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## Inequality, income, and democracy in perspective: Insights from novel data analysis

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# Inequality, income, and democracy in perspective

Insights from novel data analysis

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**Abstract:** The relationship between economic development, inequality, and democratization has long been debated in the literature. Yet empirical analyses of this interplay have been limited and have yielded overall mixed and inconsistent results. This paper seeks to address this gap by examining the impact of income inequality on democracy, focusing particularly on the influential theory proposed by Acemoglu and Robinson, which predicts an inverted U-shaped relationship between inequality and democracy. Combining democracy indicators from the V-Dem Project with inequality data from the World Income Inequality Dataset, our empirical findings indicate no discernible net effect of inequality on democracy and no support for the predicted inverted U-shaped relationship. Our results are robust across different identification strategies, outcome variable choices, and subsample analyses. We present this analysis not as decisive evidence against the theory, but rather as an indication that it requires more rigorous empirical scrutiny to justify its continued prominence in the literature.

**Key words:** democracy, inequality, income

**JEL classification:** D72, P00, D63

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# 1 Introduction

In a seminal article, Lipset (1959) termed economic development a ‘social requisite’ to democracy, with wealthier nations more likely to sustain democratic institutions. Lipset’s law, as it came to be known, posits a significant positive relationship between income and democracy. While modernization theorists like Lipset emphasized the role of development in driving structural transformations that make it more likely for democracies to ‘emerge’, a significant challenge in the next generation of work has been related to the causal linkages between these factors. Przeworski (2000), for example, argued that the relationship between income and democracy was not due to democracy being more likely to emerge in developed countries, but rather to its ability to ‘survive’. Subsequent research has questioned this correlation, suggesting that the link between income and democracy is, in fact, spurious. For instance, Acemoglu et al. (2008) highlight how historical critical junctures shape political and economic development paths. By controlling for factors that simultaneously affect income and democracy in a new analysis of cross-country data, they found that removing these factors eliminates the statistical association between the two.

In this paper, we focus on a second key argument, emphasizing the role of inequality—alongside or instead of income—in shaping democracy (Acemoglu and Robinson 2006; Ansell and Samuels 2014, 2010; Boix 2003; Haggard and Kaufman 2012; Houle 2009; Savoia et al. 2010; Scheve and Stasavage 2017). The literature on inequality and democracy suggests that inequality often undermines democratization and democratic stability, as elites resist democracy to avoid redistribution (Acemoglu and Robinson 2006; Boix 2003). While Boix (2003) suggests that democratization is more likely at lower levels of inequality, Acemoglu and Robinson (2006) propose an inverted U-shaped relationship where transitions occur at moderate inequality levels. However, empirical support for this theory is sparse and mixed, with some studies finding weak or no non-linear effects (Ansell and Samuels 2014; Houle 2009) and others providing limited evidence in specific contexts (Burkhart 1997; Freeman and Quinn 2012).

In this paper we contribute to the discussion on the relationship<sup>1</sup> between economic inequality and democratization. Our contribution to the literature is twofold. First, we provide a brief review of the literature on the major theoretical predictions about the impact of inequality on democracy, along with the supporting empirical evidence from cross-country studies.<sup>2</sup> Our review highlights that theories in this area offer diverse and often conflicting predictions, yet existing empirical work provides insufficient evidence to determine which predictions are most

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<sup>1</sup> Throughout this paper, ‘relationship’ refers to the direct effect of inequality on democracy. For a review of the inverse relationship, see Sirowy and Inkeles (1990) and Acemoglu et al. (2015).

<sup>2</sup> Ferreira et al. (2022) offer an analogous review of the broader literature on the impact of inequality, with a specific focus on its effects on democratic governance. Savoia et al. (2010) and Pengl (2013) provide a useful review of the earlier body of literature.

consistently supported by the data. A notable gap in the literature is the lack of cross-country empirical analysis of Acemoglu and Robinson's (2006) influential argument.

Our second and primary contribution is to address the gap identified above by conducting a straightforward empirical test of the plausibility of Acemoglu and Robinson's (2006) core predictions. To accomplish this, we leverage two highly regarded and comprehensive datasets: the Varieties of Democracy (V-Dem) for democracy indicators and the World Income Inequality Database (WIID) for income inequality data. The resulting dataset is highly robust, encompassing a panel of 167 countries and covering the period from the 1950s to 2020. Our findings show no clear empirical patterns consistent with Acemoglu and Robinson's core predictions. Specifically, our analysis does not support the inverted U-shaped relationship between inequality and democracy. Moreover, our results are highly robust across different identification strategies, outcome variable choices, and subsample analyses. We present this analysis not as decisive evidence against the theory, but rather as an indication that the theory requires more rigorous empirical scrutiny to justify its continued prominence in the literature.

## **2 Core theoretical predictions and empirical support**

The literature on the relationship between economic inequality and democracy suggests that inequality undermines democracy, eroding both the process of democratization and the stability of democratic systems. In his influential work, Boix (2003) argues that economic inequality negatively affects democratization due to the redistribution concerns of elites. Boix's (2003) theoretical framework focuses on the interplay between inequality, elite incentives, and democratization, emphasizing that elite decision-making—shaped by the relative costs of repression versus redistribution—drives the process of democratization.<sup>3</sup> When inequality is low, the costs of redistribution are also low, making it less costly for elites to support democratic transitions than to maintain authoritarian rule through repression. In such cases, elites are more likely to accept democratization. However, when inequality is high, elites fear the potential losses from redistribution and are thus inclined to resist democratic reforms, clinging to authoritarian rule. Boix (2003) and Boix and Stokes (2003) provide empirical support for a negative relationship between inequality and both democratization and democratic stability. In contrast, earlier empirical work by Barro (1999), Bollen and Jackman (1985, 1995), and Przeworski (2000) found mixed and inconsistent results, while Dorsch and Maarek (2020) argue that macroeconomic conditions, particularly economic downturns, play a crucial role in shaping the link between inequality and democratic outcomes. Overall, this body of work offers at best mixed empirical support for a linear relationship between inequality and democracy.

