greater than in places where people have little access to either democracy or education. More tellingly, in column 3, the interaction between strong democracy and the size of the discriminated population is positive and statistically highly significant. Again, discriminated ethnic groups seem to be able to dissent, thereby increasing the likelihood of state reprisals, when democracy is at fairly high levels relative to when democracy is weaker. Contrarily, one might argue that moral outrage is likely to be highest when discrimination exists in a democratic society, where a population is likely to be better educated. However, why moral outrage would be weaker in an autocracy is hard to rationalize. To push this further, we tested a conditional term between discrimination and income per capita, which should also support a moral outrage argument. This result is statistically not significant (not shown). This too points in the direction of opportunity factors rather than grievances alone being the decisive factor predicting one-sided violence. Thus, while we can accept H1 & H2, we must reject H3.

In summary, our main results show that property inequality and access to political power based on class and social group matter for predicting one-sided violence, results that support the findings of others (Henderson, 1991; Landman & Larizza, 2009). The substantive effects of the access or equity variables are far greater than those of the property inequality measures. Two measures of equity in terms of access to health and education had the largest impacts. Two measures of ethnic discrimination and exclusion of ethnic groups from state power show the expected sign, but the substantive effects of these indicators were comparatively negligible. Finally, using democracy as a conditioning variable, we find that horizontal inequalities seem to increase the dissent-repression nexus when democracy increases. These results may suggest that opportunity factors rather than grievances alone generate the conditions that cause political repression, or might indeed be that moral outrage is likely higher the more educated a public is. Subsequently, we tested the effect of access to education conditional on the level of income, which should also increase moral outrage, but these effects were statistically not different from zero. Also, one might ask why moral outrage associated with discrimination does not manifest itself as violent dissent in autocracies.

#### **4. Robustness**

In robustness tests, we first drop the civil war variables. As mentioned above, none of the inequality measures seem to be affected by this. These results suggest that the effect of inequality on repression is independent of any connection inequality may have with civil war. Future studies might pursue these issues using multinomial models of conflict escalation, for example.

Next, we look for a quadratic effect between GINI and repression by squaring the GINI. This effect is mostly linear but with decreasing effect at the highest levels of inequality (see plot in Appendix figure 1). The quadratic effects are very similar when using the measures of ethnic discrimination and exclusion. However, the opposite is true when using education and health equality. The risk of repression reduces with rising education equality, but increases at very high levels in an elongated “hockey stick” shape. Again, this result possibly captures the higher mobilizational capacity at higher levels of educational equality. We leave this for future research to explore.

Next, we drop each of our variables in a step-wise fashion, leaving only per capita income in the model. The GINI’s effect remain statistically not significant in the most basic model when two-way fixed effects are estimated. The basic results reported for the other main independent variables remain the same. Importantly, not estimating country fixed effects that explain many of the unmeasured local-level factors is likely to generate biased results due to omitted variables (Wilson & Butler, 2007). Thus, the results of previous studies that report a strong effect of income inequality on political repression are likely to be biased.

#### **Conclusion**

There is a lively debate on the question of whether inequality matters for predicting internal violence. Indeed, several models of civil war suggest that opportunities to rebel rather than grievances are what matter. We use indicators of state repression of physical integrity rights to measure one-sided violence by a state against its citizens to test propositions about inequality and violence. We find that inequalities do indeed promote the dissent-repression nexus within states. However, there is little evidence to suggest that this is because



grievances matter. The evidence that discriminated ethnic groups are likely to dissent and thereby be repressed by states is has the weakest support in terms of substantive effects. Moreover, repression of dissent in non-democracies are lower than among democracies in the presence of horizontal inequality, which suggest that opportunity to rebel may matter more than pure grievances. Since the conditions that cause grievances are ubiquitous, whether in terms of economic inequalities or political discrimination, and since the world is “not on fire,” many argue that it might be prudent to assume grievances everywhere and assess factors that allow the organization of violence (Collier et al., 2009). Latin America, a region with much vertical and horizontal inequalities has recently seen the greatest sustained drop in the risk of civil war. Since there are very high costs associated with “sedition,” most people will freeride when it comes to collective action required for bringing about a public good, such as justice for all, or even justice for a group.

Our results, while suggesting that inequality and equity matter for one-sided violence, show very slight effects substantively. There is quite a bit of evidence suggesting that equity in terms of access might be more important than simply income inequality for predicting the dissent-repression nexus. As Aristotle’s quotation above suggests, elites, whether class-based or group-based, are the most likely to be conflict initiating. Understanding the opportunity costs of elites rather than non-elites is likely to be important for understanding how mass organizations can sustain dissent against state forces. The mass of poor around the world, for most of the time, suffer many indignities in silence. Again, as Aristotle noted (Ebenstein and Ebenstein 1992: 85):

The equalization of property is *one* of the things that tend to prevent the citizens from quarrelling. *Not that the gain in this direction is very great* (italics added).

