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Abstract

There has been a simultaneous rise in income inequality and ideological polarization across old and new democracies in past decades. Although a large body of literature has been dedicated to exploring the relationship between the two factors in old democracies, new democracies have been largely neglected. In this thesis, I examine the effect of income inequality on mass ideological polarization in a sample of 36 new democracies. Using data from seven waves of the World Values Survey, I conduct several statistical analyses to test the hypothesis that higher levels of inequality are associated with higher levels of polarization. Although the study provides no robust evidence to support the hypothesized relationship, it shows that globalization and unemployment have a statistically significant effect on polarization. The study calls for further cross-national research to be conducted on the relationship between inequality and polarization in new democracies.

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I. Introduction

From the second half of the 20th century, there has been a global increase in income inequality (hereinafter: inequality) and ideological polarization (hereinafter: polarization). Their simultaneous rise led to the creation of a body of literature dedicated to exploring the relationship between them. While some studies find that there is no causal relationship between the two (Dettrey & Campbell, 2013; Bosancianu, 2017), other studies theorize that inequality can either increase or decrease polarization (McCarty, Poole, Rosenthal, 2006; Iversen & Soskice, 2015). Most of the literature claiming that this relationship is positive draws from political economy models suggesting that greater inequality will lead to a divergence in economic preferences, particularly with regards to redistribution (Meltzer & Richard, 1982; Pontusson & Rueda, 2010). The growing division in economic preferences between the haves and have-nots is thus expected to impact the voting behavior of citizens, who are more likely to vote for far-right and far-left parties under rising inequality (Winkler, 2019). Although much evidence has been found to support this claim, the vast majority of the literature has drawn conclusions from studying data from old democracies. Thus, we know very little about the relationship between inequality and polarization in new democracies (i.e countries that democratized in or after 1974).[1]

The importance of the literature on polarization at the elite (i.e. party) and mass levels partly lies in the consequences of ideological divergence for political systems and societies. While severe polarization can weaken social cohesion, divide legislatures, and destroy democratic norms, it can also increase political participation, strengthen political parties, and ease electoral decision-making for citizens (McCoy, Rahman, & Somer, 2018; Carothers & O'Donohue, 2019). The latter set of consequences can actually be beneficial for new democracies, as some degree of polarization can create electoral stability in societies where democratic competition and party attachments are unfamiliar to citizens. By clearly distinguishing parties from one another, polarization can help citizens develop party attachments and vote for a party that truly represents them (Lupu, 2015).[2]

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[1] This conceptualization of 'new democracies' is based on Huntington's (1991) three waves of democratization. All countries that democratized in or after 1974 are considered 'third wave democracies'. Abushouk (2016) argues that more recent democratizations (such as those transitions linked to the Arab Spring) should be considered 'fourth wave democracies'. This thesis conceives both waves as consisting of 'new democracies' .

[2] The distinction between polarization labelled as 'severe' and 'not severe'. This is a distinction that is not commonly clarified in the literature but which has important societal implications. As shown by Carothers and O'Donohue (2019), severe polarization can harm democracy but some degree of polarization can help democracies develop electoral stability. This thesis does not attempt to study the differences between levels of polarization. Instead, its focus is on the relationship of polarization, regardless of its severity, and inequality. Studying the causes and consequences of specific levels of polarization is a topic for further research.

This thesis contributes to the literature on polarization by exploring its relationship with inequality using a sample of new democracies. Some papers have studied the topic in single countries or regions, but this study is one of the few that brings together new democracies from different regions.[3] I hypothesize that higher levels of inequality are associated with higher levels of polarization. Although party polarization is theoretically relevant for the study, I focus on the impact of inequality on polarization at the mass level (i.e. the ideological divergence between citizens). The thesis conducts two studies. First, I study whether countries with more inequality are more polarized. Second, I study whether an increase in inequality from *t-1* to *t* is associated with a change in polarization from *t-1* to *t*. The findings drawn from the statistical analyses are inconsistent and do not offer robust support for the hypothesis. Thus, more research should be conducted on the topic.

The thesis is structured as follows. First, I review the literature on the topic and theorize how inequality can impact polarization in new democracies. Second, I describe the data and methodology used to conduct the study. Third, I report the results from the statistical analyses and discuss their implications. Finally, I conclude by answering the research question and offering suggestions for further research.

II. Literature Review and Theory

The Role of Redistribution

As previously stated, some of the most commonly cited models used to link inequality to polarization come from political economy and focus on the role of redistribution (i.e. the use of taxes and social spending to transfer resources from high to low income groups (Karakoç, 2017)). Meltzer and Richard (1981) theorize that an increase in inequality will increase public support for redistribution. The median voter will be pushed below the mean income as inequality increases, which means a greater share of the population will support redistribution in an attempt to improve their socioeconomic standing. While lower-income (below the mean) citizens will support redistribution, higher-income (above the mean) citizens will not. Due to the increase in lower-income citizens caused by rising inequality, the overall support for far-left parties is predicted to increase (Meltzer & Richard, 1981). In a cross-national study, Finseraas (2009) finds evidence that inequality increases demand for

[3] The sample includes 17 countries in Europe, 10 countries in the Americas, 4 countries in Africa, and 4 in Asia and the Pacific.

redistribution and that median voters are receptive to inequality. As such, greater inequality is expected to push more citizens towards the ideological left.

Similarly, McCarty, Poole, and Rosenthal (2006) theorize that rising polarization in the American public can be attributed to differences in the economic interests of the upper and lower classes. They find that as inequality increases, there is a higher tendency for high-income Americans to support the more right-of-center Republican Party and for low-income Americans to support the more left-of-center Democratic Party. This trend is mainly attributed to a conflict over redistribution. During periods of rising inequality, lower-income individuals are expected to increase their support for redistribution and left-wing parties, which also tend to support redistribution. Higher-income individuals are not expected to support redistribution and thus to favor right-wing parties, which also tend not to support redistribution (McCarty, Poole, & Rosenthal, 2006). Garand (2010) offers support for this theory, as he also finds that American citizens become more polarized during periods of high inequality. Outside of the US, Gu and Wang (2021) and Grechyna (2016) find evidence of a positive and significant relationship between inequality and polarization in their cross-country analyses.

As an alternative to the Meltzer-Richard (1981) model, Pontusson and Rueda (2010) theorize that the impact of income inequality on polarization will depend on the level of political inequality in a society. Where there is more income inequality, there will also be more political inequality as the rich are better able to influence politics. Solt (2008) finds that rising inequality will decrease the political interest and participation of low-income individuals. As the lower class abandons politics, the upper class is able to pursue its political interests with limited opposition. The lower class eventually internalizes the political preferences of the upper class, leading public opinion to shift toward the right during periods of increased inequality (Kelly & Enns, 2010; Luttig, 2013).

Although there is quite robust evidence of a significant relationship between inequality and polarization, some studies have not found a relationship between them. For instance, Iversen and Soskice (2015) find that high inequality is associated with low polarization. Their study theorizes that lower-income individuals will have less political knowledge in more unequal societies because they have less access to education. As such, people with less political knowledge are less likely to understand where they fall in the ideological scale, which makes them more likely to consider themselves centrist. Although lower-income people are expected to follow their economic self-interest and position

themselves on the left of the ideological scale, they are less likely to due to lack of knowledge. Therefore, the model expects more unequal societies to be less polarized.