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<sup>3</sup> Boix's (2003) model identifies economic inequality, capital mobility, and the balance of power within society as the three key factors influencing the emergence of democracy.

Similarly to Boix (2003), the canonical work of Acemoglu and Robinson (2006) argues that democratization results from elite–citizen conflict, with inequality inhibiting democracy by increasing elites’ incentives to oppose it. However, the authors propose a non-linear relationship between inequality and democracy. Like Boix (2003), Acemoglu and Robinson (2006) argue that under conditions of inequality, elites resist democratization due to fears of redistribution, opting instead for repression. When inequality between different groups is high, citizens are more likely to seek a revolution in an effort to secure a larger share of economic resources, which can, in turn, increase the likelihood of democratization. However, elites, who stand to lose power and face higher tax burdens, are generally opposed to democratic reforms and use repression to maintain their dominance. In societies characterized by high levels of inequality, while citizens may attempt to challenge the system, they often encounter significant resistance from elites, who work to preserve the existing social and political order. However, in contrast to Boix (2003), Acemoglu and Robinson (2006) argue that democratization is also unlikely in the presence of low inequality, as it leads to minimal demand for economic redistribution. The authors’ theoretical predictions indicate a non-linear, inverted U-shaped relationship between inequality and democracy, suggesting that transitions to democratic rule are more likely at intermediate levels of inequality.

Although Acemoglu and Robinson’s (2006) model is theoretically robust, it lacks empirical validation, offering only illustrative case studies. Empirical evidence testing the non-linear relationship between inequality and democracy, as proposed by the authors, remains sparse. Houle (2009) is one of the few studies to address this, using a binary indicator of democracy to investigate the effects of the non-linear relationship, while employing the capital share of value added in the industrial sector as a proxy for inequality. The author finds no evidence supporting Acemoglu and Robinson’s (2006) inverted U-shaped relationship, instead suggesting a weakly U-shaped pattern. Other contributions to this debate present mixed results. Ansell and Samuels (2014), focusing on land inequality, argue for a monotonically positive relationship between inequality and democratization, finding no quadratic effects. In contrast, Freeman and Quinn (2012) identify an inverted U-shaped relationship, but only in financially closed autocracies. Lastly, it is worth noting the earlier work of Burkhart (1997), which, predating Acemoglu and Robinson (2006), found evidence of an inverted U-shaped relationship between inequality and levels of democracy. The author uses Freedom House scores as the democratic variable, analysing data from 56 countries between 1976 and 1988. However, the study’s data limitations—particularly the under-representation of countries from the Global South—limit the generalizability of its findings.

While existing studies have made important strides, empirical research on the non-linear relationship between inequality and democracy remains sparse and often context-dependent. This paper aims to address this gap by empirically testing Acemoglu and Robinson’s (2006)

core prediction, leveraging a comprehensive and robust dataset to shed light on the non-linear relationship between inequality and democracy.

### 3 Data

To test our hypotheses on the relationship between democracy and inequality, we focus on democracy variables derived from the V-Dem dataset (Coppedge et al. 2024). While there is a significant body of literature on the conceptualization and measurement of democracy (Elkins 2000; Geissel et al. 2016; Munck and Verkuilen 2002), in this paper we employ a minimal conceptualization consistent with Acemoglu and Robinson's (2006) usage, building on Schumpeter's (1976: 250) definition of democracy as 'the institutional arrangement for arriving at political decisions in which individuals acquire the power to decide by means of a competitive struggle for the people's vote'. Reflecting this conceptualization, we use V-Dem's 'electoral democracy index' (Coppedge et al. 2024; Teorell et al. 2019) as our primary measure. The index ranges from 0 (not at all democratic) to 1 (fully democratic), and is an aggregation of five sub-components: (1) the extent to which the chief executive and legislature are selected through popular elections; (2) the integrity of those elections; (3) the proportion of adult citizens eligible to vote; (4) freedom of association; and (5) freedom of expression.<sup>4</sup> The V-Dem dataset is a panel covering 173 countries from 1900 to 2020, with one observation per country per year.

In addition, as part of our robustness tests, we examine three alternative measures of democracy: (1) an ordinal V-Dem variable that captures political regime types (Lührmann et al. 2018), ranging from 0 (closed autocracy) to 3 (liberal democracy); (2) a continuous variable representing the level of democracy based on Freedom House and Polity scores (Hadenius and Teorell 2007; Teorell et al. 2024; Teorell and Wahman 2018; Wahman et al. 2013); and (3) a binary democracy dummy derived from the Boix–Miller–Rosato dichotomous coding of democracy (Boix et al. 2013, 2022; Teorell et al. 2024).