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## Appendix

Appendix Table 1. Correlation matrix of independent variables

		1	2	3	4	5	6	7
1	<b>GINI (WIID)</b>	1						
2	<b>Power distributed equally by class</b>	-0.3003	1					
3	<b>Power distributed equally by group</b>	-0.2692	0.57	1				
4	<b>Education equality</b>	-0.3155	0.5472	0.5988	1			
5	<b>Health equality</b>	-0.2977	0.5464	0.5603	0.9176	1		
6	<b>Exclusion of discriminated groups</b>	-0.0287	0.0011	-0.2714	-0.1756	-0.1562	1	
7	<b>% Size of largest discriminated group</b>	-0.0013	-0.0381	-0.3026	-0.1852	-0.1508	0.9173	1



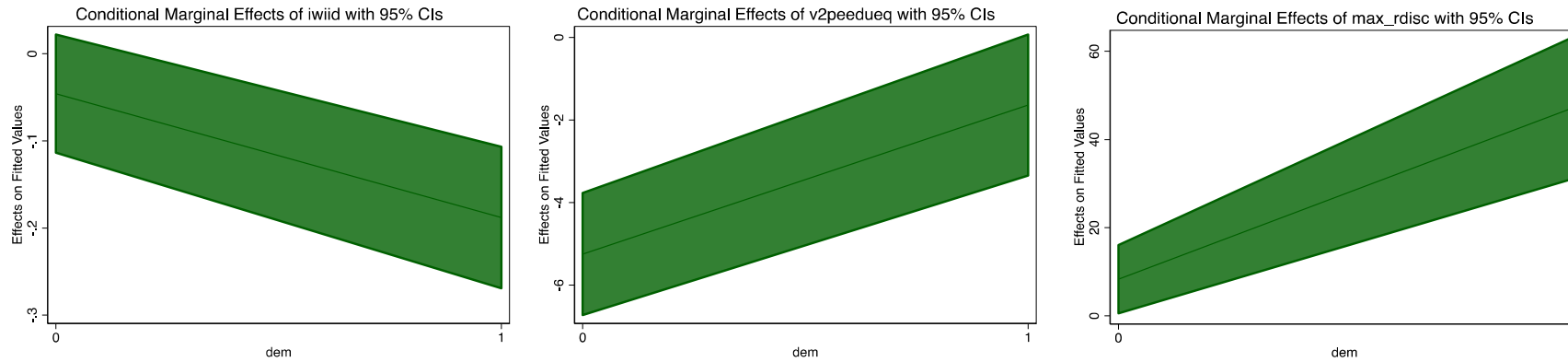
**Appendix Table 2. Summary statistics**

Variable	Obs	Mean	Std. Dev.	Min	Max
Political Terror Scale (PTS)	4,478	2.686914	1.09204	1	5
Political Terror (VDEM)	4,409	-59.24468	30.08288	-98.93019	-2.602397
GINI (WIID)	4,478	43.50158	14.44922	15	79
power distributed by class	4,409	0.3988071	1.015718	-2.803946	3.043136
power distributed by group	4,409	0.5456291	1.188276	-2.638704	3.455256
Education equality	4,409	0.3953254	1.378053	-2.95619	3.562428
Health equality	4,409	0.5212045	1.437277	-3.160201	3.991029
Political exclusion discriminated groups	3,192	0.0345164	0.1526763	0	0.987974
% size of discriminated group	3,192	0.0533645	0.1408867	0	0.98
Income per capita (log)	4,475	8.054129	1.526066	4.751814	11.40903
Population size (log)	4,477	16.26006	1.529893	12.50641	21.03897
Democracy	4,473	0.3782696	0.4850096	0	1
Autocracy	4,473	0.2325061	0.4224772	0	1
Oil & gas producer dummy	4,334	0.5742963	0.4945063	0	1
Civil war ongoing	4,478	0.2050022	0.4037483	0	1
Years of peace since last war	4,478	20.60071	19.71277	0	69

**Appendix Table 3. Marginal effects of the conditional effects between inequality and strong democracy**

<b>Marginal effects</b>		<b>coeff</b>	<b>se</b>	<b>z</b>	<b>P&gt; z </b>
GINI x democracy	democracy = 0	-0.0457057	0.0346406	-1.32	0.187
	democracy = 1	-0.1879174	0.0413904	-4.54	0.0001
Education Equality x democracy	democracy = 0	-5.25	0.7559265	-6.94	0.0001
	democracy = 1	-1.639831	0.8719666	-1.88	0.06
Size of discriminated group x democracy	democracy = 0	8.289411	3.960476	2.09	0.036
	democracy = 1	46.96686	8.174202	5.75	0.0001

**Appendix Figures 1-3. Margins plots of the conditional effects of GINI, Education Equality & Discrimination of ethnic groups & democracy on Political Terror**



**Appendix Figure 4. Quadratic shape of the effect of the GINI on political terror**