The Role of Political Parties

One of the most prominent debates in polarization literature involves Abramowitz and Saunders (2008) and Fiorina, Abrams, and Pope (2005; 2008). While the former camp argues that parties and citizens alike have polarized, the latter camp claims that only parties have polarized. The literature has found more evidence to support Abramowitz and Saunders' (2008) claim that both mass and party polarization have increased. In fact, party polarization can influence mass polarization by shaping partisan identifications, voting behavior, and policy preferences (Robison & Mullinix, 2016). While investigating the relationship outlined by McCarty, Poole, and Rosenthal (2006), Dettrey and Campbell (2013) find that the rise in polarization in the American public cannot be attributed to inequality but to party polarization. In line with Levendusky (2010), they argue that polarized parties are able to provide citizens with clearer cues. When the positions of parties are easy to distinguish, citizens are better able to develop partisan identities and develop policy preferences that are consistent with their party's position (Levendusky, 2010).

Parties can impact mass polarization by adjusting their strategies according to the level of inequality in the electorate. Tavits and Potter (2015) theorize that rising inequality will prompt leftist parties to politicize economic interests, as they benefit from an electorate that supports redistribution, and will prompt rightist parties to politicize values (like ethnicity or religion), as they benefit from distracting voters from pursuing their economic self-interest. Using data from Europe, Winkler (2019) finds evidence that greater inequality is associated with increased support for far-left and far-right parties. The increase in support for parties on the extreme ends of the ideological scale is likely driven by increased demand for redistribution and increased anti-immigration sentiments, especially among the older population.

Introducing New Democracies

The process of democratization should be expected to reduce income inequality as democratic systems are more receptive to social demands than non-democracies. Although empirical evidence has proven that democracies are on average more equal than non-democracies, this might not be the case in the early years of democracy (Chang, 2007). Chang (2007) finds that democratization is likely to result in greater inequality when

countries organize elections before they set up a system of accountability. In such cases, corruption can arise and distort the income distribution by allowing the political elite to obtain benefits from office and creating a tax system that benefits the rich (Chang, 2007). In the United States, McCarty, Poole, and Rosenthal (2006) find that rising inequality leads to party and mass polarization. In new democracies, is inequality also expected to lead to polarization?

This thesis aims to answer the research question: *Does income inequality lead to more mass ideological polarization in new democracies?* The main theoretical argument is that new democracies respond to rising inequality in a similar way to old democracies. Tavits and Letki (2013) argue that increased inequality in new democracies is associated with party polarization. In countries where democratization led to increased inequality, the development of social groups with different economic interests will prompt parties to adjust their strategies. As the share of voters who support redistribution increases due to inequality, leftist parties will politicize economic interests and rightist parties will politicize values (Tavits & Letki, 2013).

Due to their limited experience with party competition and democratic elections, citizens in new democracies are expected to use heuristics (i.e. cognitive 'shortcuts'), such as party cues, to form policy preferences and shape their voting behavior (Lau & Redlawsk, 2001). These party cues, if effective, are expected to push citizens to adjust their policy preferences to match the position of the party (Brader, Tucker, & Duell, 2012). It is important to note that the effect of party cues is greater in polarized party systems as it is easier for voters to form partisan identities and to receive cues when there is greater ideological distinction between the parties (Levendusky, 2010; Singer, 2016). Thus, the inequality-induced party polarization described by Tavits and Letki (2013) is likely to polarize the mass public in a similar way given that voters with a limited understanding of democratic norms and institutions are likely to use party cues as a decision-making shortcut.

Before stating the hypothesis, two questions should be answered about new democracies. First, can citizens cast economic votes? Lewis-Beck and Stegmaier (2008) find that new democracies exhibit patterns of economic voting (i.e. voting based on personal or national economic concerns) similar to those found in old democracies. Voters do not only vote based on economic concerns, but they tend to weigh economic issues such as inflation, unemployment, and income distribution more heavily than others (Lewis-Beck & Stegmaier, 2000). Thus, voters in new democracies can, and often do, cast economic votes (Lewis-Beck & Ratto, 2013; Bratton, Bhavnani, & Chen, 2012). If voting behavior reflects ideological

positioning (Downs, 1957; Caprara et al., 2017), then voters can be expected to support parties that reflect their economic self-interest.

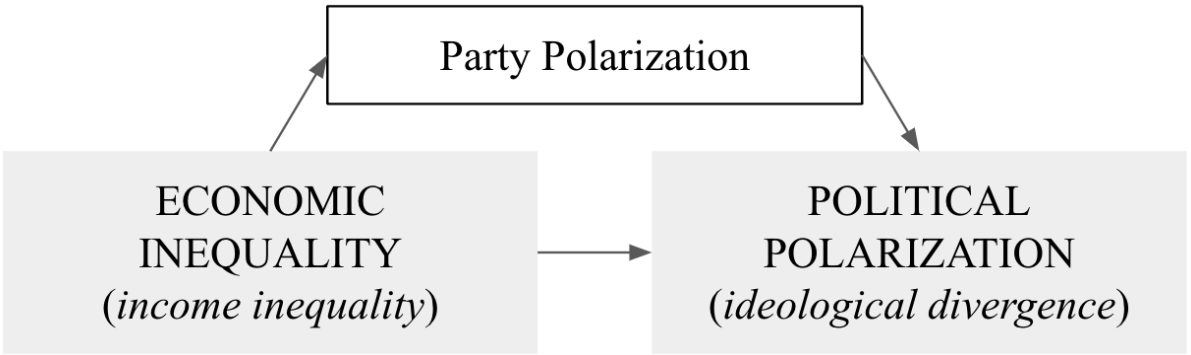
Second, can citizens take cues from parties? The effect of party cues on citizens is moderated by polarization. Parties with internal ideological cohesion in a polarized system are more effective at influencing the policy positions of voters through cues (Bullock, 2019). Parties tend to be ideologically homogeneous in polarized party systems, which makes it easier for voters to distinguish their positions from those of other parties. In new democracies, ideological polarization at the party level is associated with ideological polarization at the mass level (Singer, 2016). Although not all new democracies experience party polarization (see: Kenny, 2020), I expect those with polarized parties to be able to transmit cues to voters.

Building on the literature above, I develop the following hypothesis:

H1: Higher levels of income inequality are associated with higher levels of mass ideological divergence in new democracies.

Following Tavits and Letki (2013), I expect political parties in new democracies to respond to increasing inequality by changing their political strategies. Under rising inequality, lower-income voters will support redistribution, but higher-income inequality will not. In turn, redistribution-supporting leftist parties will politicize economic concerns out of electoral self-interest. Rightist parties, who do not support redistribution and face a decline in support, will politicize values. As such, inequality is expected to polarize parties. Given that cues from parties in polarized systems are more effective, the mass public is expected to polarize in response.

Figure 1: Predicted causal linkages between inequality and polarization.



III. Research Design

Data

The dataset used in the study was created by merging variables from seven waves (1981-2020) of the World Values Survey (WVS) and the Standardized World Income Inequality Database (SWIID) (version 9.1).