To capture our primary explanatory variable, income inequality, we rely on UNU-WIDER's WIID (UNU-WIDER 2023). Widely regarded as a reliable source for cross-country income inequality comparisons, the WIID data addresses common measurement difficulties—stemming from inconsistent data collection across time and countries—by providing a robust framework for analysis over the longest periods during which reliable data is available.<sup>5</sup> In particular, we use

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<sup>4</sup> The indices are based on V-Dem expert-coded indicators, with at least five experts per country–year providing assessments in their area of expertise. A customized Bayesian ordinal item response model aggregates these responses into a single indicator–country–year observation, weighting each coder by a reliability parameter based on their agreement with other coders.

<sup>5</sup> See Jenkins (2015) for an analysis of an earlier version of the WIID.

the Gini coefficient from the WIID Companion database (UNU-WIDER 2023), which provides a standardized measure of inequality applicable consistently across countries and throughout time. This database includes repeated cross-country data on Gini coefficients for 174 countries, covering the period from 1940 to 2021. The Gini coefficient ranges from 0 to 1, where 0 indicates perfect equality and 1 indicates perfect inequality. Additionally, we include the logarithm of GDP per capita from the V-Dem dataset, drawing on data from Fariss et al. (2021), as an explanatory variable.

Lastly, to test the robustness of our specification, and drawing on Houle (2009), we rely on several control variables, including GDP growth (Coppedge et al. 2024; Fariss et al. 2021); oil exports defined as the net oil exports value per capita measured in constant 2000 dollars (Ross and Mahdavi 2015; Teorell et al. 2024); urbanization defined as the percentage of the rural population relative to the total population (Teorell et al. 2024; World Bank 2023); education defined as the average years of education among citizens older than 15 (Coppedge et al. 2024); religious population, which comprises three separate variables for Catholics, Muslims, and Protestants as a percentage of the total population in 1980 (Dahlberg et al. 2015; La Porta et al. 1999); ethnic fractionalization in 2000 (Alesina et al. 2003; Teorell et al. 2024); religious fractionalization in 2000 (Alesina et al. 2003; Teorell et al. 2024); British colonial history, a dummy variable indicating whether a country has been under British colonial rule (Teorell et al. 2024; Wahman et al. 2013); and regime duration defined as the number of years since the most recent regime change (Marshall and Gurr 2020; Teorell et al. 2024).

Throughout our analysis, we aggregate observations into five-year average panels for each country, defining each country-panel as the unit of observation. Several considerations motivate our focus on five-year panels rather than annual observations. First, it is unlikely that changes in inequality have a significant impact on democracy over short periods such as one year. Second, because inequality data is typically measured less frequently than annually, averaging over five years reduces the structural breaks caused by irregular measurement intervals.<sup>6</sup> Additionally, due to missing data for several democratic variables in the earlier years of the time series, our analysis focuses on data from 1950 onward. Summary statistics for the variables in our analysis are provided in Appendix A.

## **4 A simple model of inequality, income, and democracy**

To construct a plausibility probe of Acemoglu and Robinson's (2006) core predictions, we begin with Acemoglu et al. (2008) as a baseline econometric model—that is, following their logarithmic form and employing similar variables. Our specification includes three key measures of

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<sup>6</sup> Additionally, focusing on five-year panels aligns more closely with the base specification used by Acemoglu et al. (2008).



income inequality in order to assess the interaction effects between past inequality and democracy, as well as the potential non-linear impact of inequality. The first is the Gini coefficient, the most commonly used measure of inequality in cross-country analyses. Second, we include the Gini coefficient squared to capture the quadratic relationship posited by Acemoglu et al. (2008). Finally, we also include the absolute Gini coefficient, calculated by multiplying the Gini coefficient by GDP per capita, thereby capturing an absolute measure of inequality. In addition to offering an alternative conceptualization of inequality beyond the standard Gini, the absolute Gini also allows for the inclusion of an interaction term between income and inequality. Our specification is as follows:

$$\begin{aligned}
Democracy_{c,t} = & \alpha + \beta_1 Democracy_{c,t-1} + \beta_2 Inequality_{c,t-1} \\
& + \beta_3 (Inequality_{c,t-1} Inequality_{c,t-1}) \\
& + \beta_4 GDP_{c,t-1} + \beta_5 (GDP_{c,t-1} Inequality_{c,t-1}) \\
& + \gamma_1 C_i + \gamma_1 T_t + i_{i,t}
\end{aligned} \tag{1}$$

where our dependent variable,  $Democracy_{c,t}$ , refers to a measure of democracy in country  $c$  at year  $t$ .

On the right-hand side of the equation, we include the lagged outcome variable ( $Democracy_{c,t-1}$ ) to capture the persistence and mean-reverting dynamics of democratic systems. Our main explanatory variable of interest,  $Inequality_{c,t-1}$ , refers to the Gini coefficient, while  $GDP_{c,t-1}$  refers to GDP per capita. All explanatory variables are lagged by one period to avoid feedback effects. The use of panel data regressions allows us to address the significant challenge of cross-sectional analysis highlighted by Acemoglu et al. (2008): that countries may ‘embark on divergent political and economic development paths, some leading to relative prosperity and democracy, others to relative poverty and dictatorship’ (p. 812). Thus, country-specific, time-invariant factors should be taken into account. To address this, we employ country fixed effects ( $C_i$ ) to reduce omitted variable bias, alongside time fixed effects ( $T_t$ ) to control for temporal shocks.

Additionally, we expand Equation 1 by including a set of country-specific control variables, including GDP growth, oil exports, urbanization rate, average years of education, religious population, ethnic fractionalization, religious fractionalization, British colonial history, and regime duration. All regressions are estimated using OLS, and standard errors are clustered by country.