The World Values Survey (WVS) is an international research project that collects information about people's values and beliefs through nationally representative surveys that have been conducted every five years in over 100 countries since 1981. The surveys are carried out as face-to-face or phone interviews. The samples are drawn using stratified random sampling from the population over 18 years old, creating a sample of at least 1000 people per country. Although some countries are disproportionately represented, the WVS is still one of the most popular cross-national surveys used by social scientists and policy makers due to its broad geographic and thematic scope.

The Standardized World Income Inequality Database (SWIID) was created by Solt (2019) to increase the comparability of income inequality data across countries and over time. It brings together thousands of reported Gini indices to calculate income inequality estimates for 198 countries between 1960 and 2019. I chose this measure over the widely used World Bank estimate given that the SWIID covers a broader range of countries and years. The standardized measures can improve the validity of the measures as they are compared across time and space.

Cases

The study includes data for 36 new democracies and 88 country-years covering the period between 1984 and 2018 (survey years differ by country). All non-United Nations member states were excluded from the dataset to prevent an overlap in data between non-sovereign territories and the sovereign states. Country-years that did not contain data values for both the independent variable (i.e. income inequality) and the dependent variable (i.e. ideological polarization) were excluded, as both are needed to test the relationship between them.

The scope of the study is limited to new democracies, defined as the countries that underwent democratic transitions in 1974 or after (Huntington, 1991; Abushouk, 2016). I identified the democracies used in the study with data from the Polity index, a research project that creates measures of democracy and autocracy by scoring the competitiveness and

openness of executive recruitment, the level of constraint of the chief executive, and the competitiveness and regulation of political participation in a country (Marshall & Gurr, 2020). The Polity V dataset covers 167 countries between 1800 and 2018. In this study, I use the 'polity score' variable. It captures the level of democracy using a 21-point scale ranging from strongly democratic (+10) to strongly autocratic (-10), where democracies are classified as countries with a score between +6 and +10.

All new democracies in the study meet three criteria. First, they transitioned from non-democratic (i.e. polity scores below +6) to democratic (i.e. polity scores equal to or above +6) in 1974 or after. Second, they were classified as democratic for an uninterrupted (i.e. any amount of time without a transition to a non-democratic regime) period of time prior to and including 2018, which is the most recent year in the dataset. Third, they were democratic in every year included in the dataset.[4]

Dependent Variable

This thesis conceptualizes *ideological polarization* as ideological divergence, meaning the extent to which the ideological positions of citizens have diverged away from each other (Lelkes, 2016). In essence, ideological divergence is present when citizens move away from the center and cluster in the left and right poles.

The following question is used to estimate the ideological divergence in each country-year: *"In political matters, people talk of 'the left' and 'the right.' How would you place your views on this scale, generally speaking?"* This question is found in every WVS wave, which allows me to study the development of polarization over time. It asks participants to place themselves on an ideological scale ranging from left (1) to right (10). I then create a variable that measures the standard deviation of the ideological self-placements, meaning the dispersion of values along the scale relative to the mean (Gu & Wang, 2021; Grechyna, 2016). The values of the variable range from 1.56 to 2.98, with higher values indicating more variation and thus polarization. See Table 1 for descriptive statistics for this and other variables.

This study assumes, first, that most individuals, regardless of their party system, can locate themselves along the left-right scale and, second, that the scale captures the major political and cultural cleavages in a political system (Dalton, 2008; Inglehart, 1990).

[4] See Appendices for a broader discussion of the methods used to select the cases included in the dataset.

Table 1. Descriptive statistics.

Variables	N	Mean	Standard deviation	Variance	Minimum	Maximum
Variance in ideological scale (SDs)	88	2.26	0.333	0.111	1.56	2.98
Gini coefficient estimates	88	39.42	9.58	91.79	17.5	63.3
Globalization Index	86	60.34	10.24	104.76	41.35	85.32
Educational attainment (% of population with higher education)	69	13.55	7.34	53.85	2.46	38.29
Unemployment rate (% of workforce)	84	10.45	7.46	55.59	1.70	34.50
GDP per capita (log)	88	3.67	0.40	0.163	2.76	4.51
Change in variance in ideological scale	52	0.042	0.229	0.052	-0.51	0.58
Change in Gini index coefficient	52	0.069	2.386	5.692	-5.5	6.7

Nevertheless, some researchers claim that most members of the public do not think ideologically, and can thus not place parties or themselves on the scale (Iyengar, Sood, & Lelkes, 2012). Others claim that the scale is not useful for cross-national comparisons, as the left-right divide might be based on class issues in one society but cultural issues in another (McCoy, Rahman, & Somer, 2018; Vegetti, 2019).

Following Dalton (2008), I assume individuals do not need deep ideological knowledge to place themselves on the scale, as it simply summarizes the most important political issues within their own country. I consider the scale useful for this study because cross-national evidence shows most individuals can correctly place themselves in the scale (Dalton, 2006; Geser, 2008). Moreover, I expect the scale to predict voting behavior as Downs (1957) theorizes voters select parties closest to their own positions and Caprara et al. (2017) find evidence that the scale is a strong predictor of voting behavior in most countries.

Independent Variable

This thesis conceptualizes *income inequality* as the extent to which household disposable income is unevenly distributed within a country (OECD, 2021). The more unequal the distribution, the more inequality. The most widely used measure of income inequality is the Gini coefficient, measured as the statistical dispersion of income across the income distribution of a country. Values range from 0 (perfect equality) to 1 (perfect inequality) (United States Census Bureau, 2021). To estimate the level of income inequality in each country I use the SWIID's Gini coefficient estimates of inequality in household disposable income (after taxes and transfers), where higher scores indicate greater inequality. Solt (2020) standardizes these values to have a mean of 0 and a standard deviation of 1 to ease comparisons across countries and time.

Control Variables

To avoid introducing a spurious association into the analysis, I include several control variables that, according to the literature, correlate with both inequality and polarization (Rohrer, 2018).[5]

First, I control for *educational attainment* as a proxy for educational inequality. Using data from the WVS, I compute a variable that measures the percentage of individuals who completed higher education (university degree or equivalent) in a country. Higher scores in

[5] Control variables for 'electoral system' and 'party system' were originally included in the dataset. However, there was a lack of data for non-European countries so I decided not to include the variables in the study.

educational attainment indicate less educational inequality. Prior studies show that a higher average level of schooling in a country is associated with lower income inequality (De Gregorio & Lee, 2002). Given that individuals with less education earn lower incomes, greater educational inequality results in greater income inequality. Educational inequality can also decrease polarization by reducing average levels of political knowledge and, thus, the ability of a significant share of the population to position themselves on the ideological scale (Iversen & Soskice, 2015).

Second, I control for *globalization* using data from the KOF Globalization Index, which measures the economic, social, and political dimensions of globalization. It scores each country on a 0-100 scale, with higher values indicating more globalization (Gygli, Haelg, Potrafke, & Sturm, 2019). Some studies find that globalization increases inequality in developing countries and decreases inequality in developed countries (Figini & Gorg, 2011). Others find that globalization increases inequality in both developed and developing countries as the economic benefits of globalization tend to be unequally distributed (Heimberger, 2020). Globalization can increase polarization by leading local populations to feel economically and culturally threatened by the increase in trade exposure and migration inflows into their countries (Autor, Dorn, Hanson, & Majlesi, 2020; Cohle & Ortega, 2021).

Third, I control for *unemployment rate* (as a percentage of the total labor force) using data from the World Bank's (2021) World Development Indicators. Higher levels of unemployment can increase polarization by making vulnerable workers more likely to support parties on the extreme right and left out of fear of immigration and lack of social programs respectively (Winkler, 2019). High unemployment is also linked to higher inequality, as a greater share of the population is pushed below the income mean during periods of low employment (González & Menendez, 2000).

Lastly, I follow Gu and Wang (2021) and control for the natural logarithm of *GDP per capita* and *total population*, which are demographic factors often included in cross-country analyses. A higher GDP per capita is associated with lower inequality and reduced polarization (Kimura Smith, 2021; Akdede & Kentmen, 2011).

Model

I test my hypothesis by running several linear regression analyses.[6] This type of analysis allows me to, first, determine whether an increase in inequality (independent variable) leads to an increase in polarization (dependent variable) and to, second, include additional predictor variables and compare their relevance against one another. Given that there are multiple survey years for some countries, I include standard errors clustered by country in all models. Although party polarization is relevant to the study for theoretical reasons, the mediating effect of this variable is not tested in the statistical analyses. The focus of this thesis is testing the relationship between the two main variables. Further research should focus on testing this mediating effect.

Models 1 and 2 assess whether more unequal countries are more polarized than more equal countries. While Model 1 tests the influence of inequality on polarization without controls, Model 2 tests the same relationship including controls. Model 3 assesses whether an increase in inequality from *t-1* to *t* is associated with a change in polarization from *t-1* to *t*, which allows me to test causality better. To do this, I create variables for inequality and polarization that are lagged by one year and then create another variable that measures the change in values from *t-1* to *t*. I then run a linear regression with 'changes in inequality' as my predictor and 'changes in polarization' as my outcome with controls included. The main drawback of the third model is the limited number of observations available. While Models 1 and 2 include observations for 36 countries, Model 3 only includes observations for 24 countries.[7]

IV. Results

In this section, I report the results of the linear regression analyses conducted to assess the influence of income inequality on mass ideological polarization in new democracies.[8] I conduct tests for all the assumptions that must be met to conduct a linear regression. The concerns over heteroscedasticity in the data were addressed by including standard errors clustered by country in all models.

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[6] I initially included a series of dummy variables (i.e. fixed effects) for the 20 years that the surveys were conducted in. Using fixed effects would have allowed me to control for over-time changes that I do not control for in my model. However, including 20 variables would have overburdened my model due to the low number of cases in the dataset (N=88). Instead of using fixed effects, I simply include the 'year' variable as a control.

[7] Argentina, Brazil, Bulgaria, Chile, Czech Republic, Estonia, Georgia, Ghana, Hungary, Indonesia, Malaysia, Mexico, Moldova, North Macedonia, Peru, Philippines, Poland, Romania, Serbia, Slovakia, Slovenia, South Africa, Spain, and Uruguay (24).

[8] See Appendices for the linear regression assumption tests.

Study A

Table 2 displays the results of Models 1 and 2, both of which regress inequality on polarization but the latter includes controls. The models test whether more unequal countries are more polarized than more equal countries. Starting with Model 1, the R squared (0.114) suggests that only 11.4% of the total variance in polarization can be explained by inequality. As 88.6% of the variance in the model remains unexplained, I expect other factors not included in the model to significantly influence polarization. Next, I look at the b-coefficient to assess the effect of the main predictor on the outcome variable. Model 1 shows that inequality has a positive and statistically significant effect on polarization ($p < 0.05$). A one-unit increase in inequality is expected to increase the variance in ideological self-placements in a country by 0.012 points ($t(35)=9.984$, $p<0.05$). Meaning, countries with more inequality are likely to be slightly more polarized.

In Model 2, the R squared (0.366) suggests that 36.6% of the total variance in polarization can be explained by the predictors. Given that over 60% of the variance in the model remains unexplained, I assume that other factors not included in the model significantly influence polarization. Model 2, which includes controls, explains a bigger share of the variance and fits the data better than Model 1. The b-coefficient of inequality in Model 2 suggests that a one-unit increase in inequality increases polarization by 0.006 points ($t(31)=1.336$, $p>0.05$). However, this effect is statistically insignificant.

The first control in Model 2 is globalization, which has a negative and statistically significant effect on polarization. A one-unit increase in globalization is associated with a decrease in polarization by 0.018 points ($t(31)=-2.925$, $p<0.01$). Meaning, countries with lower levels of globalization are more polarized. Unemployment rate, the second control, also has a negative and significant effect. A one-unit increase in unemployment is associated with a decrease in the polarization by 0.009 points ($t(31)=-2.215$, $p<0.05$). Thus, countries with lower unemployment rates are more polarized.

A one-unit increase in the third control, educational attainment, is associated with an increase in polarization by 0.001 points ($t(31) = 0.152$, $p>0.05$). However, this effect is statistically insignificant. The last two controls are GDP per capita and population. Model 2 shows that a one-unit increase in GDP per capita (log) is associated with an increase in polarization by 0.060 points ($t(31)=0.434$, $p>0.05$), while a one-unit increase in population (log) is associated with a decrease in the variance in polarization by 0.003 points ($t(31)=-0.038$, $p>0.05$). Neither of these controls are significant. I also control for the year the survey was conducted in. The model shows that a one-unit increase in year is associated with

an increase in polarization by 0.011 points (t(31)=1.806, p>0.05), meaning more recent surveys are more polarized, but the effect is statistically insignificant.

In short, the main independent variable (inequality) is only shown to be statistically significant in Model 1. Including controls, inequality does not have a statistically significant effect on polarization. Only two controls in Model 2 are statistically significant: globalization and unemployment rate. Both are associated with a decrease in polarization. These findings do not support the hypothesis.

Table 2. Linear regression model of variance in the ideological scale.

	Model 1	**Model 2**
(Constant)	1.799***	-18.786
	(0.180)	(11.96)
Gini Index coefficients	0.012*	0.006
	(0.005)	(0.005)
Globalization Index		-0.018**
		(0.006)
Unemployment rate		-0.009*
		(0.004)
Educational attainment		0.001
		(0.005)
Log GDP per capita		0.060
		(0.139)
Log Population		-0.003
		(0.077)
Year		0.011
		(0.006)
R^2	0.114	0.366
Adj. R^2	0.104	0.293
N	88	69

Note: OLS Regression coefficients with standard errors in brackets.

The analysis was conducted with standard errors clustered by country.

*** p < 0.001, ** p < 0.01, * p < 0.05

Table 3. Linear regression model of the change in variance in the ideological scale.