## 5 Results

### 5.1 Main results

Table 1 presents our core results based on Equation 1. The independent variable of interest is the ‘electoral democracy index’, with the level of observation structured as a five-year panel, as described in Section 3. All specifications include the lagged democracy variable and lagged log income per capita. Our main explanatory variables are the lagged Gini coefficient and its squared term. In columns 1 and 4 we present our baseline and preferred specifications, which include country and year fixed effects. In columns 2 and 5 we incorporate time-variant controls, while in columns 3 and 6 we introduce time-invariant controls, replacing the country fixed effects with region fixed effects. Note that, due to data availability, the sample size is smaller in specifications that include controls, both in terms of the time period covered and the number of countries included. In columns 4–6 we incorporate the absolute Gini coefficient into the specification, measured through the interaction term of lagged GDP and Gini. Looking at the table, consistent with the literature, the strongest predictor of democracy is previous democracy. The lagged democracy index is positive and statistically significant at the 1 per cent level, highlighting the persistence of democracy over time.

**Table 1: Core results**

Electoral democracy index: V-Dem	(1)	(2)	(3)	(4)	(5)	(6)
L.Democracy	0.679*** (0.037)	0.423*** (0.058)	0.815*** (0.038)	0.680*** (0.037)	0.427*** (0.057)	0.807*** (0.040)
L.GDP	0.004 (0.018)	−0.003 (0.031)	0.012 (0.010)	0.038 (0.038)	0.046 (0.041)	0.063** (0.031)
L.Gini	−0.009 (0.352)	0.224 (0.599)	−0.574 (0.420)	0.062 (0.353)	0.309 (0.616)	−0.434 (0.410)
L.Gini*L.Gini	0.071 (0.362)	−0.135 (0.615)	0.601 (0.437)	−0.164 (0.426)	−0.462 (0.748)	0.310 (0.447)
L.GDP*L.Gini				−0.085 (0.075)	−0.124 (0.104)	−0.108* (0.058)
Observations	1,096	519	528	1,096	519	528
Countries	167	116	125	167	116	125
R <sup>2</sup>	0.922	0.946	0.890	0.922	0.946	0.891
FE	Cntry/year	Cntry/year	Region/year	Cntry/year	Cntry/year	Region/year
Controls	No	Yes	Yes	No	Yes	Yes
Period	1955–2020	1980–2010	1980–2010	1955–2020	1980–2010	1980–2010

Notes: all regressions are OLS. Column 2 and 5 includes time-variant controls, including GDP growth, average years of education, the urbanization rate, oil exports, and regime duration. Controls in column 3 and 6 include GDP growth, oil exports, the urbanization rate, average years of education, religious population, ethnic fractionalization, religious fractionalization, British colonial history, and regime duration. Asterisks indicate significance levels \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .

Source: authors’ estimations.

We now turn to our main explanatory variable of interest: inequality. According to the predictions of Acemoglu and Robinson (2006), the relationship between inequality and democracy is expected to follow an inverted U-shape, with a positive coefficient for income inequality and

a negative coefficient for its quadratic term. However, in our preferred specification (column 1), none of the inequality measures are statistically significant at conventional levels, and the coefficient signs instead suggest a U-shaped non-linear relationship, as proposed by Houle (2009). Furthermore, the coefficients are consistently small in magnitude, reflecting a negligible association. Columns 2 and 3 confirm these null results. In the specification for column 2, which includes controls, the coefficients show the expected signs consistent with an inverted U-shaped relationship but remain not statistically significant. This inverted U-shape disappears entirely with the addition of time-invariant controls and region fixed effects. Similarly, no significant association is found for the absolute Gini measure in columns 4–6. The only exception occurs when switching from country to region fixed effects and including control variables, where the coefficient becomes negative and marginally significant at the 10 per cent level. However, cross-country regressions without country fixed effects are likely confounded by factors correlated with both democracy and inequality, so this result should be treated with caution. Overall, our results show no statistically significant relationship between the Gini coefficient and democracy in any specification.

To test the robustness of our findings, we conduct several additional tests, with results presented in the appendices. Notably, the relationship between inequality and democracy may have changed after the Cold War, as the spread of democracy and globalization reshaped economic and political systems. To investigate this, we restrict our analysis to the post-Cold War period in Table B1. Consistent with our main results, we find no evidence of a relationship between inequality and democracy. While the coefficients suggest a U-shaped relationship, none are significant at conventional levels, except in the case without country fixed effects, which suffers from the limitations discussed above.

Next, we test the robustness of our main outcome variable by using alternative measurements of democracy. In Table C1, democracy is measured using Freedom House and Polity scores. Note that, due to data limitations, this outcome variable is only available from 1975 to 2010. Consistent with our main analysis, we find no statistically significant coefficients for the Gini or squared Gini measures. Interestingly, however, the absolute Gini now has a negative effect and is statistically significant at the 5 and 10 per cent levels, depending on the specification. In Tables C2 and C3, we shift from measuring democracy levels to using categorical regime variables. In Table C2, we apply an ordinal variable ranging from 0 (representing a closed autocracy) to 3 (representing a liberal democracy). In Table C3, we utilize the Boix–Miller–Rosato binary coding of democracy. Our results show no consistently statistically significant relationship between inequality and democracy across these alternative regime classifications.

Taken together, our findings indicate that the inverted U-shaped relationship between inequality and democracy, as proposed by Acemoglu and Robinson (2006), is not supported by our

analysis. Despite exploring various model specifications, we find no compelling empirical evidence to confirm these theoretical predictions.

## 5.2 Main results by region

Our empirical results so far do not support the existence of an inverted U-shaped relationship between inequality and democracy. However, it is possible that inequality impacts democracy differently across regions, potentially influenced by factors such as economic development, political institutions, historical factors, or social norms. For instance, in economically advanced regions or regions with stronger institutions, inequality may have a less destabilizing effect on democracy. In contrast, in areas with weaker institutions or greater political unrest, inequality may deepen dissatisfaction and undermine political stability. Against this backdrop, in this section we disaggregate our main results by geopolitical regions,<sup>7</sup> employing Equation 1. In what follows, we focus on the results of our preferred specifications, which include country and year fixed effects. Results for specifications with additional controls and alternative levels of fixed effects are provided in Appendix D. In Table 2 we present the results for ‘Western Europe and North America’, ‘Eastern Europe and Central Asia’, and ‘Asia and Pacific’. Results for ‘Sub-Saharan Africa’, ‘The Middle East and North Africa’, and ‘Latin America and the Caribbean’ are reported in Table 3.

In the odd-numbered columns of Tables 2 and 3, and consistent with the findings from the previous section, none of the coefficients for Gini or Gini squared are statistically significant in any of the geopolitical regions analysed. This suggests that there is no evidence supporting a non-linear U-shaped relationship between inequality and democracy across these regions. The even-numbered columns examine the effect of absolute Gini, measured by the interaction between GDP and the Gini coefficient. Here, too, we generally do not observe a statistically significant relationship between absolute Gini and electoral democracy. The sole exception is the coefficient for the ‘Eastern Europe and Central Asia’ region, which is positive and statistically significant at conventional levels. However, this result is not robust across different estimation strategies, as documented in Appendix D. In summary, our region-specific analysis does not provide evidence for an inverted U-shaped relationship between inequality and democracy.

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<sup>7</sup> Geopolitical regions are defined according to the V-Dem classification.

**Table 2: Region-specific results: 'Western Europe and North America', 'Eastern Europe and Central Asia', and 'Asia and Pacific'**

	Western Europe and North America		Eastern Europe and Central Asia		Asia and Pacific	
Electoral democracy index: V-Dem	(1)	(2)	(3)	(4)	(5)	(6)
L.Democracy	0.482** (0.183)	0.480** (0.180)	0.400*** (0.113)	0.359*** (0.102)	0.769*** (0.045)	0.745*** (0.046)
L.GDP	0.084 (0.054)	0.072 (0.080)	0.071 (0.060)	−0.159 (0.110)	0.066*** (0.023)	0.126** (0.054)
L.Gini	0.395 (0.810)	0.410 (0.841)	−0.106 (0.791)	0.438 (0.598)	−0.174 (0.962)	−0.212 (0.993)
L.Gini*L.Gini	−0.447 (1.460)	−0.463 (1.497)	0.443 (1.211)	0.695 (0.930)	−0.233 (1.163)	−0.585 (1.215)
L.GDP*L.Gini		0.038 (0.122)		0.706** (0.266)		−0.180 (0.143)
Observations	214	214	166	166	194	194
Countries	24	24	29	29	25	25
R <sup>2</sup>	0.813	0.813	0.951	0.954	0.910	0.912
FE	Cntry/year	Cntry/year	Cntry/year	Cntry/year	Cntry/year	Cntry/year
Controls	No	No	No	No	No	No
Period	1960–2020	1960–2020	1965–2020	1965–2020	1955–2020	1955–2020

Notes: all regressions are OLS. Asterisks indicate significance levels \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .  
Source: authors' estimations.

**Table 3: Region-specific results: 'Sub-Saharan Africa', 'Middle East and North Africa', and 'Latin America and the Caribbean'**

	Sub-Saharan Africa		Middle East and North Africa		Latin America and the Caribbean	
Electoral democracy index: V-Dem	(1)	(2)	(3)	(4)	(5)	(6)
L.Democracy	0.602*** (0.076)	0.613*** (0.078)	0.695*** (0.061)	0.694*** (0.060)	0.561*** (0.080)	0.561*** (0.079)
L.GDP	−0.062* (0.034)	0.037 (0.068)	−0.059 (0.046)	−0.101 (0.138)	0.119* (0.062)	0.039 (0.197)
L.Gini	0.229 (1.110)	0.396 (0.935)	0.355 (2.076)	0.164 (2.435)	0.399 (1.702)	0.302 (1.625)
L.Gini*L.Gini	−0.310 (0.958)	−0.801 (0.858)	−1.000 (2.626)	−0.658 (3.253)	0.217 (1.750)	0.556 (1.766)
L.GDP*L.Gini		−0.176 (0.107)		0.087 (0.232)		0.161 (0.416)
Observations	235	235	92	92	193	193
Countries	46	46	18	18	25	25
R <sup>2</sup>	0.915	0.916	0.922	0.922	0.864	0.865
FE	Cntry/year	Cntry/year	Cntry/year	Cntry/year	Cntry/year	Cntry/year
Controls	No	No	No	No	No	no
Period	1960–2020	1960–2020	1960–2020	1960–2020	1955–2020	1955–2020

Notes: all regressions are OLS. Asterisks indicate significance levels \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .  
Source: authors' estimations.