	Model 3
(Constant)	-13.608
	(11.566)
Change in Gini Index coefficients	0.035**
	(0.012)
Globalization Index	-0.007
	(0.005)
Unemployment rate	-0.009**
	(0.003)
Educational attainment	-0.001
	(0.003)
Log GDP per capita	0.018
	(0.120)
Log Population	-0.069
	(0.044)
Year	0.007
	(0.006)
R^2	0.215
Adj. R^2	0.053
N	42

Note: OLS Regression coefficients with standard errors in brackets.
The analysis was conducted with standard errors clustered by country.
*** p < 0.001, ** p < 0.01, * p < 0.05

Study B

Table 3 displays the results of Model 3, which regresses changes in inequality on changes in polarization including controls. It tests whether an increase in inequality from t-1 to t is associated with a change in polarization from t-1 to t. The R squared (0.215) suggests that only 21.5% of the total variance in changes in polarization can be explained by the predictors, meaning almost 80% of the variance in the model remains unexplained. The model suggests a one-unit increase in inequality leads to a 0.035 point increase in polarization (t(21)=2.857, p<0.01), which is a significant effect. Thus, an increase in

inequality is associated with an increase in polarization. The only control variable with a significant effect on polarization is unemployment rate. A one-unit increase in unemployment rate leads to a decrease of 0.009 points in polarization ($t(21)=-2.910$, $p<0.05$).[9] Meaning, countries with a higher unemployment rate are expected to have lower levels of polarization.

In short, the only variables with a significant effect on change in polarization are change in inequality and unemployment. Thus, countries with more polarization are expected to have lower unemployment rates and higher levels of inequality. The model shows some support for the hypothesis that an increase in inequality is associated with an increase in polarization.

V. Discussion

This thesis finds inconsistent evidence in support of the hypothesis that higher levels of income inequality are associated with higher levels of mass ideological polarization in new democracies. While higher levels of inequality are not associated with higher levels of polarization, changes in inequality are associated with changes in polarization. Thus, I find no robust evidence that inequality leads to polarization. In this discussion section, I first address the results that support the hypothesis, followed by a discussion of the results that do not.

How inequality leads to polarization

The effect of inequality on polarization is statistically significant in two statistical analyses, one of which includes controls. The findings from this study offer limited support for the hypothesis. Based on the findings of the analyses that show a statistically significant effect of inequality on polarization, I can conclude that electorates in old and new democracies exhibit similar behavioral patterns.

The theoretical framework of this thesis was based on the assumption that economic concerns can shape policy preferences and voting behavior in new democracies. Under rising inequality, a greater share of the population will support redistribution given that such policies are expected to improve the position of those individuals at the bottom of the socioeconomic scale. Political parties will polarize under rising inequality, as left-wing

[9] No controls other than unemployment rate were statistically significant. A one-unit change (+) in globalization leads to a decrease of 0.007 points in polarization ($t(21)=-1.406$, $p>0.05$), but the effect is statistically insignificant. A one-unit increase in educational attainment leads to a decrease of 0.001 points in polarization ($t(21)=-2.910$, $p>0.05$), but the effect is statistically insignificant. A one-unit increase in GDP per capita (log) leads to an increase of 0.018 points in polarization ($t(21)=0.151$, $p>0.05$), which is a statistically insignificant effect. A one-unit increase in population (log) leads to a decrease of 0.069 points in polarization ($t(21)=-1.567$, $p>0.05$), which is a statistically insignificant effect. A one-unit increase in year leads to an increase of 0.007 points in polarization ($t(21)=1.274$, $p>0.05$), which is also a statistically insignificant effect.

parties are more likely to achieve electoral success by politicizing economic concerns and right-wing parties are more likely to achieve electoral success by politicizing non-economic interests such as values (Tavits & Letki, 2013; Tavits & Potter, 2015). Due to their limited experience with democracy, voters in new democracies are expected to struggle to develop partisan identities and policy preferences. As such, cues from parties with easily distinguishable party platforms are likely to be able to shape the voting behavior and issue positions. Thus, the mass public is expected to polarize when parties polarize and transmit clear cues to their voters.

Party polarization is theoretically relevant to this study, but its mediating effect on the relationship between inequality and polarization is not tested. Without testing its mediating effect, it is not possible for this study to confidently conclude that this is the mechanism by which inequality leads to mass polarization. Polarization might alternatively be caused by a greater share of the population shifting to the left due to increased support for redistribution (Meltzer & Richard, 1981; Finseraas, 2009), or a greater share of the population shifting to the right due to rising political inequality (Pontusson & Rueda, 2010; Solt, 2008; Kelly & Enns, 2010; Luttig, 2013). Thus, this thesis finds that inequality is associated with polarization but the mechanism is a topic for further research.

How inequality does not lead to polarization

Although two statistical analyses conducted in this thesis showed partial support for the hypothesis, one showed that inequality does not have a statistically significant effect on polarization. Thus, the findings of this study are inconclusive. In this section, I discuss possible explanations as to why inequality might not have an effect on polarization.

The first explanation relates to the research design of this study. The sample size was quite small in the first two statistical analyses at 88 observations and 36 countries, but it was reduced to 24 countries and 42 observations in the third analysis. It is possible that the second sample consisted mainly of countries where inequality does have an effect on polarization, while the first sample contained a larger share of countries where the effect of inequality is not statistically significant. Given that the results of a test of statistical significance (p-value) are based on the sample size and magnitude of the effect (Schneider, 2013), there is reason to believe that the findings could show no statistical significance due to the sample size used.

An alternative explanation is that other factors included in the model are better predictors of polarization than inequality. Interestingly, the findings show that unemployment rate is a statistically significant predictor of polarization. Even more interesting is that the

findings show that higher unemployment rates are associated with lower polarization. This is inconsistent with the literature, as most empirical evidence suggests that individuals with the worst socioeconomic condition tend to support far-left and far-right parties (Rooduijn & Burgoon, 2017). The deepening hypothesis proposed by Rooduijn and Burgoon (2017) suggests that when unemployment rates are high, workers at the lower end of the socioeconomic scale are expected to support parties on the ideological extremes. These workers are expected to support far-right parties if they fear that immigration threatens their jobs and far-left parties if they believe welfare support can benefit them (Rooduijn & Burgoon, 2017; Winkler, 2019).

Another interesting finding of the study is that higher levels of globalization are associated with lower levels of polarization. Meaning, countries with greater openness to inflows and outflows of goods, people, and services are less likely to have ideologically polarized publics. Although there is evidence that globalization can increase polarization due to the reasons outlined by Rooduijn and Burgoon (2017) (i.e. opposition to immigration and support for welfare support), there is a branch of literature on the relationship between globalization and polarization that supports the findings of this study. The mechanism is outlined by the compensation theory, which I will now discuss. Globalization, partly through increases in trade exposure and labor market competition (Autor, Dorn, Hanson, & Majlesi, 2020), can create "winners" (who benefit from globalization) and "losers" (who do not benefit from globalization). If the income inequality caused by globalization is met with increased public spending from the government, the compensation theory assumes that polarization will decrease with globalization (Heimberger, 2010; Fang, Gozgor, & Yang, 2010). As such, the impact of globalization on polarization is moderated by government spending. The findings of Fang, Gozgor, and Yang (2010), drawn from a study of 149 countries, offer support for the compensation theory.

The compensatory theory also offers an explanation for the relationship between unemployment and polarization that this study finds. Increases in government spending during a period of growing unemployment could reduce polarization by mitigating the anti-immigration and pro-redistribution sentiments that lead vulnerable workers to support extreme parties. However, this is a topic for further research and the relationship is not tested in this study.