## 6 Conclusion

The relationship between inequality and democratization has long been debated in the literature, with inequality frequently identified as a key driver of democratic development. Despite its theoretical prominence, empirical testing of this relationship has been limited and has yielded

overall mixed and inconsistent results. This paper seeks to address this gap by examining the impact of income inequality on democracy, focusing particularly on the theoretical predictions proposed by Acemoglu and Robinson (2006). In their influential work, the authors propose an inverted U-shaped relationship between inequality and democracy, suggesting that moderate levels of inequality foster democratization, while both low and high levels hinder it.

To test this hypothesis, we utilize a comprehensive panel dataset spanning multiple decades and countries. Our analysis combines democracy indicators from the V-Dem Project with inequality data from the WIID, addressing many of the limitations inherent in traditional Gini index datasets. Our empirical findings provide no support for the predicted inverted U-shaped relationship between inequality and democracy. Across several robustness tests—including various model specifications, alternative measures of democratic outcomes, and regional subsample analyses—the association remains weak and not statistically significant. In summary, we find no discernible net effect of inequality on democracy. While these results challenge the central hypothesis of Acemoglu and Robinson, they do not conclusively rule out the possibility of a relationship. Rather, the lack of empirical support highlights the need for further empirical research and a deeper understanding of the complex dynamics between inequality and democratization. Future research could benefit from exploring more granular measures of inequality and democracy, where data permits, as well as examining different dynamics of democratization, including consolidation and backsliding.

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## Appendix A: Summary statistics

**Table A1: Summary statistics**

	Mean	SD	Min.	Max.	<i>N</i>
Electoral democracy index	0.39	0.29	0	1	2,545
Gini	0.43	0.11	0	1	1,186
GDP	−1.40	1.19	−4	3	2,299
GDP growth	0.01	0.05	−0	0	2,295
Oil exports	231.79	1,667.79	−5,883	16,777	994
Urbanization	49.56	24.48	0	98	1,982
Education	5.96	3.51	0	13	1,897
Catholics <sub>1980</sub>	31.03	35.82	0	97	2,472
Muslims <sub>1980</sub>	24.44	36.28	0	100	2,472
Protestants <sub>1980</sub>	12.06	20.56	0	98	2,449
Ethnic frac. <sub>2000</sub>	0.45	0.26	0	1	2,412
Religious frac. <sub>2000</sub>	0.42	0.24	0	1	2,435
British colony	0.25	0.44	0	1	2,234
Regime duration	21.25	26.69	0	168	1,981

Source: authors' compilation.

## Appendix B: Robustness: post-Cold War

**Table B1: Core results: post-Cold War**

Democracy index: V-Dem	(1)	(2)	(3)	(4)	(5)	(6)
L.Democracy	0.438*** (0.055)	0.275*** (0.069)	0.822*** (0.044)	0.441*** (0.056)	0.275*** (0.069)	0.816*** (0.045)
L.GDP	0.004 (0.023)	−0.021 (0.031)	0.017 (0.011)	0.043 (0.046)	−0.025 (0.048)	0.055* (0.031)
L.Gini	−0.570 (0.383)	−0.652 (0.451)	−0.889* (0.507)	−0.455 (0.432)	−0.660 (0.479)	−0.766 (0.511)
L.Gini*L.Gini	0.482 (0.399)	0.660 (0.507)	0.931* (0.507)	0.188 (0.544)	0.688 (0.649)	0.696 (0.532)
L.GDP*L.Gini				−0.095 (0.096)	0.010 (0.104)	−0.080 (0.056)
Observations	839	459	468	839	459	468
Countries	166	116	125	166	116	125
R <sup>2</sup>	0.944	0.960	0.894	0.944	0.960	0.895
FE	Cntry/year	Cntry/year	Region/year	Cntry/year	Cntry/year	Region/decade
Controls	No	Yes	Yes	No	Yes	Yes
Period	1990–2020	1990–2010	1990–2010	1990–2020	1990–2010	1990–2010

Notes: all regressions are OLS. Controls in columns 3 and 6 include GDP growth, oil exports, the urbanization rate, average years of education, religious population, ethnic fractionalization, religious fractionalization, British colonial history, and regime duration (following Houle's (2009) specification). Columns 2 and 5 include time-variant controls, including GDP growth, average years of education, the urbanization rate, oil exports, and regime duration. Asterisks indicate significance levels \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .

Source: authors' estimations.

## Appendix C: Robustness: outcome variable

**Table C1: Core results: alternative democracy measures**

Democracy level: Freedom House/Imputed Polity	(1)	(2)	(3)	(4)	(5)	(6)
L.Democracy	0.575*** (0.046)	0.430*** (0.053)	0.821*** (0.035)	0.573*** (0.045)	0.434*** (0.051)	0.811*** (0.036)
L.GDP	-0.553* (0.309)	-0.438 (0.451)	-0.032 (0.120)	0.560 (0.736)	1.004* (0.567)	0.728* (0.421)
L.Gini	1.662 (5.740)	3.347 (6.549)	-3.028 (4.580)	3.714 (5.709)	5.660 (6.101)	-1.030 (4.784)
L.Gini*L.Gini	2.119 (6.070)	-1.608 (7.223)	3.367 (4.967)	-5.151 (7.444)	-11.112 (7.535)	-0.822 (5.563)
L.GDP*L.Gini				-2.705* (1.485)	-3.622** (1.410)	-1.590* (0.854)
Observations	680	517	526	680	517	526
Countries	145	116	125	145	116	125
R <sup>2</sup>	0.919	0.939	0.878	0.920	0.941	0.880
FE	Cntry/year	Cntry/year	Region/year	Cntry/year	Cntry/year	Region/year
Controls	No	Yes	Yes	No	Yes	yes
Period	1975–2010	1980–2010	1980–2010	1975–2010	1980–2010	1980–2010

Notes: all regressions are OLS. Columns 2 and 5 include time-variant controls, including GDP growth, average years of education, the urbanization rate, oil exports, and regime duration. Controls in columns 3 and 6 include GDP growth, oil exports, the urbanization rate, average years of education, religious population, ethnic fractionalization, religious fractionalization, British colonial history, and regime duration. Asterisks indicate significance levels \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .

Source: authors' estimations.

**Table C2: Core results: alternative democracy measures**

Regimes (0/3): V-Dem	(1)	(2)	(3)	(4)	(5)	(6)
L.Democracy	0.611*** (0.036)	0.353*** (0.061)	0.748*** (0.039)	0.609*** (0.036)	0.356*** (0.061)	0.737*** (0.039)
L.GDP	0.067 (0.090)	0.203 (0.147)	0.089 (0.056)	0.264 (0.181)	0.385 (0.233)	0.410*** (0.150)
L.Gini	2.270 (1.543)	4.039 (2.752)	-0.899 (1.908)	2.695* (1.588)	4.360 (2.846)	-0.043 (1.882)
L.Gini*L.Gini	-2.338 (1.595)	-4.049 (2.935)	0.845 (1.973)	-3.724* (1.911)	-5.278 (3.439)	-0.945 (2.061)
L.GDP*L.Gini				-0.498 (0.361)	-0.463 (0.512)	-0.673** (0.270)
Observations	1,096	519	528	1,096	519	528
Countries	167	116	125	167	116	125
R <sup>2</sup>	0.891	0.920	0.849	0.892	0.920	0.851
FE	Cntry/year	Cntry/year	Region/year	Cntry/year	Cntry/year	Region/year
Controls	No	Yes	Yes	No	Yes	Yes
Period	1955–2020	1980–2010	1980–2010	1955–2020	1980–2010	1980–2010

Notes: all regressions are OLS. Columns 2 and 5 include time-variant controls, including GDP growth, average years of education, the urbanization rate, oil exports, and regime duration. Controls in columns 3 and 6 include GDP growth, oil exports, the urbanization rate, average years of education, religious population, ethnic fractionalization, religious fractionalization, British colonial history, and regime duration. Asterisks indicate significance levels \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .

Source: authors' estimations.

**Table C3: Core results: alternative democracy measures**

Democracy dummy: Boix et al.	(1)	(2)	(3)	(4)	(5)	(6)
L.Democracy	0.651*** (0.034)	0.486*** (0.051)	0.817*** (0.030)	0.651*** (0.034)	0.490*** (0.050)	0.813*** (0.031)
L.GDP	0.010 (0.039)	-0.118 (0.089)	-0.010 (0.022)	0.017 (0.085)	-0.011 (0.132)	0.058 (0.071)
L.Gini	-0.458 (0.910)	0.136 (1.380)	-1.034 (0.863)	-0.442 (0.921)	0.296 (1.365)	-0.863 (0.873)
L.Gini*L.Gini	0.803 (1.042)	0.222 (1.602)	1.184 (0.935)	0.752 (1.139)	-0.474 (1.795)	0.814 (0.978)
L.GDP*L.Gini				-0.019 (0.173)	-0.269 (0.322)	-0.143 (0.149)
Observations	1,082	517	526	1,082	517	526
Countries	167	116	125	167	116	125
R <sup>2</sup>	0.854	0.876	0.810	0.854	0.876	0.810
FE	Cntry/year	Cntry/year	Region/year	Cntry/year	Cntry/year	Region/year
Controls	No	Yes	Yes	No	Yes	Yes
Period	1955–2020	1980–2010	1980–2010	1955–2020	1980–2010	1980–2010

Notes: all regressions are OLS. Columns 2 and 5 include time-variant controls, including GDP growth, average years of education, the urbanization rate, oil exports, and regime duration. Controls in columns 3 and 6 include GDP growth, oil exports, the urbanization rate, average years of education, religious population, ethnic fractionalization, religious fractionalization, British colonial history, and regime duration. Asterisks indicate significance levels \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .

Source: authors' estimations.

## Appendix D: Robustness: main results by region

**Table D1: Robustness: Western Europe and North America, Eastern Europe and Central Asia**

Electoral democracy index: V-Dem	Western Europe and North America				Eastern Europe and Central Asia			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
L.Democracy	0.644*** (0.073)	0.833*** (0.031)	0.658*** (0.059)	0.828*** (0.033)	0.123 (0.112)	0.866*** (0.104)	0.100 (0.111)	0.866*** (0.106)
L.GDP	0.012 (0.008)	−0.002 (0.007)	0.075** (0.030)	0.044 (0.030)	−0.034 (0.062)	−0.031 (0.046)	−0.195** (0.091)	0.007 (0.137)
L.Gini	−0.206 (0.345)	0.118 (0.305)	−0.358 (0.322)	−0.004 (0.334)	1.009 (0.865)	−1.963 (1.398)	1.841* (0.944)	−1.995 (1.445)
L.Gini*L.Gini	0.472 (0.624)	−0.108 (0.512)	0.693 (0.584)	0.085 (0.559)	−0.637 (1.122)	2.767 (1.838)	−1.070 (0.986)	2.654 (1.958)
L.GDP*L.Gini			−0.188* (0.095)	−0.145 (0.099)			0.464** (0.200)	−0.114 (0.316)
Observations	116	116	116	116	79	79	79	79
Countries	20	20	20	20	19	19	19	19
R <sup>2</sup>	0.957	0.935	0.959	0.937	0.982	0.941	0.984	0.941
FE	Cntry/year	Region/year	Cntry/year	Region/decade	Cntry/year	Region/year	Cntry/year	Region/decade
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Period	1980–2010	1980–2010	1980–2010	1980–2010	1980–2010	1980–2010	1980–2010	1980–2010