The third explanation that I can offer to understand why inequality does not have a statistically significant effect on polarization is that new democracies do not exhibit the same polarizing patterns as old democracies. This thesis hypothesized that, first, inequality would

polarize parties. Then, the party cues received by voters would polarize the electorate. However, this theory might have overestimated the similarities between old and new democracies. The reality is that there is no robust evidence that they react to rising inequality in the same ways. For starters, this thesis assumed that parties could polarize voters by transmitting cues to voters. However, Baker, Ames, and Renno (2006) find that voters in new democracies tend not to use party cues to shape their policy preferences and voting behavior. Instead, they rely on informal discussions. Moreover, these electorates exhibit patterns of electoral volatility and low partisanship (Baker, Ames, & Renno, 2006). Although Tavits and Letki (2013) find that inequality does polarize parties in new democracies, further research is needed to determine whether new democracies polarize due to inequality.

It is important to note that the findings of this study must be interpreted with caution, as it attempts to generalize the impact of inequality on polarization in different countries with vastly different cultures, histories, and levels of democratic consolidation. For instance, post-communist countries in Central and Eastern Europe might have developed different political cleavages upon democratization than countries in Latin America. As such, further research on the similarities and differences of polarization dynamics in new democracies across the world is also needed.

VI. Conclusion

This thesis aimed to determine whether income inequality leads to mass ideological polarization in new democracies. It attempted to contribute to the strand of literature dedicated to studying the relationship between the two by bringing new democracies into the spotlight.

Using theoretical underpinnings generally tested on old democracies, I hypothesized that higher levels of inequality were associated with higher levels of polarization. My argumentation started with the assumption that growing inequality would polarize political parties into two camps: one supporting redistribution and the other opposing it. Due to the likelihood of calls for redistributive policies under growing inequality, parties were expected to diverge and politicize different issues. Left-wing parties tend to draw support from voters in favor of redistribution. Therefore, these parties were expected to politicize economic interests. Right-wing parties tend to draw support from voters who oppose increased redistribution. Therefore, these parties were expected to politicize non-economic interests such as values (religion, ethnicity, etc.). Given that voters in new democracies have limited experience with elections and political participation, I expected them to use party cues as

heuristics that would ease their decision-making. As parties in polarized systems are better able to transmit cues to voters, I expected these voters to receive these cues and polarize in response.

I tested this hypothesis using three linear regression analyses with clustered standard errors using data drawn from the WVS, the SWIID, the World Bank, and the KOF Globalization Index. The findings from the statistical analyses led to inconsistent conclusions. While one of the analyses suggested inequality significantly impacts polarization, the other suggested there is no statistically significant effect of inequality on polarization. Both of these analyses included controls. The most interesting part of these findings was the statistically significant relationship between polarization and unemployment rates and globalization. Lower levels of polarization were associated with higher unemployment rates and higher levels of globalization. These findings can be explained with the compensation theory of Rooduijn and Burgoon (2017). The theory argues that vulnerable workers will respond to economic developments that threaten their livelihoods by increasing their support for parties on the extreme left and extreme right. However, this polarizing effect can be moderated with government spending. When governments compensate citizens for the negative impacts of globalization and rising unemployment by investing in welfare, vulnerable workers are less likely to show support for extremist parties.

This study might not have provided robust evidence to support its hypothesis, but it shed light on the relevance of inequality and polarization in understudied new democracies. It also theorized that party polarization is a potential mediator in the relationship between rising income inequality and mass ideological polarization. Further research should focus on, first, determining the nature of the relationship between inequality and polarization in new democracies, and, second, study the mediating effect of party polarization. Although this study attempts not to make any normative assessments of whether polarization is “good” or “bad” for democracy, research that studies the causes and consequences of inequality and polarization is essential to help transitioning countries to consolidate democratic institutions and norms.

VII. References

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VIII. Appendices

Appendix A. Data, Variables, and Cases.

The following list consists of all the country-years that were included in the analysis.

1. Albania (2002)
2. Argentina (1984, 1991, 1995, 1999, 2006, 2013, 2017)*
3. Bolivia (2017)
4. Brazil (1991, 1997, 2006, 2014, 2018)*
5. Bulgaria (1997, 2006)*
6. Chile (1990, 1996, 2000, 2006, 2012)*
7. Czech Republic (1991, 1998)*
8. Dominican Republic (1996)
9. El Salvador (1999)
10. Estonia (1996, 2011)*
11. Georgia (2009, 2014)*
12. Ghana (2007, 2012)*
13. Greece (2017)
14. Guatemala (2004)
15. Hungary (1998, 2009)*
16. Indonesia (2001, 2006, 2018)*
17. Kyrgyzstan (2011)
18. Latvia (1996)
19. Lithuania (1997)
20. Malaysia (2012, 2018)*
21. Mexico (2000, 2005, 2012, 2018)*
22. Moldova (1996, 2002, 2006)*
23. Nigeria (2018)
24. North Macedonia (1998, 2001)*
25. Pakistan (2012)
26. Peru (2001, 2006, 2012, 2018)*
27. Philippines (1996, 2001, 2012)*
28. Poland (1997, 2005, 2012)*
29. Romania (1998, 2005, 2012, 2018)*
30. Serbia (2006, 2017)*
31. Slovakia (1990, 1998)*
32. Slovenia (1995, 2005, 2011)*
33. South Africa (1996, 2001, 2006, 2013)*
34. Spain (1990, 1995, 2000, 2007, 2011)*
35. Tunisia (2013)
36. Uruguay (1996, 2006, 2011)*

**Countries included in Model 3.*

The following list consists of all countries included in the analysis divided by region.

1. Europe: Albania, Bulgaria, Czech Republic, Estonia, Georgia, Greece, Hungary, Latvia, Lithuania, Macedonia, Moldova, Poland, Romania, Serbia, Slovakia, Slovenia, Spain. (17)
2. Latin America: Argentina, Bolivia, Brazil, Chile, Dominican Republic, El Salvador, Guatemala, Mexico, Peru, Uruguay. (10)

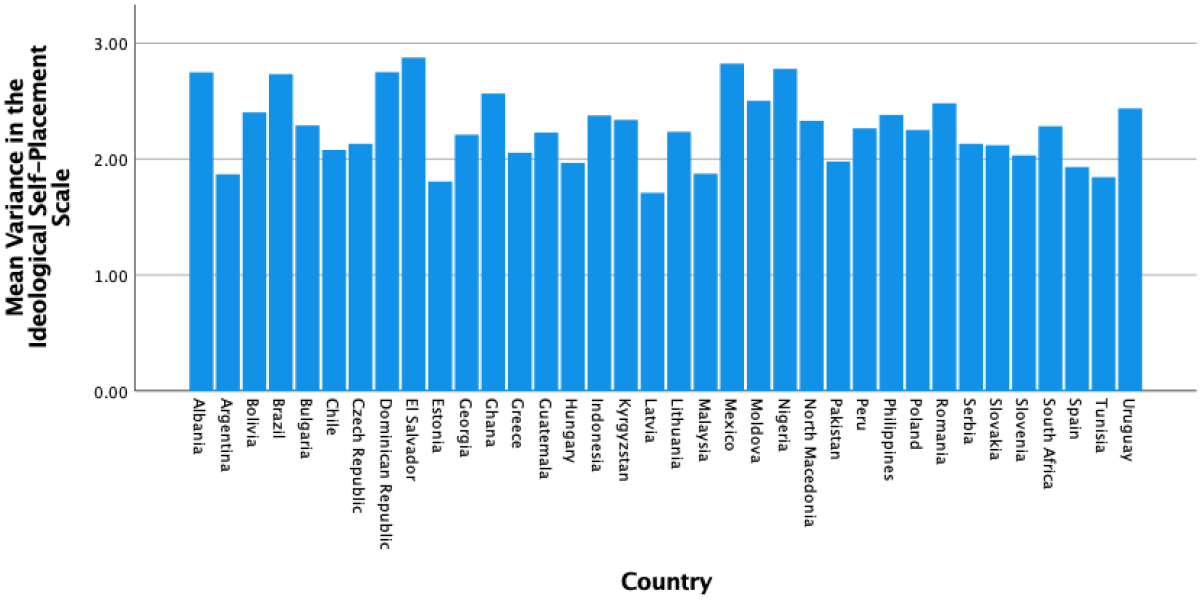
3. Africa: Ghana, Nigeria, South Africa, Tunisia. (4)
4. Asia & Pacific: Indonesia, Kyrgyzstan, Malaysia, Pakistan, Philippines. (5)

The following list displays the frequency with which each year appears in the data.