Notes: all regressions are OLS. Columns 1, 3, 5, and 7 include time-variant controls, including GDP growth, average years of education, the urbanization rate, oil exports, and regime duration. Controls in columns 2, 4, 6, and 8 include GDP growth, oil exports, the urbanization rate, average years of education, religious population, ethnic fractionalization, religious fractionalization, British colonial history, and regime duration. Asterisks indicate significance levels \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .

Source: authors' estimations.

**Table D2: Robustness: Asia and Pacific, Sub-Saharan Africa**

Electoral democracy index: V-Dem	Asia and Pacific				Sub-Saharan Africa			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
L.Democracy	0.431*** (0.119)	0.857*** (0.072)	0.478** (0.171)	0.880*** (0.097)	0.542*** (0.135)	0.827*** (0.053)	0.548*** (0.134)	0.826*** (0.053)
L.GDP	0.013 (0.063)	−0.084* (0.043)	−0.073 (0.142)	−0.142 (0.139)	−0.003 (0.067)	0.013 (0.016)	0.042 (0.206)	0.056 (0.047)
L.Gini	−2.154 (1.779)	−1.780 (1.515)	−2.213 (1.849)	−2.185 (1.968)	1.282 (1.466)	2.716** (1.125)	1.097 (1.415)	2.631** (1.042)
L.Gini*L.Gini	2.788 (2.346)	2.242 (1.837)	3.312 (2.690)	3.004 (2.892)	−1.167 (1.215)	−2.287** (0.973)	−1.202 (1.235)	−2.379** (0.931)
L.GDP*L.Gini			0.209 (0.265)	0.131 (0.286)			−0.080 (0.322)	−0.084 (0.102)
Observations	73	74	73	74	99	106	99	106
Countries	15	16	15	16	27	34	27	34
R <sup>2</sup>	0.960	0.935	0.960	0.935	0.935	0.877	0.935	0.878
FE	Cntry/year	Region/year	Cntry/year	Region/decade	Cntry/year	Region/year	Cntry/year	Region/decade
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Period	1980–2010	1980–2010	1980–2010	1980–2010	1985–2010	1985–2010	1985–2010	1985–2010

Notes: all regressions are OLS. Columns 1, 3, 5, and 7 include time-variant controls, including GDP growth, average years of education, the urbanization rate, oil exports, and regime duration. Controls in columns 2, 4, 6, and 8 include GDP growth, oil exports, the urbanization rate, average years of education, religious population, ethnic fractionalization, religious fractionalization, British colonial history, and regime duration. Asterisks indicate significance levels \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .

Source: authors' estimations.



**Table D3: Robustness: Middle East and North Africa, Latin America and the Caribbean**

Electoral democracy index: V-Dem	Middle East and North Africa				Latin America and the Caribbean			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
L.Democracy	0.020 (0.487)	0.805*** (0.137)	0.252 (0.500)	0.844*** (0.100)	0.369*** (0.109)	0.656*** (0.078)	0.362*** (0.116)	0.643*** (0.090)
L.GDP	-0.365* (0.198)	-0.074 (0.114)	-0.878 (0.546)	-0.672** (0.297)	0.175 (0.130)	0.045 (0.043)	-0.086 (0.539)	0.169 (0.330)
L.Gini	4.868 (10.807)	-4.189 (7.782)	1.123 (10.816)	-8.105 (6.155)	-6.739** (2.772)	-3.244 (4.166)	-7.192** (2.767)	-2.785 (4.817)
L.Gini*L.Gini	-7.293 (13.308)	4.145 (9.297)	-1.133 (13.329)	10.173 (7.652)	6.468** (3.074)	3.260 (4.234)	7.670** (3.532)	2.471 (5.459)
L.GDP*L.Gini			1.183 (1.008)	1.208** (0.526)			0.514 (1.073)	-0.233 (0.608)
Observations	45	46	45	46	106	106	106	106
Countries	12	13	12	13	23	23	23	23
R <sup>2</sup>	0.953	0.935	0.954	0.942	0.873	0.756	0.874	0.756
FE	Cntry/year	Region/year	Cntry/year	Region/decade	Cntry/year	Region/year	Cntry/year	Region/decade
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Period	1985–2010	1985–2010	1985–2010	1985–2010	1985–2010	1985–2010	1985–2010	1985–2010

Notes: all regressions are OLS. Columns 1, 3, 5, and 7 include time-variant controls, including GDP growth, average years of education, the urbanization rate, oil exports, and regime duration. Controls in column 2, 4, 6, and 8 include GDP growth, oil exports, the urbanization rate, average years of education, religious population, ethnic fractionalization, religious fractionalization, British colonial history, and regime duration. Asterisks indicate significance levels \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .

Source: authors' estimations.