1. 1984: 1
2. 1990: 3
3. 1991: 3
4. 1995: 3
5. 1996: 8
6. 1997: 4
7. 1998: 5
8. 1999: 2
9. 2000: 3
10. 2001: 5
11. 2002: 4
12. 2006: 10
13. 2007: 2
14. 2009: 2
15. 2011: 5
16. 2012: 9
17. 2013: 3
18. 2014: 2
19. 2017:4
20. 2018: 7

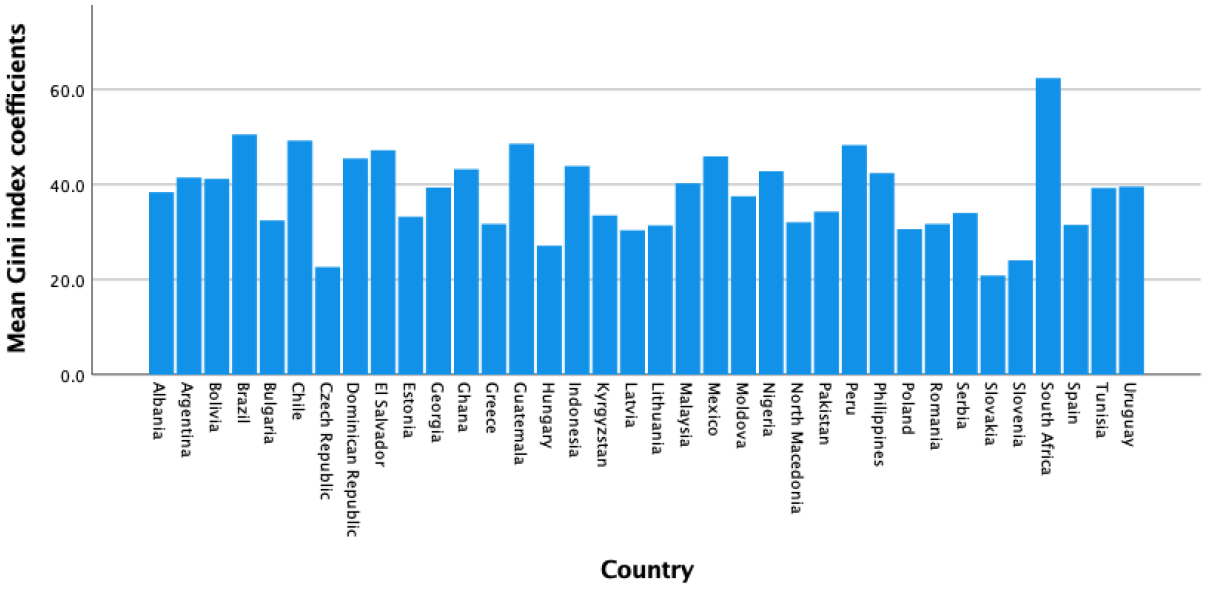
Dependent variable (polarization)

Figure A. Bar graph of mean variance in ideological scale per country



Independent variable (inequality)

Figure B. Bar graph of mean Gini index coefficient per country



Case selection: New democracies

To identify what countries fit into my conceptualization of new democracies, I consulted the age of each democracy in the dataset. The age of each democracy included in the dataset was calculated using data from the Polity V index (Marshall & Gurr, 2020). I used the combined polity score, or 'polity' variable for this purpose, which is calculated by subtracting the autocratic scores from the democratic scores of each country. I estimated the age of each democracy by calculating the number of consecutive (meaning: time period with no transition to a non-democracy) years that the country has been classified a democracy (i.e. a score of 6+ or higher).

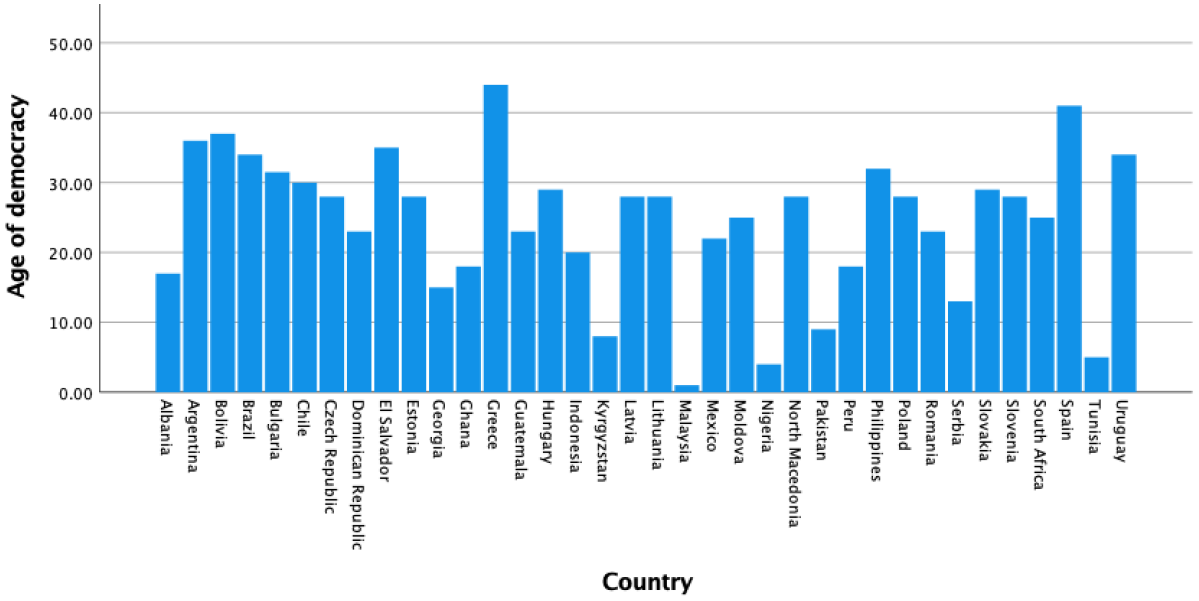
A few points regarding the variable should be made. First, the values for Germany before 1990 are taken from the West German variable, meaning Germany is considered an old democracy. Second, the values for Czechoslovakia were transferred over to Czechia and Slovakia for the years prior to the dissolution of the federal republic. The same procedure was conducted for Serbia and Montenegro prior to the dissolution of that federal republic. Third, countries that recently underwent transitions to non-democracy were not included. For instance, Comoros was classified as a democracy (score of 9) in 2017, but transformed into a non-democracy (score of -3) in 2018. Thus, Comoros was not included in the dataset. Fourth, given that no data is included in the dataset to classify Andorra and Bosnia as democracies, they are both removed from the dataset. Using other indexes or measures of democracy would have reliability of the estimations. Finally, 22 country-year cases were removed for being classified as democratic. This study classifies as a democracy any country that underwent a democratic transition in or after 1974 and that was classified as democratic for a

consecutive period of time up to and including the year 2018. It is also important for countries to also be considered democratic in the years that the study focuses on. As such, country-year cases like Mexico in 1981 were removed for consisting of years in which the country's regime was not democratic. In the case of Mexico, its polity score was -3 in 1981. Other removed cases were Albania (1998), Armenia (1997; 2011), Burkina Faso (2007), Croatia (1996), Georgia (1996), Iraq (2013), Kyrgyzstan (2003), Mexico (1981; 1990; 1996), Nigeria (1990; 1995; 2000; 2012), Pakistan (2001), Peru (1996), Poland (1989), South Africa (1982; 1990), and Zambia (2007). Although this will limit the generalizability of my findings by reducing the number of country-years included, it will increase the validity of the results.

Table A. Descriptive statistics for 'age of democracy'.

Variables	N	Mean	Standard deviation	Variance	Minimum	Maximum
Age of democracy	88	26.5	9.14	83.45	1	44

Figure C. Bar graph of the 'age of democracy' by country.



Appendix B. Testing Regression Assumptions.

This appendix contains an overview of the different tests conducted before running the regression models.

Continuous variables

The dataset used in this study contains continuous variables, which makes the data suitable to run a linear regression.

Linearity

To test the linearity assumption for Models 1 and 2, I assessed a scatterplot of the variance in ideological self-placements (dependent variable: ideological polarization) by the Gini coefficients (independent variable: income inequality). Based on the appearance of the scatterplot, I determined that the relationship between the variables was linear.

To test the linearity assumption for Model 3, I assessed a scatterplot of the change in variance in the ideological scale (dependent variable: ideological polarization) by the change in Gini coefficients (independent variable: income inequality). Based on the appearance of the scatterplot, I determined that the relationship between the variables was somewhat linear.

Normality

To test the normality assumption for Models 1 and 2, I examined a normal Predicted Probability (P-P) plot. Based on the appearance of the plot, I determined that the residuals of the regression line are roughly normally distributed. There is slight deviation from the diagonal normality line, but it is not too drastic. Additionally, I check the skewness (i.e. a measure of lack of symmetry in the data) and kurtosis (i.e. a measure that determines whether the data is heavy-tailed or light-tailed) measures. The values for skewness and kurtosis are 0.264 and -0.624, meaning my data is normal as neither value is more extreme than -1 or +1. Thus, the assumption of normality is met.

To test the normality assumption for Model 3, I examined a normal Predicted Probability (P-P) plot. Based on the appearance of the plot, I determined that the residuals of the regression line are roughly normally distributed. There is slight deviation from the diagonal normality line, but it is not too drastic. Additionally, I check the skewness (i.e. a measure of lack of symmetry in the data) and kurtosis (i.e. a measure that determines whether the data is heavy-tailed or light-tailed) measures. The values for skewness and kurtosis are

-0.033 and 0.190, meaning my data is normal as neither value is more extreme than -1 or +1. Thus, the assumption of normality is met.

Homoscedasticity

To test the homoscedasticity assumption for Models 1 and 2, I plotted the predicted values and residuals of the dependent variable (i.e. variance in the ideological self-placement scale). The assumption is met when the variance of the residuals is constant, meaning when the points in the scatterplot are equally distributed around the x-axis and the y-axis. Based on the appearance of the scatterplot, I determined that the residuals of the dependent variable were not equally distributed. The scatterplot showed a case of heteroscedasticity, whereby the distribution of the data creates the appearance of a cone-like shape. This might have happened because there are multiple observations (survey years) per country. This issue was solved by conducting a general linear regression with standard errors clustered by country.

To test the homoscedasticity assumption for Model 3, I plotted the predicted values and residuals of the dependent variable (i.e. variance in the ideological self-placement scale). The assumption is met when the variance of the residuals is constant, meaning when the points in the scatterplot are equally distributed around the x-axis and the y-axis. Based on the appearance of the scatterplot, I determined that the residuals of the dependent variable were not equally distributed. The scatterplot showed a case of heteroscedasticity, whereby the distribution of the data creates the appearance of a cone-like shape. This might have happened because there are multiple observations (survey years) per country. This issue was solved by conducting a general linear regression with standard errors clustered by country.

Multicollinearity

To test the assumption of no multicollinearity for Models 1 and 2, I checked the variance inflation factor (VIF) values. These values should fall between 1 and 5 for the assumption to be met, as these values suggest the predictor variables are not highly correlated with one another. As shown in Table B, all VIF values range between the values of 1 and 5, with the highest one being 1.976. The assumption of no multicollinearity is thus met.

Table B. Collinearity statistics.

	VIF

Variable	**Model 1**	**Model 2**
Gini coefficients	1	1.54
Globalization		1.991
Unemployment rate		1.145
Educational attainment		1.174
Log GDP per capita		1.976
Log population		1.516

Note: The dependent variable is variance in ideological scale

To test the assumption of no multicollinearity for Model 3, I checked the variance inflation factor (VIF) values. These values should fall between 1 and 5 for the assumption to be met, as these values suggest the predictor variables are not highly correlated with one another. As shown in Table C, all VIF values range between the values of 1 and 5, with the highest one being 1.976. The assumption of no multicollinearity is thus met.

Table C. Collinearity statistics.

	VIF
Variable	**Model 3**
Change in Gini coefficients	1.120
Globalization	1.216
Unemployment rate	1.047
Educational attainment	1.096
Log GDP per capita	1.102
Log population	1.322

Note: The dependent variable is change in variance in ideological scale

No autocorrelation

To test the assumption of no autocorrelation for Models 1 and 2, I used the Durbin-Watson test statistic. The test is used to determine whether the observations are independent from each other. For the assumption to be met, the value of the test should lie between 1 and 3. The Durbin-Watson test statistic in this case equals 2.103, meaning there is no autocorrelation in the data.

To test the assumption of no autocorrelation for Model 3, I used the Durbin-Watson test statistic. The test is used to determine whether the observations are independent from each other. For the assumption to be met, the value of the test should lie between 1 and 3. The Durbin-Watson test statistic in this case equals 2.836, meaning there is no autocorrelation in the data.

Outliers/influential cases

To identify any influential cases present in the dataset for Models 1 and 2, I looked at Cook's Distance in the Residuals Statistics table. The maximum value for Cook's Distance in the dataset is equal to 0.209, meaning there are no influential cases. A value below 1 suggests there are no influential cases in the dataset.

To identify any influential cases present in the dataset for Model 3, I looked at Cook's Distance in the Residuals Statistics table. The maximum value for Cook's Distance in the dataset is equal to 0.111, meaning there are no influential cases. A value below 1 suggests there are no influential cases in the dataset.